Moi University **World Anti-Doping Agency** **Kenyatta University**

INFLUENCE OF GOAL ORIENTATION, COACH AND PARENT-INITIATED MOTIVATIONAL CLIMATE AND SPORT SUPPLEMENT BELIEFS ON DOPING ATTITUDES AMONG KENYAN SECONDARY SCHOOL STUDENT-ATHLETES

REPORT COMPILED FOR THE WORLD ANTI-DOPING AGENCY (WADA)

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ACKNOWLEDGMENTS

The recruitment and data collection from secondary school student-athletes for the first time on the sensitive subject of the influence of goal orientation, coach and parent-initiated motivational climate, and sports supplement beliefs on doping attitudes would not have been possible without the assistance of the following persons;

- Vice Chancellor, Moi University
- Professor Elijah G. Rintaugu, Kenyatta University
- Dr. Florence Gitau, Kenyatta University
- Anti-Doping Agency of Kenya (ADAK)
- Lt. Gen. (Rtd) Jackson K. Tuwei, President Athletics Kenya
- Kipchumba Maiyo, Chairman, Kenya Secondary School Sports Association (KSSSA)
- David Ngugi, Secretary General KSSSA
- Benard Mutunga, Chairman Eastern Region KSSSA
- Kipkenda P, Chairman Rift Valley Region KSSSA
- Okumu M, Chairman Nairobi Region KSSSA
- Kariuki M.P, Chairman Central Region KSSSA
- Hassan A, Chairman North Eastern Region KSSSA
- Otieno Oloo, Chairman Nyanza Region KSSSA
- Bora Juma, Chairman Coast Region KSSSA
- Waswa M- Chairman- Western Region KSSSA

Special appreciation goes to **WADA** for fully funding this research project, and especially to **Kelsey Martin** (Research & Education), for providing prompt assistance whenever consultations were required. All secondary school student-athletes who voluntarily completed the survey deserve special recognition and appreciation.

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EXECUTIVE SUMMARY

Kenyan athletes have been implicated in numerous doping cases at all levels competitions over the years, and these athletes have been subject to various sanctions and bans from World Anti-Doping Agency (WADA). Although research has been done on doping attitudes among elite athletes, little has been done on secondary school student-athletes in terms of the influence of goal orientation, coach and parent-initiated motivational climate and sport supplement beliefs on doping attitudes.

The purpose of this study was first; to assess the influence of goal orientation, coach and parent-initiated motivational climate and sport supplement beliefs on doping attitudes and secondly; to evaluate the moderating effects of sport supplement beliefs on the relationship between goal orientation, coach and parent-initiated motivational climate (independent variables) and doping attitudes (dependent variable) among secondary school student-athletes in Kenya. This study was informed by the achievement goal theory, the theory of planned behaviour and the social cognitive theory. The study used a cross-sectional analytical research design. The target population for the study was 2,272 secondary school student-athletes who competed in the 2022 Kenya Secondary School Sports Association (KSSSA) National Games. The study's sample size (n=685) was chosen voluntarily through a stratified and random sampling technique. The participants were randomly stratified, first by gender (male and female) and then by type of sport (athletics, ball games, racquet games, and swimming). The questionnaire had an excellent response rate, at approximately 92%. The Statistical Package for the Social Sciences (SPSS) software was used to examine and compare the data. The findings are presented in a report that includes graphs, histograms, and tables to show the results. The discussions have been founded on the current literature. In light of the research findings, conclusions as well as recommendations were made.

This study found a positive and significant influence of goal orientation on doping attitudes among Kenyan secondary school student-athletes (β=0.578, p<0.05). This means that, goal orientation accounted for 57.8% of doping attitudes variance among Kenyan secondary school student-athletes. The findings of the study also established a positive and significant influence of coach-initiated motivational climate on doping attitudes (β=0.186, p<0.05), implying that coach-initiated motivational climate accounted for 18.6% of doping attitudes variance among Kenyan secondary school student-athletes. Parent-initiated motivated climate had a positive and significant influence on doping attitudes (β =0.140, p<0.05). This implies that parent-initiated motivated climate accounted for 14.0% of doping attitudes variance among Kenyan secondary school student-athletes. Doping attitudes was also statistically influenced by sports supplement beliefs (β=0.082, p<0.05). This implies that 8.2% of doping attitudes among secondary school student-athletes in Kenya are attributable to the use of sports supplements.

Additionally, it was found that the interaction between sports supplement beliefs and goal orientation was negative and significant (β=-0.060, p<.05), which means the interaction accounted for 6.0% of doping attitudes variance. The interaction between sports supplement beliefs and coach-initiated motivational climate was positive and significant (β=0.159, p < 0.05), which means the interaction accounted for 15.9% of the doing attitudes variance. It was however established that, sports supplement beliefs did not moderate the relationship between parent-initiated motivational climate and doping attitudes (β=0.025, p>0.05). Goal orientation and coach-initiated motivational climate were found to influence doping attitudes among secondary school student-athletes when they were moderated by sports supplements beliefs. These findings may be helpful in developing anti-doping policies and strategies for secondary school sports.

Additionally, the study observed that the usage of sports supplements may encourage secondary school student-athletes to adopt pro-doping attitudes, undermining the anti-doping initiatives made possible by goal orientation, coach and parent-initiated motivational climates.

The study recommended that, goal orientation, coach-initiated motivational climate, and parent-initiated motivational climate be introduced into secondary school curriculum to promote anti-doping interventions among secondary school student-athletes. Further, the study recommends that Kenya Secondary School Sports Association (KSSSA), the anti-doping agency of Kenya (ADAK), sports federations, and the Ministry of Sports, Culture & Heritage adopt proactive measures to encourage, build, and uphold a suitable goal orientation among secondary school student-athletes.

LITERATURE REVIEW

Background of the Study

Participation in sport has been reported to contribute to the development of human traits including honesty, solidarity, cooperation, friendship, and respect, among others (Sanches & Rubio, 2011). Sanches and Rubio (2011) argued that sport is an essential social tool for enhancing health, leisure, sociability, and social reintegration. However, the emergence of pro-doping attitudes, which have become a significant problem, has been attributed to participation in competitive secondary school sports.

Secondary school student-athletes are particularly vulnerable to PESs, which are often used in competitive sports (Allen et al., 2015; Guo, et al., 2021; Mudrak, et al., 2018; White & Noeun, 2017). Secondary school student-athletes use PESs due to a variety of factors, such as their commitment to enhancing their athletic performance, to avoid injuries, enhance physical appearance, speed up healing, enhancement of physical attractiveness, experience seeking, overcoming low self-esteem and lack of confidence in front of their peers (Humphreys & Ruseski, 2014; Maughan et al., 2018; Mudrak et al., 2018; Petróczi & Aidman, 2008; Woolway et al., 2021).

Multiple studies from around the world have found widespread pro-doping attitudes among competitive secondary school sports. Clancy (2020) found that a small percentage of teenage athletes in New Zealand used or intended to use PESs. Jovanov et al. (2019) revealed that 82.2% of international athletes from four different countries who competed in 18 different sports between the ages of 15 and 18 use sports supplements. A similar cohort of athletes was the subject of behavioral studies that revealed pro-doping attitudes to be prevalent and significant (Backhouse et al., 2016; Dodge & Jaccard, 2008; Zelli et al., 2010).

Consumption of sports supplements has contributed immensely to the development of pro-doping attitudes among secondary school student-athletes. Numerous researches have revealed that athletes who use sports supplements may also be more inclined to acquire pro-doping attitudes (Backhouse et al., 2013, Hildebrandt et al., 2012, Hurst et al., 2019). The use of sports supplements has increased considerably over the past ten years, and the pace at which new products are introduced to the market is too rapid for adequate scientific investigation into the efficacy, safety, and quality of those products to be done (Darvishi et al., 2013; Petróczi et al., 2008). According to Mallia et al. (2013), PESs have been detected in sports supplements, which may be potentially dangerous to athletes' health. Using PESs in competitive sports not only violates the principles of fair play but also poses serious problems that could have detrimental long-term effects on athletes' health, including hypertension, cardiovascular, nervous system, behavioral, and mental health issues (Kanayama et al., 2008; Momaya et al., 2015; Mudrek et al., 2018).

The use of PESs is common among young athletes, and the detrimental effects on health make it clear that immediate and focused action is needed to tackle the doping problem (Barkoukis et al., 2016). Elbe and Barkoukis (2017) assert that in order to completely abolish doping in secondary schools, it is crucial to understand the psychological factors that are connected to it. This is supported by the study by Mudrak et al. (2018) who established that, anti-doping policies, programs, and interventions directed towards the adolescent population should take into account the psychological component of sports motivation. This is due to the fact that, goal orientations partially moderated the influence of motivation and that motivation was associated with the doping-related attitudinal factors.

The use of legal supplements, perceived societal standards, and supportive doping attitudes were found to be the three most efficient positive predictors of doping and doping intentions (Ntoumanis et al., 2014). Numerous studies have been done to support the investigation of the connections between doping attitudes and motivation, coach and parent-initiated motivational climate, doping behavior and likelihood, goal orientation, self-efficacy, sports supplement beliefs, and moral disengagement (Allen et al., 2015; Clancy, 2020; Girelli et al., 2020; Guo et al., 2021; Mudrak et al., 2018). However, none of these studies have tested the influence of goal orientation, coach and parent-initiated motivational climate on doping attitudes and the moderating influence of sports supplement beliefs on their relationships. The current study therefore is useful in directing policy and anti-doping preventive measures in competitive secondary school sports.

Goal orientation plays an important role in determining the attitudes of secondary school student-athletes toward doping. Mwangi et al. (2019) found that student athletes with high task orientations had strong anti-doping attitudes and might be more inclined to play by the laws of the game. Pro-doping attitudes were closely related to the ego orientation.

The motivational climate in sports, according to Petróczi and Aidman (2008), is made up of athletes' perceptions of the external achievement expectations from coaching staff, parents/ family members, peers, and/or supporters. Coaches provide advice to athletes on how to stay focused, evaluate their performance, and create a positive environment for their teams throughout their sports careers (Mata & da Silva Gomes, 2013; Petróczi & Aidman, 2008). Parents play a crucial role in shaping their children's participation in sports during their formative years. According to Haile and Andargachew (2018), parents can have a big impact on a child's development since they can influence an athlete's performance and goal orientation. The

growth of the young athlete and his or her overall well-being are significantly influenced by the relationship between parents and adolescent athletes.

Harwood and Thrower (2020) showed that perceived mastery climates were positively correlated with a number of intrapersonal, interpersonal, and group level outcomes in youth sport. Even while these findings are encouraging and stress the need for interventions aimed at enhancing mastery climates in youth sport groups, the concept of motivational climate is yet entirely unexplored in group dynamics research in situations related to youth sport.

Gender, particularly, has a significant impact on young athletes' doping attitudes. Comprehensive research on the prevalence of doping attitudes revealed that, young boys had a higher prevalence of doping than young girls (Alaranta et al., 2006; Dunn & White 2011; Elkins et al., 2017; Hoffman et al. 2008; Lucidi et al., 2008; Mallia et al. 2013; Sas-Nowosielski & Swiatkowska, 2008; Wichstrom, 2006).

The age of an athlete can have a significant impact on the characteristics that suggest or predict doping (Backhouse et al., 2016; Mallia et al., 2013). According to a recent study (Nicholls et al. 2020; Shah et al. 2019), athletes have a strong chance of eventually mastering the abilities they first exhibit as kids. This explains why older athletes had more positive doping attitudes than younger athletes, which is consistent with the association between age and anti-doping beliefs (Chebet, 2014).

The type of sport secondary school student-athletes play has a significant influence on their doping attitudes. Allen et al. (2015) found that athletes who engage in individual sports use PESs more frequently than those who play team sports. According to researchers Mallia et al. (2016), German team sport participants believed they were better able to withstand social pressure to avoid using PESs than their counterparts from Greek and Italian teams.

Doping problems have plagued Kenya for a very long time (Rintaugu & Mwangi, 2020). As part of its attempts to address the doping menace, the Kenyan government passed an Anti-Doping Bill in 2016 with the help of WADA (Mwangi et al., 2019; Shiundu, 2016). The Kenyan government also seeks to enhance its testing and investigation capacities in order to deal with the rise in doping cases involving athletes. A target of 3,445 tests per year covering 37,900 athletes, and athlete support personnel have been put in place.

Over the past five years, 67 Kenyan athletes have been suspended for drug-related offenses (Africanews, 2023). According to the AIU, Angela Ndungwa Munguti aged 17 years, who won the silver medal in the 800 m at the African Youth Games, tested positive for norandrosterone, a metabolite of nandrolone. She becomes the first teenager female runner from Kenya to be disqualified for doping and joins the growing list of Kenyan runners from the elite who have failed drug tests. This raised the question of how many young athletes participated in doping activities in the absence of appropriate detection and record-keeping systems, necessitating this study. This study therefore sought to determine the influence of goal orientation, coach and parent- initiated motivational climate and sport supplement beliefs on doping attitudes among Kenyan secondary school student-athletes.

Statement of the Problem

Concerns have been expressed about the use of PESs by secondary school student-athletes (Laure et al., 2004; Koch, 2002; Yesalis & Bahrke, 2000). The efforts of ADAK haven't deterred more Kenyan young athletes from doping either (Mackay, 2019). More research is needed to determine the extent of the issue and take the proper response before it gets worse. Berkeley (2022) asserted that NOC-K is believed to be collaborating with national medical and healthcare

experts to assess anti-doping policies in place in sports. The NOC-K's efforts are being made in response to worries that World Athletics may ban Kenya.

Doping attitudes are influenced by the interaction of a number of variables, such as personal traits (goal orientation) and social contexts (such as coach and parental-initiated motivational climate) (Ntoumanis et al., 2014). The impact that athletes' friends and family members can have, can be beneficial if they support antidoping effort and destructive if they favor pro-doping attitudes. The pressure to do better in competitive secondary school sports may lead athletes to embrace pro-doping attitudes. Hurst et al. (2019) revealed that, sports supplement users who are more likely to use PESs may integrate teammates because of their strong beliefs.

Research on the usage of PESs by athletes in secondary schools has not been conducted in Kenya. The only doping studies carried out in Kenya were on elite athletes and coaches (Chebet, 2014), college athletes (Kamenju, 2014), elite long-distance runners (Ogama et al., 2019), and student athletes from colleges (Rintaugu & Mwangi, 2021). This study examined the influence of goal orientation, coach and parent-initiated motivational climate and sports supplement beliefs on doping attitudes among Kenyan secondary school student-athletes.

Purpose of the Project

The study aimed to examine the influence of goal orientation, coach and parent-initiated motivational climate and sport supplement beliefs on doping attitudes among Kenyan secondary school student-athletes.

Objectives of the Study

The study was guided by the following objectives:

1. To determine the demographic characteristics of Kenyan secondary school student-athletes.

2. To determine the doping attitudes, goal orientation, coach and parent-initiated motivational climate and sports supplement beliefs of Kenyan secondary school student-athletes.

3. To examine doping attitudes of Kenyan secondary school student-athletes based on gender, age, and type of sport.

4. To evaluate the influence of goal orientation, coach-initiated motivational climate, parent-initiated motivational climate and sport supplement beliefs on doping attitudes among Kenyan secondary school student-athletes.

5. To establish the moderating effects of sport supplement beliefs on the relationship between: goal orientation, coach-initiated motivational climate and parent-initiated motivational climate and doping attitudes among Kenyan secondary school student-athletes.

Conceptual Framework

The conceptual framework was anchored on two theories; the achievement goal theory (AGT; Nicholls, 1989), theory of planned behavior (TPB; Ajzen, 1991) and Self-Determination Theory (SDT; Deci & Ryan,1985). The AGT (Ames, 1992; Nicholls, 1989), provided a more detailed explanation of how social settings are created (motivational climates), how athletes define competence and success (goal orientation), and how these concepts are applied in sport. Athletes have a range of goal orientations while they take part in their sport. The difference between a task-oriented athlete and an ego-oriented athlete is that the former views competence and success as a matter of personal development while the latter views it as a matter of outperforming others and achieving (Sas-Nowosielski, & Swiatkowska, 2008).

The theory of planned behaviour (TPB) gave additional guidance for the study (Ajzen, 1991). The relationship between an athlete's attitudes and actions is explained by the TPB. The term "attitude" describes how positive or negative a person feels about a certain behavior. According to research based on the TPB, doping attitudes are significant in predicting doping intentions and behavior (Goulet et al., 2010; Lazuras et al., 2010; Mallia et al., 2016). The TPB contends that behavioral intention, which frequently reflects a person's motivation and commitment to carry out the target action, is the most important predictor of actual behavior. The TPB contends that behaviors are indirectly predicted by attitudes and subjective standards through behavioral intents, while behaviors are directly influenced by perceived behavioral control, especially when it is real control as opposed to illusory control (Ajzen, 1991; Armitage & Conner, 2001).

Self-Determination Theory (SDT), developed by Deci and Ryan in 1985, was also employed in this study. SDT focuses on the factors that influence the development of motivation through both inner and extrinsic processes. According to SDT, motivation results from meeting three basic psychological needs (i.e., the need for autonomy, the need for competence, and the need for relatedness). As a result, SDT research has frequently focused on the predictive power of satisfying these three essential psychological requirements for motivation. Stanley et al., (2012) argued that, managing behavior varies along a spectrum of self-determination, from actions that are entirely under one's own control to those that are under external control. This is in line with the principles of SDT. Additionally, SDT discusses autonomous and controlling motivational styles and places emphasis on how autonomous or self-determined distinct styles of the aforementioned motivational styles are.

The purpose of the study was to determine the influence of goal orientation, coach and parent-initiated motivational climate and sports supplement beliefs on doping attitudes among Kenyan

secondary school student-athletes. In addition, the researcher was also interested to know the moderating effects of sports supplement beliefs on the interaction between goal orientation, coach and parent-initiated motivational climate and doping attitudes).

The conceptual framework that was developed represents the relationship between the variables that is hypothesized in this study. The conceptual framework was modeled using the objectives and theories based on this research study, which had three variables; the independent variables (goal orientation, coach and parent-initiated motivational climate), moderating variable (sport supplement beliefs) and dependent variable (doping attitudes). The first relationship was to test the direct influence of goal orientation, coach and parent-initiated motivational climate and sports supplement beliefs on doping attitudes. The second relationship was to test the interaction between (sport supplement beliefs*goal orientation), (sport supplement beliefs*coach-initiated motivational climate), (sport supplement beliefs*parent-initiated motivational climate) and doping attitudes. The control variables were athlete's age, gender, and type of sport as shown in figure 1.

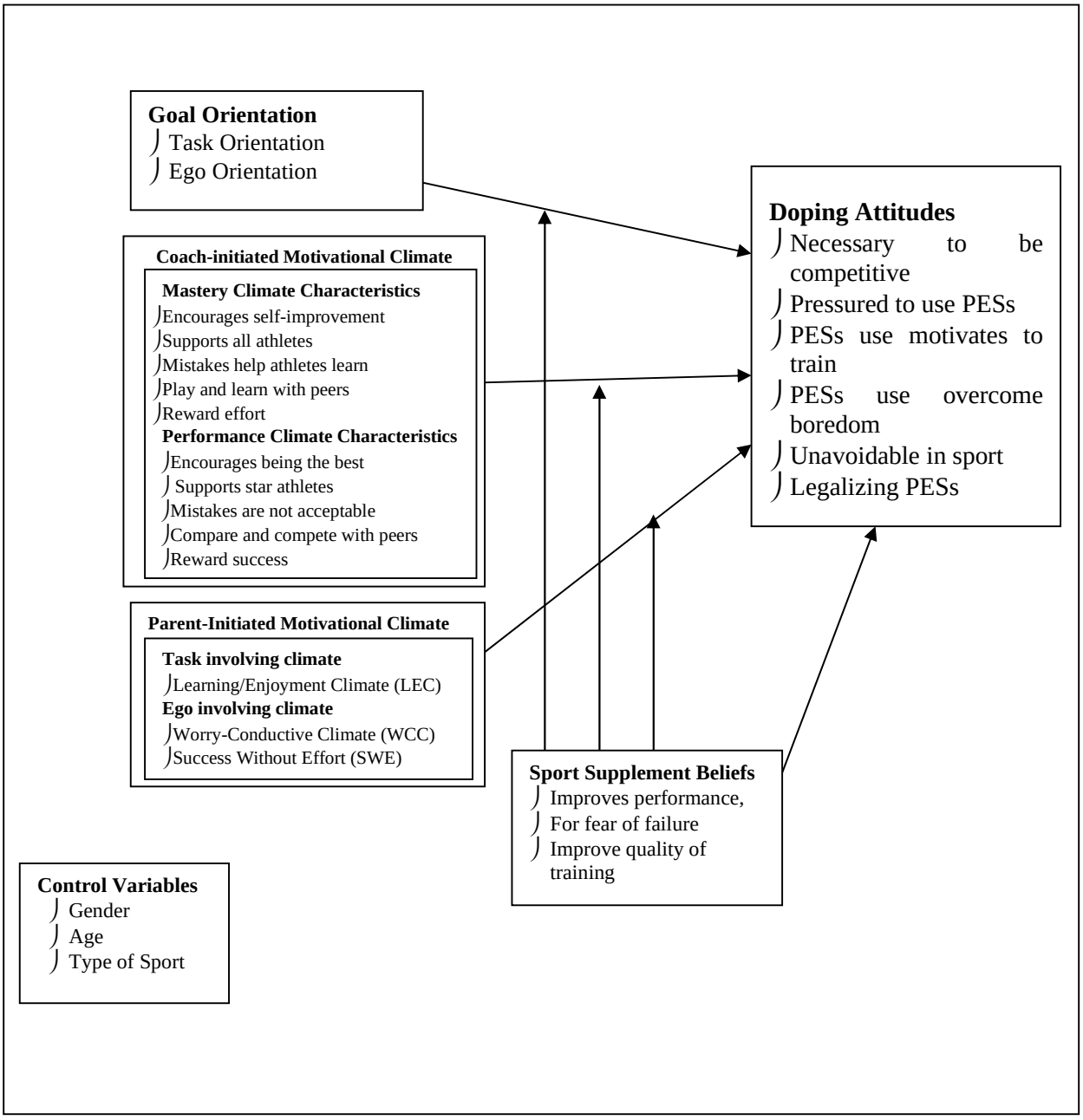

Figure 1: Conceptual Framework Model adapted from information from Cumming et al., (2008), Hayes, (2017), Hurst et al. (2017), Nicholls, (1989), Petróczi & Aidman, (2009), and Smith et al., (2008).

REVIEW OF RELATED LITERATURE

Doping Phenomenon

Elbe and Barkoukis (2017) opined that, doping is becoming more common in both professional and amateur sports, despite the fact that it is not a recent occurrence and can be traced back to ancient times. In Cycling, PESs use was practiced as early as the 1890s, and for the first 60 years of the Tour de France, substances like; extra caffeine, cocaine, and strychnine were not outlawed (Bloodworth, et al., 2012; Hoberman, 2004). PESs was viewed as a serious threat to sport in the 1950s, and ten years later, a list of substances that were prohibited was prepared and made available to athletes and sports organizers (Bloodworth, et al., 2012). Although the use of PESs has been forbidden since the 1960s, it continues to be acknowledged as a problem that has an effect on athletes today (Petroczi 2007).

Performance-enhancing substances (PESs) in sports refers to the violation of one or more anti-doping rules, including the consumption of banned PESs and/or application of prohibited techniques (Hughes, 2015). Doping has been a concern for the sport since it first emerged. Murphy (2005) asserts that, Greek athletes looked into the benefits of various plant-based foods in the third century BC because they believed a plant-based diet would improve their performance at the Olympic Games. Doping, a pervasive issue in sports, has had a significant impact on competitions all around the world at all levels and in all sports disciplines (Steyn & Nolte 2021).

The World Anti-Doping Agency (WADA) was established in 1999, which reinforced efforts to prevent the use of PESs by athletes competing in national and international competitions like the Olympic Games. PESs use is prohibited in many competitions today because it offers athletes an unfair advantage, undermines sports' image and value, violates fundamental sporting ideals, and

may have permanently adverse health effects for users (Bowers et al., 2009; Massaldjieva et al., 2010; Petroczi, 2009; Zenic et al., 2013).

Doping was declared illegal due of the athletes' substantial health issues (Todd & Todd, 2001). Since then, WADA has made it illegal to dope in sports (Petroczi et al., 2017). Yet, athletes have continued to use PESs in order to obtain a competitive advantage (Ogama et al., 2019). PESs use is a concern for the general public's health as much as for athletes. Over the past few years, PESs have become more prevalent in youth sports (Lazuras et al., 2017). According to Mazzeo et al. (2018), the use of PESs has been linked to the athlete's entourage (coaches, peers, and family members), which has complicated the fight against the doping.

Numerous studies currently show that doping abuse and use affect amateur and recreational athletes in addition to professional athletes (Catlin & Murray, 1996; Donovan et al., 2002; Dunn & White, 2011; Fernandez & Holsey, 2009; Metal et al., 2001; Striegel et al., 2010). In the second half of the 20th century, there were a number of economic and political developments that the International Olympic Committee (IOC) had to adapt to. One of these was the growing worry over corporate endorsements and sponsorship, which blurred the lines between amateurism and professionalism and led to the rules being gradually amended for almost all sports in the Olympic movement, with the exception of boxing and wrestling (Henning & Dimeo 2018).

Henning and Dimeo (2018) pointed out that doping was not always outlawed in sports and that it was even acceptable in professional sports during the first half of the 20th century. However, it was believed that using PESs directly went against the principles of amateur sports (Christiansen, 2009; Gleaves & Llewellyn, 2014) and this has been the main cause of conflict and anxiety in the Olympics since 1972 (Kim & Kim 2017; Müller, 2009; Mottram, 2011).

Studies have shown that athletes consider using doping and actually do it before they reach their prime years of performance (Gomez, 2002; Koch, 2002; Petróczi, 2007; Yesalis & Bahrke, 2000). Researchers in doping have called for comprehensive evidence-based doping prevention that will tap the psychosocial processes underlying doping use (Dunn et al., 2009; Petróczi & Aidman, 2008). These findings emphasize the value of starting initiatives for doping prevention education at a young age. The aforementioned research did not, however, make any recommendations regarding how goal orientation, coach and parent-initiated motivational climate settings could be used to enhance anti-doping attitudes among secondary school student-athletes. Therefore, the present study sought to assess the influence of goal orientation, coach and parent-initiated motivational climate, sports supplement beliefs on doping attitudes among secondary school student-athletes in Kenya.

Doping attitudes among Elite Athletes

The doping menace in the sporting industry in Kenya is widespread. This is supported by the findings of Juma et al. (2022) who was contend that Kenyan athletes are far more likely to use drugs because they lack anti-doping knowledge. Madigan et al. (2016) believe that the usage of PESs and other methods has an impact on athlete's doping attitudes. Many studies have found links between doping attitudes and intents among elite athletes (Barkoukis et al., 2013; Dodge & Jaccard, 2006; Hodge et al., 2013; Humphreys & Ruseski, 2011; Irving et al., 2002; Lazuras et al., 2015).

Fishbein (2008) states that the possibility of a behavior being carried out is increased by possessing the required information and skills, being free of any environmental or other barriers, and having a strong desire to behave in a specific way. Fishbein (2008) proposed a hierarchical relationship between conduct, behavior-related intents, and attitudes. This theory holds that a

person's intention to engage in a behavior directly affects that conduct. In order to better understand how someone forms an intention to engage in a behavior, the researcher attempts to understand the components that influence this development.

Bloodworth et al. (2012) interviewed 403 elite athletes about their doping attitudes and found that they were categorical that no substance should be legalized for use in sports to enhance performance. This was corroborated by a study by Backhouse et al. (2013) that found no athlete would want to admit to endorsing doping. The research cited above show that athletes have a wide range of doping attitudes.

Doping Attitudes among Secondary School Student-Athletes

Tian and Huebner (2017) assert that the caliber of young athletes' long-term educational experiences has a major impact on their development, behavioral changes, and attitudes. Athletes' attitudes, values, behavioural patterns, and talent development paths all evolved throughout the formative years of secondary school (Nicholls et al., 2020). Athletes start to form their own opinions about their achievement goal orientation, preferred type of sports, and even whether or not to use PESs at this point in their careers (Rothwell et al., 2020).

PESs use in competitive school sports has been documented in athletes as young as 10 years old (Nicholls et al., 2017a), where PES exposure is more widespread than in the past (Calfee & Fadale, 2006). Until now, detection-deterrence strategies have dominated efforts to combat doping, where the risk of being exposed is meant to deter athletes from using PESs (Backhouse et al., 2016). Secondary school student-athletes' PESs use pose a threat to sports integrity and athletes' health, underlining the need for prevention and uncovering the factors that lead to young athletes choosing to use these substances at a young age (Yesalis & Bahrke, 2000). Studies show that up to 60% of high school student-athletes have admitted to using PESs (Backhouse et al.,

2013). Melia et al. (1996) found that, majority of high school pupils in Canada used illegal drugs and other substances to enhance their athletic performance.

Nicholls et al. (2020) assert that young athletes' perceptions toward PESs are a reliable indicator of doping behaviors. Prior research has demonstrated a correlation between doping attitudes and behaviors, and that these behaviors can predict whether or not athletes will use PESs (Backhouse et al., 2013; Hurst et al., 2019; Mudrak et al., 2018; Nicholls et al., 2020; Petróczi, 2007; Wolff & Brand, 2013). Gradidge et al. (2010) found that, there is a lack of understanding surrounding the use of PESs in high school sports. The majority of participants (88%) agreed that more information is required on both prohibited and non-prohibited PESs. The pressure to perform well is great for high school student-athletes, and some of these athletes use PES as a coping mechanism. This suggests that, given how frequently these substances were taken, the majority of the adolescent athletes do not use PESs. However, there is still a need for educational intervention in order to deal with the problem of positive doping attitudes in adolescent athletics.

A comprehensive international meta-analytic study by Yesalis and Bahrke (2000) revealed that between 3% and 6.5% of males and 1% to 2% of girls reported using anabolic steroids either currently or in the past. Furthermore, depending on the methodology utilized, 2.1% to 11% of adolescents reported using PESs in the past or present in various research surveys (Johnson et al., 1989; Kindlundh et al., 1998; Lucidi et al., 2008; Pedersen & Wichstrm, 2001; Sas-Nowosielski, 2006).

Patterns of heaviest substance use typically occur during late adolescence and it is at this age that individuals are at the greatest risk of experiencing (acute) negative effects of substance use (Bloodworth & McNamee, 2010; Pedersen & Wichstrøm, 2001; Wroble et al., 2002; Yesalis & Bahrke, 2000). What children learn during their adolescents is deemed to shape their future

behaviours hence it is important to unearth what motivates the athletes to dope at an early stage in life. According to Tamminen and Braun (2017), teenagers' psychosocial traits and skills may not immediately translate to other facets of their lives unless they are purposefully and methodically constructed to do so. It is critical that those involved in creating and implementing programs for adolescent athletes' coaches, parents, and sport administrators are aware of some of the psychosocial issues that are pertinent for this population. They should also think carefully about how to design sport programs to support young athletes' high levels of achievement as well as their healthy psychological and social development.

Though Kenyan athletes have been shinning globally many have failed doping tests. There are many athletes facing suspension by AIU and have been subsequently sanctioned for failed doping test. According to the WADA 2016 report, the most common drugs used by Kenyan athletes were EPO, corticosteroids, and the anabolic steroid nandrolone. The research provided above indicates that testing is carried out in Kenya and that anti-doping initiatives are implemented by ADAK. But because attitudes formed in childhood often last into adulthood, it's critical to know how young athletes feel about these doping attitudes, which is why this study is necessary. The present study sought to assess the influence of goal orientation, coach and parent-initiated motivational climate and sports supplement beliefs on doping attitudes among secondary school student-athletes.

Goal Orientation and Doping Attitudes among Secondary School Student-Athletes

Research has shown that while ego climate has been linked to poor sportsmanship, task climate has been linked to respectful conduct, respect for the opposition, the referees, the rules, and the game (Boardley & Kavussanu, 2009; Hardwick 2018; Nicholls, 1989). Children are exposed to important social agents' attitudes, behaviors, and values; as a result, they start to internalize these

signals and concepts, developing an achievement-goal orientation (Nicholls, 1984). Adolescence is crucial for the growth of a person's goal orientation because this is the period of time when children first develop the cognitive ability to distinguish between effort (self-referenced perspective) and ability (other-referenced perspective (Fry & Duda, 1997).

Sas-Nowosielski and Swiatkowska (2008) argued that, goal orientations and doping attitudes are positively correlated, with athletes who are high task/low ego oriented expressing the most positive attitudes and those who are low task/high ego oriented showing the least positive attitudes. It was established through several multiple regression that doping attitude were considerably connected with ego orientation and highly correlated with task orientation. It suggests that when task focus increased, doping attitudes changed for the better. Several studies have shown that task-oriented athletes use PESs to speed up the recovery process following a strenuous workout so they can train with the same intensity the following day (Allen et al., 2015; Hardwick et al., 2021; Hurst et al., 2021). Similar to this, egotistical athletes who use PESs may win. Both ego- and goal-oriented athletes may use PESs to boost their performance and accomplish their objectives.

A study by Roberts and Treasure (2012) reveled that, goal orientations (task or ego) are also orthogonal, meaning that players can simultaneously be higher or lower in both or either of the orientations. This was supported by past studies on elite junior football players and top athletes who both scored highly on ego and task orientations (Nerland & Saether, 2016; Pensgaard & Roberts, 2000). According to a study by Bae et al. (2017) on elite Korean athletes, athletes' worries about making mistakes and perfectionism are positively correlated. The scarcity of studies examining the link between goal orientation and doping attitudes as well as the

moderating impact of sports supplement beliefs on their relationship among secondary school student-athletes further underscores the significance of the present study.

Coach-Initiated Motivational Climate and Doping Attitudes among Secondary School Student-Athletes

Ames (1992) defined motivational climate as a framework created by social agents (coaches, parents, teachers, peers, etc.) whose beliefs and actions may influence athletes' participation in sporting activities (McArdle & Duda, 2002). According to Roberts et al. (1998), the motivational climate that athletes perceive and are a part of has a significant impact on how well they perform in relation to their athletic goals. Several studies have shown how an athlete's entourage, which may include their parents, coaches, friends, physiotherapists, doctors, and strength and conditioning coaches, can influence their perception of doping attitudes (Harwood & Thrower 2020; Keegan et al., 2010; Mwangi et al. 2019; Stilger & Yesalis, 1999; Terney & McLain 1990).

The coach-initiated motivational climate is believed to have an impact on how young athletes acquire achievement-related motives. According to Roberts et al. (2001), coaches use a variety of rules and reinforcements to create either a mastery- or a performance motivational climate in their teams. Keegan et al. (2010) found that coaches can influence a player's motivation through direct coaching and evaluation. According to research by McArdle and Duda from 2002, coaches that promote an ego culture usually concentrate on the athletes who are the most gifted and key to success, giving skill development precedence over self-actualization and growth as a person. According to Terney and McLain (1990), 2% of athletes reported that their coach had previously urged them to take anabolic androgenic steroids (AAS), with players, coaches, and doctors being

the most often cited members of an athlete's support system as sources for AAS (Stilger & Yesalis, 1999). These social implications are the main focus of this investigation.

Harwood et al. (2015) argues that, coach-initiated mastery climates that encourage effort/improvement, cooperative learning, and role assignment have been positively associated with task-oriented goals, prosocial behavior, confidence, self-esteem, competence (i.e., self-referenced or overall), intrinsic motivation, positive affect, prosocial behavior, objective performance, and engagement. On the other hand, performance climates initiated by coaches have been associated with a number of maladaptive outcomes, such as ego-oriented goals, negative emotions, antisocial behavior, norm-referenced competence, and lower engagement (e.g., Boixados et al., 2004; Bortoli et al., 2012; Cumming et al., 2008; Curran et al., 2015; Eys et al., 2013; Isoard-Gautheur et al., 2013; Iwasaki & Fry, 2013; Reinboth & Duda, 2004).

Nicholls et al. (2014) opined that susceptible athletes would take PEDs if their coach asked them to, which aligns to Madigan et al. (2016) finding that pressure from coaches was associated with favorable doping attitudes. Coaches may possess a strong influence over young athletes, (Wroble et al., 2002) hence the reason to study the influence of coach initiated motivational climate among secondary schools athletes. It is essential that coaches are aware of their behaviour when coaching adolescent athletes, because coach behaviour has a number of implications. In addition to influencing intrinsic motivation, it is also related to aggression (Chow et al., 2009).

Indeed, Chow et al. (2009) found that players who were coached by coaches who perceived they had stronger beliefs in their abilities to coach sport and lead their team to success were more likely to commit violent acts of aggression than players who were coached by coaches with weaker beliefs in their ability to be successful. According to Chow et al., coaches with high self-esteem may justify violent behavior if it helps their team succeed, which would be the coach's

desired outcome. Additionally, Rieke et al., (2008) found that coaches who demonstrated a caring behaviour, involved athletes in making decisions, and wanted others to grow personally were associated with athletes who were more satisfied, mentally tough, task-oriented, and intrinsically motivated. These studies reveal the importance of coach behaviour on the development of athlete's goal orientation.

The development of achievement related motives in young athletes is believed to be influenced by the motivational climate-initiated by coaches. According to Robert et al. (2001), coaches and teachers can create a mastery- or performance-oriented climate in their teams by using a variety of rules and rewards. When coaches create an ego climate, they tend to give differential attention and positive reinforcement to athletes who are most competent and instrumental to winning, and skill development is deemed more important to winning than to personal improvement and self-realization (McArdle & Duda, 2002).

On the other hand, coaches have been cited as a prime influence in regard to dietary supplement use among adolescents (Hamer et al., 2021; Marquart et al., 2022; Sadek et al., 2022; Trakman et al., 2019), yet studies have shown that the majority of coaches have no formal training in nutrition (Spear, 1994; Turchi, 1991). A study by Spear (1994) found that, 32% of coaches in Alabama high schools recommended protein supplementation and had obtained their information from lay health and fitness magazines, 49% did not know the dangerous side effects of supplement use, and 62% instructed their athletes to take vitamin and mineral supplements. In addition, a study by Sossin et al. (1997) found that, coaches felt responsible for providing nutrition information, although as a group they scored only 59% on a nutrition knowledge test. Thus, coaches may not be qualified to provide dietary supplement information.

Nicholls et al. (2014) opined that susceptible athletes would take PESs if their coach asked them to, which aligns to Madigan et al., (2016) finding that pressure from coaches was associated with favorable doping attitudes. According to Allen et al. (2015), athletes' attitudes toward illicit substances in sports are negative implying that athletes perceive the coach- initiated motivational climate as more mastery-focused than performance-focused. According to Wroble et al., (2002), coaches have a considerable impact on athletes' doping attitudes, intentions, and conduct. Because coaches have such a large influence on young athletes (Wroble et al., 2002), it is vital to investigate how coach-initiated motivational climate influences doping attitudes among secondary school student-athletes. The scarcity of studies that have looked at the connection between coach-initiated motivational climate and doping attitudes provides more evidence for the importance of the current study.

Parent-initiated Motivational Climate and Doping Attitudes among Secondary School Student-Athletes

Family members serve as strong role models for children as they learn how to socialize themselves into sports and physical activity (Sánchez-Miguel et al., 2013). According to Sallis et al. (1999), children's exercise behavior is influenced by both parents' exercise habits and encouragement, and youth of physically active parents are more likely to be active themselves. Keegan et al., (2010) found out that, parents can influence motivation through promoting and facilitating children's participation in sports

According to Lavoi and Stellino (2008), the motivational influence of mothers and fathers might differ. Lavoi and Stellino, (2008) in their study of youth hockey players, found that, the perceptions of a mother-initiated motivational climate were negatively associated with players' prosocial sport behavior (i.e., graciousness, helping, sharing, comforting, and cooperating),

whereas a father-initiated motivational climate were positively associated with athletes' antisocial sport behaviors (i.e., complaining and whining). A father-initiated mastery climate was negatively associated with self-reported behaviors directed to playing and talking tough, for example, fighting on and off the ice and using "trash talk". A father-initiated mastery climate was found to be the only significant positive predictor of prosocial sport behavior, according to Davies et al (2016) study of 243 young ice hockey players aged 11 to 17. These results suggest that, in contrast to a mother-initiated motivational climate, a father-initiated motivational climate may be more strongly associated with moral functioning. These findings are supported by those of Kavussanu and Al-study Ayirebi (2021), who found that both prosocial and antisocial activities might have favorable or unfavorable impacts on an athlete's psychological and physical health.

Parents also influenced the prevalence of doping among young people too. According to a study by Pedersen and Wichstrm from (2001), children of parents with low educational achievement, as well as those who were exposed to alcohol more frequently and had less parental supervision, were more likely to use PESs. In a similar study by Hoffman et al. (2008) teachers and parents were found to be the main sources of information about PESs use, but that by the time the children were 17 to 18 years old, parents had less of an influence. As parents' influence declined, older students relied more on friends, coaches, trainers, and the internet, with older males reporting strength and conditioning coaches as being more important (Hoffman et al. 2008).

In their study, Erickson et al. (2017) established that parents, whether directly or indirectly, have a considerable impact on their children's early sense of right and wrong. When it comes to PES use in sports, parents have a lot of influence. AIU suspended Kenyan runner Philip Kangogo for

two years after he claimed that his mother's nutritional guidance caused him to fail a drug test in 2019. (Mackay, 2020.

Significant correlations between parental goals and attitudes and children's attitudes demonstrate how parents pass on to their offspring their background, values, norms, and aspirations (Grose & Daylike, 2014; Jaynes, 2007). Through their parenting style, parents socialize their kids in significant ways (Maccoby, 2007). Parental conduct is a reflection of the values parents uphold, the objectives and aspirations they have for their kids, and the theories they have regarding how to achieve these (Darling & Steinberg, 1993; Spear, 2005). According to literature on parenting and academic settings, there is a link between parental actions and kids' academic objectives (Duchesne & Ratelle, 2010; Gurland & Grolnick, 2005).

Ring and Kavussanu (2018) established a motivation-cheating relationship as a supporting prediction, mainly in terms of ego goals, and concluded that interventions aimed at promoting sportsmanship could target athletes' objectives. Positive change, according to Mudrak (2018), may result from parents who build a motivating environment and provide constructive criticism that continues to develop individual motivational orientations. The significance of the current study is further supported by the paucity of studies that have examined the association between parent-initiated motivational climate and doping attitudes.

Sport Supplement Beliefs and Doping Attitudes among Secondary School Student-Athletes

The incremental model of doping behavior argues that favorable doping attitudes developed as a result of continued sports supplements and the belief that they are necessary (Hurts et al., 2022). The association between supplement use and doping use via beliefs was eliminated when moral identity and moral values were high as opposed to when they were weak or intermediate. The relationship between sport supplement beliefs and doping is supported by a theoretical

framework called the gateway hypothesis (Kandel, 1975). According to Kandel's (1975) gateway hypothesis, using milder drugs (such as alcohol or marijuana) frequently comes before using more potent ones (e.g., cocaine, heroin). An increasing body of research demonstrates that using sports supplements is positively associated with PESs that the WADA forbids (Barkoukis et al., 2020; Dodge, & Jaccard, 2006; Heller et al., 2020; Hurst et al., 2019; Nicholls et al., 2016; Petróczi, 2007).

Knapik et al., (2016), concluded that, depending on characteristics such as gender, age, sport, stage of the season, and supplement type, it is predicted that between 40 and 70% of people consume PESs. According to research, the use of PESs, both legal and illegal, is prevalent in both professional and amateur sports at all levels and is likely to affect athletes as young as 12 years old (Dunn & White 2011; Laure & Binsinger 2007; Lucidi et al. 2008; Peretti-Watel et al. 2004; Petróczi 2007). Hoffman et al. (2008) claim that athletes do employ unproven, potentially harmful, or even illegal medications in their pursuit of the fastest and strongest bodies. Sport supplement use is generally common, but there is risk involved because some supplements may contain substances that are prohibited (Geyer et al., 2004, 2008). PESs use among beginning athletes puts the lives of future stars in danger by encouraging positive attitudes toward illegal substances (Ama et al., 2003).

There are numerous justifications put up for why athletes use PESs. According to Backhouse et al. (2013), about half of the surveyed adolescent athletes admitted to utilizing PESs, like dietary supplements and doping, to build up their bodies and enhance their athletic performance. According to Kamenju (2014), among the explanations provided by athletes include their desire to compete at a higher level, a lack of preparation, the necessity to handle competitive stress, a desire for medals, and monitory improvements. This is corroborated by

Maughan et al. (2018), who found that athletes of all ages frequently use PESs to improve performance, speed up recovery, and treat or prevent nutritional deficiencies. The paucity of research that has looked at the relationship between doping attitudes and sports supplement beliefs, as well as its possible role as a moderator, further supports the significance of the current study.

Gender and Doping Attitudes

The use of PESs and gender varied significantly. According to Sutter and Rutzler, gender variations in competitive behavior may manifest in a child's formative years (2010). There is abundant evidence in the literature indicating males are more likely than females to use drugs and to have more positive doping attitudes (Irving et al., 2002; Dodge & Jaccard, 2006; Dunn & White, 2011; Mallia et al., 2013). However, in a sample of the population that included gym and fitness users, Ntoumanis et al. (2014) found no relationship between gender and self-reported doping attitudes. On the other hand, male athletes typically use drugs to improve their performance, celebrate victories, and make an impression on their coaches and colleagues, according to Peters Jr. et al. (2005). Male athletes who succeed later in life are less likely to take performance-enhancing substances. Female athletes who binge drink are more prone to use performance-enhancing substances than those who are better aware about sport nutrition and who also have lower doping tendencies (Sekulic, 2016). Additionally, female athletes stated that the primary deterrent to doping was their fear of shame and guilt if they were found (Collins et al., 2012; Mwangi et al., 2019). The significance of the current study is underscored by the fact that few studies have examined the connection between gender and doping attitudes among athletes in secondary schools.

Age and Doping Attitudes

According to Hallward and Duncan (2019), the incidence of doping rises as people become older, and the usage of illegal PESs has been observed since childhood. Numerous studies have revealed a significant relationship between age and sports experience and doping awareness (Allen et al., 2015; Corluka et al., 2011; Kamenju, 2014). According to Mwangi et al. (2019), older athletes were shown to be more likely to hold pro-doping attitudes, and there was a correlation between age and doping attitudes among university student-athletes. This might be explained by having acquired more information and experience. According to Chebet's (2014) study, there was a significant correlation between age and PESs knowledge. Age had a substantial impact on performance in PESs Knowledge, with younger players performing worse than older players. Few studies have examined the connection between age and doping attitudes among secondary school student-athletes, which strengthens the importance of the current study.

Type of Sport and Doping Attitudes

The type of sport might also be used to predict doping rates among students. Athletes who competed in more than one team sport had a higher likelihood of steroid use compared to athletes competing in one team sport (Humphreys & Ruseski, 2014). Doping is more commonly reported in individual sports compared to team sports Chan et al. (2014). Team sport players often expressed that doping would not give them significant advantages because their performance depended heavily on teamwork and game tactics. There were also similar beliefs among athletes within individual sports. In general, athletes from both team and individual sports believed that doping was more likely when successful performance heavily relied on power, strength, and endurance.

In addition to the type of sport, there appeared to be an acceptance that at higher levels of performance, decisions not to dope could be more difficult due to pressure, wanting to win and the financial incentives involved. Athletes competing in strength-based sports, for example, football, wrestling, and boxing, had higher rates of doping (Nicholls et al., 2017b). Research supports that a team's collective definition regarding acceptability of behaviors consistently predicts moral beliefs and decisions in sport. Grossbard et al., (2009) demonstrated that team norms for alcohol and marijuana use predicted athletes' own patterns of drug use: participants who believed a typical athlete drank more alcohol (or consumed more marijuana) drank more alcohol (or consumed more marijuana) themselves. Wiefferink, et al., (2008) similarly showed that gym users who believed that others took PEDs had higher intention to use PEDs themselves in the future.

Research testing the theory of reasoned action has consistently shown that both significant others' positive attitudes towards PESs use and subjective norms encouraging substance use predicted athletes' own substance intention and/or use. Thus, in addition to achievement goal theory predictors, athletes' perceptions of team norms supportive of PESs use may also predict athletes' own likelihood.

PESs use in sports are more common in strenuous activities, according to Lentillon-Kaestner et al (2012). Individual sports have been shown to be more susceptible to doping than team sports (Morente-Sánchez et al. 2015). Team athletes, had significantly lower perceptions of PESs use and ego orientation ratings than individual athletes (Allen et al. 2015). Individual athletes' perceptions were significantly lower than their peers. Ego orientation had a medium to large effect size, but attitudes toward PESs use and mastery climate had a small effect size. As a result, the focus of this study will be on adolescent athletes who participate in both teams (basketball,

hockey, rugby, handball, netball, football, and volleyball) and individual sports (badminton, tennis, table tennis, track & field athletics, cross country, and swimming).

MATERIALS AND METHODS

Research Design

The study employed cross-sectional analytical design to determine the influence of goal orientation, coach and parent-initiated motivational climate, and sports supplement beliefs on doping attitudes among Kenyan secondary school athletes. A cross-sectional analytical study design gathers data from a defined population at a specific time and is a type of quantitative non-experimental study design (Creswell & Creswell 2017).

Research Variables

The study's independent variables were goal orientation, coach and parent-initiated motivational climate. The dependent variable was Doping Attitude. The moderating variable was sport supplement beliefs and the control variables were gender, age and type of sports

Study Location

The research was undertaken during the Kenya Secondary School Sports Association (KSSSA) National Games of 2022 edition in Embu and Nakuru County. The games brought together top best secondary school athletes from diverse backgrounds from the entire country representing the 8 regions (Nairobi, Eastern, Coast, Central, North Eastern, Western, Rift Valley, and Nyanza).

Target Population

The target population was secondary school student-athletes who competed at the KSSSA 2022 National Games. Because of COVID 19 restrictions, the games were scaled down to track and field athletics, swimming, basketball, hockey, handball, football, volleyball, tennis, table tennis, badminton, netball, and rugby 7s which comprised a total of 2,272 athletes (1128 male & 1144 female).

Sampling Techniques and Sample Size

The sample size for the study was estimated by using a standard formula for the known population size for cross-sectional research (Singh & Masuku 2014), based on Yamane's formula given below:

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

Where: n = sample size, N= population size, *e* = margin error (the acceptable error in the study) (Cochran's 1977). For this study, a 3% margin of error was considered ideal based on the argument of Kotrlik and Higgins (2001) who stated that the general rule to acceptable margins of error range between 3% and 5%. The 3% margin of error was used to increases the sample size of the study. According to Vukojević (2016), the error margin can be set at 0.1, 0.05, or 0.03, which are ± 10, 5, or 3% of the true population value, respectively.

Thus, the sample size for this study was:

$$n = \frac{2272}{1 + 2272\ (0.03)^2} = 746.19 = 746$$

To select the sample for the study, stratified random sampling was used. The sport was first divided into groups depending on sport discipline, and subsequently on the number of participants in each sport. The number of respondents from each stratum who made up the sample of 746 were selected at random. The number of respondents in each stratum is shown in Table 3.2 (swimming 79, athletics 105, basketball 63, hockey 105, rugby 7's 32, handball 74, netball 37, football 105, volleyball 63, tennis 21, table tennis 31 and badminton 31. Random sampling was applied in getting an equal number of athletes per sport. To assure randomization,

a random number table was utilized, and proportion was used to guarantee that there were an equal number of boys' and girls' respondents.

Table 1 Sample Size as per the Type of Sport

Type of Sport (Cluster)	Ministry approved the number of players per sport	Population (N)	Players per gender		Sample Size n
	a	ax8=b	Boys	Girls	
Swimming	30	240	40	39	79
Track & Field	40	320	53	52	105
Basketball	24	192	32	31	63
Hockey	40	320	53	52	105
Rugby 7's	12	96	32	N/A	32
Handball	28	224	37	37	74
Netball	14	112	N/A	37	37
Football	40	320	53	52	105
Volleyball	24	192	32	31	63
Tennis	8	64	11	10	21
Table Tennis	12	96	16	15	31
Badminton	12	96	16	15	31
TOTAL	284	2272	375	371	746

Research Instrument

The data was collected using adapted close-ended questionnaires Appendix D (section I to VI). The questionnaires were administered to athletes who participated in the KSSSA National Games. The first section of the questionnaire (Section I) comprised of three items seeking the demographic information of the respondents' gender, age, and type of sport.

The second section of the questionnaire (Section II) was adopted from the previous studies (Petróczi & Aidman, 2009) on Performance-enhancing Attitude Scale (PEAS). The PEAS comprised of seventeen (17) statements which were weighted on a 5-point Likert scale ranging from 1 to 5 (strongly disagree to strongly agree). The acceptable reliability and validity estimate

for PEAS is α = .71 to .91 and test-retest of r > .75 respectively (Petróczi & Aidman, 2009). Reliability of.91 was found for this study, which is satisfactory.

The third section of the questionnaire (Section III) was also adopted from the previous studies (Cumming et al., 2008) on Achievement Goal Scale for Youth Sports (AGSYS). The AGSYS comprised of twelve (12) statements on a 5-point Likert scale ranging from 1 to 5 (strongly disagree to strongly agree) with acceptable subscales of .76 task (six items) and .85 ego (six items) (Cumming et al., 2008). This study's reliability was proven to be =.89 (task =.77 & ego =.86), which is considered acceptable. The Cronbach alpha coefficient was used in this study to assess the reliability of the study measures (Andrew et al., 2016).

The fourth section of the questionnaire (Section IV) was adopted from the previous study of Smith et al., (2008) on motivational climate scale for youth sports (MCSYS). The MCSYS consisted of 12 items focusing on mastery and performance motivational climates initiated by coaches on a 5-point Likert scale ranging from 1 to 5 (strongly disagree to strongly agree). Smith et al., (2008) MCSYS provides an age-appropriate measure of coach-initiated motivational climate in youth sport. This MCSYS reliability and validity have been established by research, with Cronbach's alpha values of 0.84 for mastery (six) items and 0.76 for performance (six) items (Smith et al., 2008). The scores for each subscale were determined by averaging the items on each subscale. The overall coach performance score was the same as the performance subscale score, and the overall coach mastery score was the same as the mastery subscale score.

The fifth section of the questionnaire (Section V) was adopted from the previous study of White, (1996) on Parent-Initiated Motivational Climate Questionnaire-2 (PIMCQ-2) scale. The PIMCQ-2 consist of 18-item on respondents' perceptions of the parent-initiated motivational climate and included the mastery climate subscales of learning and enjoyment (9 items) and the performance

climate subscales of worry-conductive and success-without-effort (9 items). The questionnaire was assessed on a 5-point Likert scale ranging from 1 to 5 (strongly disagree to strongly agree). The PIMCQ-2 internal consistency value of .87 was deemed acceptable (White, 1996). Studies have shown that this PIMCQ-2 is valid and reliable (White, 1996). Gustafsson et al., (2016) factor analysis supported the three-dimensional structure and internal consistency (a=0.72 to 0.90). The subscale scores were calculated by averaging each item on the subscale. The two subscales were averaged to determine the parent performance scores, and the parent mastery score was determined in the same manner.

Lastly, the sixth section of the questionnaire (Section VI) was adopted from the previous study of Hurst et al., (2017) on Sports Supplements Beliefs (SSB) scale. The SSB comprised of six (6) statements on a 5-point Likert scale ranging from 1 to 5 (strongly disagree to strongly agree). Hurst et al., (2017) found SSB scale with internal consistency value of .87 to be acceptable. For this study, reliability was found to be =.90, which is considered satisfactory. The scoring from the 5-point Likert scale were transformed to linear Percentage of Maximum Possible (POMP) ratings in accordance with the recommendations made by Cohen et al. in (1999).

Pre-testing of Research Instrument

To determine the validity of the questionnaire, a pretest was conducted. Three secondary schools (a boys' school, a girls' school, and a mixed school) were randomly selected. The pretest took place in Uasin Gishu County after the inter sub-county games in July 2022. Seventy-six (76) respondents (38 boys & 38 girls) from volleyball (26), soccer (40), and tennis (10) were chosen at random. The respondents were student-athletes who were eliminated in 2022 Inter-Sub County championships and could not qualify for 2022 regional games competitions. The randomly selected schools and participants were not included in the main study. To improve the content

validity of the instrument, items that were found to be sensitive, confusing, or biased in any way were changed or eliminated. The researcher can only evaluate the instrument's validity and reliability during pre-testing (Van et al., 2010). The pretest assisted in improving the study tools and procedures.

Validity and Reliability of the Instrument

Construct validity items were examined by supervisors and lecturers from the department of recreation and sports management who were competent in research methodology and doping. Their common observations were considered and included in the study instrument. All of these were included in the final edition of the survey instruments that were utilized to collect the data.

This study examined research instruments by examining whether or not they produced trustworthy results using measures generated from constructs that had already undergone testing. The Cronbach alpha reliability estimate was utilized to assess the internal consistency of the data obtained (Creswell & Creswell, 2017). The five instruments' PEAS, AGSYS, MCSYS, PIMCQ-2, and SSB were used to measure athletes' perceptions. Pre-testing reliability was evaluated, and it was established that the correlations for PEAS (.91), AGSYS (.89), MCSYS (.77), PIMCQ-2 (.88), and SSB (.90) were suitable for use in this study.

Data Collection Procedure

After Kenyatta University Ethical Review Committee approved the study and a permit obtained from the National Council of Science Technology and Innovation (NACOSTI), the next was to select, vet, and train 10 research assistants (tutorial staff). The researcher the officially requested the KSSSA National Chairman for permission to carry out the study. The participation of the athletes and officials was authorized. Before the day of data collection, the principal investigator (PI) and his team of assistants visited the selected venues for athletics (Kigari

Teacher Training College sports ground) and for ball games, swimming, and racquet games (Nakuru High School sports ground) to meet with the organizers and briefed them about the data collection exercise. Both officials and athletes gave their consent to participate in the study. Athletes were contacted during the competition day at a time of their convenient and they were informed of the study's objectives, advantages, and ethical issues before being handed a consent form to sign (Appendix A) and a self-report questionnaire, along with a pen, and requested to willingly fill it out. The questionnaire was completed in less than 15 minutes. The researcher was in charge of managing the entire data collection process. Completed questionnaires were collected immediately after the exercise. The PI oversaw each of these exercises.

Data Analysis and Presentation

Responses to the survey were coded in accordance with each study variable to ensure accuracy and a low margin of error, and then entered into the SPSS code book. The data were examined using SPSS version 25 (Statistical Package for Social Sciences). Descriptive statistics, especially frequencies, mean and standard deviation, were used to summarize the fundamental characteristics of the data using simple summaries of the sample and measurements. The results are presented in tables and prose-form to facilitate comprehension and interpretation. Pearson correlations was used to assess the relationship between variables. Simple linear regression was used to test for direct influence and hierarchical multiple regression was used for testing moderation influence. The coefficient of regression R square (R^2) was calculated to show the incremental change in variance accounted for in Y with the addition of a new predictor, the beta coefficient (β) was used to test the slope of the line through a regression of data points, the p-values was used to validate a hypothesis against observed data, R was used to test the relationship between independent and dependent variable, F value is used to determine the

significance of an R square change (ΔR^2) after a variable is added, ANOVA-used to compare variances across the means of more than two groups and T-test was used to compare the means of two groups. Hypothesis testing was done using a hierarchical analysis.

i. Model 1: $Y = \beta 0 + \text{Gender} + \text{Age} + \text{Type of Sport} + \varepsilon$
   This first step Model 1 was used to test how much variance is explained by the control variables of the athletes in the study.
ii. Model 2: $Y = \beta 0 + C + \beta 1X1 + \varepsilon$
   In the second step Model 2, goal orientation was added to the first model to test how much variance it explains the goal orientation while controlling for the control variables.
iii. Model 3: $Y = \beta 0 + C + \beta 1X1 + \beta 2\ X2 + \varepsilon$
   Model 3 was meant to test the variance accounted for by coach-initiated motivational climate while controlling for the control variables and the 1st independent variable (H02)
iv. Model 4: $Y = \beta 0 + C + \beta 1X1 + \beta 2X2 + \beta 3\ X3 + \varepsilon$
   Model 4 was meant to test the variance accounted for by the 3rd independent variable (parent-initiated motivational climate) while controlling for the control variables, 1st and 2nd independent variable.
v. Model 5: $Y = \beta 0 + C + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4M + \varepsilon$
   This model was used to test the variance explained by the moderator (sport supplement beliefs) while controlling for the control variables and the independent variables.
vi. Model 6: $Y = \beta 0 + C + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4M + \beta 5X1*M + \varepsilon$
   Testing the moderating influence of sports supplement beliefs on the relationship between the goal orientation and doping attitudes, denoted as β5 on the equation.
vii. Model 7: $Y = \beta 0 + C + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4M + \beta 5X1*M + \beta 6X2*M + \varepsilon$
   Testing the moderating influence of sports supplement beliefs on the relationship between the coach-initiated motivational climate and doping attitudes, denoted as β6 on the equation.
viii. Model 8: $Y = \beta 0 + C + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4M + \beta 5X1*M + \beta 6X2*M + \beta 7X3*M + \varepsilon$
   Testing the moderating influence of sports supplement beliefs on the relationship between the parent-initiated motivational climate and doping attitudes, denoted as β7 on the equation.

Where;

Y=DA
X1=GO
X2=CIMC
X3=PIMC
M=SSB
β=coefficient (1-7)
β0= the intercept
C=Control variables (gender, age and type of sport)
ε = the error term

The interactions between the study variables were examined at a significance level of 0.05, where a resulting p-value of less than 0.05 rejects the null hypothesis and indicates that the effect is statistically significant, and a p-value of greater than 0.05 indicates that the interactions between the study variables were insignificant.

Table 2 Summary of the Study Testing

Study Test		Test Statistics	Decision Point
H_{01}	Goal orientation has no significant influence on doping attitudes among Kenyan secondary school student-athletes.	β-coefficient, p-v, F, ΔR^2, t-value	Significant. at $p \leq .05$, Or $t \geq 1.96$.
H_{02}	Coach-initiated motivational climate has no significant influence on doping attitudes among Kenyan secondary school student-athletes.	β, p-v, F, ΔR^2, t-value	Significant. at $p \leq .05$, Or $t \geq 1.96$.
H_{03}	Parent-initiated motivational climate has no significant influence on doping attitudes among Kenyan secondary school student-athletes.	β-coefficient, p-v, F, ΔR^2, t-value	Significant. at $p \leq .05$, Or $t \geq 1.96$.
H_{04}	Sport supplement beliefs has no significant influence on doping attitudes among Kenyan secondary school student-athletes.	β-coefficient, p-v, F, ΔR^2, t-value	Significant. at $p \leq .05$, Or $t \geq 1.96$.
H_{05}	Sport supplement beliefs has no moderating influence on the relationship between goal orientation and doping attitudes among Kenyan secondary school student-athletes.	β-coefficient, p-v, F, ΔR^2, t-value	Significant. at $p \leq .05$, Or $t \geq 1.96$.
H_{06}	Sport supplement beliefs has no moderating influence on the relationship between coach-initiated motivational climate and doping attitudes among Kenyan secondary school student-athletes.	β-coefficient, p-v, F, ΔR^2, t-value	Significant. at $p \leq .05$, Or $t \geq 1.96$.
H_{07}	Sport supplement beliefs has no moderating influence on the relationship between parent-initiated motivational climate and doping attitudes among Kenyan secondary school student-athletes.	β-coefficient, p-v, F, ΔR^2, t-value	Significant. at $p \leq .05$, Or $t \geq 1.96$.

Ethical Considerations

The researcher sought the approval of research proposal from Kenyatta University Graduate School as well as research authorization to conduct the study (Appendix I) The study's ethical approval was sought from the KU-ERC (Appendix F). The researcher also sought research authorization and permission from NACOSTI (Appendix G). In addition, the researcher sought permission from the Ministry of Education Science and Technology (MoEST) to conduct

research in secondary schools (Appendix J & K). The researcher also got permission from KSSSA officials to conduct research during the games. Prior permission was also obtained verbally from team managers and coaches. Furthermore, the KSSSA Regional Chairman consent was obtained on behave of the athletes' parents (Appendix C). The research's objectives were thoroughly explained to participants before obtaining their consent. To promote ethical concerns, respondents' informed consent was obtained and a debriefing took place. The respondents were also informed that participation was entirely optional, and the data collected will always be used for educational purposes. The participants were assured that the data collected will remain confidential. Respondents were not required to reveal their identities. They were also informed of their right to withdraw from the study at any moment without penalty or repercussion.

RESULTS AND FINDINGS

Demographic Characteristics of Secondary School Student-Athletes

The study sought to determine respondents' demographic characteristics by gender, age and type of sport athletes participated in. The distribution of the participants based on their gender is presented in Table 3.

Table 3: Gender distribution of Secondary School Student-Athletes

Gender	**Frequency**	**Percentage (%)**
Male	342	49.9
Female	343	50.1
Total	**685**	**100.0**

The results in Table 3 show that a total number of 685 athletes participated in the study. Of these athletes 50.1% were female and 49.9% were male. Therefore, there was practically an equal distribution of boys and girls among the participants. The distribution of athletes by age category is presented in Table 4 in the next section.

Table 4: Age distribution of Secondary School Student-Athletes

Age Category	**Frequency**	**%**
13-14 yrs	36	5.3
15-16 yrs	221	32.3
17-18 yrs	327	49.2
19-20 yrs	91	13.3
Total	**685**	**100.0**

The data in Table 4 reveals that most of the participants were aged between 17 and 18 years (49.2%), followed by athletes who were aged between 15 and 16 years (32.3%), then athletes who were aged between 19 and 20 years (13.3%) and lastly athletes who were aged between 13 and 14 years (5.3%). This finding demonstrates that as an athlete advanced through their ages,

involvement in sports originally showed a continuous upward trend, but it then started to diminish as the athletes aged. The distribution of athletes according to their preferred type of sport is presented in Table 5.

Table 5: Type of Sport distribution of Secondary School Student-Athletes

Type of Sport	**Frequency**	**%**
Ball Games	449	65.5
Athletics	92	13.4
Swimming	73	10.7
Racquet Games	71	10.4
Total	**685**	**100.0**

Table 5 shows that, majority 65.5% of respondents participated in ball games, followed by athletics 13.4%. swimming 10.7% while those who participated in racquet games were the least 10.4%. The large number of participants in the ball games and athletics is attributed to the entry required number of participants per sport. Additionally, most of the ball games such as soccer, hockey and handball are team games which are played by more than two athletes.

Descriptive Statistics of Variables

The descriptive statistical outcomes summarized the characteristics of the key attributes of the study variables with their respective sample mean and standard deviation Saunders et al. (2016). The results were anchored on the indicators of five main study variables: doping attitudes, coach-initiated motivational climate, parent-initiated motivational climate and sports supplement beliefs.

Descriptive Statistics of Doping Attitudes

The doping attitudes assessed in this study comprised of seventeen (17) statements which were weighted on a 5 Likert scale. The mean and standard deviation for doping attitudes of secondary school student-athletes is presented in Table 6.

Table 6: Descriptive Statistics of Doping Attitudes

Statements depicting Doping Attitudes items	M	SD
The negative health effects of rigorous training and injuries are just as bad as the negative effects of doping.	2.42	1.39
The media exaggerates the doping scandal.	2.33	1.37
Doping is unavoidable in competitive sports.	2.29	1.44
The dangers of doping are exaggerated.	2.28	1.38
When it comes to performance enhancement, there is no distinction between drugs, fiberglass poles, and fast swimsuits.	2.26	1.28
Athletes who use recreational drugs do so because they believe it will help them compete better.	2.26	1.36
Athletes in my sport are under intense pressure to use performance-enhancing drugs.	2.21	1.34
The media should focus less on doping.	2.16	1.31
Only the quality of performance should be considered, not how athletes achieve it.	2.15	1.26
Athletes frequently miss time due to injuries, and drugs can assist athletes in making up lost time.	2.13	1.37
Recreational drugs aid in the alleviation of boredom during training.	2.08	1.25
Doping is not considered a form of deception because everyone does it.	2.08	1.24
Sports would benefit from the legalization of performance-enhancing drugs.	2.07	1.29
Athletes should not feel the rules and use performance-enhancing drugs. guilty if they break	2.07	1.24
Athletes are motivated to train and compete at the highest levels when they use recreational drugs.	2.06	1.28
Athletes have no other career options besides sports.	2.01	1.28
Doping is required to be competitive.	1.88	1.24
Aggregate mean score	**2.16**	**1.31**

Table 6 shows the mean values and standard deviations of the study participants. Largest mean values were evident in the doping attitudes where participants talked of the negative health effects of rigorous training and injuries are just as bad as the negative effects of doping (2.42 ±1.39), media exaggerates the doping scandal (2.33 ±1.37) and that doping is unavoidable in

competitive sports (2.29±1.44). The interpretation of these findings is that the study participants were more inclined to these doping attitudes characteristics, implying that they were more prevalent under the influence doping attitudes category.

However, doping attitudes characteristics under the attitudes category that scored smallest mean values were observed where study participants indicated that athletes are motivated to train and compete at the highest levels when they use recreational drugs (2.06±1.28), athletes have no other career options besides sports (2.01±1.28), and that doping is required to be competitive (1.88±1.24). The aggregate mean for doping attitudes items was (2.16±1.31) denoting that most secondary school student-athletes were inclined towards statements that were against doping and PES use. The implication of these findings is that the participants were less inclined to the three doping characteristics suggesting that the doping characteristics were less prevalent under the doping attitudes.

Descriptive Statistics of Goal Orientation

The goal orientation assessed in this study comprised of twelve (12) statements. The mean and standard deviation for goal orientation of secondary school student-athletes is presented in Table 7. The study shows that, the mean values and standard deviations of the study participants. Largest mean values were evident in the goal orientation where participants talked of my ambition is to acquire as many new skills as possible and to become as proficient as possible (4.29 ±1.057), what matters most is that I continue to improve my skills (4.21±1.048), and my goal is to become an expert in my sport (4.17±1.081).

Table 7: Descriptive Statistics for Goal-Orientation

Statements depicting goal orientation items	M	SD
My ambition is to acquire as many new skills as possible and to become as proficient as possible.	4.29	1.057
What matters most is that I continue to improve my skills.	4.21	1.048
My goal is to become an expert in my sport.	4.17	1.081
I strive to be the best that I can be.	4.16	1.126
When I give my all, I feel successful.	4.15	1.083
The most crucial aspect is to be the best athlete you can be.	4.13	1.043
When I learn new skills, I feel accomplished.	3.83	1.160
My goal is to improve and outperform others.	3.80	1.197
In my sport, I want to outperform others.	3.56	1.312
My goal in my sport is to outperform everyone else.	3.49	1.371
To me, success entails outperforming others.	3.29	1.347
I want to demonstrate that I am superior to others.	3.24	1.392
Aggregate mean score	**3.86**	**1.185**

Table 7 findings however shows that, goal orientation characteristics under the goal category that scored smallest mean values were observed where participants indicated that; my goal in my sport is to outperform everyone else (3.49±1.371), to me success entails outperforming others (3.29±1.347), and I want to demonstrate that I am superior to others (3.24 ±1.392). The aggregate mean for goal orientation items was (3.86±1.185) indicating that secondary school student-athletes tended to be task-oriented while others tended to be ego-oriented.

Descriptive Statistics of Coach-Initiated Motivational Climate

The coach-initiated motivational climate assessed in this study comprised of twelve (12) statements. Descriptive statistics were then used to describe the means and standard deviations in Table 8.

Table 8: Descriptive Statistics for Coach-Initiated Motivational Climate

Statements depicting Coach- Initiated Motivational Climate items	M	SD
The coach instructed the players to assist one another in improving.	4.12	1.103
Coach stated that we were all vital to the success of the team.	4.11	1.015
The most important thing, according to the coach, was to give it our all.	4.10	1.068
The coach encouraged us to expand our knowledge.	4.07	1.185
According to the coach, teammates should assist one another in improving their skills.	4.07	1.142
When a player improved a skill, the coach made them feel good.	4.05	1.144
For the coach, winning games was the most important thing.	3.84	1.295
The coach told us who the team's best players were.	3.40	1.359
The coach informed us to strive to surpass our teammates.	3.38	1.348
The coach spent less time with the less talented players.	2.86	1.487
The coach concentrated his efforts on the team's most talented players.	2.81	1.451
If a player made a mistake, they were removed from the game.	2.69	1.412
Aggregate mean score	**3.62**	**1.251**

Table 8 reveal that, the first three items with the highest means and standard deviations were study participants stated that: the coach instructed the players to assist one another in improving (4.12±1.103), coach stated that we were all vital to the success of the team (4.11±1.015), and the most important thing, according to the coach, was to give it our all (4.10±1.068).

On the other hand, the items that had the least means and standard deviations were: the coach spent less time with the less talented players (2.86±1.487), the coach concentrated his efforts on the team's most talented players (2.81±1.451) and if a player made a mistake, they were removed from the (2.69±1.412). The aggregate mean score for coach-initiated motivational climate items was (3.62±1.251) revealed a variety of secondary school student-athletes to have a mastery climate while others had a performance climate.

Descriptive Statistics of Parent-Initiated Motivational Climate

The parent-initiated motivational climate assessed in this study comprised of eighteen (18) statements. The means and standard deviations arising from the responses on these doping attitudes are presented in Table 9.

Table 9: Descriptive Statistics for Parent-Initiated Motivational Climate

Statements depicting Parent-Initiated Motivational Climate items	M	SD
Motivates me to enjoy a life of developing new things	4.19	.944
When I'm learning new things, I'm the happiest.	4.16	1.076
He appears completely satisfied when I improve as a result of my hard work.	4.06	1.072
Ensures that I understand one thing before moving on to the next.	4.00	1.077
Helps me to understand the process of mastering a new skill	4.00	1.049
Endorses of me enjoying life while learning something new.	3.86	1.087
Informs me that making mistakes is an important part of the process.	3.68	1.252
Places a strong emphasis on whether or not I'm progressing at what I do	3.57	1.199
Believes it is critical to have fun while training.	3.55	1.211
Makes me afraid of making poor choices	3.53	1.202
Triggers me to be scared of failure	3.39	1.309
Believes that winning without putting in hard work is critical for me.	3.31	1.372
I'm fearful of making blunders since it will make me look terrible in her face.	3.27	1.259
Makes me hesitant about performing skills at which I am not competent	3.22	1.260
Believes I should have the ability to accomplish a lot with little effort	3.05	1.346
Tells me that I should be happy if I achieve that without putting in a substantial level of effort	3.02	1.265
Makes me sad when I am unable to perform as well as others.	2.93	1.404
When I succeed without putting forth any commitment, he laughs.	2.91	1.316
Aggregate mean score	**3.54**	**1.206**

The first three items with the highest means and standard deviations were: motivates me to enjoy a life of developing new things (4.19±.944), when I'm learning new things, I'm the happiest (4.16±1.076), and he appears completely satisfied when I improve as a result of my hard work (4.06±1.072).

However, the items that had the least means and standard deviations were: tells me that I should be happy if I achieve that without putting in a substantial level of effort work (3.02±1.265), makes me sad when I am unable to perform as well as others (2.93±1.404), and when I succeed without putting forth any commitment, he laughs (2.91±1.316). The aggregate mean for parent-initiated motivational climate items was (3.54±1.206) revealed a variety of secondary school student-athletes to have task-involving climate while others had ego-involving climate.

Descriptive Statistics of Sports Supplement Beliefs

The sports supplement beliefs assessed in this study comprised of six (6) statements. The means and standard deviations arising from the responses on these doping attitudes are presented in Table 10.

Table 10: Descriptive Statistics for Sports Supplement Beliefs

Statements depicting Sports Supplement Beliefs Items	M	SD
Supplements improve my performance	2.76	1.475
Supplements improve the quality of my training	2.55	1.466
Supplements are necessary for me to be competitive	2.42	1.387
Supplements improve my confidence	2.35	1.397
My chances of winning improve when I use supplements	2.34	1.382
Supplements help me realise my potential	2.31	1.384
Aggregate mean score	**2.45**	**1.415**

Table 10 show that, the largest mean values were evident in the sports supplement beliefs where supplements improve my performance mean = 2.76±1.475), supplements improve the quality of my training (2.55±1.466), and supplements are necessary for me to be competitive (2.42±1.387). These findings suggest that the majority of athletes had positive opinions about sports supplements and believed in their effectiveness.

However, sports supplement beliefs that scored smallest mean values were observed where supplements improve my confidence (2.35±1.397), my chances of winning improve when I use

supplements (2.34±1.382), and were supplements help me realise my potential (2.31±1.384). The aggregate mean for sports supplement beliefs items was (2.45±1.45) indicating that the majority of secondary school student-athletes tended to favor arguments against PESs usage and doping.

Influence of Demographic characteristics on Doping Attitudes

T-test and one-way ANOVA were performed to establish whether any differences exist in relation to the means of responses between the groups on the study variables. The T-test was used to examine for statistical differences between the means of two groups, and the one-way ANOVA was used to ascertain for statistically significant differences between the means of three or more unrelated (independent) groups.

Gender Influence on Doping Attitudes

To determine whether gender influence doping attitudes of secondary school student-athletes, an independent samples t-test was computed and the results are presented in Table 11.

Table 11: T-test Analysis results for Gender and doping attitudes

		T-test				
Variable	**Gender**	**N**	**M**	**SD**	***t***	**Sig**
Doping Attitudes	Male	342	3.60	.70		
	Female	343	3.54	.72	1.15	.25
	Total	**685**	**3.57**	**.71**		
*Significant at p<0.05, n = 685						

The results in Table 11 shows male athletes had a higher mean score (3.60±.70) than female athletes (3.54±.72) in terms of doping attitudes. However, the study revealed that, gender did not influence doping attitudes of secondary school students-athletes in Kenya (t =1.15, *p*=.25 >0.05).

Age influence on Doping Attitudes

One–Way Analysis of Variance (ANOVA) was computed to establish the influence of age on doping attitudes of secondary school students-athletes in Kenya. Table 12 presented the results.

Table 12: ANOVA Analysis Results for Age and Doping Attitudes

ANOVA						
Variable	Years	N	M	SD	*F*	*Sig.*
Doping Attitudes	13-14 yrs	36	3.50	.56		
	15-16 yrs	221	3.47	.69		
	17-18 yrs	337	3.60	.72	3.19	.023*
	19-20 yrs	91	3.72	.73		
	Total	**685**	**3.57**	**.71**		

*Significant at p<0.05, n = 685

The results in Table 12 show that athletes in the age category of 19-20 years had the highest mean (3.72±.73), followed by those aged 17-18 years (3.60±.72), 15-16 years (3.47±.69) and 13-14 years (3.50±.56). The study revealed that, age had an impact of doping attitudes among secondary school student-athletes in Kenya (F=3.19, *p*=.023<0.05). Student-athletes develop positive attitudes doping as they aged in their academic career.

Type of Sport influence on Doping Attitudes

One-Way Analysis of Variance (ANOVA) was conducted to check whether type of sport influence doping attitudes among secondary school student-athletes in Kenya. The study's results are presented in Table 13.

Table 13: ANOVA Analysis Results for Type of Sport and Doping Attitudes

ANOVA						
Variable	**Type of Sport**	**N**	**M**	**SD**	**F**	**Sig.**
Doping Attitudes	Ball Games	449	3.62	.68		
	Athletics	92	3.44	.80		
	Swimming	73	3.67	.79	5.04	.002*
	Racquet Games	71	3.32	.59		
	Total	**685**	**3.57**	**.71**		

*Significant at p<0.05, n = 685

Results in Table 13 show that type of sport has an impact of doping attitudes among secondary school student-athletes in Kenya (F=5.04, *p*=.002<0.05). Swimming student-athletes had the highest mean score (3.67±.59), followed by those in ball games (3.62±.68), athletics (3.44±.80), and racket games (3.32±.79). The study reveals that, type of sport plays a key role in doping attitudes among students-athletes in secondary schools.

Regression Analysis of the study

Hierarchical regression test was conducted to analysis the data in the study on the influence of goal orientation, coach and parent-initiated motivational climate and sports supplement beliefs on doping attitudes among Kenyan secondary school student-athletes. Additionally, the study looked at the moderating effects of sports supplement beliefs on the relationships between goal orientation, coach and parent-initiated motivational climate and doping attitudes.

The Effects of Control Variables

First the contribution of the control variables (gender, age, and type of sport) on doping attitudes (DA) was analysed and presented in in Table 14.

Table 14: Hierarchical Regression Results for Effects of Control Variables

Variables	Model 1	
	Beta β	p-v
Constant	3.444	.000
Controls		
Gender	-.055	.310
Age	.101	**.005***
Type of Sport	-.037	.153
Model summary statistics		
R^2	.016	
ΔR^2 Change	.016	
F	3.787	
P Value		.010

The results in Table 14 revealed that only age (β=.101, *p*=.005<.05) was significant, whereas gender (β = -.055, *p*= .310>.05) and type of sport (β = -.053, *p*=-.037>.05) were not significant in the model. The results revealed that, all the control variables contributed 1.6% of the variance in doping attitudes, as indicated by R^2 change .016 with a significant (F = 3.787, p =.010 <.05).

Influence of Goal Orientation on Doping Attitudes

The study looked at the influence of goal orientation (GO) of doping attitudes (DA) of secondary school student-athletes in Kenya. The results in Table 15 shows the influence of goal orientation on doping attitudes among secondary school student-athletes.

Table 15: Hierarchical Regression Results for Influence of GO on DA

Variables	Model 2	
	Beta β	p-v
Constant	1.520	.000
Controls		
Gender	-.067	.119
Age	.039	.168
Type of Sport	-.047	**.025***
Predictor		
Goal Orientation (GO)	.578	**.000***
Model summary statistics	.	
R^2	.377	
ΔR^2 Change	.361	
F	393.556	
P Value		**.000***

Table 15 revealed that goal orientation has an influence on doping attitudes in Model 2 (β = .578, *p* =.000 <.05), with R^2 .377, ΔR^2 change .361, F = 393,556, and *p* =.000. This suggested that, there was up to 0.578-unit increase in doping attitudes for each unit increase in goal orientation. This implies that goal orientation explains 36.1% of the total variance in doping attitudes. However, the study demonstrated that, the type of sport (β = -.047, *p*=.025<.05) was significant,

whereas gender (β = -.067, *p*=.119 >.05) and age (β = .039, *p*=.168 >.05) were not significant in the Model. Further the results demonstrated that, goal orientation significantly influences doping attitudes among Kenyan secondary school student-athletes.

Influence of Coach-Initiated Motivational Climate on Doping Attitudes

The study examined the influence of coach-initiated motivational climate (CIMC) on doping attitudes (DA). Table 16 shows how the coach-initiated motivational climate variable was included to examine the direct influence of coach-initiated motivational climate on doping attitudes while controlling for gender, age, and sport type.

Table 16: Hierarchical Regression Results for Influence of CIMC on DA

Variables	Model 3	
	Beta β	p-v
Constant	1.121	.000
Controls		
Gender	-.060	.156
Age	.021	.455
Type of Sport	-.045	.027*
Predictors		
Coach-Initiated Motivational Climate (CIMC)	.186	**.000***
Model summary statistics		
R^2	.399	
ΔR^2 Change	.022	
F	24.950	
P Value		.000*

The results reveal that, the type of sport (β = -.045, *p*=.027 <.05) was significant, whereas gender (β = -.060, *p* =.156 >.05) and age (β = .021, *p* =.455 >.05) were not significant in the model. The findings further show that coach-initiated motivational climate has a direct significant influence on doping attitudes (β = .186, *p* =.000 <.05), R^2 .399, ΔR^2 .022, F = 24950, and *p* =.000. This suggested that there was up to 0.186-unit increase in doping attitudes for each unit increase in

coach-initiated motivational climate. This implies that coach-initiated motivational climate explains 2.2% of the total variance in doping attitudes. Therefore, based on the above results, it was concluded that coach-initiated motivational climate significantly influences doping attitudes among Kenyan secondary school student-athletes.

Influence of Parent-Initiated Motivational Climate on Doping Attitudes

The study evaluated the influence of parent-initiated motivational climate (PIMC) on doping attitudes (DA) in Table 17.

Table 17: Hierarchical Regression Results for Influence of PIMC on DA

Variables	Model 4	
	Beta β	p-v
Constant	.917	.000
Controls		
Gender	-.056	.188
Age	.005	.870
Type of Sport	-.037	.071
Predictors		
Parent-Initiated Motivational Climate (PIMC)	.140	**.001***
Model summary statistics		
R^2	.410	
ΔR^2 Change	.011	
F	12.196	
P Value		.001

The results in Table 17 reveal that, gender (β = -.056, *p* =.188 >.05), age (β = .005, *p* =.870 >.05) and type of sport with β = -.37, *p* =.071 >.05), were all found to be insignificant the model. The findings further show that parent-initiated motivational climate has a direct significant influence on doping attitudes showing β = .140, *p* =.001 with R^2 .410, and ΔR^2 .011, F = 12.196, *p* =.001. This suggested that there was up to 0.140-unit increase in doping attitudes for each unit increase in parent-initiated motivational climate. This implies that parent-initiated motivational climate

explains 1.1% of the total variance in doping attitudes. Therefore, based on the above results, it was concluded that parent-initiated motivational climate significantly influences doping attitudes among Kenyan secondary school student-athletes. These results indicate that athletes who enjoy and learn throughout their sporting careers establish a mastery climate, which in turn strengthens anti-doping attitudes.

Influence of Sport Supplement Beliefs on Doping Attitudes

The study examined the influence of sport supplement beliefs on doping attitudes in Table 18.

Table 18: Hierarchical Regression Results for Model 5

Variables	Model 5	
	Beta β	p-v
Constant	.811	.000
Controls		
Gender	-.084	.046
Age	.006	.826
Type of Sport	-.031	.120
Moderator		
Sports Supplement Beliefs (SSB)	.130	**.000***
Model summary statistics		
R^2	.426	
ΔR^2 Change	.016	
F	18.694	
P Value		.000

The results revealed that, gender (β = -.084, *p* =.046 <.05), and type of sport (β = -.031, *p* =.020 <.05) were significant, whereas age (β = .006, *p* =.826 >.05) was insignificant in the model. The findings further show that sport supplement beliefs have a direct significant influence on doping attitudes (β = .08, *p* =.000 <.05) with R^2 .426, and ΔR^2 .016, F = 18.694, *p* =.000. This suggested that there was up to 0.082-unit increase in doping attitudes for each unit increase in sport supplement beliefs. This implies that sport supplement beliefs explain 1.6% of the total variance

in doping attitudes. Therefore, based on the above results, it was concluded that, sport supplement beliefs significantly influence doping attitudes. These results indicate that athletes who form favourable perceptions about sports supplements use early in their athletic careers do so at the expense of developing favorable doping attitudes.

Moderating Effect of Sports Supplement Beliefs on the Relationship between Goal Orientation and Doping Attitudes

The study sought to check for the moderating role of sport supplement beliefs (SSB) on the relationship between goal orientation (GO) and doping attitudes (DA). Results in Table 19 indicates that all control variables remained insignificant; while goal orientation (β=.644, p=.000<.05), coach-initiated motivational climate (β =.109, p=.007<.05), parent-initiated motivational climate (β = 0.128, p = .001<.05) and sport supplement beliefs (β = 0.314, p=.001<.05) were all found to be significant in this model.

The regression coefficient of the interaction between goal orientation and sport supplement beliefs exerts a moderating influence on doping attitudes (β = -.060, p = .012 <.05). The findings further show that, Model 6 has an improved R^2 =.431, ΔR^2 Change = .005, F= 6.295 significant at (p=.012 <.05). The ΔR^2 Change of .005 implies that the interaction process explains 0.5% of the variance in doping attitudes.

Table 19: Hierarchical Regression Results for Moderating Effect of Sports Supplement Beliefs on the Relationship between Goal Orientation and Doping Attitudes

Variables	Model 6	
	Beta β	p-v
Constant	.261	.352
Controls		
Gender	-.086	.042
Age	.010	.730
Type of Sport	-.035	.083
Predictors		
Goal Orientation (GO)	.644	.000
Coach-Initiated Motivational Climate (CIMC)	.109	.007
Parent-Initiated Motivational Climate (PIMC)	.128	.001
Moderator		
Sports Supplement Beliefs (SSB)	.314	.001
Interactions		
GO*SSB	-.060	**.012**
Model summary statistics		
R^2	.431	
ΔR^2 Change	.005	
F	6.295	
P Value		.012

The results are further illustrated and explained by Figure 2 which reveals that at low levels of goal orientation, doping attitudes is high for those athletes with high levels of sport supplement beliefs than those with low levels of sport supplement beliefs. The results demonstrates that when goal orientation rises, doping attitudes grow too, while the increase is marginally higher among athletes who hold low levels of sport supplement beliefs than it is among those who hold high levels. Goal orientation enhances anti-doping attitudes among secondary school student-athletes.

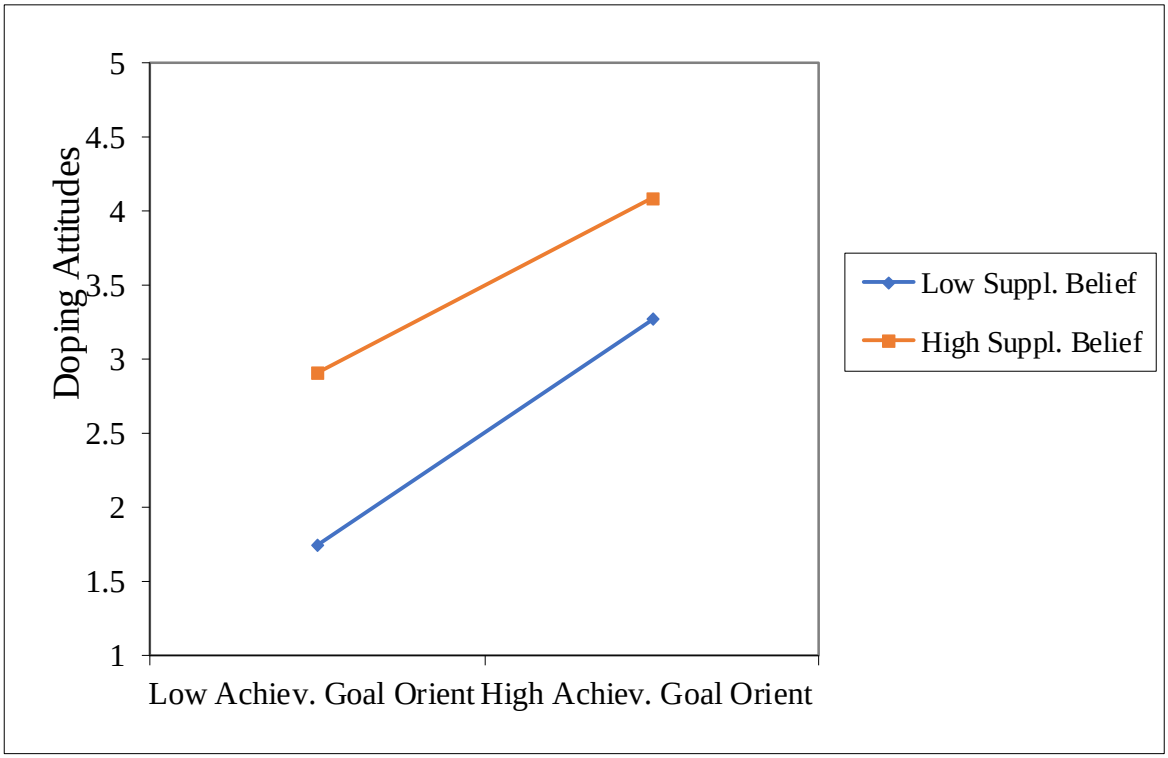

Figure 2: Moderating Effect of sports supplement beliefs on the relationship between goal orientation and doping attitudes

Figure 2, results demonstrates that when goal orientation rises, doping attitudes grow too, while the increase is marginally higher among athletes who hold low levels of sport supplement beliefs than it is among those who hold high levels. Goal orientation enhances anti-doping attitudes among secondary school student-athletes.

Moderating Effect of Sports Supplement Beliefs on the Relationship between Coach-initiated Motivational Climate and Doping Attitudes

The study aimed to check for the moderating role of sport supplement beliefs on the relationship between coach-initiated motivational climate and doping attitudes among secondary school student-athletes in Kenya. Results of Model 7 in Table 20 indicates that all control variables and

sport supplement beliefs remained insignificant, while goal orientation (β = 0.749, p = 0.000 <.05), coach-initiated motivational climate (β = -0.348, p = 0.000 <.05), and parent-initiated motivational climate (β = 0.139, p = 0.000 <.05) were all found to be significant in this model.

In addition, the regression coefficient of the interaction between coach-initiated motivational climate and sport supplement beliefs exerts a moderating influence on doping attitudes (β=-.159, ρ = 0. 000 <.05).

Table 20: Hierarchical Regression Results for Moderating Effect of Sports Supplement Beliefs on the Relationship between Coach-initiated Motivational Climate and Doping Attitudes

Variables	Model 7	
	Beta β	p-v
Constant	1.546	.000
Controls		
Gender	-.079	.056
Age	.012	.651
Type of Sport	-.036	.070
Predictors		
Goal Orientation (GO)	.749	.000*
Coach-Initiated Motivational Climate (CIMC)	-.348	.000*
Parent-Initiated Motivational Climate (PIMC)	.139	.000*
Moderator		
Sports Supplement Beliefs (SSB)	-.178	.168
Interactions		
CIMC*SSB	.159	**.000***
Model summary statistics		
R^2	.455	
ΔR^2 Change	.024	
F	29.638	
P Value		.000*

The findings further show that, Model 7 has an improved R^2 =.455, ΔR^2 change =. 024, with a significant F= 29.638, p = 0.000. This implies that the interaction process accounts for 2.4% of

the variance in doping attitudes. The results further supported by Figure 3 which reveals that, at low levels of coach-initiated motivational climate the two groups of athletes, with both low and high levels of sport supplement beliefs have almost the same doping attitudes.

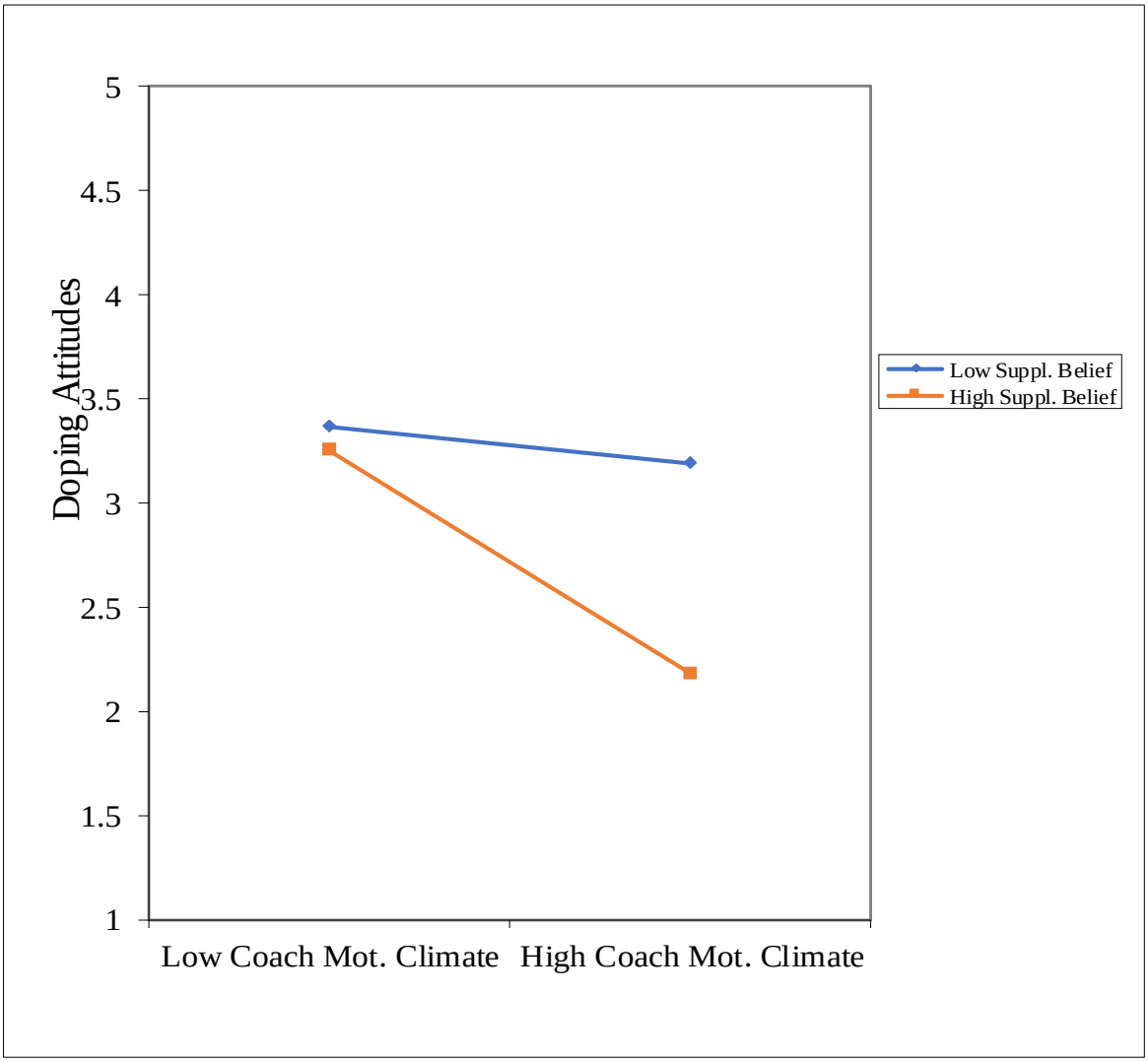

Figure 3: Moderating Effect of sports supplement beliefs on the relationship between coach-initiated motivational climate and doping attitudes

The results in Figure 3 demonstrates that as coach-initiated motivational climate increases, doping attitudes dramatically decrease with athletes who have high levels of sport supplement beliefs compared to athletes who have low levels of sport supplement beliefs. Hence, sports supplement beliefs enhance doping attitudes even in scenarios of low coach-initiated

motivational climate. This is a significant antagonizing moderation influence considering the main influence of coach-initiated motivational climate on doping attitudes among secondary school student-athletes is positive and significant.

Moderating Effect of Sports Supplement Beliefs on the Relationship between Parent-initiated Motivational Climate and Doping Attitudes

The study tested the moderating role of sport supplement beliefs on the relationship between parent-initiated motivational climate and doping attitudes among secondary school student-athletes in Kenya. Table 21 summarizes the results of the study.

Table 21: Hierarchical Regression Results for Moderating Effect of Sports Supplement Beliefs on the Relationship between Parent-initiated Motivational Climate and Doping Attitudes

Variables	Model 8	
	Beta β	p-v
Constant	1.649	.000
Controls		
Gender	-.077	.063
Age	.012	.649
Type of Sport	-.037	.065
Predictors		
Goal Orientation (GO)	.752	.000
Coach-Initiated Motivational Climate (CIMC)	-.313	.002
Parent-Initiated Motivational Climate (PIMC)	.073	.424
Moderator		
Sports Supplement Beliefs (SSB)	-224	.114
Interactions		
PIMC*SSB	.025	.428
Model summary statistics		
R^2	.455	
ΔR^2 Change	.000	
F	.628	
P Value		.428

Table 21 results shows that, goal orientation (β = 0.752, p = 0.000 <.05), and coach-initiated motivational climate (β = -.313, p = 0.002 <.05), were significant, whereas parent-initiated motivational climate (β = .073, p = 0.424 >.05) and sports supplement beliefs (β = -.224, p = 0.114 >.05) were insignificant. The study indicated that, all control variables were insignificant. Table 21 findings further show that, Model 8 has no improvement R^2 =.455, ΔR^2 change=.000 with an insignificant (F=.628, p=.428>.05). This implies that the interaction process accounts for .0% of the variance in doping attitudes. Based on the results, it is concluded that, sports supplement beliefs did not moderate the relationship between parent-initiated motivational climate and doping attitudes among secondary school student-athletes in Kenya. The summary of the findings of the study are presented in Table 22.

Table 22: Summary results of the study

Model	Results		Decision
	Beta β	*P v*alue	
1:			
Gender	.078	.310	Insignificant
Age	.101	.005	Significant
Type of Sport	-.037	.153	Insignificant
Hypotheses			
2: Goal orientation has no significant influence on doping attitudes among secondary school student-athletes.	0.578	*P*=.000< 0.05	Not Supported
3: Coach-initiated motivational climate has no significant influence on doping attitudes among secondary school student-athletes.	0.186	*P*=.000< 0.05	Not Supported
4: Parent-initiated motivational climate has no significant influence on doping attitudes among secondary school student-athletes.	0.140	*P*=.001< 0.05	Not Supported
5: Sport supplement beliefs has no significant influence on doping attitudes among secondary school student-athletes.	0.082	*P*=.000< 0.05	Not Supported
6: Sport supplement beliefs has no significant moderating influence on the relationship between goal orientation and doping attitudes among secondary school student-athletes.	-0.060	*P*= .012< 0.05	Not Supported
7: Sport supplement beliefs has no significant moderating influence on the relationship between coach-initiated motivational climate and doping attitudes among secondary school student-athletes.	0.159	*P*=.000< 0.05	Not Supported
8: Sport supplement beliefs has no significant moderating influence on the relationship between parent-initiated motivational climate and doping attitudes among secondary school student-athletes.	0.025	*P*=.428 >0.05	Supported

DISCUSSIONS

Demographic Characteristics of Kenyan Secondary School Student-Athletes

The study's first objective was to determine the respondents' demographics characteristics, including gender, age category, and type of sport, among secondary school student-athletes.

Gender of Secondary School Student-Athletes

The current study captured information on the distribution of gender among secondary school student-athletes who participated in the 2022 KSSSA National games. A total number of 685 participants were involved in the study, of whom 49.9% were male participants and 50.1% were female participant (Table 3). Due to the equal number of athletes in each sport (with the exception of netball and rugby for both genders), the proportion of male and female participants in this study is practically the same. The findings of the study contradict the notion that male athletes predominate in sport because men are more prone than women to be interested in sports and to prioritize them above other things (Breuer et al., 2011; Jose et al., 2014; Muasya, 2017; Mwangi et al., 2019; Rosselli et al., 2020). Rosselli et al. (2020) claim that when it comes to participating in sports at the secondary school level, boys and girls interact in a gender-neutral environment without showing any partiality. Nonetheless, women have reported having much bigger perceived barriers than men after high school, perhaps due to the lack of clubs and appropriate facilities for women.

Age of Secondary School Student-Athletes

Table 4 show the respondents ranged between 13 and 20 years of age. The study's findings revealed that the majority of secondary school student-athletes, 49.2%, were between the ages of 17-18 years old, and those between the ages of 13-14 years old, who made up the least percentage (5.3%). According to the Education Policy and Statistics Center (EPDC; 2021), the

majority of secondary school students in Kenya are between the ages of 14 and 17. This age is therefore considered to be an appropriate representation of the typical age of form two and three students who participate actively in sports. The form one students are making attempts to settle into secondary education; they are transitioning as they get acquainted with secondary education, whereas the form four students are focused on preparing for national exams.

Types of Sport for Secondary School Student-Athletes

Secondary school student-athletes participated in four different types of sport namely; athletics, ball games, racquet games and swimming. Table 5 show that, ball games (65.5%) attracted the largest number of secondary school participants in the KSSSA national games. This could be attributed to the excellent sporting facilities provided by many secondary schools, like swimming pools and ball game fields. The findings support Muasya's (2018) assertions that team games required more players per team than individual sports, explaining the demand for a sizable player pool of competitors. In addition, Pluhar et al. (2019), suggest that due to their social component, team sports may be more appealing to participants than individual sports. As a result, team sports draw a larger athletic population.

On the other hand, McKay et al. (2022) believed that individual sports required expensive equipment, expert coaching, and the suitable environment for participation. As a result, these barriers account for low levels of participation, which has an effect on the number of athletes who participate in individual sport.

Doping attitudes of Kenyan Secondary School Student-Athletes

The findings of the study revealed that, the aggregate mean for doping attitudes was (2.16±.131), indicating that the majority of secondary school student-athletes disagreed with the doping attitudes statement. The student-athletes' low mean score on doping attitudes shows

the intolerance for PESs use in Kenyan secondary school sports. Theses demonstrates that majority of secondary school student-athletes have negative doping attitude. The findings of this study are consistent with those of Kindludh et al. (1998) who found that, 2.7% of males and 0.4% of girls in high school student-athletes' dope at some point in their lives to enhance their physical appearance and athletic performance. This study also confirms earlier research that identified high school student-athletes' doping attitudes as a significant predictor of doping behavior (Lucidi et al., 2013; Nicholls et al., 2020; Zelli et al., 2010). Zelli et al. (2010) revealed that, adolescents' doping attitudes are influenced by doping-specific belief systems (for example, greater attitudes in support of doping use), which explain for 47% of their variance.

Goal Orientation of Kenyan Secondary School Student-Athletes

The survey showed that the aggregate mean for goal orientation was (3.86±1.185), indicating that the majority of secondary school student-athletes agree with goal orientation statements. Participants that placed a strong emphasis on wanting to learn as many new abilities and become as proficient as possible displayed the highest mean score values, indicating a task-oriented tendency. The findings of this study are consistent with those of Mwangi et al. (2019), who found that athletes exhibited strong task orientations, which are connected with high anti-doping attitudes and may suggest that they value the values of fair play. However, the results of the study stand in contrast to those of Park et al. (2016), who established that high school student-athletes in Korea showed an increase in ego orientation. This is corroborated by research by Schaal et al. (2011), who suggested that players may be goal-oriented for a variety of reasons, such as the scoring in individual sports.

Coach-Initiated Motivational Climate of Kenyan Secondary School Student-Athletes

The findings the study show that the majority of secondary school student-athletes with an aggregate mean (3.62±1.251), agree with the coach-initiated motivational climate statements. This finding of this study is in line with the study by Pensgaard and Roberts (2002) who found that, most of the athletes perceived a high mastery climate and a low performance climate. The athletes stressed the significance of the coach in creating the climate as well as their preference for a supportive and caring climate. According to Langan et al. (2013), Smith & Smoll (2011) and Smith et al., (2007), coaches have a significant influence on young players' athletic development. They are in a position of authority and frequently deal with young athletes. It makes sense to design coach training programs that concentrate on improving coaching methods that have been shown to aid young athletes in achieving their goals (O'Rourke et al., 2014).

Parent-Initiated Motivational Climate of Secondary School Student-Athletes

The study found that; the majority of secondary school student-athletes (3.54±1.206) agree with parent-initiated motivational climate statements. These findings show that the majority of secondary school student-athletes rely on their parents for advice about their sporting activities. The results of this study corroborate those of O'Rourke et al. (2013), who found that children whose parents created a mastery climate, which defines success in terms of enjoyment of the activity, self-improvement, and effort, reported higher levels of autonomous regulation (intrinsic motivation) than did those whose parent created an ego climate that emphasized winning, avoidance of mistakes, and ability comparison with others. Further the study is in supports of O'Rourke et al (2014) contention that parent-child connections are essential to a child's growth and general wellbeing. The majority of a child's life is impacted by their parents.

Sports Supplement Beliefs of Kenyan Secondary School Student-Athletes

The study found that the majority of secondary school athletes disagree with sports supplement belief statements (2.45±1.415). The negative impression of sports supplement beliefs among student-athletes in Kenyan secondary schools demonstrated their aversion to using PESs in competitive sports. This study is in line with Chebet, (2014) who found elite athletes to be knowledgeable of their rights and obligations, but they lacked major information on forbidden substances, testing methods, and supplement use. Additionally, Morente-Sánchez and Zabala (2013), established that, athletes' initial justifications for using illegal substances included achieving athletic success through improving performance, financial gain, enhancing recovery, preventing nutritional deficiencies, as well as the notion that others use them, or the "false consensus effect".

This view is supported by Hurst et al. (2019) study which found a correlation between using sports supplements and doping likelihood and doping attitudes. Athletes that use sport supplements are more likely to report having a more positive attitude towards doping and to indicate that they are more willing to do it. Furthermore, those who use sports supplements and who have a strong belief in their effectiveness may be more prone to use PESs, and these views may be the cause of the association between using sports supplements and doping.

Hurst et al., (2021) made a distinction between different kinds of sports supplements and found that users of ergogenic and medicinal sports supplements have more positive attitudes toward doping than non-users. Morente-Sánchez and Zabala (2013) noted that, doping is effective despite the fact that most athletes recognize it to be dishonest, destructive, and risky because of the sanctions. A common belief is that anti-doping measures are ineffective, and athletes criticize the way tests are carried out.

Moreover, studies have shown that PES use is more prevalent among sport supplement users than non-users (Backhouse et al., 2013; Barkoukis et al., 2020; Dietz et al., 2013). Also, because of the notion that sports supplements work, there is a weak link between using them and the risk of PESs (Hurst et al., 2019; Hurst et al., 2021).

Gender Influence on Doping Attitudes

The study revealed that, gender and doping attitude was not statistically significant ($t = 1.15$; $p = .25 > .05$). This implies that, gender has no influence on doping attitudes among Kenyan secondary school student-athletes. The findings of this study corroborate with several studies that found no gender-related differences in doping attitudes, (Bloodworth et al., 2012; Boit et al. 2012; Devcic et al., 2018; Kiani & Moghaddam 2019; Miller et al., 2002; Mwangi et al., 2019; Petróczi, 2007; Sas-Nowosielski & Swiatkowska, 2008; Sas-Nowosielski & Budzisz, 2018). On the contrary, compared to female athletes, male athletes have reportedly demonstrated a higher tolerance for PES (Bloodworth et al., 2012; Devcic et al., 2018; Lata & Mondello, 2010; Petróczi, 2007; Sas-Nowosielski & Budzisz, 2018; Sas-Nowosielski & Swiatkowska, 2008; Soltanabadi et al., 2015). Lucidi et al. (2017) established both genders appeared to share the same intentional components.

According to Petróczi (2007), it is believed that women are less likely than men to form false consensuses. Due to their higher emphasis on performance, male athletes are, nonetheless, more prone to use PESs. Sekulic et al (2016) study found that, male athletes were more inclined to use PESs, with handball and basketball exhibiting the most pronounced gender differences. Male athletes are more likely to use PESs than female athletes if they regularly use dietary supplements, did better at the junior level, or think doping is a problem in their sport. Sekulic et al. (2016) opined that, male athletes who succeeded in sports as junior and senior athletes

resisted PESs use in elite team sports. Additionally, Sekulic et al. (2016) established that, PESs use was supported by athletes who struggled at the juvenile level and were unable to compete at the adult level. Kim and Kim (2013) reveled that, among Asian young athletes competing at the highest level, older athletes were more likely to use PESs than younger competitors. Contrary to expectations, Faigenbaum et al. (1998) found that females were more likely than males to use PESs. Research has concluded that the intents, attitudes, and moral disengagement of athletes are to blame for the surge in substance abuse (Lucidi et al., 2008; Petroczi, 2003).

Age Influence on Doping Attitudes

The study established that, athletes between the ages of 19 and 20 had the highest mean scores (3.72±.73), followed by those between the ages of 17 and 18 (3.60±.72), those between the ages of 13 and 14 (3.50±.56), and those between the ages of 15 and 16. (3.47±.69). The findings also showed that among athletes in secondary schools, there was a statistically significant mean difference between age and doping attitudes ($F=3.19$, $p<0.05$). These findings show that an athlete's doping attitudes change with age. This implies that age has an influence of doping attitudes among Kenyan secondary school student-athletes. The findings of this study are supported by a number of studies that found that younger athletes are more likely than older ones to embrace the notion that doping will improve sports performance (Boit et al., 2012; Devcic et al., 2018; Knapik et al., 2016; Miskulin et al., 2021; Mwangi et al., 2019; Sekulic et al., 2016; Sekulic et al., 2017; Singhammer, 2012). Backhouse et al. (2016) also found that, an athlete's age can significantly affect the indicators or predictors of doping. Additionally, in their analysis of variance study on doping attitudes, Kiani and Moghaddam (2019) found substantial variations

across the age groups of athletes in Kermanshah Province, Iran, confirming that different age groups have distinct doping attitudes.

The age difference in response to doping in this study can be explained by a number of factors, according to research. Devcic et al. (2018) established that, the fear of the negative impacts of doping, such as rejection by friends and family, made swimmers less likely to express positive attitude towards doping, and that age had no bearing on the doping susceptibility of Slovenian swimmers. Knapik et al. (2016) estimated that supplement use varies by gender, age, sport type, period, and supplement type, with a prevalence of use between 40 and 70%. Additionally, Corluka et al. (2011) found a significant relationship between age and doping knowledge. This also applies to the athletic seasons for secondary school student-athletes.

Mwangi et al., (2019) also, established that, older athletes have developed a greater understanding about doping issues and the detrimental and long-term effects of doping in sports. Sekulic et al. (2016) found that athletes who struggled to compete at the juvenile level and were unable to compete at the adult level supported the use of PESs. On the contrary, a study by Mottram et al. (2008) examined teenage athletes' doping attitudes revealed that 45.4% of them strongly opposed the use of PESs.

Type of sport Influence on Doping Attitudes

The findings of the study revealed that, athletes who played swimming had the highest mean scores (3.67±.59), followed by ball games (3.62±.68), athletics (3.44±.80), and lastly, racquet games (3.32±.79). The findings of the study revealed that, type of sport and doping attitudes were statistically significant ($F= 5.04$; $p=.002<0.01$). This implies that the type of sports influence doping attitudes among Kenyan secondary school student-athletes. The results of this study corroborate those of Allen et al. (2015), who revealed that doping was more common

among athletes competing in individual sports than in team sports. It was shown that compared to athletes who played team sports, individual sports athletes had more favorable attitudes toward doping. Chan et al. (2014) affirm that more doping incidences occur in individual sports each year than in team sports. Athletes in team sports commonly argued that using drugs would not provide them a noticeable advantage because their performance depended so heavily on teamwork and game strategy.

Sekulic et al. (2017) also found that, compared to kickboxers who had just started competing, experienced kickboxers were more likely to utilize PESs. Additionally, there is evidence that different athletes have different attitudes on doping. This is supported by earlier research that found athletes that play team sports had a range of doping attitudes (Allen et al. 2015; Boardley & Kavussanu, 2008; Lentillon-Kaestner et al. 2012; Lucidi et al., 2008; Mallia et al., 2016; Morente-Sánchez et al. 2015).

Influence of Goal Orientation on Doping Attitudes

The findings of the study indicated that goal orientation had a positive and significant influence on doping attitudes (β=0.578, p<0.05). These results imply that athletes who generate positive goal orientation (task orientation) from their day-to-day athletics career build good behaviour which will in turn develop negative attitudes towards doping. The results of this study are consistent with earlier research that demonstrated a relationship between doping attitudes and goal orientations (Allen et al., 2015; Bae et al., 2017; Hardwick et al., 2021; Mudrak et al., 2018; Sas-Nowosielski & Swiatkowska, 2008). Allen et al. (2015) found that, Scottish athletes were against doping and that task and ego goals were predictors of attitudes towards doping. According to Barkoukis et al. (2011), athletes who had higher mastery goal orientation admitted to using drugs less frequently in the past and had less plans to do so in the future. Sas-

Nowosielski and Swiatkowska (2008) study found that, athletes with comparatively greater levels of ego goal orientation were more inclined to endorse doping than those with task orientation. This implies that goal orientation plays a key role on the determination of secondary school athletes doping attitudes. Sas-Nowosielski and Swiatkowska (2008) found that, differences between goal orientation groups across doping attitudes in male athletes were statistically significant, whereas these differences in female athletes only showed a trend toward significance.

Kavusannu (2001) and Duda (1991) found that men were less task-oriented and more ego-oriented than women, and that they also had less favourable attitudes toward doping. Goal orientation appeared to have less of an impact on attitudes towards doping in female athletes than it did in male athletes. The low ego/high task group outperformed the high ego/low task group by a considerable margin in "behavior," which was the sole difference between goal orientation female groups. In contrast, all attitude measurements showed differences between the goal orientation groups of male athletes. Ring and Kavussanu (2018) study on college athletes supported earlier findings by demonstrating that ego orientation increased the likelihood of doping among the athletes when compared to task orientation or no goal orientation. Mwangi et al. (2019) study established that, a player's age and playing experience correlate with their anti-doping attitudes, especially if they are accompanied by positive experiences. Corluka et al. (2011) that found a statistically significant relationship between doping knowledge, sports experience, and age.

According to the vast majority of earlier studies Hanrahan & Cerin, (2009) and Harwood, (2002), athletes who compete in individual sports exhibited higher levels of ego orientation than those who compete in team sports. A study by Van de Pol and Kavussanu (2011) found that

tennis players' ego orientation predicts effort favorably, but not soccer players (Van de Pol, et al., 2012). According to Hanrahan and Cerin (2009), the most frequent explanation for this finding is that athletes who compete in individual sports are more frequently subject to ranked comparisons than athletes who compete in team sports. As a result, these athletes may feel pressure to exert more effort in an effort to improve their ranking.

Influence of Coach-Initiated Motivational Climate on Doping Attitudes

The findings revealed that a coach-initiated motivational climate had a positive and significant influence on doping attitudes ($\beta=0.186$; $p<0.05$) among Kenyan secondary school athletes. This implies that doping attitudes were related with coach-initiated motivational climate, hence coach-initiated motivational climate was a predictor of doping attitudes. These findings indicate that athletes who adopt a mastery mindset throughout their athletic careers generate positive actions, which improve anti-doping attitudes. The findings of the present study are in agreement with previous studies that have associated sport supplement beliefs to positive doping attitudes and coach-initiated motivational climate in sports (Allen et al., 2015; Ntoumanis et al., 2018). Allen et al. (2015) found among the Scottish athlete that, they were against doping and hence, mastery motivational climate was established to be predictors of doping attitudes. According to Blank et al. (2014), coaches and athletes who are knowledgeable about doping can promote good anti-doping attitudes and stop the development of pro-doping attitudes. A study by Gomez-Lopez et al. (2019), found that among high performance handball players in Spain, gender and coach-initiated motivational climate were statistically significant. On the contrary, Mwangi et al. (2019) revealed that, there were no significant relationships between perceived coach-initiated motivational climate, and doping attitudes among East Africa University student-athletes.

Influence of Parent-initiated Motivational Climate on Doping Attitudes

The study findings showed that parent-initiated motivational climate had a positive and significant influence on doping attitudes (β =0.140; p<0.05) among secondary school athletes. The study further shows that, parent-initiated motivational climate was a significant positive predictor of doping attitudes. The findings of the current study corroborate previous studies in motivational climate where parent-initiated motivational climate had been shown to positively predict doping intentions among the athletes (Bea et al., 2017; Blank et al., 2015; Guo et al., 2021; Mwangi et al., 2019). Additionally, Kindlundh et al. (1999) found that, a person's perception of their capacity to withstand social normative norms, such as the influence of parent-initiated motivational climate, may significantly affect how they intent to use PESs. Leo Marcos et al. (2015) looked into how young athletes in Spain perceived antisocial behavior and the general motivational climate. The study found that, the intention, judgment, and performance of antisocial behavior were negatively related to the mastery climate created by significant others (p<.01), and that they had a positive relationship with the performance climate created by the significant others (p<.01). Additionally, players who evaluated the measurement of other players' antisocial behavior as positive engaged in antisocial behavior themselves with more intention, judgment, and performance (p<.01). The findings thus illustrated the significance of taking into account the influence of peers, parents, and coaches when investigating antisocial behaviour in youth sport.

Influence of Sport Supplement Beliefs on Doping Attitudes

The study found that sport supplement beliefs have a positive and significant influence on doping attitudes among secondary school student-athletes (β=0.082, p<0.05). The results indicated that sport supplement beliefs and doping attitudes indicated a significant positive relationship

implying that sport supplement beliefs were associated with attitudes towards pro-doping. Thus, the findings of the present study are in agreement with previous studies that have associated sport supplement beliefs to positive doping attitudes and PES use in sports (Backhouse et al., 2013; Hurst et al., 2019; Hurst et al., 2021; Jovanov et al., 2019; Morente-Sánchez, & Zabala, 2013). Similar research was conducted by Geyer et al. (2008), who looked at 634 sports supplements from 13 different nations and established that 15% of them included testosterone and anabolic steroids.

On the other hand, Morente-Sánchez and Zabala (2013) asserted that there is a lack of information regarding dietary supplements and the negative effects of PESs. Consequently, education and prevention are essential, and they ought to be directed toward athletes and other relevant parties. This will enable the development and maintenance of the right attitudes towards doping. Knapik et al. (2016) estimated that supplement use varies by gender, age, sport type, period, and supplement type, with a prevalence of use between 40 and 70%.

Moderating Effects of Sport Supplement Beliefs on the relationship between Goal Orientation and Doping Attitudes

The results in this study showed a negative and significant influence of sport supplement beliefs on goal orientation and doping attitudes (β=-0.060, p<0.05). The results further showed that sport supplement beliefs moderated the relationship between goal orientation and doping attitudes, indicating that sport supplement beliefs significantly influence the relationship between goal orientation and doping attitudes. The study demonstrates that when goal orientation rises, doping attitudes grow too, while the increase is marginally higher among athletes who hold low levels of sport supplement beliefs than it is among those who hold high levels. This finding implied that the interaction of sport supplement beliefs and goal orientation predicted doping attitudes. This

study findings are in agreement with Barkoukis et al., (2020) which revealed that, the association between self-reported supplement use and doping was decreased by the mastery approach, avoidance goals, and autonomous motivation. Athletes who are mastery-focused and independently driven use dietary supplements to boost their training and raise their performance in accordance with their own set standards and goals. The athletes' efforts are aided by nutritional supplements, which are also secure substitutes for doping.

Hurst et al., (2022a) established that, sport supplement beliefs mediated the relationship between sport supplement use and doping use, and that this mediation did not exist when moral values and moral identity were high. This study provides evidence that personal morality may influence the relationship between sport supplement use, beliefs, and doping, and highlights the important role personal morality plays in an athlete’s decision to use prohibited substances. Hurst et al. (2019) and Hurst et al. (2021) and Marc et al., (2015) assert that, the relationship between sport supplement use and the likelihood to dope is indirectly related via beliefs that sport supplements are effective. Additionally, Marc et al., (2015) revealed that, sport confidence moderates physical activity intensity during free play in children and is characterized by a higher ego orientation and generally higher task orientation.

According to Ntoumanis et al. (2014), use of legal supplements, perceived social norms, and positive attitudes towards doping were the strongest positive correlates of doping intentions and behaviors. In contrast, morality and self-efficacy to refrain from doping had the strongest negative association with doping intentions and behaviors. Furthermore, path analysis suggested that attitudes, perceived norms, and self-efficacy to refrain from doping predicted intentions to dope, and indirectly, doping behaviors.

Lochbaum et al., (2015) revealed that, sport confidence moderates physical activity intensity during free play in children and is characterized by a higher ego orientation and generally higher task orientation.

Moderating Effects of Sport Supplement Beliefs on the relationship between Coach-Initiated Motivational Climate and Doping Attitudes

The findings provide evidence that sports supplement beliefs moderate the relationship between Coach-Initiated Motivational Climate and Doping Attitudes (β=0.159, p<0.05). This finding implies that, the interaction of sports supplement beliefs and coach-initiated motivational climate variables predicted doping attitudes. The study demonstrates that as coach-initiated motivational climate increases, doping attitudes dramatically decrease with athletes who have high levels of sport supplement beliefs compared to athletes who have low levels of sport supplement beliefs. Hence, sports supplement beliefs enhance doping attitudes even in scenarios of low coach-initiated motivational climate. This is a significant antagonizing moderation influence considering the main influence of coach-initiated motivational climate on doping attitudes among secondary school student-athletes is positive and significant. This study supports the findings of Guo et al., (2021) which established that task-involving motivational climate indicated both directly and indirectly negative associations with doping intention via sportspersonship. The ego-involving motivational climate was positively associated with doping intention via moral disengagement. Among perceived pros/cons of doping and perceived cons of not doping, both perceived cons of doping and cons of not doping were positively associated with doping intention with a small effect size. This study confirmed the roles of tasking- and ego-involving motivational climates, moral variables, and attitudinal variables on doping intention.

Additionally, Pineda-Espejel et al. (2021) found that perceived coach pressure was negatively correlated with task-involving climate, whereas perceived coach pressure was positively correlated with both concerns about mistakes and the ego-involving climate. This implies that worries about mistakes from the motivational environment were unaffected by perceived coach pressure. This is the situation with Kenyan secondary school student-athletes.

Harwood et al., (2015) also found that, perceptions of a task or mastery climate were consistently associated with a range of adaptive motivational outcomes including perceived competence, self-esteem, objective performance, intrinsic forms of motivational regulation, affective states, practice and competitive strategies and moral attitudes, and the experience of flow.

Perceptions of an ego or performance climate were positively associated with extrinsic regulation and amotivation, negative affect, maladaptive strategy use, antisocial moral attitudes and perfectionism, but negatively associated to positive affect and feelings of autonomy and relatedness (Harwood et al., 2015).

Qi (2022) found that motivational climates have both direct and interaction effects on the achievement motivation pathway. Mastery motivation climates initiated by parents and learning environment moderated the relationship between goal orientation and fear of failure. Patterns of interaction effects found that motivation climates initiated by parents and learning environments moderated this relationship in qualitatively different ways. Wilson (2006) asserts that self-directed tasks are a reliable sign of a process emphasis. In terms of self-determined motivation, strong mastery climates seem to gain from these same characteristics, but strong performance climates are more likely to profit from high levels of self-directed ego orientation and low levels of social acceptance ego orientation.

Melguizo-Ibáez et al. (2023) claim that extrinsic or intrinsic motivation for sports can help to either lower or enhance anxiety levels. Additionally, whereas extrinsic drive tends to increase anxiety when the desired goals are not achieved, intrinsic motivation is beneficial for regulating erratic moods. The same circumstance applies to Kenyan secondary school student-athletes.

Moderating Effects of Sport Supplement Beliefs on the relationship between Parent-Initiated Motivational Climate and Doping Attitudes

The findings of the study indicate that the interaction term between parent-initiated motivational climate and sports supplement beliefs was positive and insignificant ($\beta=0.025$, $p>0.05$). The explanation could be that when athletes receive parent-initiated motivational climate, the level of their sport supplement beliefs is not influenced by parent-initiated motivational climate. This finding implied that the interaction of sports supplement beliefs and parent-initiated motivational climate variables did not predict doping attitudes. Moreover, the results indicated no significant sports supplement beliefs differences in doping attitudes and competence and performance motivational climate. This study confirms the findings of Thrower et al. (2023), who found that children's perceptions of both parent-initiated ego involved motivational climate and their own ego goal orientation significantly decreased over time. With regards to their assessments of parent-initiated ego-involving climates, players' ego orientation was not significantly associated.

Blank et al., (2015), revealed that, fathers have the potential of acting as a protective factor for doping attitudes in athletes, but only if their level of belief is moderate. Doping prevention strategies should include parents, but need to be careful on the role they are planning to fulfil, with an emphasis on soft skills (e.g., communication).

According to Kromerova-Dubinskiene and Sukys (2020), parental success standards based on mastery were positively correlated with intrinsic motivation and negatively correlated with

amotivation, whereas perceived parental success standards based on ego were positively correlated with amotivation. These results demonstrate perceived parental success standards based on mastery to be positively linked with mastery-based achievement goal orientation and negatively associated with ego-based achievement goal orientation.

Martin-Fernandez (2022) findings, suggest that an ego-centered environment may still contribute to the development of situations that can lead to the creation of maladaptive perfectionistic inclinations and, ultimately, psychological distress. In other words, coaches might increase their athletes' susceptibility to mental health problems by generating psychological situations that are harsh, punitive, and unhealthy. Athletes may consequently become fixated with being evaluated, experience failure and self-doubt, and feel more emotional distress. Athletes from Kenyan secondary schools are included in this scenario.

SUMMARY OF FINDINGS

The study investigated the influence of goal orientation, coach and parent-initiated motivational climate on doping attitudes and the moderating influence of sport supplement beliefs on the relationship between goal orientation, coach and parent-initiated motivational climate and doping attitudes. The study found that, the participants were split almost evenly across genders, with 50.1% women and 49.9% males. A majority of the participants 49.2% were aged between 17 and 18 years while 32.3% were aged between 15 and16 years;13.3% were aged between 19 and 20 years and lastly, 5.3% were aged between 13 and 14 years. Ball games were the most popular game, with 65.5% of participants, followed by athletics with 13.4%, swimming with 10.7%, and racquet games with 10.4%. The findings revealed that, majority of athletes agreed with the statement items of goal orientation (3.86±1.185), coach-initiated motivational climate (3.62±1.251) and parent-initiated motivational climate (3.54±1.206). However, most athletes disagreed with the statement items of doping attitudes (2.16±1.31) and sports supplement beliefs (2.76 ±1.475. The study also established that, gender did not influence doping attitude among Kenyan secondary school student-athletes ($t = 1.15$; $p = .25 > .05$). Gender of the athletes had no influence on doping attitudes with the highest mean score recorded by male athletes (3.60±0.70). I was found that, age influence doping attitudes ($F = 3.19$, $p = .023 < 0.05$), with 19-20 age category having the highest mean score (3.72±0.73). The type of sports and doping attitudes were also statistically significant ($F = 5.04$; $p = .002 < 0.01$), with swimming athletes recording the highest mean score (3.67±0.59).

Influence of Goal Orientation on Doping Attitudes

The study revealed that, goal orientation significantly influenced doping attitudes among Kenyan secondary school student-athletes, (β=0.578; *p=.000*<0.05). The study concluded that goal orientation influenced doping attitudes among Kenyan secondary school student-athletes.

Influence of Coach-Initiated Motivational Climate on Doping Attitudes

The study found that secondary school student-athletes' doping attitudes in Kenya are significantly influenced by the coach-initiated motivating climate (β=0.186; *p=.000*<0.05). According to the study, the coach-initiated motivational climate significantly influenced doping attitudes among Kenyan secondary school student-athletes.

Influence of Parent-Initiated Motivational Climate on Doping Attitudes

The study found that among Kenyan secondary school student-athletes, parental-initiated motivational climate significantly influenced doping views (β=0.140; p=.001<0.05). The study came to the conclusion that parent-initiated motivating climate significantly influences doping attitudes among Kenyan secondary school student-athletes.

Influence of Sport supplement beliefs on Doping Attitudes

The study also found that doping attitudes among Kenyan secondary school student-athletes are strongly influenced by sport supplement beliefs (β=0.082; *p.000*<0.05). The study came to the conclusion that doping attitudes among Kenyan secondary school student-athletes are highly influenced by sport supplement beliefs.

Moderating Effect of Sport Supplement Beliefs on the relationship between goal orientation and doping attitudes

The study's results showed that among Kenyan secondary school student-athletes, the interaction term between goal orientation and sport supplement beliefs on doping attitudes was negative and

significant (β= -0.060; p=.012<0.05). The study concluded that sport supplement beliefs moderated the relationship between goal orientation and doping attitudes among Kenyan secondary school student-athletes.

Moderating Effect of Sport Supplement Beliefs on the relationship between Coach-Initiated Motivational Climate and Doping Attitudes

The study's analysis revealed that among Kenyan secondary school student-athletes, the interaction term between coach-initiated motivational climate and sport supplement beliefs on doping attitudes was positive and significant (β=0.159; p=.000<0.05). The study came to the conclusion that sport supplement beliefs had a significant moderating influence on the association between coach-initiated motivational climate and doping attitudes of Kenyan secondary school student-athletes.

Moderating Influence of Sport Supplement Beliefs on the relationship between parent-initiated motivational climate and doping attitudes

The results of the study showed that among Kenyan secondary school student-athletes, the interaction term between parent-initiated motivational climate and sport supplement beliefs on doping attitudes was positive and insignificant (β=0.025; p=.428>0.05). The study came to the conclusion that sport supplement beliefs did not moderate the relationship between parent-initiated motivational climate and doping attitudes among Kenyan secondary school student-athletes.

Conclusion of the Study

The following conclusions were reached based on the study's findings.

1. Age and the type of sport were found to have an influence on the doping attitudes of secondary school student-athletes in Kenya.
2. Gander did not influence doping attitudes of secondary school student-athletes in Kenya.

3. Goal orientation, coach and parent-initiated motivational climate and sports supplement beliefs were all found to influence doping attitudes among Kenyan secondary school students-athletes.
4. Sports supplement beliefs moderated the relationship between, goal orientation, coach-initiated motivational climate and doping attitudes among Kenyan secondary school students-athletes.
5. Sports supplement beliefs did not moderate the relationship between, parent-initiated motivational climate and doping attitudes among Kenyan secondary school students-athletes.

Recommendations for Policy

The following recommendations are made for policy formulation.

1. It was recommended that Kenya Secondary School Sport Association collaborate with Anti-Doping Agency of Kenya to develop proactive anti-doping education in secondary schools. Anti-doping education and training can help both athletes and athlete's entourage to build negative doping attitude
2. It was recommended that; Anti-Doping Agency of Kenya and Kenya Secondary School Sport Association should take a leading role in training athletes on fair play and anti-doping benefits.
3. It was recommended that Kenya Secondary School Sport Association officials and Sports Coaches take the lead in training athletes on achievement goal orientation with an aim of cultivating negative doping attitudes among secondary school student-athletes.
4. It was recommended that Anti-Doping Agency of Kenya, Kenya Secondary School Sport Association, and the Ministry of Youth Affairs, Sports, and Arts should take the initiative

in developing policy guidelines and assessing sports initiatives to address anti-doping behavioral change among secondary school student-athletes.

5. Because doping attitudes are constantly influenced by goal orientation, coach and parent-initiated motivational climate, which relate to the constantly increasing pressure to win, and beliefs about sport supplements, we recommend ongoing programs be designed to identify factors that predispose athletes to using performance-enhancing substances.

Recommendations for Practice

The current study recommends the following for Practice:

1. Kenyan sports organizations should inform athletes and coaches about doping issues.
2. Anti-Doping Agency of Kenya, Kenya Secondary School Sport Association, and the Ministry of Youth Affairs, Sports, and Arts should take the lead to make sure that all secondary schools teach, learn, and serve as role models for anti-doping laws in situations where students participate in competitive sports.
3. In secondary schools, there should be regular evaluations of how well the athletic programs are performing in regard to the anti-doping rules and regulations.
4. During practice, coaches should spend time explaining to student-athletes the value of developing goal-orientation (task) throughout their athletic careers.
5. Parents should teach their children the value of fostering positive goal orientation in their sporting careers as well as the need to cultivate anti-doping attitudes.

Recommendations for Further Research

The study recommends the following for further research:

1. Similar studies on doping attitudes to be conducted in other levels of competition such as primary schools, colleges and universities, as well as elite athletes.

2. Longitudinal studies over a prolonged period of time are needed in the area to track the doping attitudes attributable to sports participation among athletes in secondary schools.
3. Similar studies on doping attitudes to be conducted to compare influence of other relevant factors such as individual versus and team sports, sports experience, home background, family status amongst others.
4. Future studies may examine sports psychology factors like success belief, goal orientation, and motivational climate as potential mediators of parental influence on adolescent athletes.

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APPENDICES

APPENDIX A: A LETTER OF INTRODUCTION

KENYATTA UNIVERSITY

Eric Derrick Kipkoech Ngetich,
Department of Recreation & Sports Management,
Kenyatta University,
P.O. Box 43844,
Nairobi.

The KSSSA Chairman,

…….

Dear Sir/ madam,

Ref: Request to conduct research in your school.

I am undertaking research for my Ph.D. thesis at Kenyatta University. The title of the study is "Influence of Goal Orientation, Coach-initiated Motivational Climate, Parent-initiated Motivational Climate and Sport Supplement Beliefs on Doping Attitudes among Kenyan Secondary School Student-Athletes". The study will involve students' participants at KSSSA National Games 2022 Edition. I would like to request the assistance of regional Chairman/ Secretary General in identifying athletes and in administration of the questionnaires. I would like to request your permission to use your athletes in my research.

I respectfully ask for your assistance with this undertaking.

Eric D.K. Ngetich
Ph.D. student
Department of Recreation & Sports Management

APPENDIX B: ATHLETES CONSENT FORM

KENYATTA UNIVERSITY

SURVEY ON THE INFLUENCE OF GOAL ORIENTATION, COACH-INITIATED MOTIVATIONAL CLIMATE, PARENT-INITIATED MOTIVATIONAL CLIMATE AND SPORT SUPPLEMENT BELIEFS ON DOPING ATTITUDES AMONG KENYAN SECONDARY SCHOOL STUDENT-ATHLETES.

Introduction

My name is Eric Derrick Kipkoech Ngetich, a PhD student of Kenyatta University in the Department of Recreation and Sports Management. I'm currently conducting a psychosocial research survey on the influence of goal orientation, coach and parent-initiated motivational climate, and sport supplement beliefs on doping attitudes among secondary school student-athletes in Kenya, and I would like to invite you to participate in this study.

Confidentiality

I am aware that the data I provide for this study may be utilized for research, including publications in scholarly journals. There won't be any chance for my true identity to be revealed because everything will be coded.

Voluntary participation

I've been given a clear explanation of the study's objectives. I am aware that taking part in the study is entirely voluntary and that declining to do so will not result in any consequences. Without incurring any penalties, I'm free to stop taking part whenever I want.

Procedures to be followed

The dissemination of surveys will take 45 minutes.

Benefits of participation

My participation in this study will contribute towards further understanding of the influence of goal orientation, coach and parent-initiated motivational climate, and sport supplement beliefs on doping attitudes among secondary school student-athletes.

Termination of participation

I understand that my participation may be terminated if I don't abide by the rules.

Liability

I've given my permission to take part in this study. I absolve all researchers involved in this study from responsibility for any problems that may arise as a result of the study.

Contact information

I shall not hesitate to email or contact the principal investigator if I decide to withdraw or if I need further details about this study. Eric D.K Ngetich on email kngetich2001@yahoo.com / kipkoech14@mu.ac.ke phone number 0721913808. Supervisor Prof. Elijah Gitonga 0727649740 email rintaugu.elijah@ku.ac.ke/elijahgitonga2001@yahoo.com

However, if you have inquiries regarding your legal obligations as a research participant: You may contact Kenyatta University Ethical Review Committee Secretariat on chairman.kuerc@ku.ac.ke/secretary.kuerc@ku.ac.ke,

Consent to participate

I confirm that I have read everything above and have gotten clear answers to all of my inquiries. I voluntarily agree to take part in this research study. (A copy of this signed informed consent will be given to me.)

I …… have agreed to take part in the study being carried out by the researcher named above.

Instructions

Most questions allow you to select the response that most accurately describes you by checking or circling the corresponding number. You are given room in a number of questions where you are asked to write your answer.

APPENDIX C: KSSSA REGIONAL CHAIRMAN CONSENT FORM

INFLUENCE OF GOAL ORIENTATION, COACH-INITIATED MOTIVATIONAL CLIMATE, PARENT-INITIATED MOTIVATIONAL CLIMATE AND SPORT SUPPLEMENT BELIEFS ON DOPING ATTITUDES AMONG KENYAN SECONDARY SCHOOL STUDENT-ATHLETES.

Lead investigator: Eric Derrick Kipkoech Ngetich, Kenyatta University

Supervisors: Prof. Elijah G. Rintaugu, Kenyatta University

Dr. Florence Gitau, Kenyatta University

Institution: Kenyatta University

Study Purpose

The investigator wants to document and study the influence of achievement goals, coach-initiated motivational climate, parent-initiated motivational climate, and sport supplement beliefs on doping attitudes among secondary school student-athletes in Kenya.

Research Procedures

Upon your consent for the learner to participate in the research, the learner will do the following:

Complete some questionnaires administered by the researcher and his assistants. They will be asked questions about the influence of their goal orientation, coach-initiated motivational climate, parent-initiated motivational climate, sport supplement beliefs on doping attitudes.

Participate in some sessions within which the researcher will teach them on how to participate in answering the questionnaire

What are the learners' benefits from participating in the study?

Learn more about doping and the benefits of antidoping thereof.

Enhance health and quality of life when they learn on how goal orientation, motivational climate, sport supplement beliefs influence doping attitudes.

Are there any disadvantages of participating in the study?

There are no disadvantages from participating in the study.

All research activities will be done during athletes' free hours

Confidentiality of research information

The information collected in the research will be used only for the study purposes. All research responses will bear anonymous coding.

Self determination to participate

The learner will participate in the study entirely out of own free will and can withdraw from the study equally freely. There will be no coercion or intimidation for participation. In addition, the learners will not receive any monetary or other physical tokens.

The decision to participate will be wholly his or hers.

For more information, you may contact the lead investigator or his supervisors on the contacts given. You may also contact the following address

Chairman, Kenyatta University Ethical Review Committee
P.O BOX 43844- 00100
Nairobi

Therefore, I consent to having my child participate in the research.

Name …….

Signature …… Date ……...

Learner's Assent

I understand that I do not have to participate in the research. If I decide to participate, it will be out my own free will and not any coercion. Also, I am free to leave the study later if I want to do so. The decision to be in the research or not is wholly mine.

Therefore, I agree to participate in the study.

Name …….

Signature …… Date ……...

APPENDIX D: QUESTIONNAIRE

SURVEY ON THE INFLUENCE OF GOAL ORIENTATION, COACH-INITIATED MOTIVATIONAL CLIMATE, PARENT-INITIATED MOTIVATIONAL CLIMATE AND SPORT SUPPLEMENT BELIEFS ON DOPING ATTITUDES AMONG KENYAN SECONDARY SCHOOL STUDENT-ATHLETES

Introduction

You have been chosen specifically to participate in this study on the "Influence of Goal Orientation, Coach-initiated Motivational Climate, Parent-initiated Motivational Climate and Sport Supplement Beliefs on Doping Attitudes among Secondary School Athletes in Kenya." This information will only be used for academic purposes and kept in absolute confidence. Please don't write your name in this survey. There is no right or wrong answer to any of the questions on this self-evaluation form. We really ask that you answer them all honestly.

SACTION A: BACKGROUND INFORMATION

Kindly fill the gap or tick the relevant box.

1. What is your gender:

Male	
Female	

2. What is your age:

13-14 yrs	15 -16 yrs	17-18 yrs	19-20 yrs

3. What type of sport do you play?

Ball game	Athletics	Racquet game	Swimming

SACTION B: PERFORMANCE ENHANCING ATTITUDES SCALE (PEAS)

For the purpose of this study, the following are categorized as:

1.Performance-enhancingdrugs/methods: ***stimulants*** (i.e., amphetamine, ephedrine, etc.) - overcoming tiredness; ***beta-blockers*** **-** calm nerves and steady hands; *diuretics* - reduce weight and mask presence of drug in urine; ***steroids*** (i.e., testosterone) - accelerate muscle growth and allow longer, more intense training; ***human growth hormone*** **-** builds muscle size and strength; ***erythropoitein*** **(EPO)** - increases production of red blood cells, which improves endurance; and ***blood doping*** **-** reinjected blood increases oxygen supply to muscles, which improves endurance.

2. Recreational drugs: ***tranquilizers, barbiturates (sedatives), tobacco and alcohol, cannabis, heroin, cocaine/crack, speed, hallucinogens*** **(LSD, PCP), and *inhalants* (glue, etc.).**

The following statements will be measured on a five-point Likert-type scale ranging from, strongly disagree (1) to strongly agree (5).

Please read each question carefully and specify your level of agreement (between 'strongly disagree' to 'strongly agree') with the following:

NO	ITEMS	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
		1	2	3	4	5
DA 1	Doping is required to be competitive.	1	2	3	4	5
DA 2	Doping is not considered a form of deception because everyone does it.	1	2	3	4	5
DA 3	Athletes frequently miss time due to injuries, and drugs can assist athletes in making up lost time.	1	2	3	4	5
DA 4	Only the quality of performance should be considered, not how athletes achieve it.	1	2	3	4	5
DA 5	Athletes in my sport are under intense pressure to use performance-enhancing drugs.	1	2	3	4	5
DA 6	Athletes who use recreational drugs do so because they believe it will help them compete better.	1	2	3	4	5
DA 7	Athletes should not feel guilty if they break the rules and use performance-enhancing drugs.	1	2	3	4	5
DA 8	The dangers of doping are exaggerated.	1	2	3	4	5
DA 9	Athletes have no other career options besides sports.	1	2	3	4	5
DA 10	Athletes are motivated to train and compete at the highest levels when they use recreational drugs.	1	2	3	4	5
DA 11	Doping is unavoidable in competitive sports.	1	2	3	4	5
DA 12	Recreational drugs aid in the alleviation of boredom during training.	1	2	3	4	5
DA 13	When it comes to performance enhancement, there is no distinction between drugs, fiberglass poles, and fast swimsuits.	1	2	3	4	5
DA 14	The media should focus less on doping.	1	2	3	4	5
DA 15	The media exaggerates the doping scandal.	1	2	3	4	5
DA 16	The negative health effects of rigorous training and injuries are just as bad as the negative effects of doping.	1	2	3	4	5
DA 17	Sports would benefit from the legalization of performance-enhancing drugs.	1	2	3	4	5

SACTION C: ACHIEVEMENT GOAL SCALE FOR YOUTH SPORTS (AGSYS)

Please tell us about your goals in sports. Please read each sentence and mark the one that best fits your responses. Each item is responded to a 5-point Likert-type scale (1= strongly disagree to 5 = strongly agree).

No	Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
GO 1	My ambition is to acquire as many new skills as possible and to become as proficient as possible.	1	2	3	4	5
GO 2	The most crucial aspect is to be the best athlete you can be.	1	2	3	4	5
GO 3	What matters most is that I continue to improve my skills.	1	2	3	4	5
GO 4	My goal is to improve and outperform others.	1	2	3	4	5
GO 5	I strive to be the best that I can be.	1	2	3	4	5
GO 6	In my sport, I want to outperform others.	1	2	3	4	5
GO 7	When I learn new skills, I feel accomplished.	1	2	3	4	5
GO 8	To me, success entails outperforming others.	1	2	3	4	5
GO 9	When I give my all, I feel successful.	1	2	3	4	5
GO 10	I want to demonstrate that I am superior to others.	1	2	3	4	5
GO 11	My goal is to become an expert in my sport.	1	2	3	4	5
GO 12	My goal in my sport is to outperform everyone else.	1	2	3	4	5

SACTION D: MOTIVATIONAL CLIMATE SCALE FOR YOUTH SPORT (MCSYS)

***Directions*:** Please think about how it has felt to play on your team throughout this season. What is it usually like on your team? Read the following statements carefully and respond to each in terms of how you view the typical atmosphere on your team. Perceptions naturally vary from person to person, so be certain to take your time and answer as honestly as possible. Circle the number that best represents how you feel. *Note*: Each item is responded to a 5-point Likert-type scale strongly disagree (1) to strongly agree (5).

NO	*On this team.……*	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
CIMC 1	When a player improved a skill, the coach made them feel good.	1	2	3	4	5
CIMC 2	For the coach, winning games was the most important thing.	1	2	3	4	5
CIMC 3	The coach encouraged us to expand our knowledge.	1	2	3	4	5
CIMC 4	The coach spent less time with the less talented players.	1	2	3	4	5
CIMC 5	The coach instructed the players to assist one another in improving.	1	2	3	4	5
CIMC 6	The coach told us who the team's best players were.	1	2	3	4	5
CIMC 7	The most important thing, according to the coach, was to give it our all.	1	2	3	4	5
CIMC 8	The coach concentrated his efforts on the team's most talented players.	1	2	3	4	5
CIMC 9	According to the coach, teammates should assist one another in improving their skills.	1	2	3	4	5
CIMC 10	If a player made a mistake, they were removed from the game.	1	2	3	4	5
CIMC 11	Coach stated that we were all vital to the success of the team.	1	2	3	4	5
CIMC 12	The coach informed us to strive to surpass our teammates.	1	2	3	4	5

SACTION E: PARENT-INITIATED MOTIVATIONAL CLIMATE QUESTIONNAIRE-2 (PIMCQ-2)

***Directions*:** Please think about how it has been to meet parent/guardian's expectations on your sport throughout this season. Perceptions naturally vary from person to person concerning parent/guardian, so be certain to take your time and answer as honestly as possible. Circle the number that best represents how you feel. *Note*: Each item is responded to a 5-point Likert-type scale (1= strongly disagree to 5 = strongly agree).

NO	*I believe my Parent ……*	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		1	2	3	4	5
PIMC 1	When I'm learning new things, I'm the happiest.	1	2	3	4	5
PIMC 2	triggers me to be scared of failure	1	2	3	4	5
PIMC 3	When I succeed without putting forth any commitment, he laughs.	1	2	3	4	5
PIMC 4	I'm fearful of making blunders since it will make me look terrible in her face.	1	2	3	4	5
PIMC 5	places a strong emphasis on whether or not I'm progressing at what I do	1	2	3	4	5
PIMC 6	believes that winning without putting in hard work is critical for me.	1	2	3	4	5
PIMC 7	Ensures that I understand one thing before moving on to the next.	1	2	3	4	5
PIMC 8	believes I should have the ability to accomplish a lot with little effort	1	2	3	4	5
PIMC 9	believes it is critical to have fun while training.	1	2	3	4	5
PIMC 10	makes me sad when I am unable to perform as well as others.	1	2	3	4	5
PIMC 11	He appears completely satisfied when I improve as a result of my hard work.	1	2	3	4	5
PIMC 12	makes me afraid of making poor choices	1	2	3	4	5
PIMC 13	tells me that I should be happy if I achieve that without putting in a substantial level of effort	1	2	3	4	5
PIMC 14	endorses of me enjoying life while learning something new.	1	2	3	4	5
PIMC 15	helps me to understand the process of mastering a new skill	1	2	3	4	5
PIMC 16	makes me hesitant about performing skills at which I am not competent	1	2	3	4	5
PIMC 17	motivates me to enjoy a life of developing new things	1	2	3	4	5
PIMC 18	informs me that making mistakes is an important part of the process.	1	2	3	4	5

SACTION F: SPORT SUPPLEMENT BELIEF SCALE (SSBS)

Sport supplements are substances used by athletes with the belief that they will improve or facilitate athletic performance, which are not banned in sport (e.g., Lucozade, multi-vitamins, caffeine, and energizers). Each item is responded to a 5-point Likert-type scale (1= strongly disagree to 5=strongly agree).

Please rate your level of understanding in sport supplement beliefs scale.

NO	ITEMS	Strongly Disagree	Disagree	Natural	Agree	Strongly Agree
		1	2	3	4	5
SSBS 1	Sports supplements help me perform better.	1	2	3	4	5
SSBS 2	To compete, I must take sports supplements.	1	2	3	4	5
SSBS 3	Sports supplements boost my self-esteem.	1	2	3	4	5
SSBS 4	When I use sports supplements, my chances of winning improve.	1	2	3	4	5
SSBS 5	Sports supplements help me reach my full potential.	1	2	3	4	5
SSBS 6	My training quality has improved as a result of using sports supplements.	1	2	3	4	5

Thank you for your co-operation