

Final report

Understanding the role of Kenyan Collegiate athlete support personnel in the pursuit of clean sport

A Report Prepared by:

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For:

The World Anti-Doping Agency



Acknowledgement

The researchers wish to thank the coaches and team managers of the Kenya Teachers Colleges Sports Association for willingly and actively participating in the four focus group discussions and the survey that were both held during difficult times of COVID-19. The assistance of Jane Gatumu, Isaac Muasya and Edna Thangu is also highly appreciated.

Executive summary

The aim of the World Anti-doping Code and the International Standards is to care for athletes' fundamental right to participate in doping free sport and thus promote health, fairness and equality for competitions across the world. The current project was undertaken in Kenya due to concerns over the use of various substances by athletes across sports and levels of competition. The collegiate context was the specific focus of the research because Athlete Support Personnel (ASP) working in these environments not only may go on to work at elite levels of competition, but also because they are moulding the next generation of elite athletes and/or the next generation of ASP. Thus, targeting this population maximises the chance of reaching several populations before they enter elite sport.

This project investigated the anti-doping roles of Kenyan Collegiate athlete support personnel (ASP), specifically coaches and team managers. The main objective was to develop an understanding of what behaviours coaches and team managers undertake to prevent doping, and what personal and environmental factors influence this role. To achieve these aims, the study employed a two-phase approach, including both quantitative and qualitative methods. In Part 1, four focus group discussions were used to collect data from 12 coaches (n= 10 working in ballgames, n=2 in track and field) and 11 team managers (n=6 from ballgames, n=5 from track and field). In order to follow up on matters that arose during the group discussions and get more information from a larger population of collegiate ASP, Part 2 involved a survey distributed to 256 coaches and 53 team managers sampled from seven collegiate sports competitions regions.

Coaches and team managers were undertaking several behaviours to instill discipline among athletes (e.g., negative reinforcement in response to 'undesirable' behaviours). Primarily, ASP engaged in sensitization and creation of awareness, guiding and counselling students/athletes. Participants reported that their actions help to discourage doping by creating awareness on the effects of taking drugs among athletes and helping them to acquire more skills and knowledge on anti-doping. Coaches and team managers undertook an anti-doping role to be good role models to teacher trainees, help in promoting good behaviour, and promote fair competition. Although coaches and team managers are willing to contribute to anti-doping efforts, they lack

support in terms of resources as well as training opportunities that would equip them with relevant knowledge and skills necessary to carry out anti-doping role. The ASP have average anti-doping knowledge, mainly on general anti-doping rules. In particular, ASP knowledge surrounding violations is lacking.

ASP seem to know that global anti-doping policy exists (i.e., the World Anti-Doping Code). But they are not aware of anti-doping policy at a national level. As a result, they use the internet to search for anti-doping information, which is not the most credible source of information and may lead to them misguiding each other and their athletes. Some ASP also rely on information they learnt at university which may not be up-to date. Notably, ASP do not collaborate with anti-doping agencies. Equally, they are not sufficiently supported by college administrations and National Anti-Doping Agency in terms of resources and information. Furthermore, there is no anti-doping policy at college level to guide them in their specific context.

Overall, the findings indicate great potential for collegiate ASP to play a role in anti-doping efforts in Kenya if appropriate resources and support can be introduced to equip them for this role. The insights captured in this report can inform the development of context-specific programmes for Kenyan collegiate ASP, and form the foundation on which future anti-doping research can be conducted in Kenya.

Introduction

There is strong evidence demonstrating the influence of athlete support personnel (ASP), such as coaches and team managers, on athletes' doping attitudes and behaviours. For example, athletes have reported ASP directly encouraging doping through conversation or supply of substances (e.g., Chan et al., 2014). Additionally, athletes are influenced more indirectly by ASP due to the expectations they have of them and the things they emphasise as important within the sporting context, e.g., winning (Ntoumanis et al., 2017). At the very least, ASP are a source of information for athletes (Patterson & Backhouse, 2018). It is therefore important to understand how ASP perceive their role in anti-doping and what factors in the ASPs' world influence this role; the proposed project responds directly to this need.

The World Anti-Doping Code (WADC) (World-Anti-Doping-Agency, 2021b) places the principal responsibility for doping with athletes (through Strict Liability), but it also recognizes the roles of coaches and team managers. For example, Article 21.2.1 of the Code states that ASP should "be knowledgeable of and comply with all anti-doping policies and rules adopted pursuant to the Code and which are applicable to them or the Athletes whom they support" and "use their influence on athlete values to foster anti-doping attitudes" (p.114). In order to fulfil these responsibilities, coaches should have ethically correct attitudes (Engelberg, Moston, & Blank, 2016). Yet, previous research in Westernised countries illustrates that ASP are often passive in their approach to anti-doping (e.g., Allen et al., 2017; Mazanov et al., 2015; Patterson & Backhouse, 2018), and are not likely fulfilling the policy-ascribed responsibilities afforded to them by the Code (WADA, 2021). This appears to be due to a number of individual and environmental factors, including a lack of knowledge and confidence, a perception of low risk of doping in their context (i.e., country, sport, level of competition) and because anti-doping responsibilities lay with someone else in the sporting context (e.g., coaches defer to medical staff).

Worryingly, due to their lack of knowledge, it has been shown that some ASP provide advice to their athletes without any reference to the Code (WADC, Mazanov et al., 2013). Worse still, some ASP would not report known doping of athletes (Patterson & Backhouse, 2018) and have ignored unethical behaviour by other ASP on matters to do with banned substances (Mazanov et al.,

2013). Morente-Sanchez and Zabala, (2015) found that as many as 30-35% of ASP had known other support personnel who had doped, and some had also witnessed another ASP encouraging or being encouraged to use banned drugs. Such inaction is significant given that there is clear evidence they will be faced with doping-related dilemmas during their career. Furthermore, failing to act in the face of doping-related incidents would be 'complicity', which is an anti-doping rule violation (ADRV). Therefore, existing evidence signals that further education and support is needed to ensure that ASP are well-informed and feel prepared to effectively engage in their WADC-prescribed responsibilities in their daily regular duties and avoid committing ADRVs. Such education and support should be informed by an understanding of how ASP currently perceive their anti-doping roles and the factors that influence this (Backhouse & McKenna, 2012), which the proposed study will provide.

Given that all previous research on ASP was conducted in Westernised countries, these findings may not be reflective of broader contexts, and research is needed in nations beyond those which have been previously given attention (e.g., Australia, North America, and the United Kingdom). Undertaking research in more diverse contexts is particularly important because there may be considerable structural and cultural differences (Smith et al., 2010). For example, the NADOs in developing countries may not be as interactive with ASP as in Westernised countries and lack of accessibility to anti-doping online information and materials produced by the World Anti-Doping Agency is reported as a challenge due to poor internet connectivity. Looking beyond Westernized countries for the first time, Kenya is of specific interest due to its historical associations with doping. Various substances are used by athletes across sports and levels of competition, according to a 'task force' report commissioned by the Kenyan Cabinet Secretary for Sports (Republic of Kenya, 2014). For example, the Kenyan report informs that athletes in soccer, rugby and athletics noted coaches supplied them with illegal drugs. Additionally, the report states that rugby coaches were the suppliers of nutrition supplements laced with steroids. Beyond the report, there is further evidence of doping amongst Kenyan athletes provided by the national anti-doping agency (<https://www.adak.or.ke/reasoned-decisions/>) and International Federations, such as the Athletics Integrity Unit (<https://www.athleticsintegrity.org/disciplinary-process/global-list-of-ineligible-persons>).

With regards to existing anti-doping education in Kenya, Juma, Woolf and Bloodworth (2022) recently reported that Kenyan elite athletes who have competed at international level compared their anti-doping education experience with counterparts from developed countries, and expressed dissatisfaction with the anti-doping education in Kenya; referring it as very basic and not being accessible to non-elite athletes, coaches and team managers. Besides a language barrier they explained that anti-doping education programmes are packaged in a way that makes it difficult for athletes to process information and utilize it in decision making. Therefore, there is a need to enhance anti-doping education efforts in Kenya, and the current project aims to help with this by providing social science research to inform programmes.

Taken together, there is a clear rationale for the need to conduct doping-related research within Kenya. The collegiate context is the focus of the current research because ASP working in these environments may go on to work at elite levels of competition and they are working with individuals who will become the next generation of elite athletes and/or the next generation of ASP themselves (as many student-athletes are engaged with subjects such as Physical Education). Targeting this population maximises the chance of reaching these populations before they enter elite sport. Importantly, colleges are an educational context – where learning is at the heart of everything that is being done. Therefore, anti-doping education could be implemented in this context using the findings.

In summary, this study is a first step in addressing the absence of evidence related to ASP beyond Westernised countries. Gaining insights into ASP roles in more diverse environments is pivotal, given the importance of context, including structural and cultural factors, in influencing coach behaviours (e.g., Patterson & Backhouse, 2018). Indeed, it responds to calls for the development of tailored and targeted anti-doping education opportunities for ASP (e.g., Patterson, Lara-Bercial & Backhouse, 2019), as it ensures that current practice in Kenya is understood before intervention development work is undertaken.

Project Aim:

This two-phase project aimed to develop an understanding of what behaviours coaches and team managers working in the Kenyan Collegiate system undertake to prevent doping, and what the personal and environmental factors are that influence this role. Part 1 of the project comprised focus group discussions with coaches and team managers working within the Kenyan Collegiate system regarding i) what they do to prevent doping and ii) what factors influence their behaviours. Part 2 was a survey capturing a larger population of collegiate coaches and team managers drawn from all the competition regions across the nation. The aim was to delve deeper into the findings of the focus group discussions findings, to establish if they reflected the experiences and opinions of the broader collegiate ASP population.

Part 1 - Focus group discussions

This component of the study investigated the anti-doping roles of Kenyan Collegiate athlete support personnel (ASP), specifically coaches and team managers. The main objective was to develop an understanding of what behaviours coaches and team managers undertake to prevent doping, and what personal and environmental factors influence this role.

2. METHODOLOGY

2.1 PARTICIPANTS

The study targeted coaches and team managers in the Kenya Teachers Training Colleges from the Nairobi competition regions under the Kenya Teachers Colleges Sports Association (KTCSA). The study purposively sampled all four colleges within the Nairobi region. Despite the potential negative impact of the COVID-19 pandemic on participant recruitment, a total of twelve coaches (5 were in track and field, 6 in ballgames; 4 females and 8 males) and eleven team managers (6 were in track and field, 6 in ballgames; 2 females and 9 males) participated in focus groups. All coaches and team managers had experience ranging from being in their first season to over 20 years. Some had professional training (e.g., bachelor's degree in physical education) while some had become coaches and team managers by virtue of having been assigned the duties by the college administration.

Recruitment of participants

The lead researcher contacted via telephone the chairperson of the Kenya Teachers Principals Association and explained the intention to recruit college ASP to participate in the study. Permission was granted and the lead researcher then contacted the potential participants by telephoning and explaining the details of the study. This was followed with a written letter of

invitation to individual ASP through the Chairperson to specific locations where the focus group discussions took place.

2.2 DATA COLLECTION PROCEDURES

There were four focus group discussion sessions held on different days in the four colleges, namely Thogoto, Narok, Kitui and Machakos. The research team looked for a spacious room to ensure adherence to COVID-19 protocols, such as social distancing, and sanitizers and masks were availed to the attendees. Participants were requested to register themselves using a registration form provided. The principal researcher explained to the respondents the purpose of study, before consent forms (see appendix A) were given to the respondents to read and sign. A research permit was obtained as proof that the researcher had been given authority to collect data from the participants. The participants were assured of strict confidentiality. The participants were also assured that results of the study would be disseminated promptly to them upon project completion.

A semi-structured interview guide (see appendix B) was used to facilitate discussions; this was informed by previous research with ASP (e.g., Patterson & Backhouse, 2018). The guide increased the likelihood of completeness, identification, and clarity of instruction, relevant to the research aims. It had five main sections, covering: 1. Background (e.g., Can you tell me about your current coaching/team management position please? What was your journey to this position?), 2. General anti-doping role perceptions (e.g., as a coach/team manager do you have a role in preventing doping?), 3. Potential (mis)alignment between policy and practice/behaviours (e.g., Can you tell me about if and how you help athletes to foster anti-doping attitudes?), 4. Factors influencing anti-doping role (e.g., Thinking quite generally, what factors influence your role in doping prevention?) and 5. Knowledge of policy (e.g., Are you aware of local [i.e. team/college], national, or international policies that are in place to provide direction on what your anti-doping responsibilities are as a coach/team manager?)

All focus group discussions were audio recorded using a dictaphone. A backup dictaphone and cell phone were also used. During the data collection process, two research assistants were involved; one was taking notes, and one was a moderator.

All focus group discussions lasted between 60 and 90 minutes.

2.3 DATA ANALYSIS

Qualitative data generated from the transcripts were analysed as per the themes of the study and presented through narrations. The analysis process commenced by listening to the audio recordings and transcribing the information into written transcripts. The principal researcher then checked for errors in the written transcripts. Once this had been done, information was 'coded' and themed relevant to the aims of the study. At this stage, the analysis is preliminary. In this report, pseudonyms are used to present the information from the respondents to protect their identities.

3 FINDINGS

The purpose of this study was to find out the practices and role of coaches and team managers working within the Kenyan Collegiate System in preventing doping. The specific objectives of the study were; to find out what coaches and team managers do to prevent doping; to find out factors that influence their behaviour. The findings are summarised under six themes; 1. ASP behaviours centre on creating awareness and providing guidance, 2. The close relationships that ASP have with athletes provides a strong foundation on which anti-doping conversations can take place, 3. ASPs' care about their sport and their athletes influences their anti-doping behaviours, 4. ASP feel somewhat ill-equipped for anti-doping efforts, 5. ASP called for more training and greater support for anti-doping from the National Anti-Doping Organisation, 6. Communities around the colleges key in anti-doping, 7. Various media are considered useful in raising anti-doping awareness and 8. Policy and processes do not seem to have a strong impact on ASP anti-doping behaviours. Taken together, the findings reveal that most coaches and team managers have the necessary experience and are willing and committed to enhance anti-doping attitudes among team members. The ASPs position as coaches and team managers gives them opportunities to sensitize the collegiate athlete on anti-doping. However, not all ASP have specific anti-doping knowledge (or skills). Nor do ASP feel they have support for their anti-doping actions, especially from the national anti-doping organization.

ASP behaviours Centre on creating awareness and providing guidance

The first objective sought to find out what coaches and team managers do to prevent doping in their day-to-day activities. The majority of the coaches and team managers described actions related to creating awareness and providing guidance to athletes and students, including educating, training and counselling. While ASP conversations covered a range of topics, all ASP indicated that they regularly (some did so during each training, twice a week and others weekly) talk to athletes about doping and its effects and/or consequences. The TMB4 explained *'I get the opportunity to talk to them before they even go out for training sessions, I meet them twice a week and talk about anti-doping, when they are preparing for national competition the administration organise retreat and I talk to them about issues and also involve other stakeholders in the college concerning the same issue.'* Some ASP described carrying out open forum discussion and sensitization on the benefits of keeping off drugs. For example, Coach BC3 posited that they talk to the players *'about doping and use of enhancers and how it leads to being banned from participating in other games'*. Similarly, TM4 reported *'In my daily routine when I am with my players, I guide and counsel them in their lifestyle, because they may be taking illegal stuff'*.

Beyond this, one track and field coach revealed that they would have conversations about ADAK (Anti-Doping Agency of Kenya) and its functions. *The AC3 reported 'I started looking at some athletes that have done very well and it wasn't because maybe of their good practice or training but drugs and this is what led to their career tumbling down so..... giving an example of why we shouldn't get into drugs'* The coach went on to give example of Marion Jones who had performed well but her career tumbled when she was banned for having used illegal drugs. Other coaches briefly talked about how they might monitor how their athletes are doing, including their responses to anti-doping activities. Summarising his anti-doping activities, TMB 3 said:

'I foster the attitude by conducting team building, whereby you get that togetherness and the unity by setting a goal. I set that goal and address teamwork and minimize those using drug. If the members don't respond, I monitor closely the individuals. I make them responsible by giving them real life examples from different colleges, if they learn - they can change'.

Based on them monitoring what is going on, ASP will provide guidance when they suspect there are issues. Coach BC5 emphasized the need to observe change of behavior because *“people who have been victims of doping have had discipline issues”*. In this vein, within the guidance provided on anti-doping, coaches and team managers reported instilling discipline among athletes. ASP utilised *negative reinforcement*, taking disciplinary action on players who engage in doping activities including being delisted from the team and suspension from college for a certain period of time. This signals that some ASP are conducting anti-doping behaviours on an ‘as needed’ basis. Other insights related to how often they carry out doping prevention actions in their day-to-day activities revealed a large degree of variability in frequency. Some acted to raise anti-doping awareness among the athletes *weekly*, such as ball game coach 2, *‘Once a week we have a serious talk with them’*. Yet, one respondent indicated that they do it *once a year*.

The close relationships that ASP have with athletes provides a strong foundation on which anti-doping conversations can take place

In terms of contact with athletes and team members, most ASP revealed that they have *good rapport* with the athletes; this leads to *one-on-one interaction with them*. Further, the respondents revealed that through this interaction, the *players are able to open up* on their issues and they are able to notice any behavior change among the players and be able to address it. Corroborating the findings presented in our first theme, the respondents spend time together with the players, offering them guidance and counseling on doping issues and creating good relationships with them as TM4 noted *‘the contact gives me the opportunity to identify students affected by this and to make relevant referrals for health’*.

Coaches and team managers revealed that they have a *cordial relationship* with the players and that they are able to interact with them on a *personal level*. Through this interaction, they are able to talk to them on embracing anti-doping behaviour. Referring to a life experience TM4 explained:

‘When one of my athletes had an injury, from the report I have they said that when they smoke bhang, they won’t feel pain when playing the game, when I had that I told him that the best thing is to go through normal natural healing. The athlete took it positively’

This conversation indicated a free communication between ASP and athletes that would encourage sharing of information regarding doping.

ASPs’ care about their sport and their athletes influences their anti-doping behaviours

Among several reasons for taking part in anti-doping efforts, most ASP were driven by their personal values and/or what they see as their professional responsibilities. To provide an insight into some of the ASP personal values, none of the participants in the study had ever been involved with drugs use, in sports or in any other way. Coaches and team managers were motivated to lead in the fight against sports performance-enhancers since they need to be good role models and protect the health of athletes. Indeed, our participants see the failure to play an active role in anti-doping matters being detrimental to both the sport and to the athlete. With regards to impacts on the sport, ASP identified that not undertaking an anti-doping role would *lower the standards of sports*. In particular, ASP discussed anti-doping efforts as contributing to promoting fairness. BC4 stated ‘I believe in fair competition’.

ASP articulated that it is evident that taking the anti-doping role helps in change of behaviour among the players and students, citing that they do not engage in conflicts during and after competitions. The team managers noted ‘If I do (referring to playing anti-doping role), *I will promote the spirit of sportsmanship and nurture the players in a good way*’ TMB3; ‘If I don’t (play anti-doping role) *there will be unfair wins and unhealthy citizens, people who do not have values and there will be chaos*’ TMB6. These sentiments on the importance of anti-doping role in behavior change resonated with the athletics coach AC6 who noted ‘*when you see a championship with minimal complaints ...you know that our coaching has been helpful, that we have been able to take our trainees through anti-doping and has worked, because normally when students take substances people will see and you have so much conflicts and complaints about the championship*’.

Demonstrating their care for athlete health and welfare, several ASP undertook anti-doping behaviours to avoid bad things happening to athletes. For instance, ASP described how doping leads to serious health risks and players being banned from taking part in sports or competition activities. Indeed, ASP are motivated to undertake anti-doping role to ensure athlete health is not compromised. According to ASP, drug use has health complications and is also unprofessional, BC5 noted *'It is unprofessional, unethical and you cannot preach about wine and take water'*. With regard to bans, one of the team managers took actions *to avoid sanction of students from the college premises* since there are rules and regulation that need to be followed. Most ASP were keen to provide guidance in order to help athletes adhere to the rules to avoid sanctions after breaking them.

In addition to trying to help athletes avoid experiencing negative consequences (i.e., bans, health effects), ASP were keen to provide athletes with the opportunity to get the best out of themselves. One team manager noted that through fostering anti-doping attitudes among athletes, they are able to *nurture talents* of players, with team manager TMB 5 commenting, *'I like seeing natural talent in practice'*. Other ASP talked about *'helping in training students to be role models and mold good behaviour among them, since most of them are going to be teachers in schools.'* The participants revealed that taking the anti-doping role has impacted teacher trainees in creating good moral values within the community and their relationship with other people. ASP talked about the importance of anti-doping to those beyond the immediate environment, stating that preventing doping will lead to a healthy people and drug free country:

'It is important for the country to be aware of the anti-doping because our players go to higher levels, as a country we will be proud when our players are not associated with doping TMB3; I think it is important because it is not right if we went out of the country and be associated with or banned because of doping' TMB5; 'It is important because we need a healthy and drug free country'

'I think I can know there is an impact when the athletes have competed and whether through winning or losing you realise that these students have developed other virtues and values in the society, they have been able to socialize well, make friends, cooperate

and share apparatus without complains and without quarrels, then I also know there is an impact when these people that I have trained and they have been through my hands as athlete and me as their coach move out into the world and train other learners and train them fairly and keep away from the drugs so they do not introduce any drugs to their learners and they have a genuine competition'. (Track and field athletics coach AC5)

Most coaches and team managers noted it is motivating not only when they win through hard work, but also when they earn respect 'out there in the society' for producing athletes who win through honest work:

'I feel motivated because it feels good when you move out there and you are recognized with a teacher who is doing a great job, like last semester I went to a sub-county school and the head teacher was talking about a very reliable sports teacher she had in the school only for the person to come to the office at tell her that this was my lecturer and she is the one who taught me how to be good in sports, so you feel proud and you feel good, I feel motivated to introduce people who are reliable to the society.' (AC3)

ASP feel somewhat ill-equipped for anti-doping efforts

Despite most ASP being motivated to help prevent doping, there were varied levels of capability to contribute to doping prevention across ASP, including differences between roles (coach versus managers) and sports (track and field versus ball games). On the one hand, several team managers (e.g., TM4 and TM7) described themselves as *lacking knowledge*. A track and field athletics team manager (TMA1) stated, *'I have very little knowledge that is from the media'*. In contrast, all team managers from ball games opined that they possess relevant knowledge on anti-doping, with TMB1 citing *'I have the knowledge because it is a subject I teach'* (though he did mention that he *'can't differentiate who has taken the drugs'*). Similarly for coaches, one track and field events coach AC3 noted:

'we have a whole topic in physical education and I tap from that especially when we come to drug topics, I know the type of drugs in the country, I know the effects, the dangers, so armed with that I know I will be able to carry out anti-doping'.

Yet, all but one coach noted *no skills* in doping prevention.

When investigating how coaches and team managers developed the knowledge and skills to carry out the anti-doping role, team managers from both ball games and track and field revealed that they developed the skills while in *college*. Team manager ball games (TMB 2) explains *'it is in the units in the university, where you articulate issues of anti-doping also in the clinics in regional and national level with this, I have been equipped with these skills concerning doping issues'*. Some ASP developed their capability through *attending workshops*, as TM3 said that *'I have the theoretical skills that I learnt from the books'*. Other ASP learnt from peers as cited by T.M.B 6 said, *'I gained knowledge with members of my team through behavior change and level of performance. When you interact, I increase my level of knowledge in matters of anti-doping'*. In this vein, a number of ASP specified that they receive resources from the college and moral support from the community and the college, as TM1 puts it:

'We have resources from the college principal and the college federations because they invite the anti-doping people when we have national competitions. They support the college'.

ASP called for more training and greater support for anti-doping from the National Anti-Doping Agency.

Although there are some avenues via which ASP are learning about anti-doping, in order to prepare themselves to contribute to doping prevention efforts, it was apparent that coaches and team managers needed more training and support in undertaking an anti-doping role. The participants cited that there was no support, especially from ADAK offices, since some have distanced themselves and that they have no adequate resources to undertake the anti-doping roles. TMB 5 indicated that:

'In terms of support, it is none, because ADAK has never appeared since 2018, we have not had the adequate resources. The knowledge that I have is through my own initiative using the media, in the websites, the association does not necessarily support'

Other ASP confirmed that they are not invited to education outreach activities. An athletics coach AC5 retorted that *'they just came pitched their tent in the field and it was made as an announcement that there is a tent there from ADAK and you can visit there for more information...but they were not interested in us officials.'* The insights on support available consistently showed ASPs' frustrations regarding inability to obtain necessary communication/collaboration from the national anti-doping agency. AC3 noted a *'lack of collaboration with ADAK. They seem to be sitting on an ivory tower and some of us are just looking at them from down here. So, as [AC2] was saying, they need to really drop to our level.'*

Going forward, ASP wanted ADAK to be part of the education system. For example, track athletics coach AC5 suggested that *'the Ministry of Education should cooperate with ADAK so that it becomes part of learning process so that learners can get to know about anti-doping from lower levels of learning'*. ASP also suggested that the College Physical Education curriculum that touches on performance enhancing substances should include ADAK's role in anti-doping efforts. Overall, it was clear that ASP yearn to connect with the anti-doping agency to be able to positively engage in an anti-doping role. Coaches and team managers suggested that (free of charge) training programs being provided will make them more capable in taking the anti-doping role. One team manager said, *'capacity building [is important], I need to be empowered to become more competent in matters that pertain to anti-doping'*. Coaches and team managers suggested a *need for continuous capacity building* to enable them to develop more skills and knowledge in carrying out the anti-doping role, as well as *a strong support from anti-doping agencies and games federations*.

Introducing greater resource for ASP is important for the future because the 'inadequate' training and support that they described was impacting anti-doping behaviours. For example, the lack of education leaves ASP having to search for information online; Team Manager 4, reported *'I need*

to Google and know what is banned to inform them so that they won't take and be affected.'

Linking back to our previous theme, the lack of education/support leaves ASP doubting their capability, including concerns about if they are undertaking appropriate actions:

'That's what I was saying, that I have learnt, I have studied, I have done everything. But I feel not very confident because the agency that is with me and is championing this doesn't seem to be walking with me so that I get to know am I on the right track or not, is the information that [I] am giving what they are expecting me to give or not? Because what I give is what is in the books, what I have read, but not from the agency point of view to tell me maybe this is the curriculum. I would expect them to come to the ground to help me get confidence by knowing what I am doing is what they expect me to be doing' (AC5)

Communities around the colleges are key in anti-doping

Beyond the colleges the ASP recognize that communities around the colleges are 'ignorant' about doping in sports and are likely to be supplying illegal substances to athletes as they do not know their negative effects. There is also no interaction on anti-doping education between the ASP and the people living within the colleges' vicinity. A team manager (TM3) observed *'you will be surprised that the community is not aware of anti-doping even as they engage in games in the village level and into the national levels'*. This was further echoed by an athletics coach (AC5) *'you hear them say (referring to community members) that when you are under influence (of drugs) you work harder..... the kind of information the community have concerning the substances and its use in sports is very different so there is need to give some sensitization on the same'*. ASP further acknowledge the need to involve the communities because when outside the college, athletes *'mix with other people In the community , and if the community is not aware of anti-doping they will promote it hence the community should have a role in doping prevention'*.

There was general agreement among the ASP that use of drugs can be dealt with through the *involvement with multi agencies and the community 'the police, local counselors, the court of law, psychologists, federations etc. where they give guidance on the drugs (TMB6)*. Because as TMB1 further explained *'when community members are aware of anti-doping they become*

ambassadors' and no community would want to be associated with doping. Once the community is aware they will preach anti-doping to every player throughout the region where games are hosted'

Beside the population outside the colleges the ASP recognize that non-teaching college staff interact with athletes as TMB1 observed *'information might arise some of these drugs are passed to athletes. They should be sensitized on why anti-doping is important, furthermore anti-doping message is essential to everyone.*

The foregoing account indicate the ASP are aware and desire to play an important role in ensuring clean sport by interacting and embracing the people living around the colleges as critical stakeholders in the fight against doping. But they need to be empowered through anti-doping education/ training because as BC1 noted *'at the moment I have no knowledge, no skills and no adequate resources'*. And similar sentiments echoed by BC2 *'the only challenge is that we have not been trained on anti-doping and have no idea on how to identify doping'*. And an athletics coach noted the major challenge in playing anti-doping role is *'the ignorance of the community around us'* and TM3 interjected that ensuring clean sport *'will be a challenge if everybody think it is only a school project (referring to college) for the teachers'*

Various media are considered useful in raising anti-doping awareness

The collegiate athletes' personnel noted that print and non-print media has been of help in getting anti-doping information even though scanty. One of the team managers (TM4) described his use of various media outlets: *'I have seen (referring to doping information) on the newspaper, I get information from the radio'*. He suggested that one way of making it easier for the personnel to undertake anti-doping role is *'shouting in the media'* referring to use of various media to publicly expose the cases of doping. He went on to explain that one of the benefits of anti-doping information being present in the media is the timeliness of the information: *'I also need accessibility of the information that comes up every day, I need to gather information from the media'*. Other ASP discussed how seeing information about doping reported in the media could prompt them to seek more information: *'you will want to dig*

deeper so you will go to the internet and search'. An athletics coach (AC3) agreed with this, and also explained that the information was helpful for their interactions with athletes;

'we are teaching this topic (referring to performance enhancing in sports) it gives us some information on what doping is all about and these substance and the effects it has on the body and since we all know, I mentioned internet so we also know from internet and the media of people who have associated in blood doping so I think when you combine all that, we have substantial information that we can give to our learners'

In addition to helping them directly, some ASP felt that the media could also be used to engage broader populations: AC2 *'make use of the media to reach out to the public so that the information they (ADAK) have can be able to trickle down to everybody because even their (ADAK's) website where you can visit, the information is not there'*.

Despite the positives put forward by ASP, the discussion also brought out the negative influence the media can contribute to the fight against doping. An athletics coach AC5 explained;

'I think the media also has a role to play because these athletes are reported to the media, and through the media, they may get some information that counters what we are trying to communicate to them. I will tell them that this doping is not good and the substance is not good. What they get from the media is something else, so they get ideas that there are drugs that they can use and they will not get detected so I also think the media influences'

One team manager, while agreeing with other ASP on the potential positive role of media in ensuring 'clean' sport, expressed some disappointment: *'If you have interest in sports maybe you see it in the news, some don't even watch the sports news'* because there are parts of the country that do not received television signals. In this vein, ASP identified some constraints around use of media, as well as other ways of engaging populations with anti-doping information/education. For example, even as the ASP recognize websites (e.g., ADAK) as a way of accessing updated information, poor internet connectivity and high cost of data in Kenya

would pose a challenge in having a website as a source of anti-doping information accessible to majority of ASP and athletes. As AC2 noted being enabled to access *relevant information journals* would provide anti-doping information ‘if I was given *financial support* to access the journals’. Furthermore, when asked what would make the personnel more capable to play their role in anti-doping a ballgames coach BC6 suggested ‘*we should be provided with videos and software information to provide to our players*’

Policy and processes do not seem to have a strong impact on ASP anti-doping behaviours

Within the focus groups, we asked ASP about specific topics that previous research had indicated may influence behaviour. Our questioning in these areas revealed that policy was not one of the drivers for ASP anti-doping behaviors. Most collegiate coaches and team managers are not aware of anti-doping policies either at college level or national level. That said, they acknowledged that rules and regulations do exist to guide college students against general drugs use within the institution (i.e., not specific to sport). Notably, some ASP reported awareness of the anti-doping policy at international level, since they have heard people who have been banned from participating in sports due to doping. TM7 said ‘*I know there are policies in anti-doping at international level because we have had people who have been disciplined by this bodies because of doping*’.

Similar to the lack of impact of policy, there was no impact on ASP behaviour from (doping control) testing processes/practices. Most coaches and team managers reported that *no doping testing* has been done with their athletes. However, one team manager noted that even when the officers (referring to ADAK) *did tests to the players, they only sampled a small number once and the testing was voluntary*. To follow this line of enquiry, when asked on the actions taken during testing process, all ball game coaches had no idea of any activity that is/was taken during anti-doping process. Some of the track athletics coaches revealed that some of the steps were skipped during the anti-doping testing process.

4 DISCUSSION

With regards to behavior undertaken by ASP, most coaches and team managers perform various activities in fostering anti-doping attitudes among students/athletes including; carrying out sensitization programs and creating awareness, guidance and counselling programs to bring the affected students back to 'clean' path, instilling discipline among players, reinforcing them negatively by delisting them from the teams, and conducting team building activities to support peer learning. These actions help in minimizing doping hence encouraging and promoting fair competitions among the players. It was noted that ASPs' intention is to help collegiate players and students from being expelled and banned from participating in games activities. These findings are in concurrence with observations that at the very least, ASP are a source of information, and advice, for athletes (Patterson & Backhouse, 2018). In the current context, this is to ensure that they are able to know the effects of taking doping drugs and encourage healthy living, in not only taking the doping drugs but also other drugs and substance abuse that may affect their health.

Kenyan Collegiate coaches and team managers discuss anti-doping matters regularly, e.g. weekly/monthly, counseling to the students and players, especially on those that are suspected to use drugs and other substances and to the newly enrolled students. This finding is contrary to previous research in Australia, where majority of the ASPs revealed that they held discussions less frequently; e.g. twice or thrice a year. Further, mostly discussions do not follow an organized schedule and several coaches only discuss the doping issues in workshops or when a doping case has been aired in the media (Engelberg, Moston, & Blank, 2017). Therefore, it is possible that ASP in the Kenyan Collegiate system are more proactive in addressing doping that has been found before.

Kenya collegiate coaches and team managers have positive conversations with their team members. Some athletes who at one time had used the doping drugs and were disqualified from participating in other games are used as cases to turn other players from drugs use. These conversations with coaches and team members create a dialogue session whereby players are able to acquire more information on doping and be encouraged to embrace anti-doping

behaviour among themselves and to other people. Establishing and maintaining a healthy relationship among players/athletes, coaches and team managers would enable ASPs helping or guiding athletes embrace anti-doping attitudes. Players would probably open up their issues to the coaches and team managers.

Even though most ASPs recognize their role in the problem of doping, a number of barriers are hindering anti-doping actions among Kenyan Collegiate ASP. For instance, their lack of knowledge on anti-doping exposes some gaps and to play a role in anti-doping effectively, coaches and team managers have to be educated in anti-doping matters. The findings of the current study were similar to previous research in that some ASP lacks the confidence and relevant knowledge to discuss anti-doping issues with their athletes (Engelberg, Moston, & Blank, 2017). Lack of knowledge may limit coaches and managers in taking the anti-doping role, thus leading to minimal action in the fight against doping and not report and handle doping cases. The failure to act on the doping-related cases would be considered complicity, which is an anti-doping rule violation (Laure et al., 2001; Patterson & Backhouse, 2018; Patterson, Lara-Bercial & Backhouse, 2019). The Kenya collegiate ASPs further education and support would go a long way in ensuring that they are well prepared and equipped to effectively engage in taking the anti-doping role, agreeing with observations by Backhouse & McKenna (2012).

It is clear from the current findings that greater support and resource for anti-doping is needed within the Kenyan collegiate system. For example the anti- doping education should be made part of the school curriculum in early years of learning as this would assist in changing learners' attitudes towards doping and its effects to potential players/athletes. Equally, support and collaboration from the relevant authorities such as ADAK and the National Authority for the Campaign Against Alcohol and Drugs Abuse (NACADA) would help the Kenya collegiate ASPs carrying out anti-doping role effectively and confidently. The ASPs should be supported with resources such as laptops and, internet to allow them access websites for information and materials such as those provided by WADA so as to enhance their role in the fight against doping. Besides, collaboration with national anti-doping agencies would reduce the external pressure collegiate athletes and the ASPs experience on the use of performance drugs. This lack of working

relationship with anti-doping agency is a hindrance to coaches and managers in their bid to prevent doping among athletes. Furthermore, putting in place anti-doping education programme as pointed in the Republic of Kenya Task Force report of 2014 would go a long way in jump starting Kenya Teachers Colleges Sports Association, Sports Federations and schools in raising awareness on the negative effects of drugs use in sports. (Republic of Kenya 2014). It should no longer be the case of individual ASPs taking anti-doping education in their own capacities as reported by Republic of Kenya (2014).

Within the enhanced training provided to ASP in the future, awareness of policies regarding anti-doping could be addressed. This was an area that ASP currently are almost entirely 'in the dark' about. It is crucial that ASP understand their responsibilities – to maximise the potential positive impact they may have on athletes' doping behaviours, but also to ensure they do not unintentionally leave themselves vulnerable to committing an ADRV (e.g., for complicity). Increased awareness of policy could create confidence that the anti-doping campaign will be enhanced at college level across the country and globally. Further, policies help in a situation where when one breaks the rule of anti-doping, there is a process which leads to action taking, and this should be guided by policies. Therefore, lack of knowledge on anti-doping policies may limit ASP's effort in undertaking the anti-doping role. Further training and support on the existing policies should be provided to equip coaches and team managers with relevant knowledge and skills on anti-doping thus enhance anti-doping attitudes among players (Backhouse & McKenna, 2012).

As reiterated by ASP, the fight against doping should be a collaborated effort of the ASPs and the communities around various colleges as this would create a health and safe sporting environment. They were of the opinion that if the communities around the colleges are ignorant on anti-doping and the athletes still mingle with them then the headways made on anti-doping education will not bear fruit. This is because some drugs use and pedaling takes place among the immediate communities who are equally ignorant of their negative effects not only to the sports but to the health of the users.

One way that ASP proposed broader communities could be reached was via the media. Participants noted that media would be helpful in ensuring anti-doping information would trickle down *to everybody*. As a minimum, ADAK could use media such as TV, radio, and newspapers to help the general population learn more about ADAK's role and the kind of assistance they can get from the agency. In addition, ASP noted they could learn about legal methods of boosting performance through media outlets. For this purpose, coaches and managers may find newspapers, radio and television readily available than use of websites which requires use of internet that is often expensive for some.

However, it was noted that the media may be a place where athletes can gain information about drugs they can use without being detected. Past research reports (Kamenju, 2014) that some of the sources of anti-doping suggested by the athletes' personnel are not credible and can be for doping instead of against. Media reporting has been blamed (Mwangi, 2018) for causing inadvertent doping due to glorification of winners. It is noted (Mwangi, 2018) that most reporting of doping using various media is done by journalist who have not been sensitized on performance enhancing drug use in sports. He reports that media interpretation of doping tends to focus on specific athletes and ignores structures and environments in which they train. Mwangi, 2018 further notes that ADAK has not made significant effort in sensitising journalists and use other strategies to increase anti-doping awareness considering that media has strong influence in shaping people's behaviour. This is something that our findings suggest should be addressed in the future.

While discussing the role of media in the fight against doping during education symposium WADA education senior manager (WADA 2015) opined that media has influence on how anti-doping establishments function. Media not only unearths but also brings the doping cases to public scrutiny. When Kenya was declared non-compliant it is media that 'shouted' about it highlighting scenarios that may be fall the country. However this negative publicity led to establishment of ADAK in 2016. Mwangi, 2018 recommended that ADAK sensitise the media often against doping and for the media to invest in using the internet and also consider vernacular channels to relay anti-doping messages to sports people who may not be sufficiently educated to communicate

English language. Similar sentiments were expressed by Juma et al., 2022 that some coaches and athletes only can communicate via mother tongue hence the need structure anti-doping education in a way suitable for this cadre of sports people. The role of media in clean sport is noted by (Olobulu 2022) during a journalist education workshop by ADAK. He noted that media can help spread the anti-doping more widely with correct information on ever changing anti-doping landscape hence the need for regular education by the National anti-doping agency. Olobulu, 2022 further opined that sports journalists need to be equipped with necessary anti-doping tools to help them report better and accurately 'the more we talk about it the more it will reduce vice because perpetrators will be brought of the limelight, if we don't talk about it they (cheating athletes) will assume it is business as usual and will continue doing what they do behind scenes'

5. Conclusions

Coaches and team managers in our study were all undertaking anti-doping behaviours, especially creating awareness among the students and players regarding doping and the use of drugs. Some communicate with the players and try to see if there is change, monitor them, and check their daily routine. Some coaches and team managers counsel their players after every training session, so they can change their lifestyle if any of them may be taking drugs. On fostering anti-doping attitudes among team members, coaches and team managers instill discipline among players, reinforcing them negatively, engaging in sensitization and creation of awareness, guiding and counselling them, taking disciplinary actions to those who engage in the use of drugs and conducting team building activities to support peer learning. These actions help in minimizing doping hence encouraging and promoting fair competitions among the players.

With regards to the second objective, which sought to find out factors that influence the anti-doping behaviour among ASP, it can be concluded that coaches and team managers undertook the anti-doping role on the basis of their personal and/or professional values. Specifically, to help in promoting fair competitions and developing 'good citizens' (i.e., people who can positively contribute to society). ASPs' ability to have an influence on their athletes was facilitated by good

relationships. Despite these positive influences, we identified some barriers to ASP behaviour, such as a lack of knowledge and confidence to undertake an anti-doping role, minimal contact with/support from the anti-doping agency, and a lack of impact of global activities (e.g., policy, testing process) on day-to-day practice. Taken together, early indications from Phase 1 of this project are that training of ASP requires improvement in the Kenyan Collegiate system, to maximise anti-doping efforts. However, before drawing any conclusions, we will further investigate anti-doping with ASP in the survey during Year 2.

Part 2 - Survey

In order to achieve the overall project objectives of understanding what ASP do and the factors that influence their anti-doping role, the research team administered a survey with sections on demographic characteristics, anti-doping knowledge, attitudes, beliefs and behavior. The summary of each of these areas is as follows.

Survey Details

The questionnaire comprised five sections:

- 1) Demographic characteristics including gender, role played, and duration/experience in their role
- 2) Knowledge Test; 30 statements constructed from the WADC and WADA coaches' manual and focused on a wide range of issues (e.g. what constitutes doping, reasons for advocating clean sport, rights and responsibilities of an athlete and ASP).
- 3) Performance Enhancement Attitudes Scale (PEAS); 17 validated items focusing on assessing ASP attitude to doping on wide range of doping issues (e.g. natural training versus doping, use nutrition and recreation drugs, How to handle athletes and ASP who

dope/suspected of doping).

- 4) Intention; 20 statements to capture the anti-doping intents of the collegiate ASP (e.g. prevalence of doping, ASP role modelling in anti-doping, role of media and stakeholders in anti-doping)
- 5) Behaviour; 15 behavioural statements aimed at understanding what ASP do prevent doping. These statements were informed by the findings of phase one of the study, motivation to support anti-doping, national and international anti-doping policy etc.

Prior to being disseminated to coaches and managers, the survey was scrutinized for content validity by a group of four Physical Education and Recreation Lecturers. It was then piloted using a small sample of ASP from two colleges that were excluded in recruitment of participants that comprised the final survey sample. Minor adjustments were made on the questionnaire, such as collapsing some questionnaire items to reduce the numbers, thus, reducing the time taken to respond.

Demographic Characteristics

After data cleaning the sample comprised 277 ASPs, 230 coaches and 47 team managers. The response rate was 89.9% for coaches and 88.7% for team managers. Among the coaches, 70% (161) were males and 30% (69) females. Team managers constituted 70.2% (33) males and 29.8% (14) females. Coaches in the age group 36-45 years made up the majority (42.6%, n=98) of coach participants, while team managers above 46 years were represented the most (36.2%, n=17). Almost half the coaches (43.5%, 100) had between 5 to 10 years of work experience, while almost half of the team managers (46.8%, 22) had less than five years of work experience.

Table 1: ASP (N=277) Social demographic characteristics

Coaches (n=230)		Team Manager (n=47)	
Frequency	%	Frequency	%
Gender			

Male	161	70	33	70.2
Females	69	30	14	28.9
Age				
26-35 Years	40	17.4	14	29.8
36-45 Years	98	42.6	16	34
Above 46 Years	92	40	17	36.2
Work experience				
< 5 Years	53	23	22	46.8
5-10 Years	100	43.5	11	23.4
>10 Years	77	33.5	14	29.8

Anti-doping knowledge

Our study investigated ASP anti-doping knowledge using 30 statements, where ASP responded True or False. Overall, we established that ASP had average anti-doping knowledge ($M_{\text{score}}=35 \pm 2.91$). Almost all ASP (95.7% coaches vs. 97.9% team managers, $p = .478$) knew that a Prohibited List is a document identifying banned substances and methods in and out of competition. Similarly, most ASPs (74.8% coaches vs. 85.1% team managers, $p = .129$) were aware that the list of prohibited substances and methods is reviewed annually. However, our study established a considerable variation in ASP responses concerning the statement that doping includes covering up doping activities (i.e., complicity) (37.8% coaches vs. 57.4 team managers, $p = .013$). Furthermore, there was a clear lack of knowledge among ASP in some areas. Specifically,

around a fifth of ASP indicated an athlete could refuse to submit to doping control if they are too busy (20.4% coaches vs. 19.1% team managers, $p = .842$), refuted that if a doping control officer does not have any identification, an athlete should refuse to be tested (20% of coaches vs. 17% of team managers, $p = .639$). We also noted that a number of ASP (15.7% coaches vs. 36.2% team managers, $p = .050$) said it is false for an athlete using prohibited substances for medical reasons to seek permission from an authorized anti-doping organization.

When comparing knowledge across our two populations, coaches demonstrated slightly higher scores (35.1 ± 2.92) than team managers (34.6 ± 2.83), but the difference in anti-doping knowledge between coaches and team managers was not statistically significant (Mann-Whitney test, $U [N_{\text{coaches}} = 230, N_{\text{team managers}} = 47] = 4911.00, z = -.995, p = .320$). The summary results of the mean percentage of maximum possible (POMP) from the knowledge statements is shown in Table 3 below. A POMP score of 30 and above indicates ASP average to excellent anti-doping knowledge where a score of below 30 implies low to poor anti-doping knowledge.

For detailed review of ASP anti-doping Knowledge refer to table 2 appendix C

We tested for differences in knowledge score across sex, age group and experience (Table 3) Only age significantly influenced knowledge; Kruskal Wallis test revealed age significantly influenced ASP anti-doping knowledge, $H(2) = 6.209, p = .045$. The ASPs in the age group 26-35 years had the highest anti-doping knowledge 35.6 ± 2.67 followed by ASPs with over 46 years 35.1 ± 3.01 while ASPs in the age category 36-45 years demonstrated the least anti-doping knowledge 34.6 ± 2.88 . A pairwise comparison using Bonferroni correction showed the difference in anti-doping knowledge occurred between the ASPs in the age group 36-45 years and 26-35 years, $p = .040$.

Anti-doping attitudes

ASP's attitude to doping was investigated using a 17 item Performance Enhancement Attitude Score (PEAS). Each item was measured using a five-point Likert scale where 1 implied strongly agree, and 5 strongly disagree (Appendix D). To establish the overall doping attitude to doping, the mean percentage of maximum possible of ASPs' PEAS was used. The PEAS minimum possible score is 17 and maximum 85. The higher the score, the more positive or lenient the attitude of the individual is toward doping (pro-doping), while a low PEAS reflects a negative doping attitude (against doping). The midpoint score, 42.5, implied a moderate attitude toward doping. A summary of ASP's PEAS results is shown below.

Table 3: ASPs mean percentage of maximum possible on doping attitude to doping

	Mean	Std	Mean	Std	<i>p</i>
All ASPs (n = 277)	61.3	9.68			
POMP Anti-doping attitude					
	Coaches		Team Managers		
POMP Anti-doping attitude based on	61.8	9.64	59	9.63	.072
Role					

Our study revealed ASP had a positive doping attitude, 61.3 ± 9.68 . Coaches demonstrated slightly higher scores (61.8 ± 9.64) compared to team managers (59 ± 9.63), but the independent sample t-test established the difference was not significant, $t(275) = 1.804$, $p = .072$. Despite these total values, it was established that three-quarters (182/230) of coaches and team managers (38/47) strongly disagreed that using performance-enhancing substances/drugs in sports is necessary to be competitive and strongly disagreed with the view

that players can use drugs to recover from injury, provided they are used after competitions (164/230 coaches vs. 36/47 team managers, $p = .775$). Yet, of a concern was the low number of ASP (55/230, 23% coaches vs. 17/47, 36% team managers, $p = .045$) who agreed with the statement that it is only the quality of sports performance that should matter; Similar proportions of ASP (74/230, 32% coaches vs. 15/47, 32% team managers, $p = .816$) agreed that a coach or a team manager should not be bothered about the manifestations of substances on athletes. Of concern is the number of ASP undecided (coaches 40 vs. 9 team managers) and those who agreed (coaches 37 vs. 14 team managers, $p = .431$) that nutritional supplements purchased from a registered pharmacy cannot have elements of banned substances.

For detailed review of ASP attitudes to doping refer to table 4 appendix D

Doping beliefs

Our study investigated ASPs (coaches and team managers) doping beliefs that may inform their behaviors to anti-doping.

The results reveal that fewer than half of the ASPs (43.9% coaches vs. 38.3% team managers, $p = .480$) agreed that the use of performance-enhancing drugs is prevalent among athletes. Our study further revealed more than half of the ASPs (64.3% coaches vs. 53.2% team managers, $p = .480$) disagreed that recreational drugs do not enhance sports performance. More than half of the ASP (54.8% coaches vs. 55.3% team managers, $P = .947$) agreed athletes should be encouraged to use nutritional supplements because they do not enhance performance. Participants agreed that high expectations set in sports performance lead to doping (79.6% coaches vs. 72.3% team managers, $p = .275$). Over half of the ASP (52.2% coaches vs. 51.1% team managers, $p = .890$) disagreed with the statement there is a strong anti-doping culture within college sports programs. A significant number (64.8% coaches vs. 57.4% team managers, $p = .343$) agreed that some coaches and team managers encourage doping among athletes. Overall, more than half of ASP, 53.1% (147 out of 130), agreed that anti-doping is not a priority in collegiate sports programs.

For detailed review of ASP anti-doping beliefs refer to table 5 appendix E

ASPs Doping Behaviors

The study established that many ASPs (108/230 coaches vs. 16/47 team managers, $p = .059$) sometimes advise athletes about anti-doping without reference to the World Anti-Doping Code. We also identified many ASPs (63/230 coaches vs. 12/47 team managers, $p = .038$) rarely work closely with anti-doping testing programs. As many as 114/230 coaches and 19/47 team managers, $p = .031$, said their athletes had never been tested for performance-enhancing drugs. However, ASP indicated their institutions often support them in anti-doping activities (62/230 coaches vs. 14/47 team managers, $p = .027$). Many coaches, 58/230 said new coaches or team managers are never inducted on anti-doping, but the majority, 22/47 of the team managers, reported new coaches or team managers are often inducted on anti-doping, $p < .001$. Overall, our study did not establish a significant association, $\chi^2 = 2.96$, $df = 4$, $p = 0.564$ between ASP role and anti-doping related behaviors.

For detailed review of ASP anti-doping behavior refer to appendix F

5 OVERALL PROJECT DISCUSSION – SYNTHESIS OF DATA ACROSS PARTS 1 & 2

The aims of this project were to investigate the behaviours and factors that influence behaviour among Kenyan collegiate athlete support personnel; specifically, coaches and team managers. Using a combination of focus groups and a survey, we established that coaches and managers engage in a range of behaviours at varied frequency (e.g., weekly to annually). However, the most common and consistent actions taken centred on raising awareness and providing guidance. Among several individual factors that were identified as influencing ASP behaviour, knowledge was commonly a barrier and values stood out as the main facilitator. At an interpersonal and environmental level, relationships between ASP and their athletes were facilitating action, but the lack of education and support from the Anti-Doping Agency of Kenya

(ADAK) was a hindrance. Failure of global policy to be translated into local action will also be discussed.

With regards to behavior undertaken by ASP, most coaches and team managers carry out 'sensitization programs' and create awareness among students and athletes. This was done through conversation and conducting team building activities to support peer learning. In addition to prevention, there are some students who use drugs, and this prompts coaches and team managers to engage in guidance and counselling programs to help such students back to a 'clean' path. Coaches and team managers followed through with the anti-doping guidance they provided to instil discipline among athletes, reinforcing them negatively (delisting from the team) and taking disciplinary actions to those who engage in the use of drugs. Overall, actions reported by Kenyan collegiate ASP were similar to those of ASP researched in Westernized countries. For example, the findings are in concurrence with observations that one of the main behaviours ASP undertake is providing advice to athletes (e.g., Patterson & Backhouse, 2018). However, Kenyan collegiate coaches and team managers discuss anti-doping matters regularly, e.g. weekly/monthly. This is in contrast to previous studies that indicate infrequent anti-doping conversations, e.g. twice or thrice a year (Laure et al., 2001 & Engelberg et al., 2017). In Australia (Engelberg, Moston, & Blank, 2017) and the UK (Patterson & Backhouse, 2018), several coaches described only discussing doping issues in workshops or when a case has been aired in the media. Often, coaches suggest they have little time for this topic, which is not seen as a priority, in their intense daily activities (Barnes et al., 2020; Laure et al., 2001). Therefore, it appears that ASP in the Kenyan Collegiate system are more proactive in addressing doping than has been found before. This presents an opportunity that can be utilized by ADAK and college administration to support anti-doping efforts, if they were imparted with anti-doping information, they have ample time to share the same with athletes. Educating collegiate ASP is something that we will return to shortly, as a key influencing factor.

Signaling the urgent need for anti-doping education is the large number of ASP who reckoned nutritional supplements bought in registered pharmacies cannot contain banned substances. Dietary supplements are any substance such multivitamins which acts nutritionally to reverse or

prevent deficiencies (Laurie, 1999). Athletes have a lot of trust in coaches and team managers as revealed during interview (Juma et al., 2022) when they noted they get substances such as energy drinks from their managers or coaches. Athletes further reported they hardly have time to read through and understand the ingredients “If the manager says it (substance) is good, I will take it. If he says no, I will not take it. ‘A coach will not lie to you because they have stayed with you for a long time’ (Juma et al., 2022). The sentiments are further backed by (Nieper, 2005) who opined that coaches and managers are influential agents of anti-doping attitudes and trusted to provide nutrition advise. Furthermore collegiate coaches and managers who participated in the survey were of the opinion that athletes should be encouraged to use supplements yet they also reported that they provide guidance on nutrition without necessary knowledge on the same. Vulnerability of athletes to the danger likely contaminated nutritional supplements has previously been reported (Republic of Kenya, 2014) leading to positive dope test of rugby players who confessed to have been supplied with supplements though by a foreign (not a Kenyan) coach.

Before we discuss education for collegiate ASP, it is important to consider why our coaches and team managers engaged in frequent action to prevent or address doping. Most ASP were motivated and committed to support and uphold clean sport. The respondents were well aware that failure to play an active role in anti-doping is detrimental to the sport and athletes’ career since it lowers the standards of the sport as there will be no fairness; compromising the integrity/moral value of the society. As noted (Bandura, 2004) doping education should emphasise morals and ethics. There appeared to be an element of care for athletes underpinning the ASPs’ actions, as they wished to prevent individuals experiencing the negative consequences that are associated with doping, e.g., health effects, being expelled from college or from getting banned from participating in sports competitions. This care for athletes, and desire for fairness, was one of the main positive factors influencing ASP action; we saw it as their personal and professional values/responsibility. ASP described wanting to be good role models and facilitate the development of good citizens. Framing their actions from this perspective (as coming from a place of care) allowed ASP to create relationships and have positive conversations with athletes that they reported as enabling them to shape athletes’

attitudes. ASP specifically highlighted rapport and openness as important to creating the opportunity to guide athletes to embrace anti-doping and open up about their issues to the coaches and team managers. This finding is similar to emerging evidence on ASP working with young players in rugby union (Patterson, Backhouse & Jones, 2022).

While the general feeling across the ASP we engaged with was that they were supportive of anti-doping efforts, there were some surprising findings in the Performance Enhancement Attitudes Scale (PEAS) in our survey. Specifically, the average score indicated a pro doping attitude. In our study, it is also notable that coaches demonstrated a weak anti-doping support compared to the team managers. Although ASP in our project overwhelmingly agreed that it is their duty to ensure athletes train and compete according to the rules (as discussed in our previous paragraphs), of concern was their agreement with statements such as ‘drugs are necessary for an athlete to be competitive’ and ‘athletes can use drugs for as long as they do so after competitions’. Based on our interactions with ASP, we believe that this attitude may be an indication of ASP lacking familiarity with anti-doping, rather than signaling that ASP are supportive of doping practices.

Indeed, an important influencing factor that seems to be playing a part in ASP attitudes and actions was capability. Some of the focus group participants signaled a lack of skill and the survey data indicated a lack of knowledge among some ASP, especially in particular areas. For example, while most ASP had knowledge regarding the Prohibited List, the majority did not know that covering up doping activities amounted to a rule violation. Many ASP also did not know that testing positive is not the only way an athlete can be sanctioned. Lack of knowledge among ASP is concerning because it could lead to them violating the rules and being sanctioned. Furthermore, if ASP are lacking knowledge, yet providing information to athletes, this poses a danger because athletes may not be guided properly, and risk being sanctioned. This is especially true for those ASP who reported offering guidance without making reference to the WADC. Giving advice without referring to the Code has been evidenced before with ASP

(Mandic et al., 2013; Mazanov et al., 2013). A lack of knowledge is also consistent with other studies (Engelberg, Moston & Blank, 2017; Fung, 2006). Importantly, previous research has shown that the knowledge gap may lead to low confidence and prevent ASP from participating in anti-doping activities (e.g., Blank et al, 2014; Patterson & Backhouse, 2018; Sullivan et al., 2015). Therefore, anti-doping education for Kenyan collegiate ASP is needed to ensure they are, and feel, well-equipped for the role they are (more than) willing to undertake.

Yet, it was the lack of education that appeared to be one of the main issues we identified across the project. The majority of personnel concurred that when in doubt they should consult the national anti-doping organization for guidance, but they were frustrated at not being able to get assistance from ADAK. Though the International Standard for Education (ISE, WADC 2021a) requires every signatory to implement an anti-doping education programme, our findings indicate that the reach of this in Kenya does not extend to the collegiate system in which our ASP were embedded. Even among elite athletes in Kenya, there is criticism of the anti-doping education provided (Juma et al., 2022). As cited by our ASP and those included in (Juma et al., 2022) anti-doping education by the national anti-doping agency in the past has been scant, poorly organized and focused mainly on sports clubs and elite athletes. Athletes and ASP have described no meaningful/effectual collaboration with ADAK, with interactions being ‘hurried’ and targeting few people who had no competition duties during competitions.

To address these issues, ASP in our study expressed the desire for capacity building through anti-doping education, facilitation to attend seminars and additional resources. They suggested education would make them skilled and confident to undertake an anti-doping role. Such education may be in the form of print media and seminars to provide a balance between having the opportunity to exchange ideas during interactions and having concrete resources to distribute during sports competitions to both personnel and athletes. Our ASP called for support with resources such as laptops and internet to allow them to access websites for information and materials, such as those provided on the online platform hosted by WADA

(ADEL). Although collegiate ASP do currently use internet sources for anti-doping information, it was not clear whether they are able to locate the WADC and coach manuals. This observation was reported in previous research (e.g., Patterson et al., 2019, Backhouse, 2018 & Allen et al., 2017).

Our findings signal the need for anti-doping education to be made part of the collegiate curriculum. In the past, anti-doping education has been accessible only to ASP who pursued physical education and sports academic courses at the university level, yet collegiate personnel comprise even tutors with no prior knowledge of doping problem in sports. Given the lack of knowledge among the collegiate ASP groups we engaged with, ensuring that more ASP at this level are educated is crucial. It is important that ASP, who are lecturers, will understand doping issues and collegiate trainee athletes who are potential ASP of the future would have anti-doping awareness and hopefully beliefs and attitudes towards doping would be influenced for the benefit of clean sport. This will ensure all potential ASP and athletes will be better equipped with anti-doping knowledge and right attitudes early in their sporting careers. Though in the process of implementation the primary, secondary schools, and teacher trainers' physical education curriculum has now factored in anti-doping education that previously was lacking. Although the introduction of anti-doping into colleges is a positive step, ASPs alluded that the College Physical education curriculum that concerns the performance-enhancing substances may need to be revised. Firstly, they suggested it should include content on ADAK's role in the fight against doping. Furthermore, they suggested a shift away from the current curriculum focus on the doping issues in terms of substances and their effects towards valued based education that would instil integrity, fairness, etc. Reframing anti-doping education in this way aligns with suggestions from previous research (Kamenju, 2014) that education on drugs abuse should start early at primary school long before trainees are enrolled into college.

In addition to enhancing the education opportunities available to ASP (and other populations), our findings highlight that a shift is needed in the way that anti-doping is managed. It should no

longer be the case of individual ASPs taking anti-doping education in their own capacities as reported by Republic of Kenya (2014). As reiterated by ASP, the fight against doping should be a collaborated effort of the ASPs and the communities around various colleges to create a healthy and safe sporting environment. Some communities around the colleges use drugs and if they are not brought on board with anti-doping efforts, gains made through anti-doping education may be futile; as athletes will continue to interact with others in the community (outside of their college) where drugs are peddled. It appears prevalence of drugs is perpetuated by ignorance of the local communities on urgency of fighting the drugs abuse. This leaves the college community at risk as drugs would easily infiltrate especially because as the ASP noted; anti-doping matters is not a priority in collegiate sports. If the local leaders, e.g. youth, counsellors and religious leaders were empowered to influence their immediate communities they would impart positively towards clean sport as the fight against doping cannot be won without involvement of other stakeholders.

To involve and activate the broader community, it may be necessary to engage different media, including TV, radio, newspapers and websites. The use of social media would also ensure the majority of target groups are promptly reached with anti-doping information. In the current project, these were cited as channels through which ADAK can use to support ASP endeavors to advance clean sport. Through the media, ASP noted they would know about legal methods of boosting performance. Media was named by our ASP as key in doping prevention since positive cases get exposed and publicized hence potentially deterring others from doping. However, sometimes information athletes get from the media tends to glorify dopers and drug use (Kamenju, 2014). Indeed, we must keep in mind that Nowesielki & Switkoswaska, 2007) posited that media sometimes broadcast more 'for' than 'anti' doping. Sometimes print media and television have been used (Morrison , Karin & Morrison., 2004) to portray ' ideal' body image which may in turn entice use of illegal performance enhancers. Nonetheless, if organisations such as ADAK can form partnerships with media outlets to ensure that messaging is

appropriate, it is an avenue of potential benefit to convey accurate information and highlight role models in anti-doping efforts (Yesalis & Barke, 2000, Caffee & Fadale 2006).

Whether utilising media outlets or embedding education in colleges, within the enhanced education provided to ASP in the future awareness of policies regarding anti-doping could be addressed. This was an area that ASP currently are almost entirely 'in the dark' about. Most collegiate coaches and team managers are not aware of anti-doping policies either at college level or national level. Despite this, they acknowledged that rules and regulations do exist to guide college students against general illegal drugs use within the institution (i.e., not specific to sport). Notably, some ASP reported awareness of anti-doping policy at international level, since they have 'heard' of people who have been banned from participating in sports due to doping, they knew the consequences of athletes refusing to comply with the existing anti-doping procedures, and they knew athletes needing to use prohibited substances for medical reasons should do so with the permission of an authorized anti-doping organization. That said, awareness of these anti-doping rules is rarely translated into action, based on our data around ASP behaviour. It is crucial that ASP understand their responsibilities – to maximize the potential positive impact they may have on athletes' doping behaviours, but also to ensure they do not unintentionally leave themselves vulnerable to committing an ADRV (e.g., for complicity). Increased awareness of policy could create confidence that the anti-doping campaign will be enhanced at college level across the country and globally. Further, policies help in a situation where when one breaks the rule of anti-doping, there is a process which leads to action taking, and this should be guided by policies. Therefore, lack of knowledge on anti-doping policies may limit ASP's effort in undertaking the anti-doping role. Further training and support on the existing policies should be provided to equip coaches and team managers with relevant knowledge and skills on anti-doping thus enhance anti-doping attitudes among players (Backhouse & McKenna, 2012).

Conclusions

To help minimize doping, promote fair competitions and encourage healthy participation among athletes, coaches and team managers raise awareness and provide guidance regarding the use of drugs. Some coaches and team managers counsel their players after every training session, so they can change their lifestyle if any of them may be taking drugs. And, when necessary, coaches and team managers instill discipline among players, reinforcing them negatively and taking disciplinary actions. Coaches and team managers were committed to undertaking an anti-doping role to help in promoting good behaviour and be good role models to their students and athletes. Furthermore, they described having relationships that enable them to engage in open conversations around (anti-)doping. Despite these positive findings, some ASP lacked knowledge and confidence to undertake an anti-doping role, and this might hold them back from taking action in doping prevention. ASP are crying out for greater opportunities to learn about anti-doping, suggesting that the National Anti-Doping Agency must cooperate with the Kenya Teachers Colleges Sports Association to embed relevant anti-doping into the curriculum. Indeed, anti-doping efforts among Kenyan collegiate ASP are currently driven by the individual, and not supported by the system around them. Enhancing the resources available to ASP within the collegiate system is a priority. In addition, there is a need for concerted effort to work together with the local community in doping prevention.

5. Recommendations

The study makes the following recommendations to enable the ASP play their anti-doping roles effectively

- 1) The National Anti-Doping Agency of Kenya (ADAK) to initiate a collaboration with the Kenya Teacher Colleges Sports Association, to establish deliberately planned and formal ways to educate collegiate ASP.
- 2) To inform [1], the National Anti-Doping Agency of Kenya (ADAK) should engage with ASP in order to understand what learning opportunities and ongoing support are needed for ASP to play an active (and effective) role in doping prevention.

- 3) To inform [1], the National Anti-Doping Agency of Kenya (ADAK) should help the Kenya Teacher Colleges Sports Association to translate global policy (e.g., WADC) into college-based policy/code of conduct to inform ASP practice (behaviours).
- 4) College administrations to support ASP in undertaking anti-doping roles by providing resources to enable them to attend anti-doping workshop/seminars (e.g., finances, data, laptops) and encourage them to take action against drug use in their every-day work (e.g., messaging/reminders from managers to ASP, posters in key locations on campus, etc).
- 5) ADAK and college administration should make deliberate efforts to collaborate with local community administrators and youth leaders to determine how to maximise effective doping prevention (e.g., overcoming challenges around recreational drugs being supplied to students/athletes/coaches from the neighborhoods).

Next steps...

To maximise the impact of this research on policy and practice, the research team will seek to i) develop relationships with 'end users' (e.g., Anti-Doping Agency of Kenya, Kenya Teachers Colleges Sports Association/ coaches and team managers), and ii) disseminate findings at key events (e.g., the African Union Anti-Doping Forum).

REFERENCES

- ADAK. (2018). Anti-doping agency of Kenya seeking partnership for anti-doping education. <https://www.adak.or.ke/anti-doping-agency-of-kenya-adak-seeking-for-anti-doping-education/>.
- Ajzen, I. (1991). The Theory of Planned Behavior: Some unresolved issues. *Organizational behavior and human decision processes: Journal of experimental social psychology*. 5: 175-211.
- Allen, J. B., Morris, R., Dimeo, P., & Robinson, L. (2017). Precipitating or prohibiting factor: Coaches' perceptions of their role and actions in anti-doping. *International journal of Sports Science and Coaching published by SAGE*.
- Anshel M H. Cognitive-behavioural strategies for combating drug abuse in sport: Implications for coaches and sport psychology consultants. *The Sport Psychologist*. 1991; 5:152–166.
- Bandura A. (2004). Healthy promotion by social cognitive means. *Journal of Healthy education behavior* 31: 143-164.
- Barnes L, Backhouse S and Laurie PA systematic review of research into coach perspectives and behaviours regarding doping and anti-doping. *Psychology of Sport and Exercise*. DOI: 10.1016/j.psychsport.2020.101780
- Backhouse. S, Whitaker .L. Laurie P., Erickson. K., & McKenna J (2015). Social psychology of doping in sport: a mixed-studies narrative synthesis: A report prepared for World Anti-Doping Agency by the Institute for Sport, Physical Activity and Leisure.
- Backhouse, S. H., & McKenna, J. (2012). Reviewing coaches' knowledge, attitudes, and beliefs regarding doping in sport. *International Journal of Sports Sciences and Coaching*, 7, 167-176. Doi 10.1260/1747-9541.7.1.167
- Blank, C., Leichtfried, V., Fuhrhapter, C., Müller, D., & Schobersberger, W. (2014). Doping in sports: West-Austrian sport teachers' and coaches' knowledge, attitude and behavior. *Deutsche Zeitschrift Fur Sportmedizin*, 65, 16–20. doi:10.5960/dzsm.2014.133
- Chan, D. K., Dimmock, J. A., Donovan, R. J., Hardcastle, S., Lentillon-Kaestner, & S, H. M. (2012). Self-Determined Motivation in Sport Predicts Anti-Doping Motivation and Intention: A Perspective from the Trans-contextual Model .

Chebet, S. (2014). Evaluation of knowledge, attitudes and practices of doping among elite middle and long distance runners in Kenya [Thesis]. <https://ir-library.ku.ac.ke/handle/123456789/11896>.

Donovan, R. J., Egger G., Kapernick, V., & Mendoza, J. (2002). A Conceptual Framework for Achieving Performance-enhancing Drug Compliance in Sport. *Journal of Sports Medicine*. 32:269-284.

Dimeo, P., Allen, J., Taylor, J., Dixon, S., & Robinson, L. (2011). Team dynamics and doping in sport: A risk or a protective factor? Montreal: World Anti-Doping Agency.

Engelberg, T., Moston, S., & Skinner, J. (2015). The final frontier of anti-doping: A study of athletes who have committed doping violations. *Sport Management Review*, 18, 268–279. doi:10.1016/j.smr.2014.06.005

Engelberg, T., Moston, S., & Blank, C. (2017). Coaches' Awareness of Doping Practices and Knowledge about Anti-Doping Control Systems in Elite Sport .

Juma, B.O., Woolf, J & Bloodworth, A. (2022). The challenges of anti-doping education implementation in Kenya: Perspectives from athletes and anti-doping educators

Kamenju, J., Mwisukha, A., & Rintaugu E. (2016). Awareness, Perception and Attitude to Performance-enhancing drugs and Substance use Among Athletes in Teacher Training Colleges in Kenya (WADA Social Science Research Report). World AntiDoping Agency (WADA).
https://www.wadaama.org/sites/default/files/resources/files/awareness_perception_and_attitude_to_peds_in_kenya_-_kamenju.pdf.

Kamenju, J. K. (2014). Influence of sports disciplines and demographic of Kenya's Collegess athletes on their awareness, perception and attitudes to performance-enhancing substances use. Unpublished PhD thesis Kenyatta University Kenya

Laure, P., Thouvenin, F., & Lecerf, T. (2001). Attitudes of coaches towards doping. *Journal of Sports Medicine and Physical Fitness*, 41, 132-136.

Laure,P.,Backhousen&Jones(2022)<https://www.tandfonline.com/doi/pdf/10.1080/2159676X.2022.2086166>

The role of athlete support personnel in preventing doping: a qualitative study of a rugby union academy

- Martens, M.P., Dams-O'Connor, K., & Beck, N.C. (2006). A systematic review of college student-athlete drinking: Prevalence rates, sport-related factors, and interventions. *Journal of Substance Abuse Treatment*. 2006;31:305–316. [\[PubMed\]](#)
- Mandic, G.F., Peric, M., Krzelj, L., Stankovic, S., & Zenic, N. (2013). Sports nutrition and doping factors in synchronized swimming: Parallel analysis among athletes and coaches. *Journal of Sports Science and Medicine*, 12(4), 753-760.
- Mazanov, J., Backhouse, S.H., Connor, J., Hemphill, D., & Quirk, F. (2013). Athlete support personnel and anti-doping: Knowledge, attitudes, and ethical stance. *Scandinavian Journal of Medicine and Science in Sports*, 24(5), 845-856. doi: 10.1111/sms.12084
- Mse, E., Kimiywe, J., & Simiyu, W. (2009). The extent of dietary supplements use by male rugby players in Kenya. Health and Kinesiology Faculty Publications and Presentations. https://scholarworks.uttyler.edu/hkdept_fac/12.
- Mwangi, S.N. (2018). Role of Media in curbing doping among middle and long -distance runners in Kenya.unpublished Master of Education thesis: University of Nairobi .Kenya
- Nieper, A. (2005). Nutritional supplement practices in UK junior national track and field athletes. *British Journal of Sports Medicine*, 39(9), 645–649. <https://doi.org/10.1136/bjsm.2004.015842>
- Nowosielski K, S & Swatikowaska L. (2007).The knowledge of the world anti-doping code among Polish athletes and their attitudes towards doping and anti-doping policy. *Journal of human movement*.8 (1):57-67.
- OLobulu, T. (2022). ADAK arms sports journalists with crucial information as Kenya steps up fight against drug cheats. Retrieved from <https://www.capitafm.co.ke>.
- Sanchez, J.M-S., & Zabala, M. (2013). Doping in Sport: A review of Elite Athletes' Attitudes, Beliefs, and Knowledge. Springer international publishing. Doi:DOI 10.1007/s40479-0130037-x
- Petroczi, A. & Aidman, E. (2009). Attitude and doping: *A structural equation analysis of the relationship between athletes' attitudes, sports orientation and doping* behaviour. Retrieved from; <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2217289/>
- Republic of Kenya. (2014). Anti-Doping Taskforce Final Report. Ministry of Sports, Culture and Arts Department of Sports. Nairobi.
- Scofield D. E, Unruh S. (2006). Dietary supplement use among adolescent athletes in central Nebraska and their sources of information. *Journal of Strength and Conditioning Research*. 2006; 20:452–455

Short SE, Short MW. Role of the coach in the coach–athlete relationship. *Lancet*. 2005; 366:S29 S30. [\[PubMed\]](#)

Strelan, P., & Boeckmann R, J. (2003). A new model for understanding performance enhancing drugs use by elite athletes. *Journal of Applied Psychology*. 15: 176-183.

Sullivan, P.J., Feltz, D.L., LaForge-MacKenzie, K., & Hwang, S. (2015). The preliminary development and validation of the Doping Confrontation Efficacy Scale. *Psychology of Sport and Exercise*, 16, 182–190. doi:10.1016/j.psychsport.2014.04.011

Thombs, D, L., A test of the perceived norms model to explain drinking patterns among university student athletes. *Journal of American College Health*. 2000; 49:75–83. [\[PubMed\]](#)

United Nations Office for Drug Control and Crime Prevention. (2002). *Sports: Using Sports for Drug Abuse Prevention: A Global Youth Network*. United Nation publication. New York.

WADA Op-Ed: Media- the 4 estate in anti-doping- Ben Nichols, WADA senior Manager, Media and Relations Communication (May 2015).

World Anti-Doping Agency (2021). *World Anti-Doping*. Montreal, Canada: World Anti- Doping Agency.

Yesalis, C.E & Bahrke, M.S. (2000). Doping among adolescent athletes. *Bailliere's Clinical Endocrinology and Metabolism*, 14(1), 25-35.

Appendix A

INFORMED CONSENT FORM

Project Title: Understanding the role of Kenyan Collegiate athlete support personnel in the pursuit of clean sport

Principal investigator: Dr Janet Wanjira Kamenju(Ph.D)

The main purpose of this study is to investigate coaches and team managers' knowledge and attitudes to banned drugs use in sports.

The study will require that I complete a questionnaire (honestly and to the best of my knowledge) giving the required details.

1. Confidentiality

I understand that information provided to this study will be used for research purposes, Anti-doping education, including publications in research journals. All individual information will be coded and at no time will my personal identity be revealed.

2. Voluntary participation

The nature and purpose of the study procedure has been explained to me. I understand that participation in this study is voluntary and refusal to participate will involve no penalty or loss of benefits to which I am otherwise entitled. I understand that my completing of the questionnaire may be tiring and time-consuming. I may withdraw from participation at any time I choose, without penalty.

3. Benefits of participation

My participation in this study will contribute towards further understanding of anti-doping regulations in sports thus my contribution can be used towards clean and fair sports practice.

4. Liability

I have voluntarily agreed to participate in this study. I release all involved researchers in the study from any liability on any arising issues subsequently occurring in connection with the study.

5. Persons to contact with questions

1. I understand that in case of any questions/complaints I can contact the Chairman, Mount Kenya University Institutional Ethics Review Committee, P.O Box 342-01000, Thika

6. Consent to participate

I certify that I have read all of the above and received satisfactory answers to any questions that I asked. I willingly give my consent to participate in this research study. (I will be provided with a copy of this signed informed consent.

Signature.....

Date.....

APPENDIX B

INTERVIEW GUIDE

(Adapted from Patterson & Backhouse, 2018)

Theme	Main questions	Prompts
Background General anti-doping role perceptions	Can you tell me about your current [coaching/team management] position please?	-How long/how many years? -What was your journey to this position? -Do you have any relevant qualifications? -Thinking about the job that you do right now, what are the main goals that you work to achieve? -Why are these important?
	As a coach/team manager, do you have a role in preventing doping?	
	You say you DO NOT HAVE a role...	-What brings you to that conclusion?

Policy and practiseA		-What would have to change for you to take on a role?
	You say you HAVE a role, can you tell me more about what this involves?	-In your day-to-day practice, what <u>behaviours</u> do you undertake? -How <u>often</u> would you do these things? -What <u>prompts</u> you to do these things?
	Can you tell me about if and how you help athletes to <u>foster anti-doping attitudes</u> ?	- <u>How</u> do you do this?/What <u>actions</u> do you undertake to achieve this? -What would be your <u>reasons</u> for engaging in this behaviour?
	Can you tell me about if and how you cooperate with the <u>testing program</u> ?	-Have any of your athletes been tested? -What behaviours/ <u>actions</u> do you undertake within the process? -What would be your <u>reasons</u> for engaging in this behaviour?
Influencing factors	Thinking quite generally, what factors influence your role in doping prevention? /What <u>reasons</u> do you (or don't you) have a role?	
	What <u>opportunity</u> do you have to undertake an anti-doping role?	-Does your <u>contact</u> with your athletes make this possible? -Does your <u>relationship</u> with your athletes make this -Can you describe for me any conversations you have had with your athletes about doping-related topics? -What <u>prompted</u> these conversations?
	How <u>motivated</u> are you to undertake anti-doping responsibilities?	-Is undertaking an anti-doping role, important to you? (is it <u>compatible</u> with

		<p>your <u>personal identity</u> and your <u>professional role</u>?)</p> <p>-Is anti-doping important to those around you?</p> <p>a) Within your immediate environment?</p> <p>b) Beyond your immediate environment? i.e., college, sport, country</p> <p>-What do <u>others</u> think and do?</p> <p>-How is the importance of anti-doping <u>emphasised</u>?</p>
	How <u>capable</u> do you feel to undertake an anti-doping role?	<p>-Do you have the <u>knowledge</u> necessary? (What do you need to know?)</p> <p>-Do you have the <u>skills</u> needed? (What are these?)</p> <p>-How have you <u>developed</u> your knowledge and skills?</p> <p>-Do you have access to <u>adequate support</u>? a) from others, b) resources</p> <p>-Are you <u>confident</u> in undertaking an anti-doping role?</p> <p>-Would anything make you feel more capable <u>in the future</u>?</p>
	-Is there anything that would <u>stop</u> you undertaking an anti-doping role? (challenges/barriers)	<p>-What would make undertaking a role <u>easier</u>? (enablers)</p> <p>-What are the <u>consequences</u> if you do/don't undertake an anti-doping role?</p> <p>-How do you know if what you do is having an <u>impact</u>?</p>
Policy and practise B	<p>Are you aware of any local (i.e., team/college), national, or international <u>policies</u> that are in place that provide direction on what your anti-doping responsibilities are as a [coach/team manager]?</p>	

	Can you tell me about if and how you have ever cooperated with anti-doping organisations <u>investigations</u> ?	-What behaviours/actions do you/would you undertake? - What would be your reasons for engaging in this behaviour?
	Can you tell me about if and how you have ever disclosed information about ADRVs you have committed?	-What behaviours/actions do you/would you undertake? -What would be your reasons for engaging in this behaviour?
	Do you currently <u>use or possess</u> a prohibited substance or method without valid justification?	-What are your reasons for not engaging in these behaviours?

Closing: That covers everything that I wanted to ask, is there anything that you would like to add?

Thank you once again for your time and contribution.

Appendix C

Table 1: ASPs' Anti-doping Knowledge

Statement			Coaches (n=230)		Team Managers (n=47)		
			Frequency	%	Frequency	%	<i>p</i>
1. A prohibited list is a document identifying the substances and methods that are prohibited in and out of competition	True		220	95.7	46	97.9	
	False		10	4.3	1	2.1	.478
	True		172	74.8	40	85.1	.129
2. The list of prohibited substances and methods is reviewed every year	False		58	25.2	7	14.9	

3. A positive test is the only way an athlete can be sanctioned	True	162	70.4	33	70.2	.976
	False	68	29.6	14	29.8	
	True	157	68.3	36	76.6	
4. A substance is prohibited if it represents an actual or potential health risk to the athlete	False	73	31.7	11	23.4	.258
	True	208	90.4	45	95.7	.239
5. A substance is prohibited if it has the potential to violate the spirit of sport	False	22	9.6	2	4.3	
	True	87	37.8	27	57.4	.013
6. Doping is covering up doping activities	False	143	62.2	20	42.6	
	True	115	50	20	42.6	
7. Doping is dangerous because substances and methods used are developed for people with health problems	False	115	50	27	57.4	.353
	True	207	90	39	83	
8. Possession of a prohibited substance in and out of competition is a violation of anti-doping rule unless it is granted for Therapeutic use Exemption	False	23	10	8	17	.165
	True	197	85.7	35	74.5	.059

9. Anti-doping rules protect athletes' rights	False	33	14.3	12	25.5	
10. Anti-doping rules protects the rules of the game	True	211	91.7	40	85.1	.156
	False	19	8.3	7	14.9	
11. Anti-doping rules protects athletes' personal integrity	True	213	92.6	46	97.9	.183
	False	17	7.4	1	2.1	
12. Drugs test is an opportunity for an athlete to show commitment to doping free sport	True	211	91.7	45	95.7	.345
		19	8.3	2	4.3	
	False					
13. An athlete can refuse to submit to doping control if he/she is too busy	True	47	20.4	9	19.1	.842
	False	183	79.6	38	80.9	
	True	218	94.8	45	95.7	
14. Complying to dope test builds a safe and fair environment for athletes	False	12	5.2	2	4.3	.784
15. An athlete who fails to submit a sample is in violation of anti-doping rule	True	213	92.6	45	95.7	
	False	17	7.4	2	4.3	.439
	True	184	80	39	83	
16. If a doping control officer does not have any identification, an athlete	False	46	20	8	17	.639

should refuse to be tested							
17. A coaches/team managers has a duty to explain to the athlete consequences of refusing to comply with doping control procedure	True	221	96.1	47	100		
	False	9	3.9			.169	
18. A coach/team manager in doubt of any anti-doping rule should consult the national anti-doping organization for guidance	True	217	94.3	45	95.7		
	False	13	5.7	2	4.3	.700	
19. Abetting or assisting doping can lead to a coach being sanctioned for life	True	201	87.4	40	85.1	.672	
	False	29	12.6	7	14.9		
20. Administering or attempting to administer a prohibited substance to an athlete in and out of competition is a violation of anti-doping rules	True	217	94.3	46	97.9		
	False	13	5.7	1	2.1	.316	
21. Possessing or administering a banned substance may lead to a minimum of 4 years or lifetime ban	True	207	90	43	91.5		
	False	23	10	4	8.5	.754	

22. A coach has a duty to ensure athletes train and compete according to the rule of sport	True	228	99.1	47	100	.522
	False	2	9			
23. If you suspect an athlete is doping you should talk to them to establish whether the suspicion holds	True	201	87.4	41	87.2	
	False	29	12.6	6	12.8	.976
		220	95.7	47	100	
24. A coach/team manager should assist the doping control officer to access the athlete	True					.146
	False	10	4.3			
25. Assisting an athlete to evade sample collection is in violation of the code	True	219	95.2	46	97.9	
	False	11	4.8	1	2.1	.416
		226	98.3	47	100	
26. Tampering or attempting to tamper with sample or sample collection is violation of the code	True					.363
	False	4	1.7			
27. A coach /team manager possessing a prohibited substance is in violation of the code	True	216	93.9	44	93.6	
	False	14	6.1	3	6.4	.939
		222	96.5	46	97.9	
28. Administering or trying to administer a prohibited substance is a violation of the code	True					.635
	False	8	3.5	1	2.1	

29. An athlete can use a prohibited substance or method for a legitimate medical condition	True	127	55.2	30	63.8	
	False	103	44.8	17	36.2	
		194	84.3	34	72.3	
30. An athlete using a prohibited substance for medical reasons should do so with permission from an authorized anti-doping organization	True					.050
	False	36	15.7	13	27.7	

Appendix D

Table 2: ASPs' Anti-doping attitudes (Adapted from Petroczi, A. & Aidman, E. (2009)

Statement		Coaches (n=230)		Team Managers (n=47)		
		Frequency	%	Frequency	%	p
1. Use of performance enhancing substances/drugs in sports is necessary to be competitive	Strongly Agree	9	3.9	1	2.1	.868
	Agree	7	3	2	4.3	
	Undecided	5	2.2	2	4.3	
	Disagree	27	11.7	4	8.5	
	Strongly disagree	182	79.1	38	80.9	
2. If rival competitors are using performance enhancing drugs athletes should be allowed to dope	Strongly Agree	12	5.2	3	6.4	.973
	Agree	6	2.6	1	2.1	
	Undecided	7	3	3	6.4	
	Disagree	41	17.8	4	8.5	

	Strongly disagree	164	71.3	36	76.6	
3. A player can use drugs to recover from injury provided they are used after competition	Strongly Agree	33	14.3	8	17	.775
	Agree	74	32.2	15	31.9	
	Undecided	30	13	5	10.6	
	Disagree	46	20	10	21.3	
	Strongly disagree	47	20.4	9	19.1	
4. Only the quality of sports performance that should matter	Strongly Agree	16	7	9	19.1	.045
	Agree	39	17	8	17	
	Undecided	29	12.6	5	10.6	
	Disagree	69	30	13	27.7	
	Strongly disagree	77	33.5	12	25.5	
5. A coach/manager should not be bothered about the manifestations of substances on athletes	Strongly Agree	13	5.7	2	4.3	.816
	Agree	17	7.4	3	6.4	
	Undecided	10	4.3	3	6.4	
	Disagree	48	20.9	14	29.8	
	Strongly disagree	142	61.7	25	53.2	
6. It is necessary for a coach to know all the medicines athletes take	Strongly Agree	92	40	20	42.6	
	Agree	89	38.7	21	44.7	

	Undecided	11	4.8	2	4.3	.242
	Disagree	21	9.1	2	4.3	
	Strongly disagree	17	7.4	2	4.3	
7. A coach first duty is to instill athletics skill before providing anti-doping information	Strongly Agree	46	20	12	25.5	
	Agree	81	35.2	14	29.8	.722
	Undecided	19	8.3	3	6.4	
	Disagree	45	19.6	12	25.5	
	Strongly disagree	39	17	6	12.8	
8. Athletes should be provided with information on possible risks/side effects of banned substances	Strongly Agree	134	58.3	30	63.8	
	Agree	62	27	14	29.8	.241
	Undecided	8	3.5			
	Disagree	11	4.8	1	2.1	
	Strongly disagree	15	6.5	2	4.3	
9. Nutritional supplements purchased from a registered pharmacy cannot have elements of banned substances	Strongly Agree	17	7.4	5	10.6	
	Agree	37	16.1	8	17	.431
	Undecided	40	17.4	9	19.1	
	Disagree	82	35.7	15	31.9	
	Strongly disagree	54	23.5	10	21.3	

10. Recreational drugs help athletes relax after intense training and competition	Strongly Agree	14	6.1	3	6.4	.444
	Agree	42	18.3	11	23.4	
	Undecided	59	25.7	12	25.5	
	Disagree	57	24.8	11	23.4	
	Strongly disagree	58	25.2	10	21.3	
11. It is impossible to create new methods of training process that would make athletes not get tempted to use prohibited substances	Strongly Agree	30	13	11	23.4	.130
	Agree	32	13.9	5	10.6	
	Undecided	13	5.7	3	6.4	
	Disagree	74	32.2	16	34	
	Strongly disagree	81	35.2	12	25.5	
12. As long as the quality of performance is maintained it does not matter how an athlete attains it	Strongly Agree	6	2.6	2	4.3	.156
	Agree	15	6.5	6	12.8	
	Undecided	8	3.5	3	6.4	
	Disagree	59	25.7	13	27.7	
	Strongly disagree	142	61.7	23	48.9	
13. It is alright for a coach/team manager to use the substances provided athletes do not consume them	Strongly Agree	4	1.7			.716
	Agree	17	7.4	4	8.5	
	Undecided	18	7.8	2	4.3	
	Disagree	62	27	15	31.9	

	Strongly disagree	129	56.1	26	55.3	
14. It is an act of betrayal for a coach to offer information concerning a fellow coach or team manager who supply athletes with prohibited substances/methods	Strongly Agree	17	7.4	6	12.8	
	Agree	15	6.5	4	8.5	.062
	Undecided	14	6.1	3	6.4	
	Disagree	61	26.5	17	36.2	
	Strongly disagree	123	53.5	17	36.2	
15. The problem of doping is often exaggerated by media	Strongly Agree	15	6.5	3	6.4	
	Agree	39	17	8	17	.779
	Undecided	32	13.9	6	12.8	
	Disagree	79	34.3	20	42.6	
	Strongly disagree	65	28.3	10	21.3	
16. Injuries arising from sports training and competition are not different from those caused by use of banned drugs	Strongly Agree	9	3.9	3	6.4	
	Agree	27	11.7	7	14.9	.341
	Undecided	29	12.6	3	6.4	
	Disagree	62	27	18	38.3	
	Strongly disagree	103	44.8	16	34	
17. Legalizing performance enhancements would be beneficial for sports	Strongly Agree	12	5.2	4	8.5	
	Agree	16	7	5	10.6	

	Undecided	14	6.1		.275
	Disagree	38	16.5	12	25.5
	Strongly disagree	150	65.2	26	55.3

Appendix E

Table 3: ASPs Anti-doping Beliefs

Statement		Coaches (n=230)		Team Managers (n=47)		
		Frequency	%	Frequency	%	<i>p</i>
1. Use of performance enhancing drug is prevalent among athletes	Agree	101	43.9	18	38.3	.480
	Disagree	129	56.1	29	61.7	
2. Recreation drugs do not enhance sports performance	Agree	82	35.7	22	46.8	.151
	Disagree	148	64.3	25	53.2	
3. High expectations set in sports performance leads to doping	Agree	183	79.6	34	72.3	.275
	Disagree	47	20.4	13	27.7	
4. A coach coach/team manager has duty of educating athletes about anti-doping	Agree	225	97.8	45	95.7	.409
	Disagree	5	2.2	2	4.3	
5. Anti-doping print materials can help the athletes avoid banned substances	Agree	217	94.3	42	89.4	.208
	Disagree	13	5.7	5	10.6	
6. There is a strong anti-doping culture within college sports program	Agree	110	47.8	23	48.9	.890
	Disagree	120	52.2	24	51.1	

7. Frequent testing of athletes can prevent doping	Agree	208	90.4	45	95.7	.240
	Disagree	22	9.6	2	4.3	
8. Athletes should be encouraged to use nutritional supplements because they do not enhance performance	Agree	126	54.8	26	55.3	.947
	Disagree	104	45.2	21	44.7	
9. Some coaches and team managers encourage doping among athletes	Agree	149	64.8	27	57.4	.343
	Disagree	81	35.2	20	42.6	
10. As a coach/team manager can administer drug to athletes without their knowledge to help them improve performance	Agree	101	43.9	17	36.2	.330
	Disagree	129	56.1	30	63.8	
11. Coaches/team managers have a significant role in an athlete's decision to use, or not to use, performance enhancing substances	Agree	175	76.1	34	72.3	.588
	Disagree	55	23.9	13	27.7	
12. Coaches/team managers should regularly be educated about anti-doping	Agree	219	95.2	46	97.9	.417
	Disagree	11	4.8	1	2.1	
13. Athletes are regularly educated about their right and responsibilities on anti-doping	Agree	146	63.5	34	72.3	.247
	Disagree	84	36.5	13	27.7	
	Agree	42	18.3	6	12.8	.366

14. Coaches and team managers have no role in reporting potential anti-doping violations to the National Anti-Doping Agency	Disagree	188	81.7	41	87.2	
15. Anti-Doping Agency collaborates with coaches and team managers on anti-doping activities	Agree	156	67.8	34	72.3	.545
	Disagree	74	32.2	13	27.7	
16. Anti-doping is not a priority in collegiate sports program	Agree	123	53.5	24	51.1	.764
	Disagree	107	46.5	23	48.9	
17. Collegiate sports program is too intensive to include anti-doping discussions with athletes	Agree	56	24.3	7	14.9	.160
	Disagree	174	75.7	40	85.1	
18. The fight against enhancing drugs cannot be effective without the media	Agree	125	54.3	26	55.3	.903
	Disagree	105	45.7	21	44.7	
19. College administration supports anti-doping education for athletes, coaches and team managers	Agree	165	71.7	37	78.7	.328
	Disagree	65	28.3	10	21.3	
20. Local communities do not take drugs use prevention seriously	Agree	147	63.9	33	70.2	.411
	Disagree	83	36.1	14	29.8	

Appendix F

Table 4: ASPs Anti-doping behavior

Statement		Coaches (n=230)		Team Managers (n=47)		<i>p</i>
		Frequency	%	Frequency	%	
1) I give advice to athletes about anti-doping without reference to the world anti-doping code	Never	26	11.3	11	23.4	.059
	Rarely	48	20.9	13	27.7	
	Sometimes	108	47.7	16	34	
	Fairly often	27	11.7	1	2.1	
	Often	21	9.1	6	12.8	
2) I work closely with anti-doping testing programs	Never	72	31.3	11	23.4	.038
	Rarely	63	27.4	12	25.5	
	Sometimes	45	19.6	6	12.8	
	Fairly often	26	11.3	8	17	
	Often	24	10.4	10	21.3	
3) My athletes are often tested for performance-enhancing drugs	Never	114	49.6	19	40.4	.031
	Rarely	50	21.7	9	19.1	
	Sometimes	22	9.6	3	6.4	
	Fairly often	15	6.5	3	6.4	
	Often	29	12.6	13	27.7	
4) My belief in clean sport motivates me to participate in anti-doping activities	Never	17	7.4	3	6.4	.328
	Rarely	32	13.9	7	14.9	
	Sometimes	57	24.8	8	17	

	Fairly often	43	18.7	7	14.9	
	Often	81	35.2	22	46.8	
5) I am motivated to play anti- doping roles in sport	Never	15	6.5	2	4.3	.114
	Rarely	30	13	4	8.5	
	Sometimes	44	19.1	9	19.1	
	Fairly often	47	20.4	5	10.6	
	Often	94	40.9	27	57.4	
6) My institution is supports me in anti- doping activities	Never	48	20.9	4	8.5	.087
	Rarely	57	24.8	9	19.1	
	Sometimes	35	15.2	12	25.5	
	Fairly often	28	12.2	8	17	
	Often	62	27	14	29.8	
7) I report athletes who use drugs to relevant anti-doping authority	Never	88	38.3	9	19.1	.027
	Rarely	36	15.7	10	21.3	
	Sometimes	45	19.6	8	17	
	Fairly often	22	9.6	10	21.3	
	Often	39	17	10	21.3	
8) Athletes who use drugs are dropped from the team	Never	45	19.6	5	10.6	.126
	Rarely	32	13.9	5	10.6	
	Sometimes	36	15.7	9	19.1	

	Fairly often	24	10.4	5	10.6	
	Often	93	40.4	23	48.9	
9) I discuss athlete who dope with other coaches and team managers	Never	70	30.4	10	21.3	.098
	Rarely	35	15.2	6	12.8	
	Sometimes	51	22.2	10	21.3	
	Fairly often	26	11.3	8	17	
	Often	48	20.9	13	27.7	
10) I offer dietary advice to athletes even though I have no training in nutrition	Never	26	11.3	6	12.8	.848
	Rarely	21	9.1	3	6.4	
	Sometimes	66	28.7	15	31.9	
	Fairly often	54	23.5	11	23.4	
	Often	63	27.4	12	25.5	
11) I publicly discuss and support anti-doping activities in sports	Never	41	17.8	8	17	.808
	Rarely	32	13.9	9	19.1	
	Sometimes	46	20	6	12.8	
	Fairly often	43	18.7	7	14.9	
	Often	68	29.6	17	36.2	
12) Seminars on anti-doping make me equipped to play anti-doping role	Never	15	6.5	2	4.3	.199
	Rarely	14	6.1	1	2.1	
	Sometimes	27	11.7	4	8.5	

	Fairly often	38	16.5	9	19.1	
	Often	136	59.1	31	66	
13) I encourage athletes to be good role models	Never	5	2.2	2	4.3	.646
	Rarely	8	3.5			
	Sometimes	24	10.4	4	8.5	
	Fairly often	32	13.9	6	12.8	
	Often	161	70	35	74.5	
14) New coaches/team managers are inducted on anti-doping	Never	58	25.2	3	6.4	.001
	Rarely	39	17	9	19.1	
	Sometimes	51	22.2	7	14.9	
	Fairly often	32	13.9	6	12.8	
	Often	50	21.7	22	46.8	
15) I collaborate with national anti-doping organization	Never	74	32.2	9	19.1	.001
	Rarely	32	13.9	4	8.5	
	Sometimes	50	21.7	5	10.6	
	Fairly often	28	12.2	10	21.3	
	Often	46	20	19	40.4	
