

# **EXPLORING THE IMPACT OF KNOWLEDGE AND ATTITUDES ON DOPING BEHAVIOUR AMONG ATHLETICS YOUTHFUL KENYAN LONG-DISTANCE RUNNERS**

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## **ABSTRACT**

Athletics as a sporting activity is an exclusive collection of sporting events that involve competitive running, jumping, throwing, and walking. Globally in the athletic arena Kenyan athletes are world-famous and it's through this success in medium and long distance running that athletic stars and champions have been created. Involvement in sport can make athletes who want to excel quickly be under undue stress and opt to use performance enhancing substances (PES) that leads to involvement in doping. Doping in sport has become an increasingly prominent topic.

The decision to take part in doping practices is often based on many different information sources and attitudes of the athletes; hence this review explores athletes' knowledge and attitudes on doping behaviour since doping as a substance or method is potentially harmful to the health of the athletes and also gives them an unfair competitive edge. It represents an anathema, which poses great threat to the development of sports ideals in the modern day sports competitions. It is illegal and unethical to the sanctity of sports.

**Key Words:** *doping, sport, attitudes, knowledge, doping behaviour, performance enhancing substances, substance use*

## **INTRODUCTION**

Doping in sport has become an increasingly prominent topic, the decision to take part in doping practices is often based on many different information sources and attitudes of the athletes (Murray, 2010). Doping is the violation of anti-doping rules by consuming banned performance-enhancing substances and using prohibited techniques (Hughes, 2015). Doping corrupts the value of sport, with massive negative effects of doping on athletes' health status (Massaldjieva et al., 2010; Petroczi, 2009; Zenic et al., 2013). Reports from the World Anti-doping Agency (WADA) have shown a 20% increase in the emergence of doping among athletes in our society with elite athletes being the most affected (WADA, 2014). Out of a total of 7289 blood samples collected during competition in 2011-2012 14% samples had blood doping prevalence with a range of 1% to 48% (BBC, 2014). Various studies have shown reasons athletes are doping.

Corbin et al., (2004) avers that athletes dope to enhance their performance to levels beyond what their bodies can achieve when they train normally and it could be in the form of use of performance-enhancing drugs (pharmacological), blood doping (physiological), ergogenic substances and the use of substances designed to conceal the presence of other prohibited substances (WADA Code, 2005). This act is illegal, unethical and potentially harmful to the athletes' health. Socially, it results in stigmatization, loss of job, sanction, criminal offences and discrimination. A number of Kenyan athletes have tested positive for either medicinal or recreational drugs prohibited by WADA during competitions (IAAF, 2011). In all the cited

incidences, the athletes did not apply for the Therapeutic Use Exemption (TUE) and neither did they make appeals after the cases were determined. Such cases of doping portray Kenyan athletes as being largely ignorant of banned substances, doping test procedures and their rights and responsibilities. No studies have been done to establish the athlete's level of awareness of doping regulations stipulated by WADA.

Athletes dope to gain an unfair advantage or competitive edge in a sport. Winning a sport's contest by athletes, drugs (legal or illegal) may have been taken for a variety of reasons according to Awoniyi (1998), Synthetic Report (2007) and Mohammed (2009) as: legitimate therapeutic purposes, for performance continuation; for recreational use and for performance enhancement, which is considered a most serious threat to the credibility of competitive sports. This has become the subject of doping control regulations. Furthermore, athletes utilize doping substances for various reasons according to Mark (2008) which include, physical, psychological or emotional and sociological. One of the personal justifications for utilizing doping substances by athletes is psychological (Donald, 2008).

Athletes use mind-altering drugs to provide for the most convenient escape from unpleasant emotions, stress, frustration, boredom, anxiety and other personal problems (Ancheal, 2010). The pressure from training schedule, experimentation, for self-confidence, physical exhaustion, and high expectation from support personnel and severe time to meet the external demands may lure athletes to utilize performance-enhancing substances. Despite the pressures that are ever-present and evolving, most athletes still uphold some traditional values within sport. A study of British athletes suggested that values and the concept of shame influenced an athlete's decision to use banned substances.

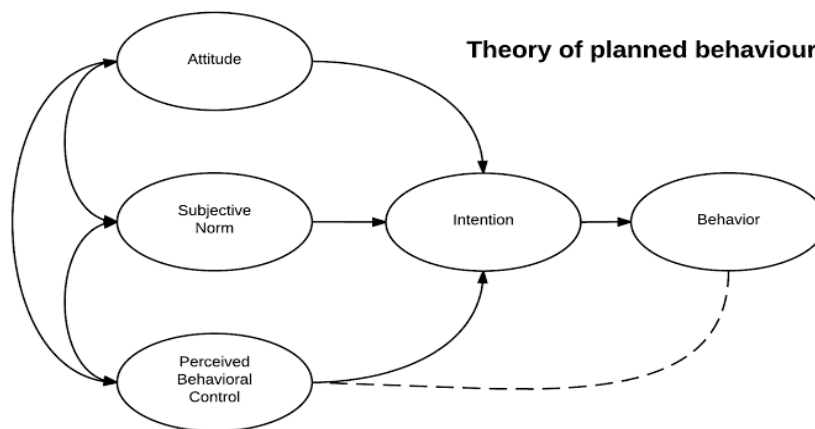
Kenya is known for its excellence in middle- and long-distance races with sterling performance in marathon, cross country, middle- and long-distance racing etching her in the limelight of the world. Several scholars have sought to establish the reasons behind Kenya's phenomenological success in middle- and long-distance racing (Scotts & Pitsilladis (2007), Onywera (2009), Elbe, Madsen & Midtgard 2010) and Hamilton (2000). Among the gaps is the fact that a number of Kenyan athletes have tested positive for medicinal drugs that are prohibited or have been consumed above the levels allowed by WADA. Examples include Cosmas Ndeti and William Tanui who tested positive for ephedrine and claimed to have taken it over the counter as cold remedy (Manners, 1997). This raises queries on their levels of knowledge of what is allowed or not allowed, and about their knowledge of Therapeutic Use Exception Rule.

Gucciardi et al (2011) found similar factors at play in elite Australian athletes, with morality and self esteem playing roles. Goulet et al. (2011) showed that behavioral intention was the most critical component to predicting doping behaviour. Ultimately, there seem to be many factors that will influence whether one will opt to use a banned substance. The current research therefore focuses on the level of athletes' knowledge and attitudes on doping behaviour. Athletes'

knowledge of substance abuse is a significant concern to young people, parents, society, guardians as well as professionals in the health sector and the government in general and provides effective information on anti-doping policies and education programs.

## **THEORETICAL FRAMEWORK**

The theory of planned behavior (Ajzen, 1988, 1991) was used in the study. The theory incorporates a construct that deals with people's perception of control over the behavior, that is, their beliefs that they can perform the behavior if they so desire, that they have the required time, skills, cooperation, and other resources. A central factor in the theory of planned behavior is the individual's intention to perform a given behavior. Intentions are assumed to capture the motivational factors that influence a behavior; they are indications of how hard people are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior. The theory postulates three conceptually independent determinants of intention. The first is the attitude toward the behavior and refers to the degree to which the person has a favorable or unfavorable evaluation of the behavior in question. The second predictor is a social factor termed subjective norm; it refers to the perceived social pressure to perform or not to perform the behavior. The third factor refers to the perceived ease or difficulty of performing the behavior, and it is assumed to reflect past experience as well as anticipated impediments and obstacles.



**Figure1: Theory of Planned Behaviour**

As a general rule, the more favorable the attitude and subjective norm with respect to a behavior, and the greater the perceived behavioral control, the stronger should be an individual's intention to perform the behavior under consideration. Intention, in turn, is viewed as one immediate antecedent of actual behavior. That is, the stronger people's intentions to engage in a behavior or to achieve their behavioral goals, the more successful they are predicted to be. However, the

degree of success will depend not only on one's desire or intention, but also on such partly non motivational factors as availability of requisite opportunities and resources. Collectively, these factors represent people's actual control over the behavior. To the extent that a person has the required opportunities and resources, and intends to perform the behavior, he or she should succeed in doing so.

## **RESEARCH METHODOLOGY**

### **Research design**

This study adopted a descriptive survey design aimed at exploring youthful Kenyan long-distance runners' knowledge, practices and attitudes on doping in the North Rift Region of Kenya. The study was located in the region because the area has a high concentration of long distance runners. Against this realization, the present study deemed the young long distance runners as an appropriate target population.

### **Target Population**

The research particularly targeted 1063 elite athletes in Kenya currently registered with Athletics Kenya in the Eldoret, Iten, and Kapsabet training camps. Scope of events ranged from 800 to 10,000 meters track races, cross country and marathon. This was because Kenya athletes predominantly undertake middle and long distances races as opposed to other athletic events. This target population would be critical as they would provide first-hand information key for this study.

### **Sampling Design**

Krejcie & Morgan (1970) provide a simplified formula to calculate sample sizes when the population under study is finite (see formula below). This formula was used to calculate the sample sizes in the table shown below. The study will use a 95% confidence level, this meant that if the same population was sampled on numerous occasions and interval estimates are made on each occasion, the resulting intervals would bracket the true population parameter in approximately 95% of the cases and  $P = 0.5$  which means that the probability of the difference having happened by chance is 0.5 in 1.

$$n = \frac{Z^2 \times P \times Q \times N}{e^2 (N - 1) + Z^2 \times P \times Q}$$

Where:  $n$  is the sample size,  $N$  is the population size, and  $e$  is the level of precision. A 95% confidence level and  $P = 0.5$

$$n = \frac{1.96^2 \times 85 \times 15 \times 1063}{0.05^2 (1063) + 1.96 \times 85 \times 15}$$

$$n = 290.6367$$

Therefore a total of 291 athletes took part in the study.

In the study, we had 291 athletes currently registered with Athletics Kenya in the Eldoret, Iten, and Kapsabet training camps whose scope of events ranged from 800 to 10,000 meters track races, cross country and marathon. Of the 291 athletes the mean age was 24 years. The majority of the interviewed athletes were male (65.98 %), and most had at least attained secondary level education. Most of the athletes were active in the 5,000 metres race and had been running for between 6-10 years. The study sample size was estimated using the formula by Krejcie & Morgan, (1970). Both stratified and simple random sampling techniques were used for the study. Stratified sampling ensured that the sub-groups of training camps were proportionally represented and that the difference in the sub-group characteristics was accounted for. It is a technique that identified sub groups in the population and their proportion and select from each sub group to form a sample. This technique was used to ensure that the target population is divided into different homogenous strata and each stratum is represented in the sample in a proportion equivalent to its size in the population.

### **Research Instruments**

A questionnaire was used to collect the data. The questionnaire contained questions from the Performance Enhancement Attitude Scale (PEAS) (Petrozi,2009), Doping Use Belief (DUB) statements, questions regarding past experience and current use of doping, brief definitions of terminology (i.e., performance enhancing drugs and methods. The Performance Enhancement Attitude Scale (PEAS) is a measure of general doping attitudes (Petrozi, 2009), and as such was used for that purpose in the current study. The doping attitude is defined as an individual's predisposition toward the use of banned performance enhancing substances and methods (Petrozi, 2007). Doping knowledge was identified using the five questions which were proposed by Moran et al. (2008). Questions were asked to identify their doping knowledge. Moreover, the doping practices were identified by use of and experience with performance-enhancing substances. Doping attitude was defined as an individual's predisposition toward the use of banned performance-enhancing substances and methods which is quantitatively measured by the PEAS questionnaire which was proposed by Petroczi (2007). The PEAS consists of 17 attitude statements, which are measured on a six point Likert-type scale ranging from strongly disagree (1) to strongly agree (6). No neutral middle point is offered, and all 17 items are scored in the same direction. A range of 17–102 is possible, with a higher score indicating a more positive attitude toward doping. Previous studies that have used the tool concluded that the scale is uni-

dimensional and reliable, with Cronbach's alpha values ranging from 0.71 to 0.91 (Petrozi, 2009). In the current study, the Cronbach's alpha value for the PEAS was 0.85.

### **Data Collection Procedures**

Permission to carry out the research was obtained from the relevant authorities as required by law and the principles of research. All ethical issues relating to informed consent and confidentiality were adhered to. The respondents were guaranteed of their confidentiality and thus no respondent was required to give his or her identity. All data acquired from the respondents was managed privately and confidentiality was maintained. Information on the nature and purpose of the study was expounded to the respondents as a means of providing sufficient information before they decide to participate.

### **Statistical Analysis**

Data analysis on collected field data was done along the research objectives. The researcher first inspected data to identify any spelling mistakes and any other wrongly answered or failed to respond to items. Data was then sorted, edited, classified, coded and then tabulated using simple descriptive statistics such as distributions in percentages and frequency counts by use of SPSS. Qualitative data was recorded from field data, transcribed and reported in themes and sub themes. Descriptions were derived from responses of the questionnaires then put in categories and calculated into percentages of responses from each category and statements were made of each result. The findings were identified and concluded.

## **RESEARCH RESULTS**

### **General Knowledge about Doping**

Respondents were their general knowledge about doping. Most male (62.90%) and female (87.50%) athletes had received doping information and they were therefore aware on performance enhancing drugs. The greatest source of information was from colleagues with 93.56% male and 86.13% females stating it acted as their source of information. Coaches followed closely with 77.77% male and 69.27% females indicating it was their source of information. The internet was the least used source of information by the athletes used by only 9.23% male and 8.91% females. It therefore shows that youthful Kenyan Long-Distance Runners tend to rely on information passed on by their peers.

Fürhapter et al. (2013) insisted that knowledge on negative side effects of doping is poor especially among adolescent athletes. This indicates that a thorough widespread and in-depth anti-doping education programme among the youths along with an organized structure is essential, as suggested by Moran et al. (2013). Moran et al. (2013) reported that 9.4 and 11% of

athletes in various nationalities admitted that they inadvertently and knowingly, respectively, used banned substances, and Muwonge et al. (2015) mentioned that 3.9% of Ugandan athletes had ever used the performance-enhancing substances, of which 3.3% admitted to recent use. Uvacsek et al. (2011) showed that 14.6 and 31.7% acknowledged using banned substances and recreational substances, respectively.

Athletes have knowledge that they have to submit a TUE application; this factor had a mean of 3.81. The athletes agreed with a mean of 3.69 that Athletics Kenya informs them which nutritional supplements are safe to use. Doping helps athlete's makeup the lost time is the most favored by athletes. The athletes with a mean of 3.59 stated that they are aware that they are responsible for what they swallow or apply to their body. Athletes also had knowledge that they cannot warm down or attend a medal ceremony before going to the Doping Control Station; this was shown by a mean of 3.68. The athletes were least awareness that during sample collection only a Doping Control Officer of the same sex should be present this was shown by a mean of 3.02. It can be noted that most athletes have knowledge of doping.

These findings complement those from similar studies involving other athletes from Europe, North America or the United Kingdom. For instance, Erdman et al. reported that 76.7 % of 582 high-performance Canadian athletes were aware of the anti-doping regulations (Erdman, 2007), whereas Waddington et al. (2015) found a 68 % familiarity of the UK sport guidelines on banned drug use among 706 members of the English Professional Football Association (PFA). Muwonge et al. (2015) showed that two-thirds of Ugandan athletes replied in the affirmative to the question on whether they had received information regarding banned substances in their sport.

### **Doping Attitude**

Respondents were asked to rate the attitude to doping using the scale of 1-5 where 1- Strongly disagree, 2- disagree, 3- undecided, and 4- Agree and 5- Strongly agree. The attitude that doping helps athlete's makeup the lost time is the most favored by athletes, this factor has a mean of 3.25. Information on the use of PES is from fellow athletes is another attitude that appeals to the athletes with a mean of 3.15. Most respondents though that athletes are pressured to take PES, This factor scored a mean observation of 3.06. Doping is not cheating since everyone does it the least appealing among the attitudes of the respondents; this factor has a mean of 2.66.

These results correspond to those of Moran et al. (2013) wherein some athletes who inadvertently or knowingly doped had a more positive attitude toward doping. Besides, this study shows that the adult athletes who knew someone who experienced doping had a more positive attitude toward doping, which in turn supports the references by Morente-Sanchez and Zabala (2013) that the decision to take banned substances is influenced by the assumption that the competitors are also taking them, familiarity with banned substances through exposure to or



observation of others' doping practices may influence an athlete to ultimately decide to dope themselves (Somerville,2015).

### **Athletes Knowledge and Attitude and its effect on Doping Behaviour**

The study sought to find out Correlations analysis to examine the impact of knowledge and attitudes on doping behaviour among athletics youthful Kenyan long-distance runners. Correlation analysis (R) was found to be 0.977. The value shows a very strong positive correlation between the variables. It is deduced from the value of 0.977 that our independent variables (attitude and knowledge) explain 97.70% of the variability of the dependent variable (doping behaviour). An R<sup>2</sup> of 0.955 (95.5%) indicated that the regression line perfectly fitted the data used for the study. The adjusted R<sup>2</sup> value of 0.955 (95.5%) indicated how well the independent predicted the dependent variable. The regression model was significant and thus reliable for making conclusions and recommendations (Sig. <.05). The most Significant predictors of performance was attitude (beta = -.644, t= 20.250, sig =.000), whereas knowledge had (beta=.352, t= 11.063, sig = .000). The results revealed that attitude and knowledge were significant predictors of doping behaviour. A positive correlation indicated that a relationship existed between the variables and that the relationship was positive.

According to Hauw & Mohammed (2015) doping knowledge has influenced behavior on doping. Previous studies have regularly reported a higher doping likelihood in those athletes who are convinced that doping is present in their sport (Rodek et al., 2013; Sekulic et al., 2014; Zenic et al., 2010). This is mostly explained by theory of planned behaviour. In brief, individuals adopt the norms (and beliefs) of their fellow group members. Consequently, if an athlete believes that doping is present in their sport, it is more likely that he/she will be engaged in doping. Therefore, the findings of a higher doping likelihood in those male athletes who perceive their sport as contaminated by doping are in accordance with previous investigations (Kondric et al., 2011; Sekulic et al., 2014).

An important factor for the development of efficient and sustainable preventive strategies for doping is an evaluation of the level of knowledge and attitudes with regard to doping (Fürhapter et al., 2013) Thus, similarly we inferred that there was any relationship between doping knowledge and attitude and predicted that athletes with no information on the banned substances had a higher PEAS.

### **CONCLUSIONS**

The study revealed that athletes have knowledge that they have to submit a TUE application. Athletics Kenya informs them which nutritional supplements are safe to use. Doping helps athlete's makeup the lost time is the most favored by athletes. The athletes are also aware that they are responsible for what they swallow or apply to their body. Athletes also had knowledge

that they cannot warm down or attend a medal ceremony before going to the Doping Control Station. The athletes are unaware that during sample collection only a Doping Control Officer of the same sex should be present.

The study established that the attitude that doping helps athlete's makeup the lost time is the most favored by athletes. Information on the use of PES is from fellow athletes is another attitude that appeals to the athletes. Most respondents though that athletes are pressured to take PES. Doping is not cheating since everyone does it the least appealing among the attitudes of the respondents. A positive correlation indicated that a relationship existed between the variables and that the relationship was positive.

## **RECOMMENDATIONS**

The concerned sports organizations and arms of government should explore all possible means of addressing the problem, which may include improving access to doping information and developing doping structures and regulations.

The government, through the relevant sports association should establish doping education programme and ensure that such programmes are effectively administered. This will help athletes make more informed decisions when confronted with issues of doping. The education programme should not target elite athletes but more at the young upcoming athletes as the research revealed they were less informed.

The Kenyan government should endeavor to enhance access to this information by athletes by varying the means of communication. This would include encouraging writers to publish easy-to-read books with summary of doping information, preparing leaflets to be distributed in athletes training grounds, using television, radio and print media to cover topics on doping.

A survey should be carried out on effectiveness of doping education programs already in place with a view of recommending best practice with regard to the same. A review to be done on sports related legal structures with a view of recommending the incorporation of doping regulations as part of Kenya law. This will facilitate compliance to regulations outlined by WADA.

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