Analysis of Doctoral research at the Department of Physical Education and Exercise Science, Kenyatta University (1988-2011): Implications for health and sports development in Kenya

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Abstract

This article analyses studies which were conducted for doctor of philosophy degrees in the department of Physical and Health education and Exercise Science at the Kenyatta University with a view of appraising their impact and possible contribution towards sports development in Kenya. Twelve (12) studies were reviewed over the 25-year period which cut across a broad spectrum of areas of study in Physical Education and Sport ranging from Anthropology and Sports History, Didactics, Sports Administration, Outdoor Education, Social-Psychology of Sports, fitness and health-related aspects. Soccer, athletics and volleyball were predominantly investigated in the studies. In most of the studies the findings were descriptive in nature and have limited applications needed to address strategic priorities of sports development in Kenya. The department need to encourage studies which are relevant to the numerous and diverse areas in sports in Kenya and most aptly relevance to the Kenya population. Implications of the findings for post-graduate Physical Education curriculum review are discussed.

Keywords: Research, Physical Education and Sports, Kenyatta University, health, sports promotion and development.

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Introduction

Research studies are recognized as practical means of bridging the gap between theoretical knowledge and practical acquisition of skills in attaining top levels of sports performance (Noakes, 2002). The role of a sport scientist is to provide evidence based on research which will enhance sports performance. Without the input of sport scientists no coach, team or athletes can achieve optimum success. Most innovations in exercise science and sports performance often emerge from universities and sport institutions that are dedicated to vigorous and experimental
traditions of basic and applied research (Shehu, 1996). Institutions of higher learning in the west integrate specialized sport research and linkages with sport federations to improve performance (Shehu, 1996). In the 21st century, two of the critical areas that Physical Education and sport programmes in the universities should address are relevance through increased research. Physical Education and sport scientists have contributed to the massive growth of sport such as the Olympic Games, world cup tournaments in soccer, cricket, hockey, volleyball, etc. Equally important is the question concerning the contribution of Physical Education research towards national sports development. Bucher and Krotte (1993) and Amusa and Toriola (2004) expressed the need to bridge the gap between research and practical application of knowledge and skills. According to Bucher and Krotee (1993) relevant research in social psychological and movement sciences as they relate to human movement and learning should guide Physical Education and sport science programming. Amusa and Toriola (2004) posit that the nature of Sport Science research, if it will be of any values to the athlete, must necessarily be in application.

The mission of Kenyatta University is to teach, examine, research and offer outreach services (Kenyatta University calendar, 2001). The Department of Physical Education at Kenyatta University launched its Master of Education and Ph.D. programmes in 1988. However, the early scientific research in the department basically emphasized institutional physical education (Asembo, 1997). After 25 years of the launch of its post-graduate programme, it is necessary to critically assess researches conducted in the Department with a view to analysing their contributions to, and impact on sports promotion and development in Kenya. Such research review and analyses (Mwisukha, Gitonga & Njororai, 2004) are particularly needed as Kenyatta University is the only university in Kenya to date which offers post-graduate qualifications in Physical Education and sport. Based on the outcome of this review, future directions for post-graduate research in Physical Education and Sport could be identified which will address strategic priorities of sport promotion and development in Kenya.

Research questions

This discourse is based on a review and critical analyses of Doctoral studies conducted in the Department of Physical Education between 1988 and 2011. The review is guided by the following questions:-

1. What were the foci of previous Doctorate researches in Physical Education and Sport at Kenyatta University and what major objectives were they designed to achieve?
2. What were the major findings, conclusions and recommendation of these research projects?
3. How relevant were the recommendations to sports promotion and development in Kenya?
4. What adjustments are necessary to guide future directions in post-graduate Physical Education and Sport research at Kenyatta University?

Methodology

Documentary analyses including all completed doctorate theses in Physical Education and Sports at Kenyatta University from 1988 to 2011 were analytically reviewed. In addition to being guided by the research questions earlier stated, the relevance of the outcome of the study to sport promotion and development in Kenya was particularly critiqued. The methodology used in this research was guided by those of similar previous studies carried out by Toriola (1995) and Mwisukha, Gitonga and Njororai (2004).

Reviews and syntheses

Sport Science and health-related studies

The pioneer doctoral research in Sport Science by Njororai (2000) focused on identifying the differences in technical and tactical performance of the national soccer teams of Kenya, Germany and Argentina using competitive international matches. The study identified variables that characterise winning and losing teams as well as establishing the level of accuracy of each of the soccer variables in a match. The study concludes that winning teams were characterized by better ball possession, use of offside traps and fewer corner kicks. The Kenyan team had higher rates of unsuccessful technical and tactical executions reflecting a poor mastery of the playing techniques. He recommends that government should formulate a sport policy to spell out the role and practice of research in the enhancement of national and international sport programme with special reference to soccer. Early introduction of football skills should be encouraged so that Kenyan players can improve on the technical and tactical requirements of the game. Even with the above recommendations the performance of the national soccer team (Harambee Stars) and Kenyan soccer clubs have continued to dwindle at both regional and continental levels. Studies on strategies to raise the standard of soccer in Kenya are expedient.

In his study, Onywera (2006) examined the genetic, demographic and environmental backgrounds of elite Kenyan distance runners and compared these to those of Kenyan non-athlete controls. The food and macronutrient intake of the runners was also compared to recommended dietary allowance for endurance athletes. This study, which was conducted in the major high altitude training camps in the Rift Valley region of Kenya, found that elite athletes were different from the controls in all the categories and that a high proportion of the athletes
travelled further than 5 km to school than the controls. This finding highlights the importance of environmental factors in the development of Kenyan athletics. The study concluded that Kenyan elite athletes are of a distinct ethnic background relative to the general population. An interesting finding of the study was that there was no association between elite endurance athletics status and variation in the angiotensin-converting enzyme (ACE) gene. There was no evidence to support the notion that the Kenyan diet *per se* can explain the outstanding performance of Kenyan long distance runners. The conclusions of this study should generate research impetus on the characteristics of Kenyan distance runners and more importantly, factors accounting for their dismal performances in short distance races and field events. In general it is assumed that the impact and contribution of the research findings to Kenya successes in middle and long distance events can be ascertained.

Kamau's (2008) study established the prevalence of overweight and obesity among primary school children aged between 10 to 15 years in Nairobi Province, Kenya. The study also analyzed the congruence among body mass index (BMI), bio-electric impedance (BIA) and skinfold calipers (anthropometry) as methods of assessing overweight and obesity among Kenyan children. The study used a 10-week aerobic dance exercise programme to provide intervention for the management of overweight and obesity among the 5,325 children. Findings showed that girls in both private and public schools had higher BMI scores than boys. The study concluded that female pupils are more susceptible to overweight and obesity in Kenya as compared to their male peers, children in private schools are more susceptible to overweight and obesity than those in public schools regardless of gender. The study also concluded that BIA, BMI and skinfold caliper (anthropometry) can be used to reliably assess body composition and that aerobic dance leads to healthy changes in children’s body composition. Physical Education teachers, parents and school administrators were advised to conduct regular evaluation of pupils' physical fitness and develop follow-up exercise programmes so that the beneficial gains made can be sustainable. This is a classic study which evaluated the possible deleterious consequences of sedentary lifestyle to the health of primary school pupils and the findings have profound education policy implications. This study lends credence to the study on the relation between aerobic fitness, muscular fitness and obesity in children from three countries (Kenya inclusive) at different stages of the Physical Activity Transition (Heroux *et al.*, 2013), a study that provides some evidence to support the physical activity transition hypothesis.

Theuri (2011) determined the differences in blood pressure (BP), cardiovascular disease, biochemical risk markers, physical activity and nutrition between an urban and pastoral sample in the context of the global epidemiological transition causing a shift in mortality and morbidity from communicable to non-communicable diseases. A total of 133 adults were randomly recruited from a
pastoral community and from an urban area of Nairobi, Kenya. Data were collected using questionnaire, venipuncture, blood pressure measurements and anthropometric measurements. Findings revealed a significant and positive relationship between lifestyle factors, BP and atherogenic cardiovascular disease (CVD) markers. Lifestyle factors such as physical activity (PA), dietary habits, adiposity and girth measurements are useful and inexpensive means of determining or predicting CVD risk in individuals or population groups. The study also reported significant differences in the prevalence of hypertension, BP, biochemical cardiovascular diseases between urban and rural samples. Lifestyle factors such as PA, dietary intake, nutrition status, body composition and anthropometric measurements are associated with an increase in BP and atherogenic CVD. A number of recommendations were made concerning the need for a national survey to determine the prevalence of hypertension and CVD risk biomarkers among Kenyans. The major weakness of the study was that the recommendations not only lacked specificity but had no practical implications for the Ministries of Education and Health as well as other stakeholders in Kenya. The research is practically significant in the sense that in reality, it can help to address the problem of non-communicable diseases.

In a related study, Kiplamai (2011) assessed the modifiable predictors of Type 2 diabetes (T2D) and variations in its predisposing factors among a randomized selection of 304 (143 males and 170 females) people living around Lake Victoria basin, Kenya. The purpose of the study was to describe variations in dietary factors, PA, socio-economic status and prevalence of T2D among two rural communities. Instruments for data collection included structured questionnaires, interviews, nutritional assessment, body composition determinations, PA assessment and laboratory procedures to assess diabetes risk factors, oral glucose tolerance, blood group and Rhesus factor and serum lipids (triglycerides, total cholesterol and high density lipoprotein cholesterol: HDL). Results revealed significant differences in the prevalence of T2D, IGT and IFG and also that large cross-ethnic differences existed in the food intake and dietary patterns in the two communities. There were also gender differences in BMI, obesity and underweight between males and females in the two communities. The study recommends that health practitioners consider sociocultural backgrounds in the prognosis and management of T2D and its risk markers. The study also recommends that greater research attention be directed at issues related to development of healthful eating and PA habits as well as strategies for modifying unhealthy behaviours. The issue related to the study involves the practical application of the results to solving health problems in Kenya.

Social psychology studies

Within the cluster of social-psychological studies, Mugalla (2008) analyzed how demographic factors (gender, age, ability status, experience and level of
satisfaction) affect the achievement goal orientation and satisfaction among Kenyan among league volleyball players. Data collected from 134 players revealed that the players’ goal orientation did not differ according to age, and female players were task oriented hence intrinsically motivated while their male peers were ego-oriented thus extrinsically motivated. The findings revealed that task oriented players are significantly more satisfied and female players are more satisfied than male counter parts. The study recommends that the national sports federations organize for refresher courses for volleyball coaches, and that local scholars develop scales for measuring players’ satisfaction and goal orientation. The recommendations of the study have marginal implications on the improvement of volleyball standards in Kenya. The study could have elucidated on whether motivational orientations change depending on the level of competition and this can be utilized to spur research on other aspects which can be addressed to improve volleyball performance.

Research conducted in Sport Psychology by Muniu (2009) assessed the relationship between sports participation and examination related stress levels among secondary school students. The study also analyzed the ways in which stress manifests itself among students and whether it affected consistency in examination performance. Data were collected from 480 students through questionnaires, physiological measures, academic records and school medical records. The study concluded that students who were active in sports perceived examinations with less stress while non-sports active students performed better academically. Although some studies also found that students who participated in intercollegiate sports did not have better grade point average or superior outcomes in cognitive learning and motivation when compared to non-athletic students (Shulman & Bowen, 2001; Wolniak et al., 2001), this conclusion is controversial as other studies have reported positive association between physical activity and development of cognitive skills (Biddle & Goudas, 1996; Howie & Pate, 2012). Occurrence of minor ailments was significantly higher among the students who were active in sports than those who were inactive. The study recommends the need to sensitize administrators, teachers and students on the therapeutic nature of exercise and sports participation. The study also suggests that the Ministry of Education develops policies to encourage mass participation in sports. The study made good contribution on the need to promote sport participation in secondary Kenyan secondary schools. The findings of the study may motivate parents to encourage their children to be physically active thereby possibly tempering the hype associated with passing examinations.

Similarly at the secondary school level, Rintaugu (2005) investigated the influence of significant others in socializing secondary school athletes to sports. Data were collected through questionnaires from 636 purposively selected secondary school athletes in Kenya. Findings indicated that significant others and socializing situations positively influenced the socialization of secondary
school athletes to sport. Agents of socialization into sport were identified as mostly coaches, peers, teachers, etc. without any notable gender differences. The study also showed that the influence of socializing situations at school has progressively waned due to the impact of viewing sport magazines on television, newspaper and internet browsing. The study recommends that parents, especially mothers should play a crucial role in socialization their children into sport. It also recommends that schools provide an enabling environment for sport participation. The findings of this study have practical implications for the Ministry of Education, Youth and Sports. More importantly, the limited influence of Physical Education teachers in facilitating students' socialization into sport requires very urgent attention.

Sports administration and management research

Andanje (2006) evaluated the professional preparation and certificate of athletics coaches in Kenya. His study involved a cross section of athletics coaches, government sports administrators and athletics officials at provincial and national officials. Amongst other findings, the study showed that most of the coaches were former athletes and were mainly trained under the International Association of Athletics Federation (IAAF) certification system. The main problems faced by coaches were inadequate funding, coaching equipment and facilities. The study recommends the need to establish a centralized national academy to train coaches, set up learning resources centers/libraries accessible to coaches and establishing a national athletics licensing board. If the above recommendations are embraced by stakeholders then the country may continue to be a powerhouse in long distance races at the global scene. However, the study did not tie its recommendations to the ever-worrying dismal performances of Kenyan athletes in sprints and field events and how professional preparation of Kenyan coaches could be modified to remedy the situation. Secondly, the study does not shed light on how the challenges concerning the location of elite sport coaches in a few provinces in Kenya to the detriment of other provinces can be addressed.

Research in anthropology and sports history

The second pioneer study in the Department of Physical Education by Mwangi (1999, 2001) documented and analyzed the traditional games of the people of Mt. Kenya region in terms of how they were performed, equipment and facilities used as well as the social-cultural setting in which they were performed. The study established that people of Mt. Kenya region had 39 games which were categorized as games of physical and mental skills, strategy, chance, memory, rhythm, simulation and verbal connotation. The study recommends the formation of a federation or association of traditional sport and games and the introduction of traditional games into the school curriculum. This study was
timely as it provided evidence in support of the need to revive traditional games in Africa. The study’s recommendations subsequently led to the formation of the Kenya Federation of Traditional Sports and Games as an officially recognized national sport federation in Kenya. Furthermore, a number of studies have been conducted on the traditional games of other communities in Kenya and published (Mwangi, 2010). The practical significance of this research project is obvious as its findings have impacted traditional games of several communities as well as facilitated the formation of traditional games associations, especially in Kenya.

Research in outdoor education

Muthomi (2008) established the impact of outdoor education programme (OEP) on the perceptions of life effectiveness qualities of trainee staff in Kenyan corporate settings. Life effectiveness questionnaire (LEQ) was utilized and findings indicated significant differences in the trainees’ life effectiveness qualities after an outdoor education programme. The main outcomes of the outdoor education programme included positive motivation, interpersonal skills, integrity, honest, team work, personal growth, improved decision making skills and self-control. OEP promoted and enhanced educational and behavioral development of the trainees. The study recommends that human resource managers and employers should introduce a corporate policy on outdoor education which will incorporate outdoor Education in their personnel training programme. This study practically demonstrates how outdoor education could be utilised to enhance life effectiveness in the corporate sector.

Fitness marketing studies

Muigai (2009) examined the roles/practices and relationships among market orientation, service quality and innovation and how these construct affect the performance of fitness enterprise in Kenya. Data were collected from fitness centers located in urban areas of Nairobi; with aerobics and body building activities as the most popular. The study established that fitness managers needed to enhance market orientation practices, to be innovative, improve service development and service quality. The study recommends that firms need make their enterprises market-oriented and form an association which will encompass all the practitioners in the industry. Policies need to be put in place to regulate and license fitness enterprises and the development of standards for use of fitness enterprises. This study addresses a contemporary issue on “fitness boom” and the recommendations have far reaching implications for development of the health and fitness industry in Kenya.
Recommendations

The Department is encouraged to improve on doctoral studies in divergent areas of research. For example, more studies are needed in administration and management of sport, internet and communication technology (ICT) application is sport as well as health and sport promotion and development. The Department also needs to have close working relationships with sports federations and the Kenyan Ministry of Youth and Sports. This will ensure that recommendations from the doctoral studies are implemented at grassroots, regional and national levels in order to foster sustainable development. Future studies are needed to address dismal performances of Kenyan teams in all other sports, except athletics (long distance races) and rugby including perennial wrangles in the sport federations. It is necessary also to develop other sport science specialisations in the Department such as exercise physiology, sports nutrition, exercise biochemistry and biomechanics, as these will stimulate post-graduate research in the university.

Conclusions

The findings of these reviews indicate that the doctoral studies are cross-cutting within the sub-discipline of Physical Education and Sport with the health-related areas attracting more studies. However, the findings of the studies are descriptive in nature and recommendations are not specific enough to have meaningful impact on sport promotion and development in Kenya. Most of the studies appear to be conducted for the sake of academic pursuit and were necessarily designed to address concepts and issues which are pivotal to sports development. It is apparent that since the launch of post-graduate studies at Kenyatta University 25 years ago, only 12 doctoral studies have so far been successfully completed. More action research is needed if the myriad of challenges facing Physical Education and Sports in Kenya are to be addressed. Physical Education and Sport Sciences researchers in the Department have an important duty of further researching on the nature of the range of factors (genetic or otherwise) that are responsible for the success of Kenyan athletes, including physiological, biomechanical, biochemical, skill traits, anthropometry, sociological, anthropological, etc. Presently, the Doctoral studies coming out of the department are in fragments. Will it be possible to have several studies examine the holistic profile of performance either in Physical Education, Recreation and Leisure and Sport Science?

References


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