Bindura University of Science Education

2024

THE IMPACT OF IMPLEMENTING SCIENTIFIC PROTOCOLS IN TALENT IDENTIFICATION FOR TRACK SPRINTS IN HARARE SCHOOLS

Munyaradzi Blessing Paruwani

B212270B

Bindura University of Science Education

Department of Sports Science

Faculty of Science and Engineering

(HBScSSM) Bachelor of Science Honors Degree in Sports Science and Management

Supervisor: Ms R. Munhamo

Chairperson of the Department:

Dr. Lysias Tapiwanashe Charumbira

Title Page

Title Page

FACULTY OF SCIENCE AND ENGINEERING
DEPARTMENT OF SPORTS SCIENCE

The Impact of Implementing Scientific Protocols in Talent Identification for Track Sprints in Harare Schools.

A Dissertation Submitted in Partial Fulfilment of the Requirements for the Bachelor of Science Honors Degree in Sports Science and Management

July 2024

Declaration

I declare that this dissertation has been composed sorely by myself and that it has not been submitted in whole or in part, in any previous application for a degree. Except where it states otherwise by reference or acknowledgement, the work presented is completely my own.

Supervisor Approval Form

I certify that the student was under my supervision. I further certify that he has attended all scheduled meetings with me and he has fulfilled all the requirements that I set before him as the supervisor. It is my professional judgement that the dissertation is of sufficient, high standard as to be submitted with my name attached to it as the supervisor. I hereby release the student without reservation to submit his dissertation for marking

Name of Supervisor: Supervisor: Ms R.Munhamo Signature:  Date: 6 October 2024

Name of Chairperson of the Department: Dr. L.T Charumbira  Date: 06/102024

Acknowledgements

I want to extend my appreciation to the following individuals for their support and contributions throughout this Research project.

First and foremost, I would like to express my gratitude to Dr Charumbira for the guidance in conducting this study and my supervisor Ms Munhamo for the valuable supervision during this research. I gained valuable insights, guidance, mentorship, and constructive feedback.

I would also like to thank my study partner Mr Oliver Chokhotho and my sister Chido for their dedicated support and mentorship in the research. My gratitude also goes to all the participants in the research who sacrificed their time and shared their valuable insights in the research.

Additionally, I would like to extend votes of thanks to all my classmates for their advice and support which helped with the writing process and enhanced the quality output of this research.

Finally, I am grateful to my family and friends for their support throughout the journey, through their resilience and encouragement this project was a success.

I am grateful for the efforts and resources invested by all those mentioned above and I am sure that the contributions to this research will enhance the talent identification programs for track sprinters in Harare schools.

Research Dedication

This dissertation is dedicated to my family, whose support and encouragement have been key in my academic and professional journey.

To the memory of my beloved parents, Mr and Mrs. Paruwani, whose sacrifices, influence and guidance continue to shape my life and this academic journey.

Statement of permission to use

Name of author: Munyaradzi Blessing Paruwani

Title of Project:

The Impact of Implementing Scientific Protocols in Talent Identification for Track Sprints in Harare Schools.

Programme: Bachelor of Science Honors in Sports Science and Management

Year: 2024

Signed

Abstract

Abstract

The purpose of this study was to find out the impact of implementing scientific protocols in talent identification for track sprints in Harare Schools. The objective of the study was to get deeper insights into domains of talent identification in schools which included an investigation into the extent to which scientific protocols are being used, the rationale behind the current protocol choice as well as to identify and propose specific scientific protocols to improve talent identification for track sprinters in Harare schools. The research findings provide a baseline for various stakeholders such as schools in Harare, Athletics Board, Ministry of Sport, Arts and Recreation, Sports and Recreation Commission, coaches and many other sports stakeholders into the impact of talent identification and its various subdomains in schools in line with decision making, policy formulation and resource allocation. The data was collected using the mixed methods approach using Questionnaires for quantitative data and interviews for qualitative data. Methodological triangulation data analysis technique was used to interpret the findings and this gave the researcher deeper insights about the study. Statistical Package for the Social Science (SPSS) software was used to present and analyze the qualitative data and NVivo software was used to present and analyze qualitative data. The research showed that the greater Harare schools acknowledge that implementing scientific protocols in their talent identification protocols has to a larger extent improved their overall program results. The researcher identified and recommended scientific protocols such as physiological assessment, biomechanical assessment, genetic profiling, anthropometric assessment and psychological assessment as best practice protocols for the success of talent identification in schools.

Contents Page

Table of Contents

Title Page i
Declaration ii
Supervisor Approval Form iii
Acknowledgements ..... **Error! Bookmark not defined.**
Acknowledgements iv
Research Dedication iv
Statement of permission to use v
Title of Project: vi
Abstract vii
Contents Page viii
List of Tables xii
List of Figures xiii
List of Appendices xiv
List of Abbreviations and Symbols xv
Glossary xvi
1. Chapter 1 2
1.1 Introduction 2
1.2 Background of the study 2
1.3 Statement of the problem 4
1.4 Significance of the study 4
1.5 Research questions 5
1.5.1 Primary Questions 5
1.5.2 Sub-questions 5
1.6 Research Objectives 5
1.6.1 Main Objective 5
1.6.2 Sub Objectives 5
1.7 Delimitation of the study 5
1.8 Study Outline 6
1.9 Summary of chapter 7
2 Chapter 2: Literature Review 9
2.1 Introduction 9
2.2 Conceptualization 9
2.2.1 Scientific Tests conducted in talent identification 9

2.2.2 Talent identification processes in sports 10
2.2.3 The impact of implementing scientific tests on talent identification 11
2.3 Theoretical review 11
2.4 Thematic review. 15
2.4.1 The Impact of Adoption of Scientific Protocols in Talent Identification of Track Sprinters in Harare Schools. 15
2.4.2 Factors Influencing the impact of Talent Identification Methods in Harare Schools for Track Sprints 15
2.4.3 Scientific protocols for enhancing talent identification in track sprinters in Harare schools 16
2.5 Conclusion 17
2.6 Summary of the chapter 17
3 Chapter 3: Materials and Methods 20
3.1 Introduction 20
3.2 Research Method 20
3.2.1 Mixed Methods Approach 20
3.3 Time Horizons 21
3.3.1 Cross-Sectional 21
3.4 Research design 22
3.5 Population and sampling 23
3.5.1 Population 23
3.5.2 Sampling 23
3.5.3 Qualitative sampling 23
3.5.4 Purposive sampling 24
3.6 Data Collection Procedures 24
3.6.1 Pilot Study 24
3.6.2 Main Study 25
3.6.3 Structured Interviews 25
3.6.4 Questionnaire 25
3.7 Data analysis and presentation 26
3.8 Validity and Reliability 26
3.9 Ethical considerations 27
3.10 Chapter Summary 27
4 Chapter 4: Data Analysis and Introduction 29
4.2 Response Rate Analysis 30
4.3 Demographic Data 30
4.4 Quantitative Presentation and analysis of data linked to the Primary Research Question 33

4.4.1 Quantitative Presentation and analysis of data linked to the Sub Research Question 1 34
4.4.2 Quantitative Presentation and analysis of data linked to the Sub Research Question 2 36
4.4.3 Quantitative Presentation and analysis of data linked to the Sub Research Question 3 38
4.4.3.1 Physiological Assessments Protocol 39
4.4.3.2 Anthropometry Assessments Protocol 39
4.4.3.3 Genetic Profiling Protocol 40
4.4.3.4 Biomechanical Assessment Protocol 40
4.4.3.5 Psychological Assessment Protocol 40
4.5 Qualitative Presentation and analysis of data on the impact of implementing scientific protocols in talent identification for track sprints in Harare schools. 41
4.6 Methodological Triangulation Analysis of qualitative and quantitative research findings. . 47
4.7 Chapter Summary 47
5 Chapter 5 50
5.1 Introduction 50
5.2 Summary of major findings 50
5.2.1 Finding number 1 50
5.2.2 Finding number 2 50
5.2.3 Finding number 3 50
5.2.4 Finding number 4 50
5.3 Conclusion 51
5.3.1 The impact of implementing scientific protocols in talent identification for track sprints in Harare Schools 51
5.3.2 To investigate whether schools in Harare have incorporated scientific protocols in their talent identification programs for track sprinters. 51
5.3.3 To determine and understand the rationale behind the methods and approaches employed by schools in Harare for talent identification in track sprints. 52
5.3.4 To identify and propose specific scientific protocols that can improve the talent identification process for track sprinters in Harare Schools. 52
5.4 Limitation of the study 53
5.5 Implications/ Recommendations 54
5.5.1 Implications for practice 54
5.5.2 Implication for Theory 55
5.5.3 Implications for Future Research 55
5.6 Chapter Summary 55
Reference 55
Appendices 58
Research Objective 58

Interview Consent Form 59
Interview Instrument Guide 62
Interview Recording Sheet 64
Questionnaire 66
Codes: NVivo 69
Sample of Questionnaire Coding Sheet: Question 1 – Research Participants Role 70

List of Tables

Table

4.1 Questionnaires Response Rate Analysis and Presentation 30

4.2 Structured Interviews Response Rate Analysis and Presentation 30

4.3 Analysis of Gender Norms Analysis and Presentation 31

4.4 Quantitative Representation of an assessment of the impact of implementing scientific protocols in schools by frequency, percentage and response of the participants 33

4.5 Quantitative Representation and assessment of the extent of use of scientific protocols for talent identification for track sprinters in schools by frequency, percentage and response of the participants 35

4.6 Quantitative Representation and analysis of an assessment of success factors contributing to the current talent identification programs at schools 37

4.7 Quantitative Representation and analysis of the scientific protocols that can be implemented to improve talent identification 39

4.8 Qualitative Representation and analysis of the hierarchy chat by order of frequencies and code themes expression on the interviews conducted 42

List of Figures

4.1 Pie Chart Respondents Qualification Analysis 31

4.2 Pie Chart Count of Respondents Years of Experience 32

4.3 Quantitative Analysis of Impact of Scientific Protocols by Respondents Qualification 34

4.4 Quantitative Representation and Analysis of the extent of use of scientific protocols for talent identification by the respondents 36

4.5 Quantitative Representation and Analysis of the success factors contributing to the current talent identification programs at schools 38

4.6 What scientific protocols should be adopted in their schools 41

4.7 Hierarchy chat by order of frequencies and code themes expression on the interviews conducted. 43

4.8 Word frequency chart (word cloud) of recommendation and success factors to Talent Identification code: An expression of the respondent's view. 44

4.9 Word frequency chart (word cloud) of What Scientific Protocols can be used to Improve Talent Identification code: An expression of the respondent's view. 45

4.10 Pie Chart of an analysis the frequency of coding references per codes generated: An expression of the respondent's view. 46

List of Appendices

Research Objective	58
Interview Consent Form	59
Interview Instrument Guide	62
Interview Recording Sheet	64
Questionnaire	66
Codes: NVivo	69
Sample of Questionnaire Coding Sheet: Question 1 – Research Participants Role	70

List of Abbreviations and Symbols

SPSS	Statistical Package for Social Sciences
BUSE	Bindura University of Science Education
NAAZ	National Athletics Association of Zimbabwe
ZOC	Zimbabwe Olympic Committee
NASH	National Association of Secondary School Heads
ATS	Association of Trust Schools

Glossary

Scientific protocols – evidence-based assessments applied in sports as a measure to select individuals with the greatest potential to thrive in a specific sport code

Talent identification – systematic selection of individuals that show potential in a specific sport code

CHAPTER 1:

The Problem and Its Setting

1. Chapter 1

1.1 Introduction

Talent identification in sports is critical in the long-term development program of athletes and is a key determinant factor in mapping a pathway that feeds into long term podium finish by athletes in various sporting codes including track sprints. This is done through carefully structured programs that pick out athletes with the greatest potential at early ages and directly structure athletic development programs to further potentiate their gifts (Baker et al., 2020). Important considerations during the process are the aspect of the child's current level of fitness, biological and maturation. A practical approach to talent identification following scientific protocols ensures that the tests are valid and conducted over periods taking into account the growth aspect of the athletes. Chapter 1 of this dissertation highlights the Background to the Study, Statement of the Problem, Research Questions, Research Objectives, Significance of the Study, Delimitations of the Study, Limitations of the Study, and Definition of Terms.

1.2 Background of the study

(Till & Baker, 2020a) assets that talent identification is the various processes and approaches adopted in sports by coaches and sports practitioners where they recognize athletes and sports enthusiast with tangible attributes for sports performance at a young age in view of podium finish in the long run. The researcher recognizes the need for coaches to understand the science of exercise and the knowledge of maturation in young participants. (Button et al., 2005) suggested that talent identification is a complex dynamic system in which future behaviors such as psychological behaviors, motor skills, and physical characteristics are assessed. The correct development of a future sports performance driven program that aligns with the general demands of a sprinter profile is critical as that addresses the key performance indicators for the athlete. A scientific approach to talent identification is a more objective method as it yields data that can be validated and evaluated against normative data to increase the chances of efficacy of the study. As such the use of the traditional approach in talent identification alone in modern-day sports does not yield the best results. Coaches would rely on their experience and use the coach's eye to identify athletes who they thought would exhibit outstanding abilities on the track (Alayode et al., 2014). The traditional approach in some instances can yield successful sprinters, however, it can also cause biases, variability in evaluations as well as overlooking athletes with raw potential. Incorporating scientific protocols in the talent identification of sprinters aims to provide a traceable, reliable, and accurate data-driven approach to determining outcomes. (Shavinina, 2012) suggested that there are elements that

must be considered for talent identification to be objective and to yield results and these are, clear goal setting, systematic objective selection considerations and good assessment practices. The application of scientific protocols in talent identifications allows for the accurate measurement and evaluation of fundamental capacity abilities such as aerobic capacity, anaerobic power, muscle strength, body composition, and sprint-specific energy system characteristics. These tests provide a valid basis that can be used to assist in identifying athletes with the genetic potential for sprinting success.

According to Zimbabwe Olympic Committee (2024), the 200m track National record of 20:12 for Zimbabwe had been standing for 20 years and was set by Brian Dzingai a former Elite sprinter in the year 2004 until it was broken in April 2024 by Tapiwa Makarawu setting the new record to 19:93. The first Zimbabwean athlete Tapiwa Makarawu to run sub 20 seconds in the history of the sport in Zimbabwe. From studies by (Till & Baker, 2020, it is deduced that more talent is missed from the long-term athlete development program when coaches rely on natural talent identification methods. It is important to implement a hybrid program to talent identification as it covers grey areas concerning objectivity, efficiency, and selection criteria for identification. According to (World Athletics, 2024) there are 36 athletes in Africa from the period starting January 1 1900 to date that have run sub 10 seconds in the 100m and Zimbabwe has only 2 Athletes Ngonidzashe Makusha who ran 9.89seconds in 2011 and Gabriel Mvumvure who ran 9:98seconds in 2013 both athletes were based in United States of America at the time.

According to (World Athletics, 2024) official records state the United States of America has 65 athletes that have run sub 10 seconds in the 100m sprint from the period January 1 1900 to date. South Africa has 7 athletes that have run sub 10 seconds in the 100m sprint from the same period. The researcher as a sprints and hurdles World Athletics Level II certified coach has noted that there is a gap between the scientific approach to talent identification being adopted globally and what coaches and sports practitioners are doing on the ground in Harare schools.

Adoption of scientific talent identification protocols such as the snapshot approach, long term approach, anthropometry, physical performance, and consideration of maturation as a critical aspect of talent identification have an impact on the overall athlete performance. This approach directly feeds into the podium finish trajectory and once established can be replicated and yield recurring podium finish as what other nations have been able to achieve. Correct talent identification programs should be able to detect factors affecting athletic performance in

competitive sports and predict the potential for future performance (Crespo & McInerney, 2006).

Scientific protocols in talent identification require a basic understanding of sports science and its underlying training principles. The researcher noted that there are coaches that have a sports science background in most development structures in Harare but there is little application of the scientific protocols when it comes to talent identification. Coaches mostly rely on the coach's eye and cross-sectional results viewpoint as a basis for identification into development programs.

(Alayode et al., 2014) suggested that modern approaches to talent identification have a weakness of excluding the intangible attributes of talent in sports such as social aspects required for athlete development. Therefore, the two natural and scientific methods should be adopted during talent identification to achieve the set goals.

1.3 Statement of the problem

Developed countries and other nations that have been applying scientific protocols in talent identification have been having more podium finishes in sprint competitions. The researcher noted that the talent identification process in track sprints in Harare schools currently lacks application of standard scientific protocols. This inhibits the maximal talent identification potential among young athletes. The current system of talent identification is mostly a natural practice based on the coach's eye and exhibits a lack of sports science evidence-based practices and standardized procedures. Some of the problems caused by the current approach include concerns about fairness, accuracy, effectiveness of the talent identification process, potential to miss out on talent, low athlete retention, potential risk to injury, lack of alignment with Global trends, lack of potential for National Development programs and suboptimal development pathways and suboptimal results at competitions.

1.4 Significance of the study

The execution of this study will ensure the appreciation of a hybrid approach to the application of scientific protocols in talent identification by coaches and sports practitioners. The findings from the study shall help all stakeholders in the long-term athlete development pathway. Correct programming and execution of talent identification in Harare schools will help in identifying untapped potential, improve accuracy and objectivity, and optimize athlete development as well as resource allocation. This study will equip the coaches and sports

practitioners and potentiate their capacity to correctly identify and develop the next top sprint athlete in Harare schools and represent globally.

1.5 Research questions

1.5.1 Primary Questions

The impact of implementing scientific protocols in Talent Identification for track sprinters in Harare schools

1.5.2 Sub-questions

How far have scientific protocols been adopted in the Talent Identification of track sprinters in Harare Schools

Why Harare schools are using the methods they are using for Talent Identification in track sprints

What scientific protocols can be used to improve Talent Identification in track sprinters in Harare Schools?

1.6 Research Objectives

1.6.1 Main Objective

To investigate the impact of implementing scientific protocols in talent identification for track sprinters in Harare schools.

1.6.2 Sub Objectives

To investigate whether schools in Harare have incorporated scientific protocols in their talent identification programs for track sprinters.

To determine and understand the rationale behind the methods and approaches employed by schools in Harare for talent identification in track sprints.

To identify and propose specific scientific protocols that can improve the talent identification process for track sprinters in Harare Schools.

1.7 Delimitation of the study

The research was delimitated to Harare schools which comprised Government Secondary Schools, Association of Trust Schools (ATS), and independent schools. The universal independent board that governs the sport at this level is the National Association for Secondary

School Heads Zimbabwe (NASH). The researcher conducted the study in the Harare province which is the hub of sprints in the country and home to the schools that have had the greatest success in sprints development programs. Harare also houses the National Sports Stadium tartan track which is one of the only 2 standard tartan tracks constructed and homologated when Zimbabwe hosted the 6th All Africa Games in 1995 and where most national competitions are held.

The study is focused on the impact of scientific protocols in talent identification in track sprints in Harare Schools.

1.8 Study Outline

This section gives an outline of the research while providing the structure and organization of work throughout the study. The structure is as follows:

1.1 Introduction
1.2 Background to the study
1.3 Statement of the Problem
1.4 Significance of the study
1.5 Research questions
1.6 Research objectives
1.7 Delimitation of the study
1.8 Study outline
1.9 Summary of chapter
2.0 Literature review
2.1 Introduction
2.2 Conceptualization
2.3 Theoretical review
2.4 Thematic Review
2. 5 Conclusion
2.6 Chapter Summary
3.0 Materials and Methods
3.1 Introduction
3.2 Research approach
3.3 Time horizons

3.4 Research design

3.5 Population sampling

3.5.1 Population

3.5.2 Sampling

3.6 Data collection procedures

3.7 Validity and reliability

3.8 Ethical considerations

3.9 Chapter Summary

4.0 Data analysis and presentation

4.1 Introduction

4.2 Response Rate

4.3 Demographic data

4.4 Presentation and analysis of data linked to the research objectives

4.5 Chapter Summary

5.0 Summary, conclusions, and recommendations

5.1 Introduction

5.2 Summary of major findings

5.3 Conclusions

5.4 Limitations of the study

5.5 Implications/Recommendations

5.5.1 Implications for Practice

5.5.2 Implications for Theory

5.5.3 Implications for future research

5.6 Chapter Summary

1.9 Summary of chapter

Chapter 1 provides an overview of the concept of the impact of application of scientific protocols in talent identification for track sprinters in Harare schools. It highlights the background of the study, the significance of the study, the research questions, and the research objectives. This chapter serves as the introduction to the literature review chapter to be discussed in Chapter 2.

CHAPTER 2:

Literature Review

2 Chapter 2: Literature Review

2.1 Introduction

Talent identification is a broad area of study that has been under examination by many scholars. The literature available covers a wide variety of studies, this literature review will focus on the following major concepts: scientific protocols in talent identification used in Harare Schools, talent identification in sports, and the impact of scientific protocols on talent identification in Harare Schools.

2.2 Conceptualization

2.2.1 Scientific Tests conducted in talent identification

(Alayode et al., 2014) suggested that talent identification is a combination of systematically developed ability, which they called competencies. These are comprised of knowledge and skills in at least one area of human physical activity. To be able to stand out and be functionally categorized as possessing these competencies there is a need to carry out certain types of designed tests to evaluate and compare findings against the performances of others in that same test. The identified athletes are said to have inherent physical and mental capabilities for a given sport. Scientific tests should therefore have a high level of reliability and validity which helps in the efficacy of the program in the long run. Peltola et al. (2008) noted that individual sports are best suited to talent identification and selection processes as they have specific physical and physiological demands. As such a coach can evaluate these attributes and based on experience and normative data can be able to deduce a forecast trajectory of potential pathway for the athlete. Scientific protocols combine tests with the observations of expert coaches to decide which athletes should progress toward more advanced training. Considerations that should be made include physical, physiological, neurological, psychological, genetic, biological maturation, and socio-factors. There should be more emphasis on the accuracy of the measurements and tests that are to be conducted as well as appropriateness for the age groups being tested. The concept of scientific protocols has two broad categories, anthropometry and physical/physiological capacity evaluation. The administration of scientific protocols can be in a phased approach where evaluations are classified into entry-level base tests and follow-up more complex tests. Peltola et al. (2008) suggests the types of initial tests may include: body shape (which is a measure of height, sitting height, arm span, body mass), speed (a measure of distance per unit time over 40m sprint), upper body power (a measure of strength capacity from a seated medicine ball throw), lower

body power (a measure of the strength output during vertical jump), over arm throwing ability (a measure of standing ball throw) and endurance (a measure of repeated cycles of physical exertion through 20m shuttle run). Follow-up tests will focus on other functional elements such as coordination and overall behavior. The tests may include more specific tests such as body shape measurements, speed, reactive ability, and age at the peak height velocity. Application of scientific protocols enhances the chances of objectively identifying the correct talent efficiently and preparing for a positive development outcome.

2.2.2 Talent identification processes in sports

(Till & Baker, 2020a) suggested that insights to talent identification is driven by input directly from coaches, and sports practitioners who must align with the principles of the talent identification model of the organization and conform to the values of the program. Modern-day models of talent identification are a hybrid practice of both traditional approaches backed by objective scientific principles and protocols. Peltola et al. (2008) noted that the success of a talent identification program is directly linked to the associated talent development program. As such every talent identification program should be as close as possible to being efficient to achieve a podium finish post-athlete development. (Gray & Plucker, 2010) suggested that economically all professional sports industries depend podium finish driven by correct talent detection, talent identification, talent development and talent transfer processes hence the greatest need to have a functional and efficient talent identification program. (Susanto et al., 2023) noted that the application of sports science is used as a guide in predicting the maximum potential of athletes. There are various viewpoints on talent identification and these include the cross-section approach, longitudinal approach, expert analysis, measurements, and tests. Talent identification programs can start in schools, sports clubs and community centers. (Susanto et al., 2023) suggest that talent identification in athletics should take place between 12-15 years and this the form 1-2 stage our Zimbabwe Education system. (Alayode et al., 2014) suggest a multi approach to talent identification as well which they call the Clone Method. This approach is similar to the approach suggested by (Till & Baker, 2020a) who recognize that sports talent is comprised of various components that make it stand out as the one of the most important aspects of sports development and preparation for podium finish. The Clone method provides a valid and verifiable system that sports practitioners can adopt to create a database of normative data sets which can be referenced for future development programs.

2.2.3 The impact of implementing scientific tests on talent identification

(Susanto et al., 2023) In a sample study of randomly sampled Children from Indonesia, a population of 507 children from two different cities Salatiga City and Lombok City were tested using scientific protocols the results show that 17 children in the very talented category, 30 children talented, 91 children moderately gifted and 349 under-talented. The study aimed to predict talent in children between the ages of 12 and 15 years. Findings from the research showed that the use of scientific protocols in talent identification can predict the athletic level in children ages 12-15 years old. The talent identification model in Indonesia has drawn good results such as Zohri from Lombok City who won bronze at the Junior World Championship at the Osaka Grand Prix with a National Record time of 10.03 seconds. Evaluation tests should be carefully selected in line with the age of the athletes and the demands of athletics. According to (Susanto et al., 2023) the experts used anthropometric indicators and athletes' physical abilities. The anthropometric indicators taken included a height test, weight test, arm span test, and leg length test. The physical indicators taken included a sit and reach test, standing broad jump test, 40m sprint test, 10-second step frequency test, spoken test (medicine ball 3kg for girls) 4kg for boys, and 800m test for endurance. Careful consideration when interpreting results is critical and this includes evaluation of maturation level, gender, and motor skills acquisition from the training age of the child.

2.3 Theoretical review

There are various viewpoints regarding the concept of talent identification in sports and the approach to conducting the process. Scholars have devised approaches pertinent to talent identification and track sprinting which are being adopted and used today in various settings. This review explores the different models in talent identification, the criteria used, and the impact of scientific protocols in talent identification as well as the likelihood of efficacy of those programs in Harare Schools for a sprinters program.

One school of thought regarding talent identification is called the long-term athlete development program. (Lloyd et al., n.d.) noted that long-term athlete development's main goal is to provide a structured approach to training and identifying the youth. This results in maximizing sports talent while ensuring that youth of all ages and abilities are provided with a strategic plan for the development of their health and physical fitness and reduce the risk of sport and activity-related injuries to ensure longevity in the sport and general well-being. (*LTAD_EN*, n.d.) stated that The Long-Term Terms Athlete Development (LTAD) model is a

framework for an optimal training, competition, and recovery schedule for each stage of athletic development. The main goal of the framework is to maximize athletic potential for podium finish at elite levels and possibly setting new records. This model has been integrated through the school's system to allow for a smooth process by uniquely positioning and capacitating the practitioners in the school's system to carefully and accurately identify talent in natural school settings while being part of the day-to-day program. Adoption of such in Harare schools ensures that athletes are correctly identified at the appropriate age and prevents early specialization as well as late identification for specialized development. Careful integration of this approach to talent identification in Harare schools would help to improve talent identification in sprints and the potential to maximize performance in those athletes towards podium finish in the future.

According to (Zhao et al., 2019) competing in elite sports requires a specific set of performance skills above the average skillsets of the other competing athletes. The viewpoint regarding talent identification programs is varied from one scholar to another. However, the underlying perspective is that elite sports schools' talent identification programs are based on motor diagnostics to recommend potential talents for further development programs toward podium finish. The researcher views that in track sprints in Harare schools, this idea of incorporating tests to identify talent could be an effective pathway towards progressive podium finish in the future in either 60m, 100m, 200m, or 400m and sprint relays. The scholar in his study assessed physical capacities required for a sprinters efficient talent identification program matching the specific demands of an elite sprinter. The researcher views that talent identification will have a high rate of success at Harare schools and academies if they start to build the Unique Athlete Profile which can be used as a normative data standard or baseline to evaluate new athletes. An understanding of sports science ensures the program coordinators create a critical and valid test battery that is suitable for the athletes and follows the principles of training to ensure accurate results. Other scholars (Meylan et al., 2010) are against this school of thought of talent identification. The researcher however, subscribes to the use of scientific protocols in talent identification as one of the potential drivers for improving track sprints in Harare schools. (Zhao et al., 2019) purports that reliable and valid information regarding the potential athletes in sports like track sprints based on scientific protocols very important tool in sprinters identification programs. The scholar completed an evaluative test battery on a group of athletes comprising of the following: five physiological evaluations, eighteen morphological evaluations, and two motor tests all being administered by a sports science expert and trained

staff only. These tests were conducted during one day in two settings, field tests and laboratory tests after taking one day off all forms of training as part of the recovery and test preparation protocol. The scholars recommended morphological evaluations where, a measure of body height (BH), sitting height (SH) to the nearest 0.1cm measured using a height measure, arm span (AS), arm length (AL), leg length (LL), lower leg length (LLL), shoulder width (SW), crista width (CW) to the nearest 0.1cm, chest girth (CHG), calf girth (CAG), waist girth (WG), thigh circumference (TC), ankle circumference (AC) to the nearest 0.1cm using a circumference ruler to the nearest 0.1cm, subscapular angle (SA) to the nearest 1.0 degree using protractor, abdomen skinfold thickness (AST), upper arm skinfold thickness (UAST) to the nearest 0.1cm using skinfold caliper and body weight to the nearest 0.1kg. The tests were conducted in line with standardized test prescriptions (Hawes and Martin, 2001; Steward et al., 2011). The researcher proposes to carry out the following tests at Harare schools: body composition to assess the athlete's body fat percentage, muscle mass, and lean body mass which is an influence in sprinting performance, body segment lengths and proportion, length and ratios of leg length, arm length, and standing height while taking into consideration maturation and training age when evaluating findings.

(Zhao et al., 2019) noted the need to evaluate the following physiological tests such as resting heart rate (bpm), vital capacity (ml), blood pressure (systolic), and blood pressure (diastolic). The researcher suggests the following tests anaerobic power and capacity to assess the ability to perform repeated endurance efforts using the Wingate anaerobic test. VO2 Max which indicates an athlete's aerobic capacity and endurance potential will be tested using the 2.5km run test or the 12-minute Cooper test while taking into consideration maturation and training age when evaluating findings.

The other protocol to be evaluated is the sprint performance test. This is an event specific to the sprinter's program to be identified in Harare schools. The test is conducted using a track marked track. Assessing sprint performance is done by simulating the building blocks for speed as capacity evaluators. Marked 30m and 40m intervals are used to assess the athlete's acceleration and top-end speed measured by hand time, factoring in reaction time. Flying sprints are also used to assess maximal sprinting speed over a specific distance starting with 60m and evaluating the time taken to cover the full distance after reaching top-end speed. Standing starts are also assessed to evaluate the possessed explosive strength and acceleration from a stationary position over a marked distance of 10m and 20m. These tests indicate the athletes that possess raw sprint capacity and speed compared to the athletic profile data and the

performance of the other athletes present while taking into consideration maturation and training age when evaluating findings.

The other domain that is assessed is psychological evaluation. These are carried out as measures of motivation, self-confidence, comprehension, and potential coachability. Mental skills such as concentration, focus, and coping strategies are critical as they show the athlete's potential for development and improvement while taking into consideration maturation and training age when evaluating findings.

(Bezodis et al., 2019) suggest that kinematic analysis is an important driver in regards to talent identification programing as it displays the motion and running evaluation of the athletes against normative data in sprinting as well as providing evidence regarding coordination factors as they are functionally linked to satisfying the demands of sprinting. Basic cues to be assessed at this level include center of mass, arm swing, opposite arm-opposite leg coordination, ground contact, shin angle, stride length, and stride frequency.

According to (Baker et al., 2020) it is founded from scientific data collected that long term and nonlinear approach to talent identification are the foundations to a successful elite athlete development program for future podium performance. This viewpoint highlights the impact the scientific protocols may have in identifying athletes for future development programs and potentially reaching podium finish in the future. The correct adoption of scientifically proven protocols and test procedures in Harare schools will help to achieve positive results in identifying sprinters with future podium finish potential. Program efficacy can be improved by taking into consideration the skeletal maturation of individual athletes in the same annual chronological age groups. (Cumming et al., 2022) allude that for an efficient athlete talent identification and development program the fundamental aspects of data collection, standardization and safe storage of capacity identification data is critical for continuous implementation in future development programs and their evaluation. The researcher aligns with the scholar's viewpoint as it will direct talent identification in a structured and individualized practice aligning with the scientific principles of training to be specific and individualize programming to specific characteristics of the athlete group. It is recommended that primary assessment of the athlete's group before evaluation is important to correctly categorize and program a suitable test battery will ensure high test efficacy for future podium finish in sprints.

2.4 Thematic review.

2.4.1 The Impact of Adoption of Scientific Protocols in Talent Identification of Track Sprinters in Harare Schools.

According to (Stricker and Goldfried, 2019) the application of sports science is an important aspect of performance analysis and continues to bring about new views and understanding of efficient capacity identification and development parameters for new levels of performance leading to new world records being achieved in modern-day sport. The researcher notes that Harare Schools could benefit from the adoption of the use of scientific protocols in talent identification taking into consideration adherence to training principles as well as observing maturation differences among a group of athletes. Science therefore bridges the gap left out by the natural selection process popularly known as the coaches' eye. This helps to promote the efficacy of the talent programs by incorporating objective and subjective processes in the identification programs. The recommended scientific protocols include the following: sprint performance tests, physiological tests, biomechanical analysis, anthropometric measurements, and psychological assessments. Adoption of these tests should be enforced by trained personnel and sports science practitioners as well as under the care of safeguarding officers. Guided scientific protocols provide a basis for reliability and validity if conducted correctly. Talent identification process is not a one-day once-off occurrence as many factors contribute to athletic performance and these must be carefully observed over a quantified period and continuously be evaluated. Key aspects for consideration are the longitudinal approach allowing evaluation of adaptation and maturation domains and, the periodization of programs aligning to principles of training. For consideration are the challenges faced by Harare Schools inhibiting the adoption of scientific protocols in their schools. These include limited resources, lack of expertise to execute the evaluations, lack of expertise to interpret the findings from the evaluations, and ethical considerations, especially in line with safeguarding the athletes. Leveraging on research findings from other programs and other sports codes can have a fundamental effect in adding value to the adoption process into the Harare schools track sprinters program.

2.4.2 Factors Influencing the impact of Talent Identification Methods in Harare Schools for Track Sprints

(Xiang et al., 2022) asset that talent identification is a complex multidimensional process and is affected by multidimensional factors. These include the following: physical capacities for

sprinters, height and weight for sprinters, motor ability index, anthropometric measurements, psychological factors which include mentality maturation level, coping strategies, mastery orientation, coaches knowledge (expert level), interpersonal skills, social, environmental and cultural factors which include, schools policy and system, family support, what the schools culture is like about talent identification as well as the school's atmosphere about sprint events. These aspects determine how schools in Harare adopt scientific protocols in their talent identification programs, for instance, a coach who might have had a successful case of athlete podium finish through a coach's eye model might be resistant to adopting a hybrid approach to future talent identification. Lack of qualified personnel to accurately conduct science-based evaluations as well as interpret the findings may also determine how the school ends up identifying talent for prints. Availability of precedence and data findings and storage of previous experience and program results also affect the adoption of science-based talent identification programs. Lack of resources including, budget, facilities, equipment, and personnel is also a factor for the adoption of scientific protocols in the talent identification of track sprinters in Harare. Harare schools need to address the factors by setting aside budgets to address socio-cultural factors or seek donations and sponsorship to support the project. There is a need to set a clear school policy that addresses the socio-cultural factors about sports and sprints at the school and be able to enforce it through the teachers, coaches, and sports practitioners. Schools need to access the services of experts in the field of sprints to train and empower their staff as well as their athletes as part of the intrinsic motivation strategy. Another approach is to activate research and data storage of programs in schools and be able to reference back to research data and create an iconic baseline athlete profile as part of the normative baseline data identifier. Schools need to address ethical considerations and safeguarding in the sport and ensure a clean, safe, fair, all-inclusive and ensure the welfare of the athletes at all times throughout the program.

2.4.3 Scientific protocols for enhancing talent identification in track sprinters in Harare schools

According to (Cumming et al., 2022) the following track sprint scientific protocols have been recommended for evaluation: physiological test, sprint performance tests, biomechanical analysis, anthropometric measurements, psychological assessments, and the coach's knowledge. Sports science guiding principles should be adopted during the execution of tests and assessment of data findings and all times to ensure high efficacy rates from the program. (Zhao et al., 2019) suggest that tests should be conducted under a present environment and

conditions that are matched for all the athletes in the program to avoid unfair advantage from other factors such as environmental and social. The test battery should be evaluated by an expert for its validity and objectivity in line with what it is intended to achieve. The basic list of tools and equipment that can be used includes but is not limited to a hand stopwatch or timing gate to assess time, ground tape for marking track, track or flat compacted surface with no loose pebbles with marked track lines, cones, measuring tape, handgun or signaler, video recording device (phone), body composition scale or ordinary scale, jump ropes, long jump pad, high jump mat, body measuring tape, circumference tape, height measure tape, skin fold calipers, notepads, whistle, water provision, shed, bandages, heat rub, and angle measures (phone goniometer).

2.5 Conclusion

In line with the available literature, the researcher has noted that there exist potential gaps in the findings when it comes to the impact of adopting scientific protocols in track sprints in Harare Schools for future anticipation of a podium finish through various development programs. Talent is lost when only the coach's eye is used to identify talent as such the use of science provides the needed balance to add objectivity to talent identification programs and increase chances of efficacy. The proposed scientific protocols in this research are mostly field tests and do not require expensive equipment or highly skilled personnel to execute but must be oriented on the protocols to achieve quality results and deduce correct interpretation from the findings. It has been noted that schools in Zimbabwe do not collect the suggested data from the athletes in their programs for evaluation and progressive assessment but largely focus on the cross-sectional competition results. This approach is widely discredited as it oversights critical insights into talent identification efficacy toward future podium finish.

2.6 Summary of the chapter

The researcher reviewed the literature and viewpoints from various scholars on the impact of scientific protocols in talent identifications and the efficacy of talent identification in modern track sprints in line with recommendations for adoption in Harare schools' programs. In Chapter 3 the researcher would explore and delve into how data was collected and analyzed for deduction of recommendation on answering the research questions.

Bindura University
of Science Education

The Impact Of Implementing Scientific Protocols In Talent Identification For Track Sprints In Harare Schools

CHAPTER 3:

Materials and Methods

3 Chapter 3: Materials and Methods

3.1 Introduction

Chapter 3 is an overview of the research approach, time horizon, research design, population, sampling procedures, data collection procedures, data analysis, data presentation, validity and reliability of research methods used as well as the ethical considerations in line with the impact of implementing scientific protocols in talent identification for track sprinters in Harare Schools. A combined approach considering the nature of the research resulted in the adoption of a mixed-method research approach. This helped to cover the various forms of data collected during the research and during data analysis.

3.2 Research Method

3.2.1 Mixed Methods Approach

This approach enjoys the benefits and advantages of both methods of research data sets, quantitative and qualitative data sets and interpretation is done within the same study (Morales-Sánchez et al., 2020). Integrating qualitative and quantitative approaches to the same research increases the value and depth of the research insights. Structured observation on the talent identification for track sprints programs by Harare schools who integrated qualitative and quantitative practices for the schools' programs encouraged the mixed method research approach.

The nature of the data collected and processed include quantitative questionnaires that were administered to coaches, sports science practitioners and off-field program administrators to assess the implementation of scientific protocols, perceived impact on talent identification, changes in performance drivers, and overall satisfaction with the evaluation test batteries. The collected data from this method can be evaluated using a statistical technique called Statistical Package for Social Sciences (SPSS). The researcher developed the questionnaire under the guidance of the World Athletes Coaching program for sprints and hurdles as well as training principles adherence assessment in sports science. A screening test was designed by the researcher to ensure that there is a selection of the right coaches and sports science practitioners for further research in the main study. The researcher used physical capacity development knowledge such as evaluations of speed over 30m and 40m, agility tests, shuttle runs, and standing long jump tests for power. Knowledge of performance assessment followed which is when the researcher is involved in a holistic evaluation of the coach’s overall level of expertise.

This included knowledge of anthropometric measurements, sprint performance evaluations, physiological evaluations, maturation evaluations, and psychological evaluations. Based on the findings the researcher made deductions and recommendations for the follow-up programs to the next chapter after the talent identification stage which is talent selection and development.

The other subset of data researched is qualitative evaluation of findings by the coaches on scientific protocols in talent identification for track sprinters in Harare Schools. The researcher collected the findings based on the tests conducted by coaches to evaluate the sprinter's performance on the track over a distance measured per unit of time taken using a stopwatch, athletes sprinting tests for acceleration 10m, 20m, 30m, 60m, 100m dash, and the rest of the sprint events on track. Biomechanical analysis of the execution of physical exertion as well as physiological parameters which include, heart rate are collected. Sprinter performance data is compared on instances before and after the implementation of scientific protocols to determine the efficacy of the adopted programs. The researcher collected data from the various coaches' and administrators who use and have an appreciation of sports science and its applications. The data collected was analyzed using NVivo to explore the patterns and themes in the data.

This assessment of programs executed by Harare Schools is focused on improving the efficacy of the talent identification programs as well as increasing the chances of future podium performance. The use of the mixed method approach ensured that the researcher was able to collect big data on the talent identification project with specific emphasis on the implementation of scientific protocols in track sprints in Harare schools.

3.3 Time Horizons

3.3.1 Cross-Sectional

According to (Davis et al., 2021) cross-sectional approach is an efficient method of conducting research but must follow ethical considerations and agreed terms of conduct among the participants and researcher. Athletics is a seasonal sport code in Harare schools and is allocated for the government calendar first term hence the justification of choice for the approach as the most suitable. Collecting data from coaches in multiple schools simultaneously, the researcher gained a broad understanding of the current status quo and was able to identify similar trends as well as gain results from the same activity threshold for the athletes as all schools are in the same season. The researcher also used the snapshot approach considering the cost and time efficiency that is achieved from the approach. Collecting the data at a single point from the

National Sports Stadium B track Arena made it quicker to conduct and analyze the data and also since the researcher was self-funding the research this approach was within the available budget set aside for the research. This was the most feasible and viable approach. This cross-sectional study served as a baseline study for the evaluation of the impact of implementing scientific protocols. It provided a starting point for future research and evaluation on the impact of the protocols adopted and in line with sprinters' performance as well as podium finish in the future. This approach was used by the researcher as it provided for a mutual platform to compare associations between the datasets and variables of different schools over the same period and this provided immediate data parameters related to the scientific protocols effect in talent identification programs in Harare schools.

3.4 Research design

(Fetters, 2020) suggest that the integration of mixed methods research design ensures that the research will be provide a more wholistic perspective to talent identification that is attained from using one method of research. Thus, the researcher adopted mixed-method research in assessing the impact of implementing scientific protocols in talent identification for track sprinters in Harare schools.

The researcher used the following approach to conduct the research in the Harare Province Schools:

Prepared research questions for structured interviews and questionnaires. The domain themes of the questions for the coaches and administrators include, the scientific protocols in talent identification, evaluations of the results, feasibility of adoption of the protocols, resources, technical expertise, and the influence of the stakeholders.

The quantitative phase was for the collection of numerical data to assess the extent to which coaches and sports science practitioners are using scientific protocols in talent identification in track sprints in Harare Schools. An assessment of the objective outcomes from the proposed scientific protocols and the adoption of the protocols in the mainstream talent identification program for track sprints at the schools. Data collected included: numbers of coaches using performance indicators (speed of athletes of different distances, endurance), biomechanical analysis of execution, and anthropometric measurements in talent identification.

The qualitative phase was conducted to collect data sets that explored subjective responses, experiences, viewpoints, emotions, and personal insights related to the impact of scientific protocols in talent identification in track sprints in Harare Schools. Data was collected through structured interviews.

The data integration stage was conducted to consolidate the 2 data sets during the analysis phase. The methodological triangulation concept was used to compare and contrast, identify, converge, and diverge the patterns from the research findings. An overall understanding of the impact of implementing the scientific protocols on track sprints was attained.

Data interpretation and reporting on the data collected from all the phases provided the researcher with a better oversight on the impact of successfully implementing scientific protocols in talent identification for track sprinters in Harare as well as an appreciation of the more suitable scientific protocols for adoption in schools to help improve the efficacy of the identification program.

3.5 Population and sampling

3.5.1 Population

The research on the impact of the implementation of scientific protocols in Talent identification for track sprinters was confined to secondary schools in Harare. Harare schools are categorized into 6 school districts namely, Glenview-Mufakose, High Glen, Mabvuku-Tafara, Mbare-Hatfield, North Central, and Warren Park-Malbereign. The research population was 208 schools represented in the geographic 6 school districts mentioned above.

3.5.2 Sampling

3.5.3 Qualitative sampling

(Shaheen et al., 2018)stated that those individuals that will take part in the study greatly depends on what the study is about and what it will be used for and this is determined by the researcher on what criteria they will adopt so as to get the most out of the research. The researcher used this method because of the flexibility it gives while maintaining the reliability and generalization of the findings. Achieving valid and credible results relies on the researcher's articulation of the research process, use and efficient data collection and interpretation system (Lowenberg 1993; Sandelowski, 1995). Nonprobability sampling was adopted within this method as it is quick and inexpensive and does not require a complete

survey frame. The researcher chose this method because of the advantages such as the capacity to acquire detailed descriptions of participants by the coaches in the schools under investigations, feelings, opinions, and experiences from the athletes, and interpretations of meanings of their actions. This method also captures the researcher's capacity to interact directly with the participants. However, there are disadvantages to the method but with careful consideration and insight into how to solve them, the researcher managed to benefit from the qualitative method instead. The research subjects included coaches, administrators and sports science practitioners.

3.5.4 Purposive sampling

(Shukla, 2023) suggest that the researcher selects subjects for the sample by critical and logical thinking without applying any statistical or other techniques. The use of own decision power for selecting a sample can represent a population effectively while making sure there is careful consideration and reflection of the mandate of the research during the selection. The researcher saw it fit the purpose of assessing the impact of implementing scientific protocols in talent identification for track sprinters in Harare schools by selecting the coaches from the identified 6 school districts in Harare. Special features of the purposive sampling method are that it can be used if the population is large as is the case of Harare schools which are categorized into 6 geographical districts in total. This makes it hard to apply probability sampling due to the varied nature of the landscape under investigation. The limited time and resource constraints made the purposive method qualify as the best technique for adoption by the researcher. However, there are limitations to this approach which the researcher carefully considered and managed throughout the research.

3.6 Data Collection Procedures

3.6.1 Pilot Study

The researcher conducted this study using the 2 phased approach. The phases adopted are the initial pilot study followed by the main study. (Polit & Beck, 2017) asset that the reason for conducting a mini version of the research is not to make any deductions but to assess the practicality of the methods chosen to conduct the research before one activates the main study. A pilot study helps to prevent the occurrence of a flawed study and loss of time and resources. The researcher conducted a small-scale study on the impact of implementing scientific

protocols in talent identification programs for track sprints by conducting interviews and administering questionnaires to 1 sprints coach and 1 sports administrator. The study indicated to the researcher the validity of the choice of data collection methods, safeguarding provision, and reliability of the responses from the research participants. It also helped the researcher to have an appreciation of the feasible duration of each examination and the appropriateness of data recording material needed as well as the requirements for evaluations of the coaches and sports practitioners. The experience and insights from the study also provided insight into the data collection tools to capture the key findings in the correct format.

3.6.2 Main Study

The researcher conducted the main study after evaluation of the findings from the pilot study. The study on the impact of the implementation of scientific protocols in talent identification for track sprinters in Harare schools required that data be collected using various methods. Forms of data collected were through structured interviews, and questionnaires for coaches, administrators, and sports science practitioners.

3.6.3 Structured Interviews

This is a form of data collection method in the form of an administrative survey that uses a fixed pre-set series of questions. The questions are carefully formulated in line with the implementation of scientific protocols in talent identification in track sprints in Harare schools to get the most insight on the matter. The scope of the technique is to ensure that the participants answer the same questions and hence findings can be assessed efficiently. The researcher determined the sample size and conducted structured interviews with the coaches, sports practitioners, and sports administrators after getting their consent to be interviewed for the research. The interviews were conducted in person at the National Sports Stadium after the coaches finished administering their training sessions, and at the offices of the administrators from the period of June 1, 2024, and July 1, 2024. The other questionnaires were administered at the National Sports Stadium (NSS) from the period June 1, 2024, and July 1, 2024.

3.6.4 Questionnaire

Sreejesh (2014) asserts that a good questionnaire provides a structured series of questions presented to respondents. The researcher programmed a questionnaire tool for use to collect data on the impact of scientific protocols in talent identification. The targeted data sets included questions on scientific protocols, success factors, limitations factors, implementation of

scientific protocols, the effectiveness of talent identification processes and an open-ended question to give recommendations as a good standard practice for questionnaires in order to get a deeper insight into the research topic. The questionnaire targeted the coaches, sports scientists, and sports administrators in Harare schools with talent identification programs for sprinters.

3.7 Data analysis and presentation

The researcher used the mixed method approach and collected two distinct data sets which required two data analysis tools. Statistical Package for the Social Sciences (SPSS) was used to analyse numerical data collected from the questionnaire administered to the coaches, administrators and sports science practitioners. The data from SPSS was presented in the form of visual graphics such as bar graphs, and tables. NVivo in this instance was used by the researcher to analyse qualitative data obtained from the coaches and practitioners. The software output was used by the researcher to describe the social phenomena in talent identification, and evaluate and deduce an overall position regarding the impact of implementing scientific protocols in talent identification for track sprinters in Harare schools.

3.8 Validity and Reliability

The researcher ensured that the research had high efficacy on validity and reliability by first ensuring that there clear setting and well-defined key constructs and variables in the area under study. these included a defined scope of scientific protocols under review, talent identification classes, outcomes, and impact measures scope. To guarantee the accuracy of the study and its practicality the researcher conducted a pilot study first to help assess if there are any grey areas of concern before conducting the main study. The researcher also used the methodological triangulation data analysis approach to help consolidate the data findings and ensure a thorough well detailed research outcome through the convergence of evidence from the various sources. Validity and reliability of the research were also achieved through peer review and expert feedback from discussions conducted by the researcher and the other practitioners and gurus in the field of sprints including mentorship discussions with a coach and lecturer from World Athletics in Sprints and Hurdles.

3.9 Ethical considerations

Ethical considerations were upheld throughout the conduct of the research. The researcher was directly guided by the Bindura University of Science Education (BUSE) regulations regarding attachment and research. The researcher also prescribed and adhered to the ethical considerations as enshrined in the Sports and Recreation Act, ethical prescriptions from the National Athletics Association of Zimbabwe (NAAZ) which is the custodian of athletics track and field sports in Zimbabwe, ethical prescriptions from the National Association of Secondary School Heads (NASH) who are the custodians of all sports at secondary school level and the prescriptions from Zimbabwe Olympic Committee (ZOC) which is the national Olympic committee representing Zimbabwe on all matters Olympic games related. Olympics Qualification and podium finish is the end goal for an efficient talent identification program to have our national athletes representing the country at the highest level in global sports. The researcher used the Researcher Introductory letter provided by Bindura University of Science and Education Department of Sport Science as a legal framework to seek permission and access to carry out the research within the various structures and interactions with stakeholders. The researcher engaged sports science practitioners, coaches, and administrators were assured of anonymity, and agreed to the terms of the research. Other considerations that the researcher noted were elements of age, gender of the coaches and sports science knowledge of the coaches.

3.10 Chapter Summary

Chapter 3 of this research focused on the Materials and Methods adopted during the investigation of the impact of implementing scientific protocols in talent identification for track sprinters in Harare schools. The chapter also serves as a guide for replicating the study and ensuring the validity and reliability of the research parameters. The researcher highlighted the target population of Harare schools, the sampling strategy, and the demographic characteristics of the schools. The chapter describes the data collection instruments adopted as well as the data collection procedures. The researcher details the data analysis techniques employed in the study for the various data sets collected, validity and reliability as well as the ethical considerations made in the research. In the next chapter 4, the researcher focuses on data analysis and presentation.

Zimbabwe University of Science Education

The Impact Of Implementing Scientific Protocols In Talent Identification For Track Sprints In Harare Schools

CHAPTER 4:

Data Analysis and Presentation

4 Chapter 4: Data Analysis and Introduction

4.1 Introduction present and discusses the response rate, demographic data and findings linked to the research objectives. The researcher collected and presented the data findings under the research guideline prescribed in the BUSE Department of Science Undergraduate Dissertation Guidelines 2023-4.

4.2 Response Rate Analysis

Table 4.1 Questionnaires Response Rate Analysis and Presentation

Number of Questionnaires Administered	Number of Questionnaires Completed and returned	Response Rate
12	12	100%

Table 4.1 shows the response rate for the questionnaire that was administered by the researcher. The researcher targeted a total of 12 respondents from 3 professional categories namely; sprints coaches, sports science practitioners and off field sports administrators. The researcher administered questionnaires to 9 sprint coaches, 2 sports administrators and 1 sports science practitioner. The overall response rate was 100% since all scheduled questionnaires were completed and returned as planned. The questionnaires response rate was 100% due to the convenience of the process used by their researcher to carry out administration during a track session where the respondents agreed to conduct the research and this was a central place for the respondents.

Table 4.2 Structured Interviews Response Rate Analysis and Presentation

Number of Scheduled Interviews	Number of Interviews Completed	Response Rate
12	12	100%

Table 4.2 shows the response rate for the structured interviews held. The researcher uses the same participants for both the interviews and questionnaires and this provides the advantage of gaining deeper insights into the research topic for a more detailed triangulation of data so as to enhance the validity and reliability of the findings. The researcher scheduled and confirmed 12 interviews and conducted 12 interviews as scheduled. This shows an overall response rate of 100%. This was also because of the strategy to capitalize on the opportunity of having the coaches at the same place as this helped to cut on time and costs associated with the research.

4.3 Demographic Data

Figure 4.1 Pie Chart Respondents Qualification Analysis

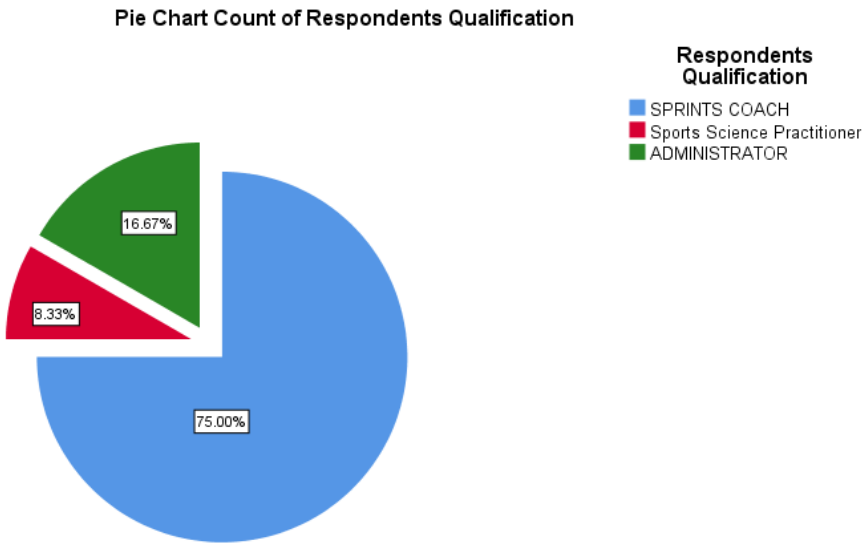


Figure 4.1 Is an analysis Pie chart Count of the respondents' qualifications. The participants analysis by qualification shows that (75%) are qualified sprints coaches who possess different coaching certification levels in track sprints. (16.67%) are off-field sports administrators while (9.33%) represent the sports science practitioner. Due to purposive sampling method used by the researcher and the nature of the research this contributed to the larger number of participants being sprints coaches and there was a need to get a deeper insight from the actual sprint's coaches on the ground with regards to implementation of scientific protocols in track sprints in schools.

Table 4.3 Analysis of Gender Norms Analysis and Presentation

Gender of the Participant					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	MALE	11	91.7	91.7	91.7
	FEMALE	1	8.3	8.3	100.0
	Total	12	100.0	100.0	

Table 4.3 shows that of the respondents in the research 91.7% are male and 8.3% representative of female. Athletics is a sport code mostly dominated by male excellence performance in Harare. This is also reflected by the statistics from this year's Team Zimbabwe to Paris Olympics which is comprised of 5 athletes in various disciplines 4 being male athletes who met the qualification criteria and 1 female athlete who was awarded a slot in the marathon code via the universality slot allocation. This also cascades down to show that there are also fewer women involved in sport development and this can be attributed to various societal reasons

such as marriage, child bearing and child care which takes away most women from sport once they start to raise families as compared to male counterparts who are less affected by those social factors. In this regard more programs should be enabled to promote inclusion and attract women to take up roles in sports development.

Figure 4.2 Pie Chart Count of Respondents Years of Experience

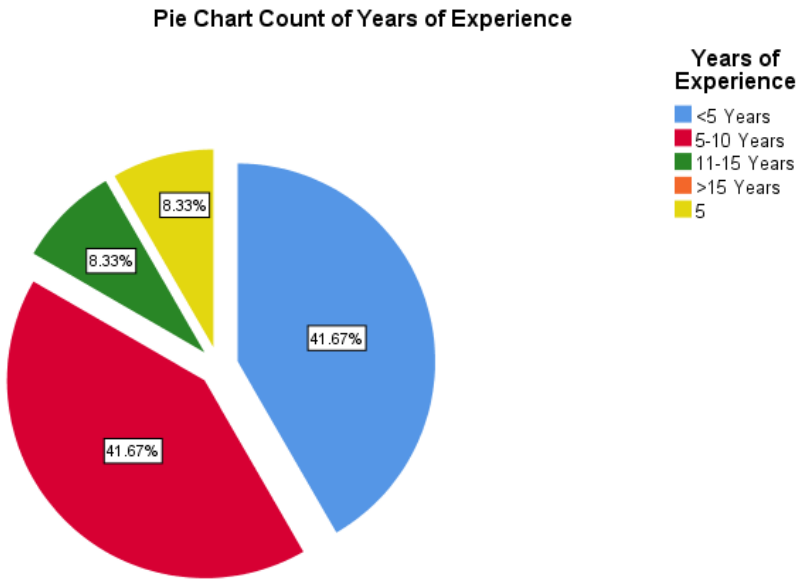


Figure 4.2 Is an analysis Pie chart Count of years of experience of the respondents. Coaching is a diverse skill that one may possess and while it can be argued that a good coach is born a good coach however, experience also plays a crucial role on shaping success on and off the track. Figure 4.2 shows that Harare has mostly young coaches who are learning the trade and getting insights through first-hand experience. It shows that (41,67%) have <5 years' experience in their role, (41,67%) possess 5-10 years' experience. This young coaching experience presented by the data can also be as a result of the massive brain drain that Zimbabwe has suffered in all other Industries where qualified personnel have left the country in search for greener pastures. As such sport as an industry has also suffered from this loss hence the resultant effect of younger coaches in the system. Figure 4.2 shows that there (8.33%) respondents with 11-15 years' experience and (8,33%) with >15 years' experience in their roles as well. The more experience respondents in the research are in the administrative roles which usually promote longevity at work.

4.4 Quantitative Presentation and analysis of data linked to the Primary Research Question

(The impact of implementing scientific protocols in Talent Identification for track sprinters in Harare schools)

Table 4.4 Quantitative Representation of an assessment of the impact of implementing scientific protocols in schools by frequency, percentage and response of the participants

Scientific Protocols Improved the Overall Talent Identification for Sprinters at Our School					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undecided	2	16.7	16.7	16.7
	Agree	5	41.7	41.7	58.3
	Strongly Agree	5	41.7	41.7	100.0
	Total	12	100.0	100.0	

The results from table 4.4 show that (41.7%) have agreed that the implementation of scientific protocols on talent identification of track sprinters in their respective institutions has enhanced their over program outcomes and adding to those (41.7%) more strongly agree with that viewpoint. (16.7%) of the respondents are of the undecided perspective to the impact of scientific protocols in the overall talent identification program quality.

The results illustrated in table 4.4 show that a high proportion of the respondents (83.4%) agree to the impact of implementing scientific protocols in their talent identification programs for sprinters at their schools. This is a long-term program and appreciation of the impact and the results is seen in the long term than rather in the immediate seasons. Only (16.7%) of the respondents are undecided on the impact of scientific protocols. This can be attributed to various reasons such as less experience or uncertainty in the field of talent identification. Globalization has contributed to the improved appreciation and uptake of scientific protocols in talent identification for track sprinters as there is now more access to content and training programs to capacitate coaches and administrators in the various scientific protocols and their implementation. Such access programs are available on streaming platforms such as YouTube where coaches share their protocols and programs, E-learning platforms such as World Athletics websites that offers courses on areas such as talent identification. This also contributes to the increased implementation of the scientific protocols in talent identification

in schools in Harare. The analysis supports that the implementation of scientific protocols in talent identification in schools in important and yields results.

Figure 4.3 Quantitative Analysis of Impact of Scientific Protocols by Respondents Qualification

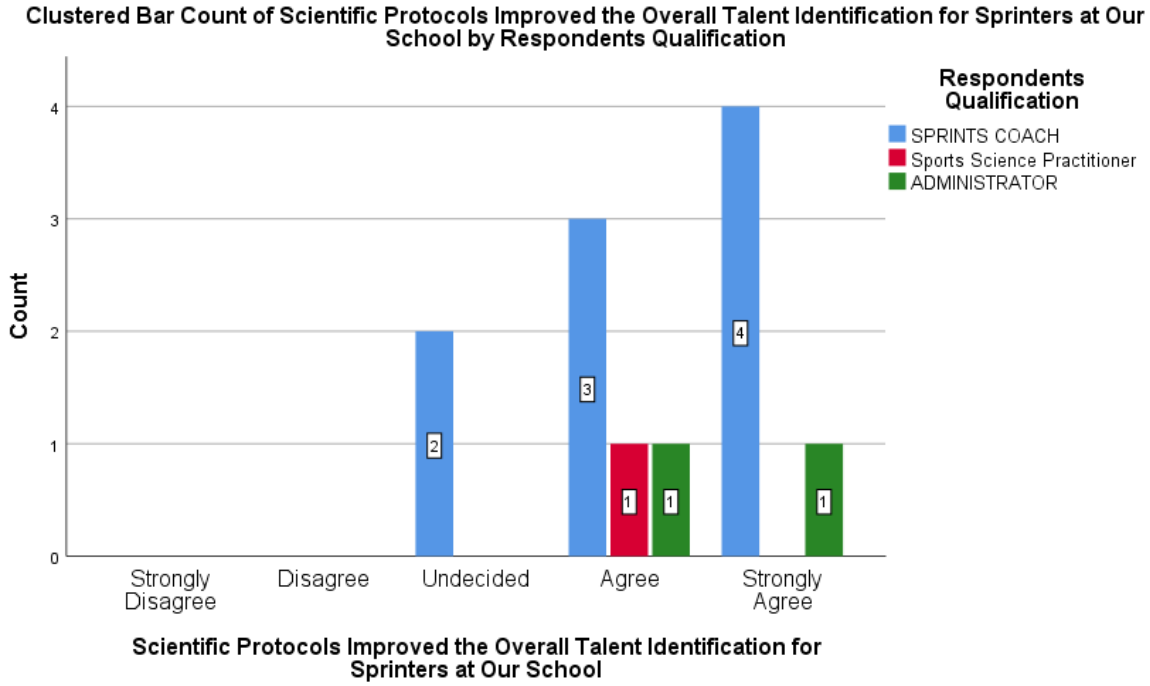


Figure 4.3 shows that there was no respondent who was disagreeable to the fact that scientific protocols if implemented correctly yields positive results for the talent identification of sprinters at their schools. However, only 2 sprints coaches are undecided regarding this viewpoint. This can be the case of a young coach with less experience who has not witnessed the long-term results or even the case of a coach who mainly only rely on traditional views to talent identification and focuses on the coach's eye only for talent identification. 3 coaches, 1 Sports Science Practitioner, 1 Administrator agree to the view that scientific protocols improved talent identification for track sprinters at their school, while 4 coaches and 1 administrator strongly agree to the same viewpoint.

4.4.1 Quantitative Presentation and analysis of data linked to the Sub Research Question 1

(How far have scientific protocols been adopted in the Talent Identification of track sprinters in Harare Schools)

Table 4.5 Quantitative Representation and assessment of the extent of use of scientific protocols for talent identification for track sprinters in schools by frequency, percentage and response of the participants

To What Extent Are Scientific Protocols Used at your school					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	1	8.3	8.3	8.3
	Slightly	1	8.3	8.3	16.7
	Moderately	4	33.3	33.3	50.0
	Very	5	41.7	41.7	91.7
	To a great extent	1	8.3	8.3	100.0
	Total	12	100.0	100.0	

The results from table 4.5 represents the view that (41.7%) of the participants very much use scientific protocols at their institution and (8.3%) greatly use the protocols as well. However, another (33.3%) also moderately uses the scientific protocols. (8.3%) slightly use the scientific protocols and (8.3%) does not use scientific protocols at all for talent identification of track sprinters at their institution.

The results from table 4.5 show that (91.6%) of the respondents actually confirm use of scientific protocols for talent identification at their schools, however at varying degrees from slightly to a great extent of use. The continuous need for performance improvements and podium finish has let to institutional appreciation of the body of sports science. Capacitation of sprint coaches in line with new trends has also led to the conceited efforts to implement sports science protocols in schools. However, (16.6%) of the respondents shows that they either slightly use scientific protocols or not at all at their institutions. This can be attributed to various factors such as social perspectives, personal beliefs in traditional approach to talent identification and lack of knowledge. Hence there is a window of opportunity to enhance the efforts to develop programs that educate and capacitate coaches in sports science-based talent identification for track sprinters.

Figure 4.4 Quantitative Representation and Analysis of the extent of use of scientific protocols for talent identification by the respondents

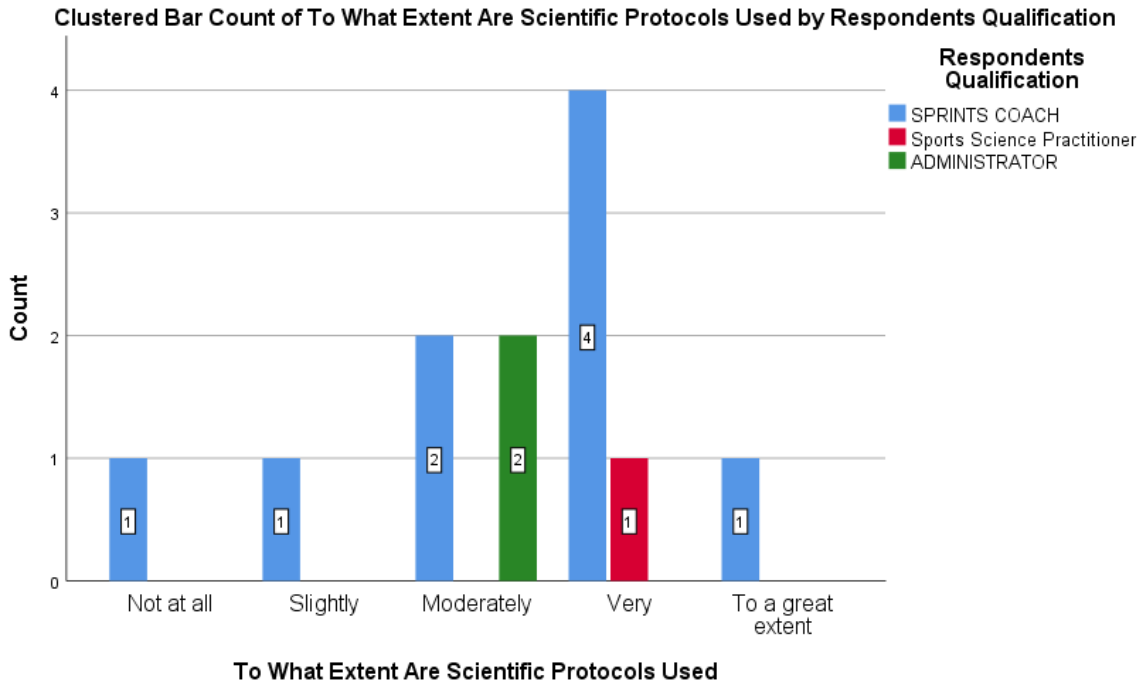


Figure 4.4 shows that 1 sprints coach does not use scientific protocols to identify talent at their school. 11 of the respondents somewhat use the scientific protocols at varying degrees from slightly to a greater extent. This is a good position as it shows that coaches are aligning to the body of science and correct development programing in schools in line with global trends. However, more should be done to potential coaches to program correctly for maximum athlete performance gains and podium finish at Global competitions.

4.4.2 Quantitative Presentation and analysis of data linked to the Sub Research Question 2

(To determine and understand the rationale behind the methods and approaches employed by schools in Harare for talent identification in track sprints)

Table 4.6 Quantitative Representation and analysis of an assessment of success factors contributing to the current talent identification programs at schools

Success Factors for TID at your school				
		Responses		Percent of Cases
		N	Percent	
$SuccessFactors[a]	Availability of resources	9	22.5%	75.0%
	Training and capacity building of coaches	9	22.5%	75.0%
	Support from school	8	20.0%	66.7%
	Integration of Scientific Protocols in existing TID	6	15.0%	50.0%
	Continuous Monitoring and Evaluation	8	20.0%	66.7%
Total		40	100.0%	333.3%
a. Dichotomy group tabulated at value 1.				

Table 4.5 shows that there are various reasons as to why Harare schools are able to adopt and implement their current methods for talent identification in sprints. These factors include availability of resources to execute programs, training of coaches, support from school and stakeholders, integration of scientific protocols in existing talent identification program and continuous monitoring and evaluation of talent identification program in view of the long-term athlete development pathways. Table 4.5 shows that 9 of the respondents attribute the choice of method at their school to availability of resources to implement the protocols, 9 respondents attribute the choice to the training and capacity building initiatives for the coaches, 8 of the participants feel that the support from the school and stakeholders has prompted the choice being used, 6 respondents feel that the integration of scientific protocols in their existing programs has led to the current methods use and 8 respondent feel that due to continuous monitoring and evaluation the current method was adopted. This analysis shows that schools have become aware of the importance of investing in talent identification in their programs and channel institutional support for the development of long-term athlete development programs.

Figure 4.5 Quantitative Representation and Analysis of the success factors contributing to the current talent identification programs at schools

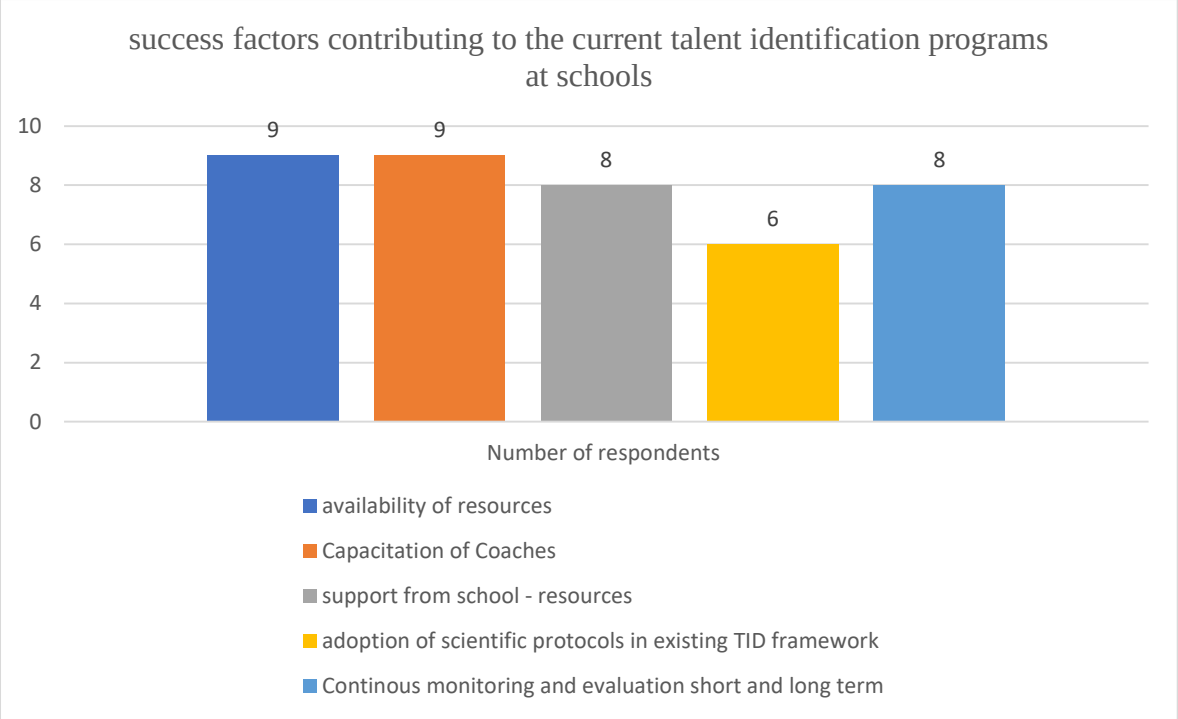


Figure 4.5 shows that the top 2 success factors that have led to the adoption of each respondent's talent identification programs is due to the availability of resources and 9 respondents seconded this view. 6 was the lowest score as only 6 respondents feel that the adoption of scientific protocols in existing talent identification has a rather low result yield with regards to performance results. As compared to the other factors which scored high rankings between 8 and 9 numbers of respondents aligning in support and highlight the factors as success factors for talent identification.

4.4.3 Quantitative Presentation and analysis of data linked to the Sub Research Question 3

(What scientific protocols can be used to improve Talent Identification in track sprinters in Harare Schools?)

Table 4.7 Quantitative Representation and analysis of the scientific protocols that can be implemented to improve talent identification

What Scientific Protocols can be Implemented to improve sprinters talent identification at your school				
		Responses		Percent of Cases
		N	Percent	
$SP[a]	Physiological Assessments	11	31.4%	91.7%
	Anthropometric Measurements	6	17.1%	50.0%
	Genetic Profiling	3	8.6%	25.0%
	Biomechanical Analysis	7	20.0%	58.3%
	Psychological Assessments	8	22.9%	66.7%
Total		35	100.0%	291.7%
a. Dichotomy group tabulated at value 1.				

4.4.3.1 Physiological Assessments Protocol

Table 4.7 shows an analysis of the respondent's perspective on which scientific protocols can be used to improve talent identification in track sprints in their schools. 11 respondents chose Physiological assessment as the widely recommended scientific protocol. This assessment seeks to address the capacity demands of sprinting. Such evaluations can include measures of cardiovascular health, muscular endurance, muscular strength, aerobic power and other physiological assessments that directly contribute to printing. This protocol is widely recommended by the majority of the respondents also because of how easy it is to administer the protocol and get results immediately as compared to other talent identification protocols.

4.4.3.2 Anthropometry Assessments Protocol

Table 4.7 shows an analysis of the respondent's perspective on which scientific protocols can be used to improve talent identification in track sprints in their schools. 6 respondents which is half of the respondent's group have acknowledged and subscribe to the use of anthropometric assessments. This is a relatively low response rate after consideration of the importance of measurements in sprints as it determines a lot of capacity development for sprinters. The assessments can include the following; height, weight, limb lengths and body composition. These directly contribute to the running and competition preparedness of the athletes.

4.4.3.3 Genetic Profiling Protocol

Table 4.7 shows an analysis of the respondent's perspective on which scientific protocols can be used to improve talent identification in track sprints in their schools. Only 3 respondents indicated the knowledge of athlete genetic methods and analysis techniques. This can be noted as a gap in the talent identification in sprints. Genetic profiling is critical in sports as it determines the inherited characteristics which are critical in sprinting. Such evaluations can include muscle fibre analysis and most widely and accessible is doing family history tracing to map triangulate findings related to potential sprints predisposition towards talent identification. In Harare it can be the case of respondence not knowledgeable in that area of talent identification. Genetic profiling is globally recognised as a key talent identifier.

4.4.3.4 Biomechanical Assessment Protocol

Table 4.7 shows an analysis of the respondent's perspective on which scientific protocols can be used to improve talent identification in track sprints in their schools. 7 respondents subscribe to the use of biomechanical analysis as part of talent development. With the advent of technology and globalisation it can be noted that biomechanical analysis in sprints has brought about increased efficiencies in programs. This type of assessment includes not limited to the use of mobiles to generate high resolution videos which is used to give thoroughly analyse performance of the athletes such as speed, running gait, sprinting techniques, and prehabilitation as well as injury prevention protocols. More should be done to educate and capacitate coaches to make use of biomechanical assessments and increase the number of coaches using the protocol.

4.4.3.5 Psychological Assessment Protocol

Table 4.7 shows an analysis of the respondent's perspectives on which scientific protocols can be used to improve talent identification in track sprints in their schools. Psychological Assessment is a critical game change in the industry of sport. Games are won or lost due to the mental state of the athletes and teams. As such this is required in athlete development. 8 participants are of the view that scientific protocols are as critical in sport talent identification just like the other 4 protocols. As such more can be done from a society perspective to help mould the athletes through improving the athletes mental focus and other sprint attributes

Figure 4.6 Quantitative Representation and Analysis of what scientific protocols should be adopted in their schools in view of long-term athlete development: A perspective analysis of the views of the respondents

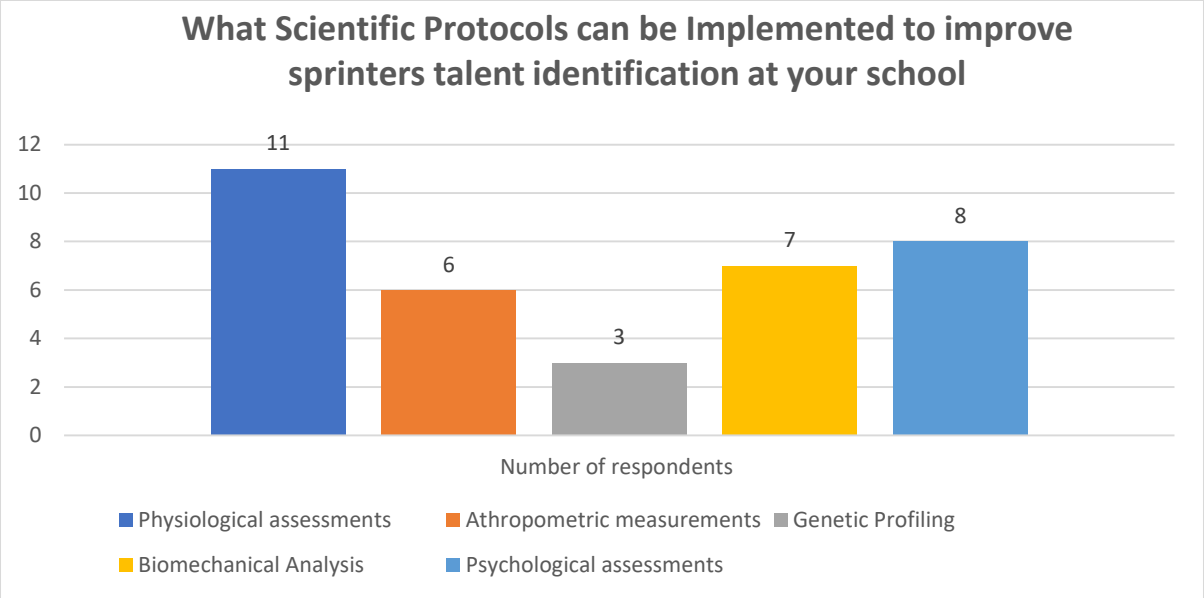


Figure 4.6 shows that 11 respondents recommend physiological assessments while anthropometric measurements recorded by 6 participants, biomechanical analysis was also recommended by 7 participants. Psychological assessments were selected by 8 respondents this is because usually it is easy to offer the psychological assessments to a group of young athletes and it helps them to gain confidence perform at the big stage. Only 3 respondents recommended the use of genetic profiling in schools. However, for proper development of talent identification programs genetic profiling is critical. This gap can be closed through coaches and athletes' capacitation programs as this significantly gives an insight as to who might possess inert abilities and can be potentiated for future podium finish.

4.5 Qualitative Presentation and analysis of data on the impact of implementing scientific protocols in talent identification for track sprints in Harare schools.

A thematic analysis of the interview data was conducted using NVivo 14. The thematic analysis led to the discovery of the extent of the impact of implementing scientific protocols in talent identification for track sprints in Harare schools. The other discovery in line with the research primary theme was on the recommendations from the respondents in ways to improve the adoption of scientific protocols, the type of scientific protocols that can be adopted for best

results and how the scientific protocols are currently being implemented in talent identification at the schools.

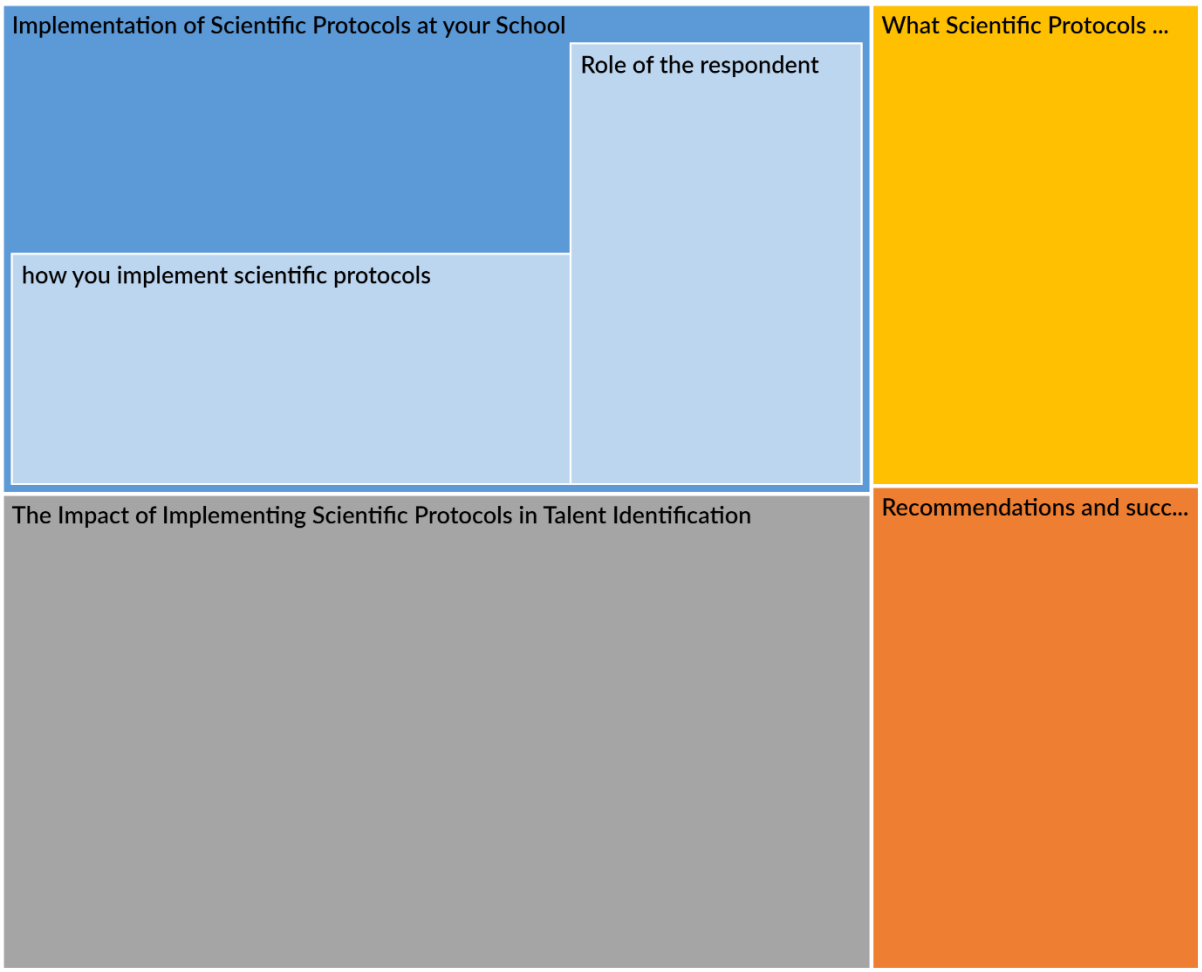
Table 4.8 Qualitative Representation and analysis of the hierarchy chat by order of frequencies and code themes expression on the interviews conducted.

Codes	Number of coding references	Aggregate number of coding references	Number of items coded	Aggregate number of items coded
Codes\\Implementation of Scientific Protocols at your School	11	35	11	12
Codes\\Implementation of Scientific Protocols at your School\how you implement scientific protocols	12	12	12	12
Codes\\Implementation of Scientific Protocols at your School\Role of the respondent	12	12	12	12
Codes\\Recommendations and success factors to Talent Identification – Funding	13	13	11	11
Codes\\The Impact of Implementing Scientific Protocols in Talent Identification	34	34	12	12
Codes\\What Scientific Protocols can be used to Improve Talent Identification	13	13	12	12

Table 4.8 shows an analysis of the hierarchy chat by order of frequencies and code themes expression on the 12 interviewees responds. 4 primary codes were deduced for this analysis and 2 sub codes created under one of the primary codes. The codes created by name were 1. The Impact of Implementing Scientific Protocols in Talent Identification with 34 coding references from 12 items, 2. What Scientific Protocols can be used to Improve Talent Identification with 13 coding references from 12 items, 3. Recommendations and success factors to Talent Identification with 13 coding references from 11 items, 4. Implementation of Scientific Protocols at your School with 11 coding references from 12 items and 2 sub codes

under code number 4 namely 4.1 how you implement scientific protocols with 12 coding references and 4.2 Role of the respondent with 12 coding references.

Figure 4.7 Qualitative Representation and analysis of the hierarchy chat by order of frequencies and code themes expression on the interviews conducted.



The impact of implementing scientific protocols in talent identification in track sprints in Harare schools has the highest code frequency of 34 and this shows that's schools in Harare have a significant appreciation of the benefits and outcomes of adopting scientific protocols in their sprint's talent identification and development programs. Implementation of scientific protocols in schools collectively including sub codes has an aggregate of 35 coding references which shows the application of scientific protocols by respondents in talent identification at their schools. Recommendation and success factors have an aggregate of 12 coding references

showing that there was a unanimous concurrence on the factor of resource and funding mobilisation for the talent identification projects in schools.

Figure 4.8 Qualitative Representation and analysis of the word frequency chart (word cloud) of recommendation and success factors to Talent Identification code: An expression of the respondent's view.

A qualitative analysis of the word frequency query expressed as a world cloud to highlight the major theme in the code "recommendation and success factors to Talent Identification" as shown in figure 4.8 above shows that in schools there the implementation of scientific protocols, great need for resources as the main emphasized word, funding need to identify athletes. The background highlights the success factors that are needed to promote the impact of implementation of scientific protocols in talent identification.

Talent identification programs in schools require a substantive by in from various stakeholder who have interests in the success of the athletes. These stakeholders include, the Ministry of sports, Zimbabwe Olympic Committee, athletics administrative bodies, parents, Universities, corporates and the world at large. As such there is need for support from all interested parties in the requirements and needs of the programs in schools. This resource support comes in various forms such as access to facilities and equipment, funding and resource mobilisation,

human resource and expertise, data and information resources and training and development (capacity building).

Figure 4.9 Qualitative Representation and analysis of the word frequency chart (word cloud) of What Scientific Protocols can be used to Improve Talent Identification code: An expression of the respondent's view.

A qualitative analysis of the word frequency query expressed as a world cloud to highlight the major theme in the code "What Scientific Protocols can be used to Improve Talent Identification" as shown in figure 4.9 the words events, athletes and protocols have the highest frequency according to the respondents. The other key words with the highest frequency are anthropometric, gait, exercises, physiological, biomechanical, eye, force and analysis these are all in line with scientific protocols development and implementation. As such there is a general consensus among the respondents regarding the scientific protocol's discussion.

According to findings in figure 4.9 a viewpoint that scientific protocols are critical in talent identification in schools can be deduced. Due to various reasons such as expert level of coaches and availability of resources these can be some of the determining factors leading to the choice of protocols adopted in Harare schools. The common protocols noted are, biomechanical analysis, physiological assessments and anthropometric assessments. These protocols require less investment in terms on set up and purchase costs as well as entry level expertise in the field. However, other scientific protocols such as genetic profiling and technological

advancements in physiological assessments may require a high set up cost but directly also yield more tangible benefits in the program. Investment in scientific protocols is one sure direct driver towards performance improvements in the future for Zimbabwean sprinters.

Figure 4.10 Qualitative Representation Pie Chart of an analysis the frequency of coding references per codes generated: An expression of the respondent's view.

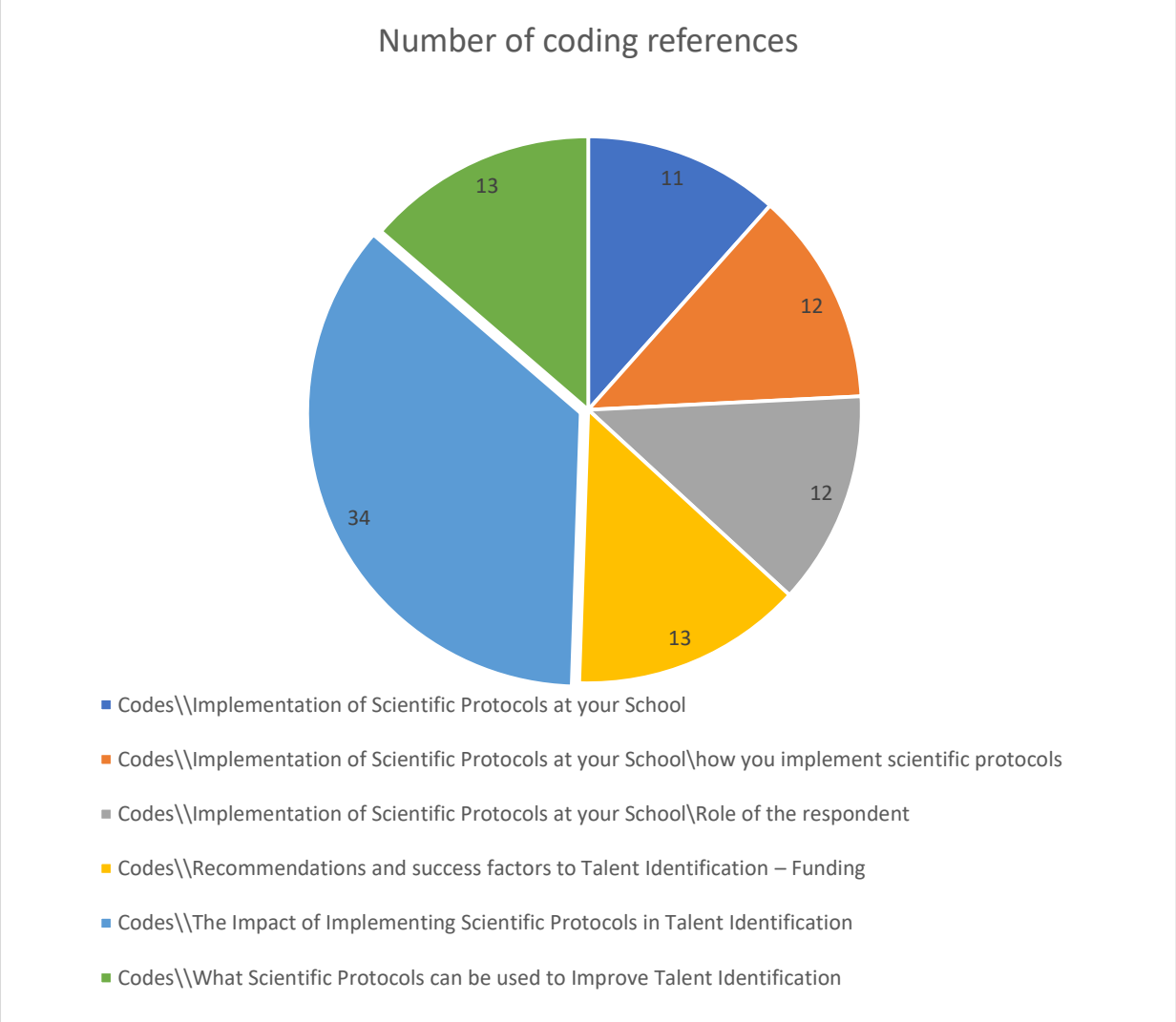


Figure 4.10 pie chat shows a qualitative analysis of the unanimous correlating perspectives of respondents to the various codes generated in by the researcher. The agreement to the notion that implementation of scientific protocols in talent identification was impactful in schools scored the highest reference frequency score of 34%. This shows that the schools in Harare understand the benefits of a sport science-based approach to talent identification. Collective aggregate of 35% over 3 codes related to the implementation of scientific protocols in schools was the agreed viewpoint by the respondents this also shows a great influence to appreciation of science and exposure to new global trends in regards to approaches recommended for

optimal talent identification and development in schools for sprinters. A correlation aggregate of 13% by respondents on the Recommendations and success factors to Talent Identification – Funding code showed that the body of talent identification unanimously agrees the need for institutional support for the success of the programs they execute. There is a 13% consensus on the scientific protocols that the respondents agree on that can be used to improve talent identification of sprinters in Harare schools.

4.6 Methodological Triangulation Analysis of the qualitative and quantitative research findings.

Quantitative analysis of data collected through questionnaire administration according to figure 4.3 which shows a quantitative analysis of impact of scientific protocols by respondent's qualification showed that there is a high rate of respondents on a ratio of 10 out of 12 participants in the study expressed that Harare schools have benefited from the implementation of scientific protocols at their schools in one form or another. To note was the general variability of appreciation varying between very agreeable and to a larger extent responses. This viewpoint is supported by the qualitative data analysis collected from structured interviews that were conducted. Special reference being made to figure 4.10 which shows a qualitative representation Pie Chart of an analysis the frequency of coding references per codes generated. The chart shows that the respondents made a unanimous inference of 34% reference frequency score to the code "The Impact of Implementing Scientific Protocols in Talent Identification". This shows that the respondents collectively resonate to the idea of the various benefits that are drawn from successful and efficient implementation of scientific protocols in their talent identification programs for track sprints. These among the other factors collectively provided the researcher with a deeper insight in the area of talent identification for track sprinters in Harare Schools.

4.7 Chapter Summary

Chapter 4 is a detailed presentation and analysis of the data collected by the researcher through questionnaires and interviews. NVivo and SPSS was used to deduce the findings and an analysis and presentation of the data was done through tables, presented as graphs and pie charts. The representation of the data analysis was to answer each research question as well as to gather the inference points with literature review. Chapter 5 is the research conclusion and the recommendations by the researcher and a highlight of the limitations in this study.

Zimbabwe University of Science Education

The Impact Of Implementing Scientific Protocols In Talent Identification For Track Sprints In Harare Schools

CHAPTER 5:

Summary, Conclusions and Recommendations

5 Chapter 5

5.1 Introduction

Chapter 5 is a summative position to the research on the impact of implementing scientific protocols in talent identification for track sprints in Harare Schools. The chapter narrates, concludes, highlight limitations to the study and make recommendation for Harare Schools. The conclusion highlights the research questions outlined in chapter 1, a recommendation position on best practices and future study is also provided in the chapter.

5.2 Summary of major findings

5.2.1 Finding number 1

According to the findings from the research questionnaires administered and interviews conducted the researcher deducted that there was a high appreciation and evaluation of the impact of implementing scientific protocols in talent identification for track sprinters in Harare schools. The majority of the respondents subscribe to the view that scientific protocols positively contribute to the successful outcomes of their talent identification programs.

5.2.2 Finding number 2

The researcher also found that Harare coaches and sports practitioners in sprints events understand what scientific protocols are and in one form or another have adopted one or more of such protocols at their respective schools. There are protocols are part of their talent identification tools for athletes in their schools.

5.2.3 Finding number 3

The researcher also noted that there is significant improvement in the talent identification of sprinters in Harare Schools as supported by the modern, accurate and objective nature of scientific protocols. As highlighted by the respondents there is however, greater need to provide a framework that feeds into the resource and support mobilisation of talent identification in order to create continuity, achieve optimal results and guarantee precedence in prime future podium finish by our athletes.

5.2.4 Finding number 4

Among the challenges highlighted by the respondents the researcher also noted the need for capacity development for all stakeholders in this body of talent development. This is directly linked to the quality of the output from the programs and should always align with the global trends in coaching, science application, testing and measurement as well as talent identification for Harare School to produce athletes that make podium finish at global competitions.

5.3 Conclusion

5.3.1 The impact of implementing scientific protocols in talent identification for track sprints in Harare Schools

The impact of implementing scientific protocols in Harare schools has been significantly supported from the findings deduced from this study. This is due to various reasons which include the significant increase in athletic performance globally. Athletes continue to reach new limits as such this pushes the systems through coaches and practitioners to look out for answers as to how to improve performance and scientific protocols is one of the key answers to unlocking performance gains in sprints outcomes.

The continuous need to be the best among peer schools in Harare has also contributed to the rise in the implementation of scientific protocols in talent identification as a tool to improve competitive aggression at meets and towards season and national championships. Adoption of scientific protocols in Harare schools has given rise to the noticeable impact of scientific protocols in talent identification as witnessed from provincial and national competition results.

An appreciation of global trends to sports performance has also led to Harare schools adopting the implementation of scientific protocols as this aligns with best practices in talent identification, development of track sprinters and umbrella cushion of safeguarding principles which is the new backbone of all sport programming in the modern era. Safeguarding as a core aspect of sports development helps to correctly identify talent, under safe prescriptions as well as promoting objectivity, accuracy, longevity and athlete retention.

The impact of implementing scientific protocols in talent identification is significant in Harare Schools and should be enhanced to optimum levels so as to continue improving sprinters performance thresholds and guarantee podium finish at major global competitions.

5.3.2 To investigate whether schools in Harare have incorporated scientific protocols in their talent identification programs for track sprinters.

Harare schools have shown a greater application of scientific protocols in their talent identification programs in various from. Some schools use one or a few of the known scientific protocols in talent identification. This is attributed to the level of exposure the schools now have to global trends through access to internet and cable tv where coaches can access training programs and assessment programs in line with talent identification of track sprinters. However, it was noted that the most prevalent scientific protocols used in schools such as physiological assessment through the simple speed tests were attributed to the ease of resources

to carry out the assessment and ease of translation of findings from the evaluations. To this regard, there should be a coordinated effort to set up frameworks that empower and capacitate local coaches and practitioner in schools with resources and equipment to be able to carry out other significantly complex assessments such as force production by athletes during sprinting, measures of stride frequency, gait analysis among many other evaluations that directly contribute to the quality of the output from a sprinters assessment profile during talent identification. The overall limiting factors to the successful implementation of scientific protocols in Harare schools are thus, resource limitations, lack of access to standard facilities such as tartan track, qualified personnel and community support.

5.3.3 To determine and understand the rationale behind the methods and approaches employed by schools in Harare for talent identification in track sprints.

Schools in Harare have various approaches to talent identification. This is to a larger extent rooted in the school's sports culture and the coach's culture. Coaches in Harare schools as deduced from the research have qualification of athletics coaching though at various qualification grading. The highest level as deduced from the data showed that there are 2 coaches with World Athletics Level 2 coaching certification and one sports administrators with over 15 years' experience in athletics at various levels. This overview is a primary driver towards the determination and understanding of the rationale of the methods and approaches used in Harare schools. Also, to note was that the Harare schools has a large population of young coaches with mostly less than 5 years coaching experience and this also contributes to the approaches used in the schools to identify talent. Some young coaches might be skeptical to adopt some scientific protocols as they do not have the experience and capacity to evaluate and translate the findings thus leading to most coaches in Harare schools naturally always using physiological assessment protocols as a baseline to talent identification. Capacitation and retention of older seasoned coaches is critical in the talent development of athletes in Harare schools.

5.3.4 To identify and propose specific scientific protocols that can improve the talent identification process for track sprinters in Harare Schools.

Track sprints in Harare is in its early development stages and there is little dedicated pool of resources for the development of programs for its long-term success. This is one of the limiting factors to the choice and selection of the recommendation of what scientific protocols can be adopted in schools. However, a deeper understanding and knowledge of the sports science is critical in formulating and adaptive scientific protocols with the limited available resources and

be able to get more from the talent identification programs. For example, coaches can use the concept of pouring flour or any white powder over a marked distance, this can be adopted anywhere where there is no access to sports science laps or electronic padded tracks and high framerate cameras and expensive analysis software. The coach can use the flour test as a physiological test to assess the stride frequency of the athlete to know how many strides they take in the 100m dash, this can also measure the stride length of the athlete and these are critical components of assessing an athlete's talent capacities towards identification and development. The 5 scientific protocols that can be recommended to improve talent identification in Harare schools include, physiological assessments (speed, power, agility, stride frequency), anthropometric measurements (height, weight, body composition), genetic profiling (through family history tracking), biomechanical analysis (use of video captured by phones) and psychological assessments (emotional checks, motivation, volition). These can manifest in various forms and require varied degrees of expertise as such for the safety of the athletes only qualified coaches should administer the scientific protocols under the assistance of a chaperon for safeguarding of the athletes and to assist in data capture at all times.

5.4 Limitation of the study

In the process of conducting the research, the researcher noted some limitations to the general flow of the study. Due to the choice of the location for the questionnaire administration which was done at the National Sports Stadium, the researcher noted that some of the respondents expressed a misconception that the research was an initiative of either the Sports and Recreation Commission or the National Athletics Association of Zimbabwe whose offices are housed at the National Sports Stadium and were withholding freedom of expression in their responses as they feared victimization. After careful explanation of the background to then study the researcher regained the confidence of the respondence and data was then collected more efficiently.

According to the demographic data from the study it showed that there was only 1 woman in the study. This shows that there are less women involved in sport at the practitioner levels as compared to men. As such the views of women in this study is represented by a small fraction and there is need to create initiatives that promote the retention of women in sprints training at schools.

The study was conducted under a very limited timeframe and this posed the risk of loss of quality in data analysis for the research and this resulted in a constricted research sample size so as to minimize the data size for analysis and presentation within the required timelines.

Limited resources were another limiting factor as the researcher was funding the study from personal coffers and this led to a minimalistic approach to research conduct while trying to maximize the accuracy and objectivity of the study.

5.5 Implications/ Recommendations

5.5.1 Implications for practice

Talent identification is a critical component of athlete development and future podium finish by athletes from Harare Schools as such there should be provisions that directly contribute to its success as it unlocks futuristic potential in athletes. The researcher suggests that the stakeholders in athletics at Harare and National level should formulate a framework that governs talent identification in Harare schools and other schools in the greater Zimbabwe.

There should be a more functional resource mobilisation campaign by all stakeholders in Harare to facilitate efficiency and execution of talent identification in Harare and access to all athletes in Harare schools despite geographical location or societal background.

There should intensive capacity building and training provisions to all sprint's coaches and practitioners in Harare schools as this directly contributes to the successful implementation of scientific protocols in talent identification and resultantly increasing its impact.

Harare schools should priorities strategic partnerships with stakeholders in homologating facilities such as tartan tracks and providing access to athletes and coaches to conduct training. Availability of resources such as training needs for athletes, and provision of equipment for testing and evaluation of athlete capacities is also critical in the quality of the talent identification programs in Harare Schools.

Strategic synergies should be fostered by Harare schools with universities such as Bindura University of Science Education department of Sports Science and Management in carrying out case studies on talent identification and assessment of the efficacy of current programs being used in their schools.

5.5.2 Implication for Theory

The research results from this study have a significant influence in the performance outcome of athletes in the long run when adopted correctly and prescribing to sports science principles. The results can be adopted to improve talent identification accuracy in Harare schools as well as make informed decisions in talent identification for long term athlete development success of sprinters.

5.5.3 Implications for Future Research

The research findings from this study have set a baseline in the assessment of the impact of implementation of scientific protocols in schools. Recommendations and findings set in this study can be actioned and provide a stepping stone for future studies in the subject. The concept of formulating adapted scientific protocols to aid in talent identification should also be adopted in the future to enhance the quality of talent identification programs in schools while taking into consideration the limited resources advanced to athletics. This study will also provide a comparative analysis in literature review as it provides a data on the sprints talent identification in Harare Schools which is critical in contributing to longitudinal studies in the talent identification and development process of athletes which usually is a 10-year plan.

5.6 Chapter Summary

The researcher made inferences to the findings from the study presented and analyzed in chapter 4 and deducted recommendations and suggestions for future studies in the research domain. A highlight of the limitations to the study was made and suggestions to overcome them were also presented. Findings from this study significantly contribute to the overall development of talent identification of sprinters in Harare Schools.

Reference

Akademia Baru, P., Rashidi, M. N., Ara Begum, R., Mokhtar, M., & Pereira, J. J. (2014). The Conduct of Structured Interviews as Research Implementation Method. In Journal of Advanced Research Design ISSN (Vol. 1, Issue 1).

Alayode, A. M., Babalola, A. J., & Oyesegun, O. O. (2014). Designing Template for Talent Identification and Development in Sport. Higher Education of Social Science, 7(1), 128–132. https://doi.org/10.3968/4252

Baker, J., Wilson, S., Johnston, K., Dehghansa, N., Koenigsberg, A., Vegt, de N., et al. (2020). Talent research in sport 1990–2018: a scoping review. Front. Psychol. 1:607710. doi 10.3389/fpsyg.2020.607710

Bezodis, I. N., Brazil, A., von Lieres und Wilkau, H. C., Wood, M. A., Paradisis, G. P., Hanley, B., Tucker, C. B., Pollitt, L., Merlino, S., Vazel, P. J., Walker, J., & Bissas, A. (2019). World-Class Male Sprinters and High Hurdlers Have Similar Start and Initial Acceleration Techniques. Frontiers in Sports and Active Living, 1. https://doi.org/10.3389/fspor.2019.00023

Button, C., Pepping, G.-J., & Collins, D. (2005). Unnatural selection: Talent identification and development in sport. https://www.researchgate.net/publication/8102048

Crespo, M., & Mcinerney, P. (2006) Talent identification and development in tennis. Coaching and Sport Science Review, 14(39), p. 2–3

Cumming, S., Gonçalves, B., Calleja-Gonzalez, J., Gonçalves, B., & Cumming, S. (Eds.). (2022). Talent Identification and Development in Sports Performance. Frontiers Media SA. https://doi.org/10.3389/978-2-88974-051-2

Davis, L., Brown, D. J., Arnold, R., & Gustafsson, H. (2021). Thriving Through Relationships in Sport: The Role of the Parent–Athlete and Coach-Athlete Attachment Relationship. Frontiers in Psychology, 12. https://doi.org/10.3389/fpsyg.2021.694599

Fetters, M. D. (2020). The Mixed Methods Research Workbook: Activities for Designing, Implementing, and Publishing Projects. Thousand Oaks, CA: Sage.

Gray, H. J., & Plucker, J. A. (2010). "She's a natural": Identifying and developing athletic talent. Journal of Education of the Gifted, 33(3), 361-380.

Hawes, M. R., and Martin, A. D. (2001). "Human Body Composition," in Kinanthropometry and Exercise Physiology Laboratory Manual: Tests, Procedures and Data, Vol. I, eds K. Norton and R. Eston (London: Routledge)

Lloyd, R. S., Oliver, J. L., Faigenbaum, A. D., Howard, R., A De Ste Croix, M. B., Williams, C. A., Best, T. M., Alvar, B. A., Micheli, L. J., Phillip Thomas, D., Hatfield, D. L., Cronin, J. B., Myer, G. D., & Ste Croix, D. (n.d.). Long-Term Athletic Development-Part 1: A Pathway For All Youth. www.nsca.com

Lowenberg, J. S. (1993). Interpretive research methodology: Broadening the dialogue. Advances in Nursing Science, 16(2), 57–69. doi:10.1097/00012272-199312000- 00006 PMID:7508706

Meylan, C., Cronin, J., Oliver, J., and Hughes, M. (2010). Reviews: talent identification in soccer: the role of maturity status on physical, physiological and technical characteristics. Int. J. Sports Sci. Coach 5, 571–592. doi: 10.1260/ 1747-9541.5.4.571

Mishra, L. (2016). Focus Group Discussion in Qualitative Research. TechnoLearn: An International Journal of Educational Technology, 6(1), 1. https://doi.org/10.5958/2249-5223.2016.00001.2

Morales-Sánchez, V., Pérez-López, R., Reigal, R. E., & Hernández-Mendo, A. (2020). Mixed-Methods Analysis of Emotional Quality in Sports Organizations: Facial Expressions of Child Users of Sports Services as Data. Frontiers in Psychology, 11. https://doi.org/10.3389/fpsyg.2020.01199

Polit, D. F., & Beck, C. T. (2017). Nursing research: Generating and assessing evidence for nursing practice (10th ed.). Philadelphia, PA: Wolters Kluwer/Lippincott Williams & Wilkin

Sandelowski, M. (1995). Focus on qualitative methods: Sample size in qualitative research. Research in Nursing & Health, 18(2), 179–183. doi:10.1002/nur.4770180211 PMID:7899572

Shaheen, M., Pradhan, S., & Ranajee. (2018). Sampling in Qualitative Research (pp. 25–51). https://doi.org/10.4018/978-1-5225-5366-3.ch002

Shavinina, L. V. (2012). The emergence of a new research direction at the intersection of talent and economy: The influence of gifted on the economy. Talent Development & Excellence, 4(1), 65-88.

Shukla, S. (2023). Non-Probability Sampling Method 1. https://www.researchgate.net/publication/372724527

Sreejesh, S., Mohapatra, S., & Anusree, M. R. (2014). Questionnaire Design. In Springer Books. Business Research Methods (pp. 143–159). doi:10.1007/978-3-319-00539-3

Stewart, A., Marfell-Jones, M., Olds, T., and de Ridder, H. (2011). International Standards for Anthropometric Assessment. New Zeland: ISAK

Stricker, G., and Goldfried, M. R. (2019). The gap between science and practice: A conversation. Psychotherapy 56, 149–155. doi: 10.1037/pst0000220

Susanto, E., Bayok, M., Satriawan, R., Festiawan, R., Kurniawan, D. D., & Putra, F. (2023). Talent Identification Predicting in Athletics: A Case Study in Indonesia. Annals of Applied Sport Science, 11(1). https://doi.org/10.52547/aassjournal.1102

Till, K., & Baker, J. (2020). Challenges and [Possible] Solutions to Optimizing Talent Identification and Development in Sport. Frontiers in Psychology, 11. https://doi.org/10.3389/fpsyg.2020.00664

Xiang, C., Tengku Kamalden, T. F., Liu, H., & Ismail, N. (2022). Exploring the Multidisciplinary Factors Affecting Sports Talent Identification. Frontiers in Psychology, 13. https://doi.org/10.3389/fpsyg.2022.948121

Zhao, K., Hohmann, A., Chang, Y., Zhang, B., Pion, J., & Gao, B. (2019). Physiological, anthropometric, and motor characteristics of elite Chinese youth athletes from six different sports. Frontiers in Physiology, 10(APR). https://doi.org/10.3389/fphys.2019.00405

Appendices

Research Objective

RESEARCH OBJECTIVE

Research project title:

THE IMPACT OF IMPLEMENTING SCIENTIFIC PROTOCOLS IN TALENT IDENTIFICATION FOR TRACK SPRINTS IN HARARE SCHOOLS

My name is BSc2403. I am a sports science and management student at Bindura University of Science Education studying for the Honorary Bachelor of Science Degree in Sports Science and Management (HBScSSM).

I am researching the Impact of implementing scientific protocols in talent identification for track sprints in Harare schools. The findings from the study shall help all stakeholders in the long-term sprinter's development pathway. Correct programming and execution of talent identification in Harare schools will help in identifying untapped potential, improve accuracy, and objectivity, and optimize athlete development through efficient resource allocation. Your participation in this focus group discussion is vital for the success of this research as it helps the researcher to gain a deeper understanding of the impact of implementing scientific protocols in talent identification for track sprints in Harare schools.

Your responses will be kept confidential and will only be used for academic purposes. Participation in this survey is voluntary.

Thank you

BSc2403

WA (CECS-II)

Interview Consent Form

Bindura University of Science Education

Interview Consent Form

Research project title:

THE IMPACT OF IMPLEMENTING SCIENTIFIC PROTOCOLS IN TALENT IDENTIFICATION FOR TRACK SPRINTS IN HARARE SCHOOLS

Researcher: BSc2403

Research Participant name: ……..

Research Participants Role: (*Tick Appropriate Box*)

Sprints Coach		Sports Science Practitioner		Administrator	

The interview will take (10 minutes). We don't anticipate that there are any risks associated with your participation, but you have the right to stop the interview or choose to withdraw from the research at any time.

Thank you for agreeing to be interviewed as part of the above research project. Ethical procedures for academic research require that interviewees explicitly agree to being interviewed and how the information contained in their interview will be used. This consent form is necessary for us to ensure that you understand the purpose of your involvement and that you agree to the conditions of your participation. Would you therefore read the accompanying **information sheet** and then sign this form to certify that you approve the following:

- The interview will be recorded and a transcript will be produced
- You will be sent the transcript and allowed to correct any factual errors
- The transcript of the interview will be analyzed by BSc2403 as research investigator
- Access to the interview transcript will be limited to BSc2403 and academic colleagues and researchers with whom there might collaboration as part of the research process
- any summary interview content, or direct quotations from the interview, that are made available through academic publications or other academic outlets will be anonymized

so that you cannot be identified, and care will be taken to ensure that other information in the interview that could identify yourself is not revealed

• the actual recording will be destroyed

• any variation of the conditions above will only occur with your further explicit approval

Quotation Agreement

I also understand that my words may be quoted directly. (*With regards to being quoted, please initial next to any of the statements that you agree with*)

	I wish to review the notes, transcripts, or other data collected during the research pertaining to my participation.
	I agree to be quoted directly.
	I agree to be quoted directly if my name is not published and a made-up name (pseudonym) is used.
	I agree that the researchers may publish documents that contain quotations by me.

All or part of the content of your interview may be used;

- In academic papers, policy papers
- On other feedback reports
- In an archive of the project as noted above

By signing this form, I agree that;

I am voluntarily taking part in this project. I understand that I don't have to take part, and I can stop the interview at any time;

1. The transcribed interview or extracts from it may be used as described above;
2. I have read the Information sheet;
3. I don't expect to receive any benefit or payment for my participation;

4. I can request a copy of the transcript of my interview and may make edits I feel necessary to ensure the effectiveness of any agreement made about confidentiality;

5. I have been able to ask any questions I might have, and I understand that I am free to contact the researcher with any questions I may have in the future.

_____

Printed Name

_____ _____

Participants Signature and Cell # **Date**

_____ _____

Researchers Signature and Cell # **Date**

Contact Information

This research has been reviewed and approved by the Bindura University of Science and Technology, Sports Science and Management Department, Engineering Faculty. If you have any further questions or concerns about this study, please contact:

Contact supervisor:

Mobile Number:

E-mail:

Interview Instrument Guide

Structured Interview Instrument Guide

Research project title:

THE IMPACT OF IMPLEMENTING SCIENTIFIC PROTOCOLS IN TALENT IDENTIFICATION FOR TRACK SPRINTS IN HARARE SCHOOLS

Researcher: BSc2403

Research Participants name: …….

Research Participants Sex M/F …… Date ……

Research Participants Role: (*Tick Appropriate Box*)

Sprints Coach		Sports Science Practitioner		Administrator	

My name is BSc2403. I am a sports science and management student at Bindura University of Science Education studying for the Honorary Bachelor of Science Degree in Sports Science and Management (HBScSSM). I am researching the Impact of implementing scientific protocols in talent identification for track sprints in Harare schools. The findings from the study shall help all stakeholders in the long-term sprinter's development pathway. Correct programming and execution of talent identification in Harare schools will help in identifying untapped potential, improve accuracy, and objectivity, and optimize athlete development through efficient resource allocation. Your participation in this interview is vital for the success of this research. Your responses will be kept confidential and will only be used for academic purposes. Participation in this survey is voluntary.

Unique Codes will be used to anonymize each participant. During the interviews, you are not allowed to identify yourselves by name, by position held or your organization. When participating, do not use personal information or examples that can identify you and other persons present here or not part of the discussion. The deliberations will be recorded and transcribed later.

Interview Questions

Background Information

1. Can you tell me about your role and experience in the athletics track and field sector in Harare?
2. Are you familiar with the current talent identification practices for track sprints in Harare schools?
    - If yes, can you describe the existing methods and protocols used at your institution

Implementation of Scientific Protocols in talent identification of track sprinters at your institution

3. What is your understanding of the use of scientific protocols in talent identification for track sprints?

4. To what extent have scientific protocols been implemented at your institution?

    - What specific protocols or assessments have been used?
    - What were the key factors that led to the implementation of these scientific protocols?

Impact of Scientific Protocols in talent identification of track sprinters at your institution

5. In your opinion, how have the implemented scientific protocols impacted the talent identification process for track sprints at your institution?

    - What are the perceived benefits of using scientific protocols?
    - Have you observed any challenges or limitations in the implementation of these protocols?

6. Have you noticed any changes in the identification and development of talented track sprint athletes since the implementation of scientific protocols?

    - If yes, can you describe the observed changes (e.g., improved identification accuracy, increased participation, better athlete development)?
    - If no, what do you think are the reasons for the lack of observable changes?

7. From your perspective, what are the key factors that contribute to the successful implementation and impact of scientific protocols in talent identification for track sprints in at your institution?

    - Consider factors such as resources, training, stakeholder support, and integration with existing practices.

8. What recommendations would you have for enhancing the implementation and impact of scientific protocols in talent identification for track sprints at your institution and in the greater Harare schools?

Conclusion:

Thank you for your valuable insights and time. I appreciate your contribution to this research.

Interview Recording Sheet

Bindura University of Science Education

Interview Recording Sheet

Research project title:

THE IMPACT OF IMPLEMENTING SCIENTIFIC PROTOCOLS IN TALENT IDENTIFICATION FOR TRACK SPRINTS IN HARARE SCHOOLS

Interviewee Information

Code Name: _____

Sex M/F_____

Role: _____

Quotation Agreement Response:

_____

Interview Responds

Background Information

Question 1 Response	
Question 2 Response	

Implementation of Scientific Protocols in Talent Identification of track sprinters at your institution

Question 3 Response	
Question 4 Response	

Impact of Scientific Protocols in talent identification of track sprinters at your institution

Question 5 Response	
Question 6 Response	
Question 7 Response	
Question 8 Response	

Interviewer Notes

Observations

Follow-up Questions

Questionnaire

Bindura University of Science Education

Questionnaire

Research project title:

THE IMPACT OF IMPLEMENTING SCIENTIFIC PROTOCOLS IN TALENT IDENTIFICATION FOR TRACK SPRINTS IN HARARE SCHOOLS

My name is BSc2403. I am a sports science and management student at Bindura University of Science Education studying for the Honorary Bachelor of Science Degree in Sports Science and Management (HBScSSM). I am researching the Impact of implementing scientific protocols in talent identification for track sprints in Harare schools. The findings from the study shall help all stakeholders in the long-term sprinter's development pathway. Correct programming and execution of talent identification in Harare schools will help in identifying untapped potential, improve accuracy, and objectivity, and optimize athlete development through efficient resource allocation. Your participation in this focus group discussion is vital for the success of this research. Your responses will be kept confidential and will only be used for academic purposes. Participation in this survey is voluntary.

Unique Codes will be used to anonymize your responses. When answering the questionnaire, you are not allowed to identify yourselves by name. When participating, do not use personal information or examples that can identify you and other persons present here.

Researcher: BSc2403

Research Participants Sex M/F …….

Please answer the questions to the best of your knowledge and experience.

Section A: Demographic Data

1. Research Participant's Role: (*Tick Appropriate Box*)

Sprints Coach		Sports Science Practitioner		Administrator	

2. How many years of experience do you have in your current role?

< 5 years		**5-10 years**		**11-15 years**		**> 15 years**	

Section B: Talent Identification Practices at your institution

3. On a scale of 1 to 5 (1 being "Not at all" and 5 being "To a great extent"), to what extent re scientific protocols currently used in talent identification for track sprints at your institution? *(Tick Appropriate box)*

1	2	3	4	5
✓				

4. What specific scientific protocols or assessments are used in talent identification for track sprints at your institution?

✓	*(Check all that apply)*
	Physiological assessments (e.g., speed, power, agility)
	Anthropometric measurements (e.g., height, weight, body composition)
	Genetic profiling through family history
	Biomechanical analysis (video analysis, gait)
	Psychological assessments (e.g., motivation, mental toughness)

Other (please specify):

Section C: Impact of Scientific Protocols adopted in track sprints in schools

5. On a scale of 1 to 5 (1 being "Strongly Disagree" and 5 being "Strongly Agree"), please indicate your level of agreement with the following statements:

a. The use of scientific protocols has improved the accuracy of talent identification for track sprints at your institution. *(Tick Appropriate box)*

1	2	3	4	5

b. The implementation of scientific protocols has led to an increase in the number of talented track sprint athletes identified at your institution. *(Tick Appropriate box)*

1	2	3	4	5

c. The scientific protocols have contributed to the improved development and performance of talented track sprint athletes at your institution.

1	2	3	4	5

d. The use of scientific protocols has enhanced the overall quality of the talent identification process for track sprints at your institution.

1	2	3	4	5

6. In your opinion, what are the key factors that have contributed to the successful implementation and impact of scientific protocols in talent identification for track sprints in at your institution?

✓	*(Check all that apply)*
	Availability of resources (e.g., equipment, facilities, funding)
	Adequate training and capacity building for coaches and administrators
	Strong support and buy-in from school leadership and stakeholders
	Integration of scientific protocols with existing talent identification practices
	Continuous monitoring and evaluation of the implementation process

Other (please specify):

Section D: Recommendations for track sprints talent identification programs

7. What are your recommendations for enhancing the implementation and impact of scientific protocols in talent identification for track sprints at your institution? (Open-ended)

Thank you for taking the time to complete this questionnaire.

Codes: NVivo

Name	Description	Files	References
Implementation of Scientific Protocols at your School	This is an assessment of how scientific protocols are being implemented at the schools in Harare	11	11
how you implement scientific protocols	This is an analysis of the processes conducted at the schools during implementation of scientific protocols in talent identification	12	12
Role of the respondent	what is the qualification or role of the respondent	12	12
Recommendations and success factors to Talent Identification	what are the recommendation and success factors for correct implementation of scientific protocols in talent identification for sprinters in Harare schools	11	13
The Impact of Implementing Scientific Protocols in Talent Identification	What are the evidence and impact result areas achieved from implementation of scientific protocols in talent identification at your school	12	34
What Scientific Protocols can be used to Improve Talent Identification	what scientific protocols are used and can be used to improve talent identification for sprinters at your school	12	13

Sample of Questionnaire Coding Sheet: Question 1 – Research Participants Role

	Question 1 Research Participant's Role:	**Sprints Coach**	**Sports Science Practitioner**	**Administrator**
		1	**2**	**3**
	Code Name	**Option 1**	**Option 1**	**Option 1**
1.	**TID1**	✓		
2.	**TID2**		✓	
3.	**TID3**	✓		
4.	**TID4**	✓		
5.	**TID5**	✓		
6.	**TID6**	✓		
7.	**TID7**	✓		
8.	**TID8**	✓		
9.	**TID9**	✓		
10.	**TID10**	✓		
11.	**TID11**			✓
12.	**TID12**			✓
	Sub Total	**9**	**1**	**2**
Grand Total				**12**