BINDURA UNIVERSITY OF SCIENCE EDUCATION

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DEPARTMENT OF SPORTS SCIENCE

Developing Technical Training Interventions to Optimise Performance in Under 11 Girls' Hockey Teams in Harare Urban.

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A DISSERTATION SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR THE HONOURS DEGREE OF SPORTS SCIENCE AND MANAGEMENT

JUNE 2025

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Abstract

The aim of this study was to explore and improve the technical training practices used by coaches of under-11 girls' hockey teams in Harare Urban. The research was guided by four main objectives: to identify current training methods, to understand the social and educational factors influencing players' performance, to assess how local training aligns with international standards, and to design and test a context-specific training program to improve both physical performance and psychosocial outcomes.

The study used a convergent parallel mixed-methods design, combining both quantitative and qualitative data collected at the same time. Stratified random sampling was used to select a representative group of players, coaches, and sports directors was done for the quantitative part. Questionnaires were used to collect data on training routines, challenges, and performance indicators. For the qualitative part, purposive sampling was used to select 15 participants (coaches and players and sports directors) for semi-structured interviews, focusing on their experiences, views, and opinions about current training programs. Quantitative data was analyzed using SPSS, applying descriptive statistics and correlation analysis, while qualitative data was coded and analyzed using thematic analysis in NVivo 15.

The findings showed that while most teams followed structured training programs, there were gaps in areas such as mental conditioning, use of technology, and evaluation methods. There was also a lack of alignment between local training practices and international development standards, especially regarding coach qualifications, diversity and inclusion, and performance tracking. However, participants expressed a strong interest in improving these areas.

This study adds value by providing a localized, evidence-based training framework that can be used by schools and sports organizations to enhance young girls' performance in hockey. It also contributes to academic knowledge by linking practical fieldwork with global training standards in youth sports.

Key words: **training methodologies, under 11 Girls Hockey, Performance indicators, Long-Term Player Development, psychosocial outcomes, Framework**

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LIST OF ABBREVIATIONS

1. C.H.S.T----------Canadian Hockey Skills Test
2. IOC----------International Olympic Committee
3. LTAD----------Long-Term Athlete Development
4. PAR----------Participatory Action Research
5. SDT----------Self-Determination Theory
6. TGfU----------Teaching Games for Understanding

CHAPTER ONE: THE PROBLEM AND ITS SETTING

1.1 Introduction

Field hockey has proved to be a popular sport among private schools in Harare province. Most private schools in the province had girls' hockey teams. Through playing different friendly matches and participating in various hockey tournaments, the researcher realized that most of the teams were under-performing in terms of execution of skills such as passing and shooting.

This study looks at the use of technical training to improve the performance of Under-11 girls' hockey teams in the Warren Park/Mabelreign District of Harare Urban, mainly focusing on enhancing important skills such as passing accuracy, dribbling proficiency, and positional play, and in the process, improving tactical awareness and physical fitness.

1.2 Background to the Study

Hockey is fast becoming a popular sport in Zimbabwean schools, particularly in urban areas like Harare, where the sport is a tool for physical development, teamwork, and a platform for social interaction. However, the under-11 girls' hockey teams, performance is not that remarkable due to a variety of factors such as inadequate technical training and a lack of structured development programs. This study aims to develop technical training interventions which are targeted to improve performance among these teams in Harare Urban, where access to quality coaching and resources can be limited. Existing literature depicts why it is of paramount importance to enhance these technical skills such as dribbling, passing, and shooting for young athletes, as these are foundational for effective gameplay (Smith et al., 2020). Research has shown that for long-term athletic success, early skill development is crucial, yet many young players lack the structured training necessary to master these skills (Jones & McNiven, 2019). Despite the benefits of systematic training approaches which are very visible, a gap remains when it comes to the availability of tailored training programs specifically designed for under-11 girls in Zimbabwe. Currently, coaching methods are generalized and do not consider the unique developmental needs of this demographic.

A review of best practices within youth sports training suggests that focused, skill-specific drills and game-like scenarios are most effective in enhancing performance (Williams &

Hodges, 2021). However, many coaches in Harare may not be aligned to these methodologies or lack the necessary training to effectively implement them. This mismatch between current performance levels and best practices indicates that there is critical need for intervention. The underperformance of these teams can be attributed to insufficient technical training, as well as inadequate resources and expertise among coaches.

It is essential to address these gaps for numerous reasons. First, by improving the technical skills of young female athletes, greater engagement in the sport can be cultivated, potentially leading to increased participation rates. Furthermore, the overall development of hockey as a competitive sport in Zimbabwe can be achieved through performance improvement, inspiring future generations. By developing and implementing a structured technical training program tailored to the needs of under-11 girls' hockey teams in Harare Urban, this study aims to fill the existing gaps in training practices and performance outcomes, ultimately supporting the growth of young athletes and the sport itself.

1.3 Statement of the Problem

Globally, youth sport is being emphasised on, but the gap that exists in the design and implementation of age- and gender-specific technical training programs for under-11 girls' hockey teams in Harare Urban is significant. The current coaching practices neglect the unique physiological, psychological, and socio-cultural needs of young female athletes (Pill & Elliott, 2021) but are rather generic and one-size fits all. Empirical evidence from practice depicts that coaches are usually after the results from the competitions over the acquisition of foundational skills. This often results in technical proficiency which is not desirable and leads to long-term performance stagnation (Baloyi & van Gent, 2019). Research shows that there are not many clear programs to help young girls in low-income areas improve their hockey skills. This includes areas like motor skills specific for the sport, space awareness, and decision-making during the game (Visek et al., 2015). According to Chikwanha and Marange (2020), this demographic suffers from lack of quality coaching and inequities due to the absence of specific technical training.it is critical to address this problem both in practice and theory in that practically, it empowers coaches to impart skill mastery; theoretically it questions the idea that coaching methods are homogeneous and helps to understand the differences in the development of boys and girls. The aim of the study is to fill this gap by co-developing and testing a contextually relevant technical training program that is underpinned by pedagogical principles

of skill acquisition (Balyi & Hamilton, 2004) and athlete-centred coaching (Kidman & Lombardo, 2010). Utilizing mixed-methods action research with coaches, players and

stakeholders, the study will map barriers to technical development, design interventions and measure intervention effects on performance metrics such as passing accuracy, dribbling efficiency and game intelligence. In doing so, this research will provide scalable interventions that bridge theory and practice for enhancing early athletic development among an underserved population.

1.4 Significance of the Study

This research is important both in real-life and academic terms, especially for improving youth sports in under-resourced urban areas like Harare.

On a practical level, the study responds to a real need, many under-11 girls' hockey teams in Harare lack proper coaching methods that are suitable for their age and gender. Most coaches currently use general training approaches that do not match how young girls learn and grow. This study can help solve that by working with coaches, parents, and players to design a training program that fits the needs of these girls. The program combines hockey skills, decision-making on the field, and social skills like teamwork and confidence. This can help coaches improve players' performance, and it can also keep more girls involved in sports by making training fun, fair, and focused on their development. It helps fight the common problem of girls dropping out of sports at a young age due to boredom, low confidence, or feeling left out (Fraser-Thomas et al., 2005).

Theoretically, the study challenges the usual coaching methods, which are often based on how boys or men play and come from Western ideas that may not fit the Zimbabwean context. This research highlights that girls have different needs, and that their development in sport should be understood in its own way. It adds to wider conversations about gender in sports and how local culture and limited access to facilities can affect how children learn and succeed in sports (Balyi & Hamilton, 2004). By studying how coaching can be more inclusive and supportive, this research can help other scholars and sports leaders think differently about athlete development.

In terms of innovation, this study uses a new method called Participatory Action Research (PAR). This means that instead of experts making a program and handing it to the community,

the people involved, which are coaches, parents, and players in this case, help create it together. This ensures the program fits the local culture and is more likely to work in the long term. The research also uses both scientific (biomechanical analysis) and personal (interviews and observation) methods to understand how the training affects physical skills, thinking, and social growth.

At a policy level, this research can encourage sports leaders in Zimbabwe, such as the Zimbabwe Hockey Federation, to make changes that treat girls and boys fairly. It shows why it is important to give equal resources to girls' teams and to train all coaches using Long-Term Athlete Development (LTAD) ideas. This could improve how sports programs are run not just in Harare, but in other communities with similar challenges.

1.5 Research Questions

1.5.1 Primary Research Question

What technical training interventions can be developed to optimise performance in Under 11 Girls' Hockey Teams in Harare Urban.

1.5.2 Subsidiary Research Questions

1. What are the existing technical training methodologies employed by coaches of under-11 girls' hockey teams in Harare Urban.
2. What factors influence the technical proficiency and overall performance of under-11 girls' hockey players in Harare Urban?
3. To what extent do current technical training programs address the benchmarks for optimal athletic development in young female athletes.
4. What technical training interventions can be developed to impact the performance metrics of under-11 girls' hockey teams in Harare Urban?

1.6 Research Objectives

1.6.1 Primary Research Objective

To identify and develop technical training interventions that can be implemented to optimize performance in Under 11 Girl's Hockey Teams in Harare Urban.

1.6.2 Subsidiary Research Objectives

1. To identify and document the technical training methodologies currently employed by coaches of under-11 Girls' Hockey Teams in Harare Urban.

2. To analyze the contextual, socio-cultural, and pedagogical factors influencing technical proficiency and performance outcomes among under-11 girls' hockey players in Harare Urban.
3. To evaluate the extent to which existing technical training programs align internationally recognized benchmarks for optimal athletic development.
4. To develop technical training interventions to optimise performance improvement of under 11 Girls' Hockey Teams in Harare urban

1.7 Delimitation of the Study

The study will be conducted in urban primary schools located within the Warren Park/Mabelreign District of Harare Province, Zimbabwe. The target population is female hockey players aged Under-11 and their respective coaches. This study does not cover boys' hockey development, rural schools, or high school age groups. It deliberately excludes non-school-based interventions such as private hockey academies or club systems and will not assess long-term career development in the sport beyond the age of 11.

1.8 Study Outline

The study is comprised of five chapters. Chapter 2 will review the relevant literature on sports performance, intervention development, and coaching interventions for youth athletes. Chapter 3 will describe the research methodology, including the study design, participant selection, and data collection procedures. Chapter 4 will present the results of the study and discuss the findings while Chapter 5 will draw conclusions and provide recommendations for future research and practice.

1.9 Chapter Summary

This chapter presented the foundational aspects that motivated the researcher to undertake the study. It explored the background of the study, highlighting why there is need for structured technical training in primary school girls' hockey. The chapter outlined the specific problem being addressed: the limited access to systematic, age-appropriate skill development programs for Under-11 girls in urban Harare. Key research objectives were defined, focusing on identifying effective technical training methods, assessing coaching approaches, and understanding contextual barriers to performance improvement. The delimitations clarified the study's focus on female athletes aged below 11. The significance of the study was also

emphasized, particularly in its potential to contribute to the long-term development of female hockey in Zimbabwe.

Having laid the groundwork for the study, the next chapter will present a comprehensive literature review, considering both global and regional research related to technical training in youth hockey, gender gaps in sport, and development interventions within areas that have low resources. This will help build the theoretical and practical basis upon which the study is designed and how the data will be analysed.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

It is essential to develop interventions to improve the performance of Under-11 girls' hockey teams to be able to nurture talent at the grassroots level. This chapter will concentrate on specific interventions, such as skill development, coaching methods, and team dynamics, particularly for girls' teams in Harare, specifically in the Warren Park and Mabelreign districts.

Research in this area shows gaps, especially related to gender-specific issues. The research expects to find a lack of studies that address the unique challenges faced by girls, including the impact of local socio-economic conditions on their participation in sports. This context is important, as many girls in these areas may face barriers that affect their ability to play hockey and develop their skills. By identifying these gaps, the research aims to contribute to a better understanding of how to support and enhance the experience of young female hockey players in urban settings.

2.2 Conceptual Review

This conceptual review aims to explore existing literature on technical training and youth sports and its impact on performance. Ultimately, it seeks to contribute to the broader discourse on youth sports development in Zimbabwe, highlighting the significance of investing in structured training programs that empower young female athletes and promote gender equity in sports.

2.2.1 Technical Training

Technical training refers to the process of teaching sport-specific skills such as passing, dribbling, shooting, and positioning. According to Bompa and Buzzichelli (2019), technical training focuses on helping athletes perform key movements more effectively and consistently during competition. Early research mostly emphasized repetitive drills and coach-led instruction. Over time, however, scholars began to focus more on player-centered methods, such as small-sided games and task-based learning (Ford et al., 2010), which allow young players to develop skills in game-like settings.

There are some differing views. While traditionalists believe in high repetition and structured drills, modern coaches argue that real-game simulations are better for developing decision-making and technical execution (Davids et al., 2017). This study follows a blended approach, combining both traditional skill development and modern, game-based learning techniques suited to the age and context of the players.

2.2.2 Performance Optimisation

Performance optimisation in youth hockey refers to progress in both technical skills (passing, dribbling, coordination) and psychosocial areas (confidence, motivation, and teamwork). Earlier research emphasized win/loss outcomes, but modern approaches prioritize skill-specific metrics and emotional well-being (Bailey et al., 2013). There is an ongoing debate between focusing mainly on physical training (Smith, 2014) versus adopting a holistic approach that includes mental and social development (Fraser-Thomas et al., 2005). This study supports a balanced model, combining both.

A major issue is the gap between sports science and everyday coaching. While science promotes innovative, age-appropriate methods like game-based learning, many coaches in Harare rely on traditional drills due to lack of resources or formal training. This mismatch reduces training effectiveness. To close this gap, coaches or analysts with both academic and practical experience can help convert scientific knowledge into simple, usable interventions. They can assist with skill tracking, mental skills training, and applying tools like video feedback.

Recent research also highlights that girls benefit from training environments that offer emotional support, encouragement, and strong team connections. A positive and inclusive team atmosphere boosts engagement and performance (Martindale & Collins, 2020; Johnson & Thomas, 2021). In low-resource settings like Harare Urban, coaches need practical, integrated training programs that combine basic technical drills with mental interventions like goal setting, praise, and teamwork. More research is needed to develop models that are both effective and context-appropriate for young female athletes.

2.2.3 Under 11 Girl's Hockey

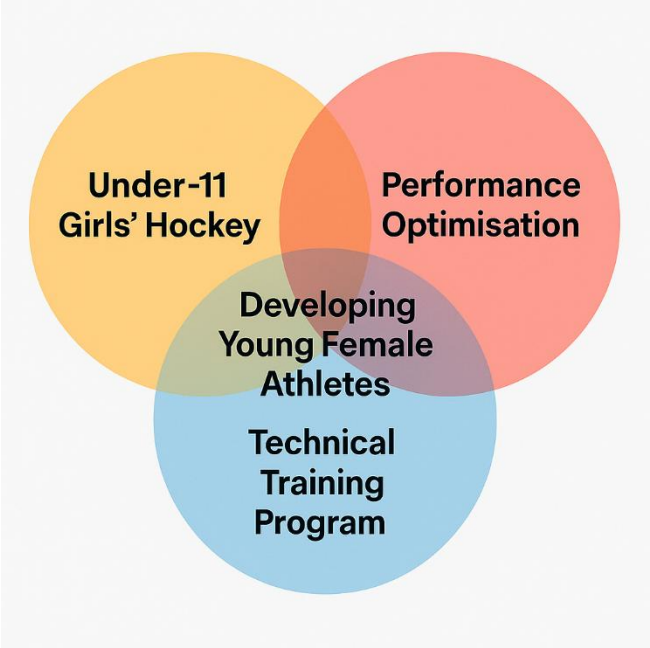
Under-11 (U11) girls' field hockey refers to structured, age-specific participation in field hockey by girls aged 10 and below. This stage is crucial for early childhood sports development, where the emphasis is on teaching basic motor skills, building confidence, and encouraging teamwork, rather than focusing solely on competition. Scholars such as Murata and Côté (2023) highlight that training programs for this age should be designed to promote life skills and enjoyment. At this young stage, players are still developing physically, emotionally, and socially, so coaching that emphasizes fun and foundational learning helps to build long-term interest and prevent early dropout.

However, participation has its fair share of challenges. Girls often experience unequal access to resources and supportive environments compared to boys. Hills et al. (2021) note that in mixed-gender settings, girls are sometimes excluded or made to feel less capable, which can damage their motivation and sense of belonging. Therefore, creating safe, girl-friendly spaces in U11 field hockey is essential. Coaching also plays a key role, Kelly et al. (2022) argue that coaching methods must go beyond simplified adult interventions and instead be playful, development-focused, and inclusive. Coaches should be trained to understand issues such as the relative age effect, which can give older children in the same age group unfair advantages, potentially impacting team dynamics and self-esteem.

Enjoyment is another major factor in sustaining participation. Strean and Holt (2020) emphasize that when children have fun during training, they are more likely to stay engaged and return to sport, while overly competitive environments or early specialization can lead to burnout. Additionally, Voelker and Harvey (2018) stress the importance of tailoring programs to local contexts, especially in under-resourced settings where girls may face extra barriers like late training hours, limited access to fields, and gender stereotypes. In such cases, involving parents, community members, and the girls themselves in program design helps ensure that field hockey becomes an inclusive, sustainable, and empowering activity for young girls.

Figure 2.1

Interplay of the three concepts



The development of young female athletes in under-11 girls' hockey relies on the strong connection between age-appropriate coaching, technical training programs, and performance improvement. At this stage, players are building motor, social, and emotional skills, making it crucial to provide structured, inclusive, and enjoyable training. A well-designed technical program focused on basic hockey skills like dribbling and spatial awareness helps girls stay engaged and confident. Guided by the (LTAD) model, such programs promote steady growth and reduce dropout rates. Optimised performance here means better skills, teamwork, and continued participation. These three elements which are age, training, and performance work together to form the foundation of effective youth sports development for girls.

2.3 Theoretical Review

Psychological Factors and Performance in Under-11 Girls' Hockey

A mix of factors come into play when it comes to influencing sport performance, including physical fitness, technical ability, tactical understanding, and importantly, psychological readiness. The way young athletes, especially under 11 girls, think and feel during training and competition plays a big role in how well they perform. Recent studies show that psychological factors not only directly affect performance but also act as a bridge between an athlete's physical and technical skills and how these skills are used in real games (Martins et al., 2021).

2.3.1 Self-Determination Theory (SDT)

The theory focuses on motivation. According to SDT, young athletes are more likely to improve and stay in sport when their basic psychological needs are met. These needs include: the need for autonomy (having a choice), competence (feeling capable), and relatedness (feeling connected to others) (Ryan & Deci, 2020). When these needs are met, children are more likely to enjoy their sport, stay motivated, and develop both emotionally and socially (Chu & Koppenhaver, 2025; Jeong, Shim, & Shin, 2022).In the context of under-11 girls' hockey, this means coaches should let girls make some decisions in training, give them chances to succeed, and create a friendly, team-focused environment. The (SDT) helps us understand what motivates young athletes to participate and flourish in sports.

In the context of Under-11 girls' hockey, these needs take on unique dimensions. Girls at this age are developing confidence, seeking belonging, and exploring their identities. However, research shows they often face challenges like lack of autonomy in team decisions, fewer opportunities to demonstrate skill, and lower relatedness due to groups or coach favouritism (Werner, 2021; Lawler, Heary, & Nixon, 2021). These barriers can lead to reduced motivation

or even dropout. In short, coaches and parents should aim to create environments that support these three psychological needs in ways that are mindful of both the age and gender of the players. For Under-11 girls' hockey, that means promoting skill development in a fun, pressure-free setting, involving girls in simple decisions like warm-up games, and building strong peer bonds through inclusive team activities. Importantly, girls may interpret coaching styles differently than boys. Research suggests that girls benefit more from coaches who listen, show empathy, and create team unity, which fosters greater motivation and better emotional outcomes (Perrier et al., 2025). These findings highlight the need for gender-sensitive coaching to support positive experiences in young.

2.3.2 Ecological Systems Theory (Bronfenbrenner)

This theory explains that a child's development is shaped by many layers of their environment, and each layer plays an important role in how they grow, learn, and take part in activities like sports. In the case of under-11 girls playing hockey in Harare Urban, the theory helps us understand how different parts of their lives affect their interest and progress in the sport. At the microsystem, the support girls get from their parents, friends, and coaches can greatly influence their confidence and motivation. For example, when parents come to watch their daughters play or praise their efforts after training, it makes the girls feel proud and more eager to improve (Coble & Grame-Zeller, 2020). The mesosystem looks at how different parts of a child's life connect, like how schools work with local sports clubs. When schools and clubs communicate and support each other, girls are more likely to have regular training and positive experiences in both places. At the wider level, called the macrosystem, cultural and social beliefs about gender can either help or hurt girls' chances of playing sports. In many communities, people still believe that sports are more for boys, which can discourage girls from taking part or lead families to limit their involvement. Altogether, this theory shows that to help girls succeed in hockey, they should have all rounded support. This theory's strength is its wide scope, which is capturing how personal and social contexts work together. A limitation, however, is its lack of focus on how children learn within these systems, something addressed by Social Cognitive Theory.

2.3.3. Social Cognitive Theory (Bandura)

This theory explains that children learn by watching others and by receiving feedback about their actions. In under-11 girls' hockey, this means that girls improve their skills and confidence by seeing what others do and learning from how people respond to them. For

example, it could help if young girls have female role models, such as skilled players or female coaches. When girls see someone like them performing well, it boosts their confidence and gives them something to aim for. Positive feedback from coaches or parents also plays a big part. When adults give praise, encouragement, or helpful advice, it makes girls feel good about their efforts and helps them keep trying, even when learning is hard (Leaper, 2023). Finally, peers and teammates matter a lot too. When teammates are friendly, helpful, and cheer each other on, girls feel more comfortable and motivated to participate. This kind of support creates a fun and safe environment where they can grow, take risks, and enjoy the process of learning new hockey skills. Altogether, learning through watching, feedback, and peer support helps girls build both their ability and belief in themselves. The strength of the theory is its direct application to coaching and team dynamics, but it assumes all children have access to positive role models, which is not always the case in resource-limited settings like Harare.

2.3.4 Achievement Goal Theory (Nicholls, Duda)

This theory explains that young athletes can see success in two different ways, either by trying to get better at their own skills (task-oriented) or by trying to be better than others (ego-oriented). In under-11 girls' hockey, it is more helpful when the focus is on personal improvement and effort, not just winning games. When coaches and parents encourage girls to work hard, practice, and learn new skills, the girls are more likely to enjoy playing and stay motivated (Kaplan & Flum, 2020). This approach helps build confidence because players see that their effort leads to progress. On the other hand, if the main focus is always on being the best or beating others, some girls may feel discouraged especially if they do not win. Supportive coaching styles that reward effort, teamwork, and trying your best help girls stay engaged and feel proud of their growth. But if the environment is too competitive, it can create pressure and make girls who are still learning feel like they are not good enough. Creating a team culture that values learning and working together can help young players enjoy the sport and want to keep improving. Its strength lies in guiding motivational interventions and feedback methods. However, its weakness is that it largely overlooks gender and cultural influences on how goals are formed, which makes it less comprehensive when used alone in gendered sport settings.

2.3.5 Developmental Psychology Theories (Erikson, Piaget)

Girls under the age of 11 are at an important stage where they are learning both physical and social skills. At this age, they are just beginning to develop good coordination and to understand the basic tactics used in team sports like hockey. This means training should focus on helping

them learn simple skills like dribbling, passing, and basic movement, without making things too complicated. Sport is also a great way for girls to make friends and learn how to work with others, which helps them build social skills like teamwork, sharing, and communication. Because their minds are still developing, young girls have shorter attention spans and may get bored or confused if training is too serious or complex. That is why coaches should keep training fun, active, and easy to follow, using games and positive feedback to keep them focused and happy while they learn (Horn, 2020). This helps girls feel confident and enjoy coming back to train each week. The strength of developmental theory is its focus on age-appropriate teaching. However, it does not fully account for external barriers such as poverty, gender norms, or school inequalities.

2.3.6. Feminist Theories in Sport

Feminist theory helps explain the challenges that girls face when trying to take part in sports. One major issue is stereotypes, where society often sends the message that sports are mainly or boys. When girls hear this, they may start to believe it themselves, which can lower their confidence and make them less likely to join or stay in sports. To help change this, it is important to focus on empowerment, giving girls chances to lead, such as being team captains or helping organize activities. This shows them that they are just as capable and important as boys. Another key idea is equity, which means giving everyone the same chances to succeed. Girls should have equal access to equipment, good coaching, and training time so they can improve their skills just like boys. By removing unfair barriers and giving girls strong support, a more balanced and welcoming sports environment for everyone can be created. Still, it is essential to this study, given that many barriers girls face in Harare are rooted in patriarchal beliefs and institutional neglect.

2.3.7. Integration

Each theory reviewed offers valuable insights. Self-Determination Theory, Social Cognitive Theory, and Achievement Goal Theory are most useful for understanding how motivation and learning work on a personal and social level. Ecological Systems Theory and Feminist Theory help identify external barriers like cultural norms, poverty, and access issues. Developmental Psychology supports age-appropriate training practices tailored to under-11 learners. The theories share important common ground, such as valuing support, positive reinforcement, and inclusive environments. But they differ in focus, some emphasize internal motivation (e.g., SDT), others external systems (e.g., Bronfenbrenner), or gender politics (e.g., Feminist

Theory). A key paradigm shift across recent decades is the move from performance-focused to development-focused coaching, emphasizing the whole child, not just technical skills. Today's theories promote holistic, inclusive, and learner-centred models of coaching that consider social, emotional, and contextual factors.

This study is guided by Self-Determination Theory, Ecological Systems Theory, and Feminist Sport Theory, which together provide a well-rounded framework for designing effective technical training for under-11 girls in Harare Urban. Self-Determination Theory supports the need to create training environments that build intrinsic motivation by promoting autonomy, competence, and relatedness. Ecological Systems Theory helps the study consider how different levels of a child's environment which are family, school, community, and policy interact to influence her participation and development in hockey. Feminist Sport Theory ensures that the program challenges gender biases and responds to the specific needs of girls, advocating for inclusive, equitable coaching practices. Combined, these theories shape the study's approach to be motivating, developmentally supportive, and gender sensitive.

2.4 Thematic Review

2.4.1 Current Technical Training Methodologies

According to recent research, coaching methods for under-11 girls' hockey teams in Harare Urban differ a lot, especially in under-resourced areas like Zimbabwe. The traditional, coach-centred styles are mostly used where they lead the sessions and focus on repeating basic drills. The young players are not exposed to game-based methods that help them make decisions and apply their skills in real situations. Rather, they are introduced to tactics too early (Tendayi & Tichaona, 2022; Mukandi et al., 2023). This is very unlike the proven methods like Teaching Games for Understanding (TGfU), which emphasize on the use of small, modified games to help children learn both thinking and movement skills. Although TGfU is ideal in the case of schools' hockey due to it being known to work better for younger children, it is rarely used in Harare (Mitchell et al., 2021).

This gap is due to one major reason which is that most grassroots coaches, over 80% are not formally trained or have appropriate coaching certificates (Ndlovu, 2023). As a result, the training methods they use do not match the needs of children aged 8–11, thereby they miss the key time when kids should be learning basic movement and coordination skills. To worsen the situation, gender inequality prevails. Studies show that girls get about 30% less training time

than boys in similar programs. This lack of practice has a severe effect on their skill development, which is a problem seen in other African cities as well (Muchenje & Khosa, 2022). These findings are important because they give an insight on the need to improve coach education and to create training programs that follow international best practices for young athletes and give girls equal opportunities.

The LTAD model is a valuable framework for guiding the growth of young hockey players. In the case of Under-11 girls in Harare Urban, this model stresses the importance of focusing on vital skill development during the "Learn to Play" stage. At this age, girls should have the opportunity to develop fundamental skills through progressive and tailored technical training.

2.4.2 Factors affecting girls' hockey performance

Socio-Cultural Barriers

In Zimbabwe, gender stereotyping still makes it hard for girls to fully participate in sports like hockey. Many families prioritize schoolwork or house chores for girls than playing sports (Ndlovu & Muzorewa, 2023). Hockey is not widely accepted, and some people see it as less valuable. Because of this, girls often do not make any time for practice, which hinders their chances of getting better at the game. Some girls even stop playing early because they grow up hearing that "sports are for boys" (Muchenje, 2022). Cultural beliefs hinder them from getting the regular, focused training they need which would improve their hockey skills even when they want to train. Parents may worry that being too involved in sports will make their daughters less "feminine" or affect their chances of getting married later (Dube & Tshuma, 2021). According to the Sunday News (2023), Zimbabwean girls and women have been overlooked and undervalued in sports for decades. Research shows that women in Zimbabwean sports, come across a number of challenges such as lack of support from society and access to resources. Girls in Zimbabwean sport at many times struggle to find the resources to improve their performance. Gender-based violence, sexual harassment and assault are other challenges. According to a report by the International Olympic Committee (IOC), women in sports are at a higher risk of experiencing gender-based violence than women in other sectors.

Economic Constraints

Many families in Harare cannot afford the costs that come with playing hockey. Coaches say players often must share equipment such as sticks, balls, and safety gear, as they would not

have enough. This limits practice time for each girl during training sessions (Gumbo & Nyathi, 2023). Additionally, girls often miss training as families may not have money for transport, training fees, or even healthy food, which are all important for young athletes. One study showed that 65% of under-11 girls in Harare miss at least one practice a month because of financial problems (Moyo, 2022). Even when programs are free, hidden costs like buying uniforms or paying for transport can still stop poor families from joining (Khosa & Marange, 2021). These financial issues make it hard for many girls to stay in hockey and improve their skills. As indicated by Mhlanga (2020), lack of funding continues to negatively affect the Zimbabwean sporting fraternity and national sporting associations are not spared as they also cry foul over lack of support from the government. This has been going on for many years according to research. In 2021, the Zimbabwe Under-21 women's hockey team coach Tendayi Maredza lamented over lack of funds in the sport as they prepared for a trip to Namibia for the Africa Cup tournament. The team was having a hard time in securing corporate sponsorship. The findings by Nyathi (2019) highlighted that the same challenge occurs to most grassroots sports programs as they often struggle due to lack of funding and as a result most teams find it difficult to get even the basic equipment and resources. Due to insufficient funding, the Under-11 girls' hockey teams in the Warren Park/Mabelreign district may have challenges in acquiring the basic equipment needed for the teams to practise and play matches. These financial limitations also end up reducing the number of players who play hockey as they fail to purchase basic personal equipment thereby hindering the growth of the sport.

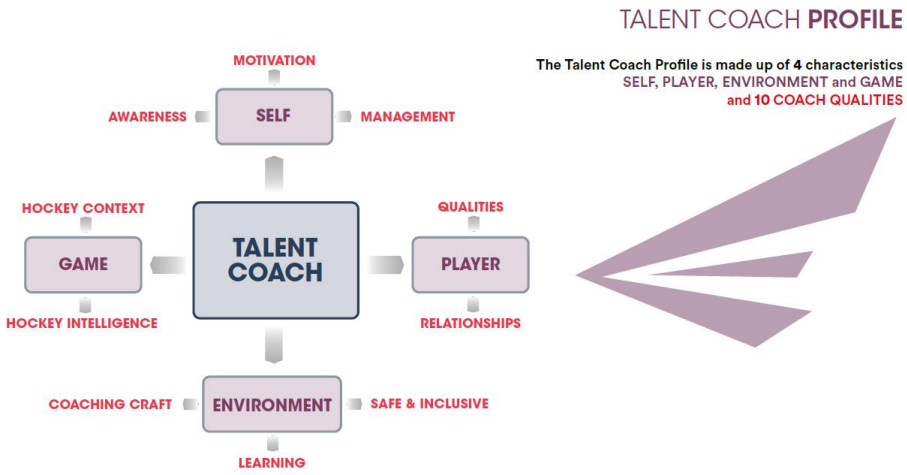
Pedagogical Shortcomings

There are deficiencies when it comes to the way many coaches train young girls. Most sessions are run in a very top-down way, with the coach giving commands and focusing on repetitive drills (Nkomo & Sibanda, 2023). However, research opposes that and shows that girls learn better in group settings where they can talk, ask questions, and work together. These methods create a learning environment which is more fun and help girls remember skills longer (Mitchell et al., 2021). Sadly, girls are often taught by cultural traditions not to speak up or ask questions during training. As such, many girls stay quiet out of respect even when they do not understand something (Tendayi, 2023). For example, a 2022 study showed that under-11 girls kept repeating mistakes as they rarely asked for help during drills, (Mukandi & Chikwava, 2022). Coaches should create a friendly, open space where girls feel safe to speak up and learn from each other, to counter this. Training could be made more effective and enjoyable by using team activities and allowing girls to lead parts of the session.

Methods of coaching are very significant in shaping the experiences of young hockey players. Research suggests that coaching styles can be broadly categorized into three distinct approaches: authoritarian, democratic, and holistic or laissez-faire (Horn, 2020). While there is no one-size-fits-all approach to coaching youth hockey, it is important to put into consideration the unique needs and characteristics of Under-11 girls in Harare. The Talent Coach Profile can be utilised by coaches for self-evaluation; it can assist coaches in their understanding of the areas they need to focus on for their development. Once the needs are successfully identified, they can be addressed accordingly.

Figure 1.2

Talent Coach Profile



2.4.3 Alignment with international benchmarks

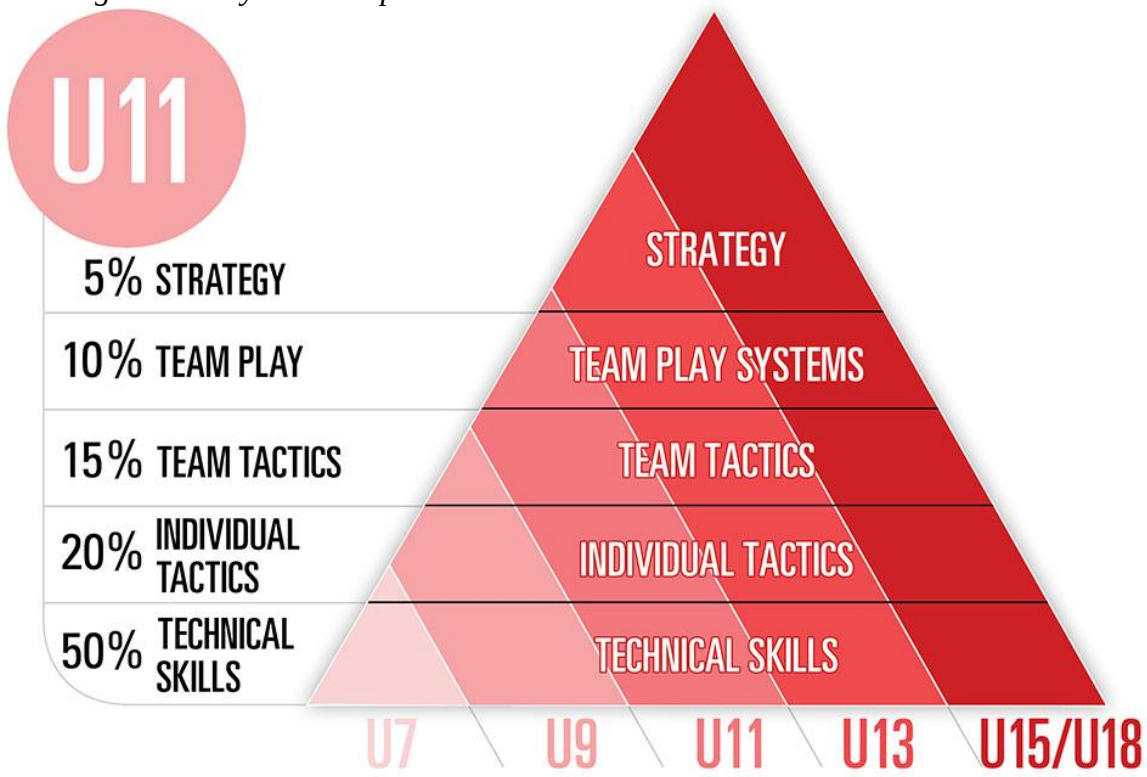
Skill vs. Outcome Focus

Recent research shows that youth hockey programs in Zimbabwe often focus too much on winning games rather than helping young players build basic skills. This goes against the LTAD model, which recommends that children progress through training in a way that matches their age and development level. Studies have found that girls under age 11 in Harare skip the important “FUNdamentals” phase of LTAD, which encourages fun activities and a variety of movement skills like running, jumping, and coordination (Ndlovu & Sibanda, 2023) as they are doing advanced drills and playing in many tournaments by the time they are 8 years old.

Many players also miss out on learning key physical skills like balance and agility because training is not suited to their age (Muchenje et al., 2021). Coaches say they feel pressure from institutions to win games quickly. As a result, only 15% of coaches follow LTAD guidelines, which suggest that 70% of time should be for training and 30% for competition (Khosa & Marange, 2022). This mismatch leads to young players getting tired or injured early. In fact, kids who specialize in one sport too soon are 50% more likely to get overuse injuries (Lloyd et al., 2022), which can hurt their chances of becoming strong athletes in the long run.

Figure 2.3

The Long-Term Player Development Model



The focus should be on small-sided games/skill focused drills. According to Hockey Canada (2024), only 15% of the practice time should be spent on team play and strategy/systems with 85% being time spent on skills and tactics during practice time.

Gender Inclusivity Gaps

According to international standards, it is recommended to utilize gender-responsive modifications for young athletes which include scaled equipment, simplified tactics, and biomechanical adjustments, yet these remain under-implemented in Harare's under-11 girls' hockey. A 2023 biomechanical analysis revealed the girls were exposed to risks of wrist injuries because 90% of programs use standard adult-sized sticks, forcing girls to adopt compromised grip positions which subsequently reduce passing accuracy by 30%, (Gumbo, 2023). Neuromuscular studies shows that girls aged 8–11 use different muscle patterns during slap shots, so they need specific coaching tips to improve techniques, however, coaching remains homogenized across genders (Mitchell et al., 2021). Coaches often teach complex team interventions without considering that girls tend to work better in teams and prefer to talk through problems together, (Nkomo, 2022). This error in coaching methods is seen in avoidable skill inefficiencies, such as reduced shot power from improperly weighted sticks and frustration during tactical drills (Tendayi, 2023).

Poor tracking of progress

Athlete development in Zimbabwean programs could really benefit from assessing and tracking player skills using structured method, but right now, there are no standardized assessments systems in place to measure progress against established benchmarks such as LTAD. Recent audits show only 30% of Harare coaches employ validated tools like the Canadian Hockey Skills Test (CHST), while 85% rely on subjective results of matches or unstructured observation (Marange et al., 2023). This lack hinders technical benchmarking, as critical competencies, such as dribbling under defensive pressure or reverse-stick control remain unquantified (Mukandi & Chikwava, 2022). Resource limitations worsen the gap: 70% of programs do not have the right tools to assess athletes properly, and coaches often do not get the training they need to evaluate motor skills effectively, (Ndlovu, 2022). On a promising note, solutions regarding this challenge are emerging; a 2023 pilot study demonstrated that simplified LTAD checklists combined with smartphone video analysis improved technical alignment by 40% within 12 weeks (Banda et al., 2023). Low-cost tools such as these enable coaches to track individual progress in fundamental areas while addressing resource limitations.

2.4.4 Evidence-Based Training Development

Progressive Skill Building

For technical training for young athletes to be effective, it requires breaking complex skills into smaller, easier steps which are taught progressively in a gradual manner. This method, called progressive skill sequencing, is particularly useful for children under 11 because it supports how they naturally learn and develop motor control. The method becomes even more engaging when combined with games. A study by McCalman (2024) showed that using modified games based on the TGfU model helped children better understand the purpose behind each skill. In countries like Kenya, where resources are limited, coaches have improved players' focus, enjoyment and memory of the skills being taught by using simple game scenarios to teach hockey basics like passing and positioning. Young girls are more likely to gradually improve by introducing skills step by step in fun and meaningful ways.

Stakeholder involvement

The involvement of all stakeholders, that is, coaches, parents, players, and community leaders, in designing training programs is another powerful strategy in youth sports development. This method, called stakeholder co-design, ensures that the training is relevant to the culture and needs of the children involved. When people feel part of the process, they are more committed and supportive and have a sense of ownership. A 2022 study by Osei-Tutu and Mensah in Ghana found that training programs created through stakeholder input led to a supportive environment for girls and fewer dropouts. Girls included and valued, and parents were more welcoming to the idea of their daughters taking part in sports. Including local voices also helps in adapting international models like TGfU to fit local conditions such as shared equipment, lack of facilities, and safety concerns. What this means for Harare schools is working closely with families, and local sports leaders to create a program that girls can fully participate in.

Holistic Monitoring

Modern sports training is no longer about physical performance. Both technical progress and psychosocial factors like enjoyment, confidence, and motivation should be tracked by coaches and program designers. One way of doing this is through the use of tools encouraged by the LTAD model. Recent research by Farmer (2020) introduced the use of LTAD-aligned scorecards to assess not only skill growth but also how much young athletes enjoy their sessions and believe in their ability to succeed. With these tools, coaches can make training adjustments based on a full picture of a child's development rather than just how well they perform drills. In settings like Harare, this means that coaches must regularly collect feedback from the girls,

checking if they feel safe and motivated, and making sure that training sessions are fun and meaningful. Full monitoring ensures both better outcomes and long-term participation.

2.5 Conclusion

When it comes to girls' hockey training in Harare, there are several gaps. The first gap being the use of traditional coaching methods consisting of repetitive drills and early tactics, neglecting modern ones. Gender inequality prevails as girls receive less training time compared to boys which affects their overall skill development. Gaps such as lack of effective training frameworks aligned with LTAD are revealed by literature. Furthermore, gender responsive practices are rarely implemented. There is also a lack of standardised assessment tools to track skill development. It is crucial to address these gaps for improving skill development and promoting gender inclusivity. The research aims to implement TGfU, develop gender-specific training, introduce standardized assessment tools, and integrate psychosocial factors for holistic development.

2.6 Summary

This chapter looked at the existing research on coaching methods, the development of young female athletes, and the social and cultural factors that influence girls' participation in sports, particularly in urban areas. The review highlighted the importance of coaching that focuses on the athlete's needs, long-term development models, and the impact of social and cultural factors on girls' engagement in sports. However, the review also identified significant gaps in the research, particularly in under-11 girls' hockey in Harare Urban. There is a lack of research on how gender, cultural norms, and access to resources intersect and impact girls' participation in hockey in this specific context. The next chapter will outline the research methodology used to investigate these gaps and optimize performance outcomes for under-11 girls' hockey in Harare Urban. This will include the research design, sample selection, data collection, analysis and presentation procedures.

CHAPTER 3: MATERIALS AND METHODS

3.1 Introduction

This chapter will feature the research design, including the justification for its selection, the population and sampling procedures used to ensure representativeness, the data collection instruments and protocols, the data analysis techniques applied, and the ethical considerations that guided the study. By providing a clear and rigorous account of the research process, this chapter establishes the foundation for the following presentation and interpretation of the study's findings.

3.2 Methodological Approach

This study used a mixed methods design to fully explore how technical training can be improved for under-11 girls' hockey teams in Harare Urban. In this study, both questionnaires and interviews were used to collect data from coaches, players, and sports directors in the Warren Park/Mabelreign district. The quantitative data from the questionnaires was analysed using descriptive statistics, correlation and comparative techniques to identify trends in training practices and challenges. The qualitative interview data was analysed through thematic analysis to uncover patterns in participants' experiences and perceptions (Nowell et al., 2017).

To combine the findings, the study used a convergent mixed-methods design, where both sets of data were collected at the same time and then compared and integrated during the interpretation phase (Creswell & Plano Clark, 2020). This integration helped cross-check results from both methods and offer a richer, more accurate understanding of how technical training affects the performance of under-11 girls' hockey teams.

3.3 Time Horizons

This study used a cross-sectional time horizon, meaning that all data was collected at a single point within one academic year. Since the research aims to capture a snapshot of training practices and performance outcomes rather than changes over time, a cross-sectional design is appropriate (Setia, 2021). Data from coaches, players, and sports directors was gathered at the same time through questionnaires and interviews. This method allowed for efficient comparison between different groups and variables within the same timeframe. While longitudinal studies can offer insights into long-term development, they were less practical here due to time, cost, and the potential for participant dropout. More importantly, the study's objectives focused on understanding current practices and short-term impacts, making a cross-sectional design more aligned with the research goals.

However, one limitation is that this design does not track changes over time, which means the study did not capture long-term improvements or shifts in attitudes. This limitation will be acknowledged, and findings will be interpreted accordingly (Levin, 2022). Future studies may consider longitudinal follow-ups to explore lasting effects of the training program.

3.4 Research Strategy

This study used a convergent parallel mixed-methods design, where both quantitative and qualitative data was collected at the same time, analyzed separately, and then merged to compare results and draw integrated conclusions (Creswell & Plano Clark, 2021). This design was appropriate for addressing the study's objectives, particularly because it allowed the researcher to explore what technical training methods were used and why specific challenges are experienced by under-11 girls' hockey players in Harare Urban.

The study implemented methodological triangulation, where results from both data types were compared to examine whether they support, contradict, or expand on each other. This approach helps improve the validity of findings and reduces the potential for bias that may result from relying on a single data source (Guetterman, 2020). Triangulation specifically focused on matching quantitative patterns such as frequency of training sessions with qualitative insights such as coaches' reasons for choosing those practices or players' experiences with those methods. Quantitative data was collected using structured questionnaires distributed to both players and coaches. These included closed-ended questions focused on demographic information, types of drills used, and challenges faced. Likert-scale items assessed perceptions of training effectiveness and athlete confidence.

Qualitative data was gathered through semi-structured interviews with coaches, players and sports directors. Interview questions were used for qualitative data. Probes encouraged participants to describe real-life examples and reflections related to their training practices and program implementation.

To ensure true concurrency, both questionnaires and interviews were administered during the same 4-week data collection window, within the same school term. The integration of findings took place during the interpretation phase through joint display analysis, a method of organizing qualitative and quantitative findings side-by-side to compare and draw aligned conclusions (Fetters & Molina-Azorin, 2020).

3.5 Population and Sampling

3.5.1 Population

The population for this study included Under-11 girls' hockey players, their coaches, and sports directors from primary schools in the Warren Park/Mabelreign district of Harare Urban. According to a recent headcount from the district education office, there are approximately 358 individuals in total, including about 270 players, 60 coaches, and 28 sports directors involved in school-based hockey programs.

3.5.2 Sampling Procedures

This study used both probability and non-probability sampling methods because it followed a concurrent mixed-methods design. For the quantitative strand, the study used stratified random sampling to ensure that different types of schools and participants were fairly represented. The population consisting of coaches, players, and sports directors in the Warren Park/Mabelreign district was divided into distinct strata based on characteristics such as school type (private or government), school size, past hockey performance, and socio-economic background.

After forming these groups, proportional sampling was used. This means the number of participants chosen from each stratum matched their size in the total population. Within each stratum, participants were selected randomly using a random number generator, ensuring fair and unbiased selection. This method helps improve the validity and generalizability of the study findings (Creswell & Plano Clark, 2021).

For the qualitative strand, the study used purposive sampling to select 15 participants (coaches and players) who had deep knowledge and direct experience with under-11 girls' hockey. Participants were chosen based on three main criteria:

1. Relevant experience such as years of coaching or playing in district-level matches.
2. Willingness to participate, confirmed through consent forms.
3. Ability to communicate clearly, assessed during the survey phase by reviewing open-ended responses and language use.

Participants from the quantitative phase were invited to take part in interviews if they met these criteria. This approach allowed the researcher to collect rich, detailed narratives that added context to the statistical findings.

3.5.3 Sample Size Determination

To determine the sample size, the quantitative strand is dependent on a sample size calculator to determine the sample of the population 358.

Table 3.1

Quantitative sample

Stratum	Population (N)	Sample size (n)	Calculator method
Coaches	60	40	n=1+N(e2)N
Sports directors	28	16	n=1+N(e2)N
Players	270	60	n=1+N(e2)N
Total	358	116	e=0.05, Z=1.96Z = 1.96Z=1.96

In the qualitative part of the study, the researcher used theoretical guidelines to decide how many participants to include. The goal was to reach data saturation, meaning that enough detailed information was collected to fully answer the research questions without new insights emerging from additional interviews.

Table 3. 2

Qualitative sample

Stratum	Population (N)	Sample size (n)
Coaches	60	12
Sports Directors	28	8
Players	270	15
Total	358	35

3.6 Data Collection Procedures

The data collection consisted of two phases, pilot study and main study.

3.61 Pilot Study

The researcher conducted a pilot test of the questionnaire and interview guide with fellow Sports Science students at Bindura University of Science Education to assess their clarity and ease of understanding. Although they are not part of the sample, they are part of the population which makes the data collection meaningful due to the traits which are homogenous. Based on the feedback received, several adjustments were made to improve the wording and structure of the instruments.

3.6.2 Main Study

For the quantitative data, questionnaires were distributed to coaches, players and sports directors through Google Forms, allowing them to complete them either in person or online to ensure privacy and confidentiality. Participants were given clear instructions on how to fill out the questionnaire. Those that had issues had access to calls and emails for further explanations if need be. Anonymity and confidentiality were guaranteed by not recording participants' names. The structured Likert scale questionnaire addressed the challenges affecting performance, the alignment of current practices with international standards and psycho-social support. Data that was collected was securely tabulated on excel waiting for later analysis, with identifying information removed to protect participants' privacy.

For the qualitative data, the researcher arranged semi-structured interviews with players, coaches and sports directors, prioritizing face-to-face meetings with those readily available. For participants with busy schedules, calls were used to give schedules. During each interview, the researcher built a connection, explained the purpose of the study and obtained consent. A

comfortable and conducive environment was ensured to facilitate open sharing of insights and experiences. The interviews were recorded after asking for permission. The data collected was then transcribed through excel.

3.7 Data Presentation and Analysis

It is important to carry out data analysis in research because it helps make sense of the information collected. In this study, both qualitative and quantitative data were analysed using different tools and methods to answer the research questions effectively.

For the qualitative data, the researcher used NVivo 15 to conduct a thematic analysis. This involved several steps:

1. Reading and re-reading the interview transcripts to become familiar with the data.
2. Coding the data by highlighting key phrases and allocating labels (codes) to them. Codes included topics such as training challenges, motivational factors, resource limitations, and coaching interventions.
3. Grouping similar codes into broader themes, such as barriers to effective training and positive coaching practices.
4. Visualising themes through charts using NVivo's built-in tools to make patterns easier to identify and present.

For the quantitative data, the researcher used SPSS (Statistical Package for the Social Sciences) to conduct statistical analysis. First, descriptive statistics were calculated to review responses on training methods, performance outcomes, and participant demographics. Then, comparative statistical test (ANOVA) was used to compare performance results between different groups. These tests were chosen because they help determine whether observed differences are statistically significant.

The results were presented in various formats to enhance clarity and understanding. Tables were used to display large sets of related data, such as response rates, while bar graphs illustrated frequency data visually. Written summaries accompanied these visuals to explain their meaning, making the results more accessible.

3.8 Validity and Reliability/Data trustworthiness

3.8.1 Validity

Validity refers to how well a tool or method measures what it is meant to measure (Taherdoost, 2021). In this study, several steps were taken to ensure that the data collection instruments were valid. First, content validity was addressed by making sure that the questionnaires and interview guides fully covered all the key topics related to the research objectives such as training methods, challenges faced by players and coaches, and performance indicators like dribbling and passing. Experts in sports science and hockey coaching were consulted to review the instruments and confirm that the questions were relevant and appropriate.

Second, construct validity was ensured by aligning each question with specific concepts being studied. For example, questions on self-efficacy and teamwork were designed based on commonly accepted definitions and previous research tools used in youth sports development. This helped ensure that the questions truly measured the intended psychological or training-related constructs.

Third, criterion-related validity was supported by comparing some responses (e.g., players' self-reported performance improvements) with actual performance scores recorded during the intervention. This helped confirm that the tools were measuring real, observable outcomes.

To make sure respondents were not influenced or pressured, all instruments included clear and neutral instructions, and participants were told they could skip any question they were uncomfortable with. The researcher also made sure that the survey environment was non-threatening and confidential, so participants could respond honestly without fear of judgment.

In addition, the study was conducted during a carefully selected time frame (within the school calendar) to ensure that the data reflected the players' normal training periods and was not affected by external interruptions like school holidays or major events.

These measures helped ensure that the findings from this study would be both trustworthy and meaningful.

3.8.2 Reliability

Reliability means that a measurement tool can produce the same results when used in the same way under similar conditions (Taherdoost, 2021). In this study, several steps were taken to make sure the data collected was reliable and consistent. To test the internal consistency reliability of the questionnaire, the researcher used Cronbach's alpha test. This statistical test helps to check if the items in the questionnaire that measure the same topic (e.g., training challenges or athlete motivation) are consistent with each other. A Cronbach's alpha value of

0.7 or above was considered acceptable for this study. To ensure consistency in data collection, standardised procedures were followed. All data collectors received the same instructions and training to make sure they understood how to administer the questionnaires and conduct interviews properly. This helped avoid differences in how questions were asked or how responses were recorded, which can affect reliability. The study also aimed to ensure inter-rater reliability during the qualitative analysis by having another trained researcher review a sample of the interview transcripts and coding process. This helped confirm that the same themes and patterns could be identified by different people.

The data was collected from reliable primary sources, that is, players, coaches, and sports directors who are directly involved in under-11 girls' hockey programs. These individuals were selected because of their first-hand experience and direct knowledge of the topic, which helped ensure that the information was current, relevant, and accurate. By combining these steps, the study maintained strong reliability throughout the data collection and analysis process.

3.9 Ethical Considerations

The researcher followed the ethical guidelines set by Bindura University of Science Education's Research Policy to protect the rights and well-being of all participants. Before starting the study, the researcher obtained official permission from the Ministry of Primary and Secondary Education, as well as from school heads in the Warren Park/Mabelreign district. A formal letter of introduction and ethical clearance letter from the university were presented to each school to explain the purpose of the research and request access.

For the under-11 hockey players, written informed consent was obtained from their parents or guardians, and verbal assent was obtained from the players themselves. Before participating, all players, coaches, and sports directors were clearly told, in simple and age-appropriate language, about the purpose of the study, what they would be asked to do, and their right to refuse or withdraw at any time without any consequences.

To protect anonymity and confidentiality, participants' names were not recorded on the questionnaires or in interview transcripts. Instead, coded identifiers (e.g., P1, C1) were used. Data was stored securely on a password-protected device, and only the researcher had access to it. All collected information was used only for academic purposes and will be destroyed after the research project is completed.

To prevent any discrimination, the sampling process was designed to include a fair mix of players and coaches from different school types (private and government), various socio-economic backgrounds, and performance levels. During data collection, every participant was treated equally and respectfully, and no one was excluded based on background, ability, or school type.

With young participants, the researcher used a friendly and non-intimidating tone, conducted interviews in familiar school settings, and assured players that there were no right or wrong answers. Players were encouraged to express themselves freely without fear of judgment. Coaches and sports directors were also reminded that their responses would remain confidential and would not be shared with school authorities.

3.10 Chapter Summary

This chapter explained the research methods used to study how to improve performance in under-11 girls' hockey teams in Harare Urban. The study used a convergent parallel mixed-methods design. This mixed approach was chosen to give a complete understanding of the problem, covering both broad patterns and detailed personal experiences. The data was analysed using thematic analysis for interviews and descriptive and inferential statistics for survey data. The researcher also followed strong procedures to make sure the results were accurate (valid), consistent (reliable), and ethically collected. By clearly outlining how the research was done, this chapter builds a strong foundation for the next chapter, Data Analysis and Presentation, where the study's results will be shared and explained.

CHAPTER 4: DATA ANALYSIS AND PRESENTATION

4.1 Introduction

The chapter presents findings from a study that developed technical training programs to optimise performance improvement of Under 11 Girls' Hockey teams in Harare urban. First, it presents the response rate from the data collected. Next, it examines the demographic profiles of the respondents, covering areas such as age, gender and their roles in hockey. The reliability is then evaluated to confirm the validity and trustworthiness of the instruments. Afterwards, the chapter analyses and presents findings according to the research objectives. For better understanding and presentation, key tables, graphs and charts are incorporated throughout the presentation.

4.2 Response Rate

This section summarises the response rate for the study.

4.2.1 Questionnaire Response

This section outlines the questionnaire response rate from coaches, administrators and players involved in Hockey in Harare urban.

Table 4.1

Questionnaire Response Rate

Stakeholders	Questionnaire distributed	Questionnaire Returned	Questionnaire not returned or invalid	% retuned
Coaches	40	47	0	100
Sports directors	40	29	11	72.5
Players	60	24	36	40

Total	140	100	70	84

The responses to the survey indicate that various hockey stakeholders answered at different rates. All the coaches responded, showing how very engaged and interested they are. Around 72.5% of the administrators participated, which is impressive though not as high as the coaches. But only 40% of players replied, and many of their responses were incomplete or had invalid answers. In general, the overall response rate was 84%, indicating that there is a great interest in the study. However, the low number of responses from players is concerning since their perspective is crucial in creating training programs tailored to them. To fix that, there is need to ensure that players are given easier ways to participate. This might mean creating simpler questionnaires or sitting players down for focus group-type discussions, where they can share their thoughts more easily. By doing this, it can be made sure that the training programs are more inclusive, effective, and better suited to the players themselves.

4.2.2 Interview Response rate

Table 4.2

Interview Response Rate

Stakeholders	Target	No Interviewed	% retuned
Coaches	5	5	100
Administrators	5	3	60
Players	5	4	80
TOTAL	15	12	80

The interview results show varying levels of participation among stakeholders in the hockey program. All coaches took part, reflecting strong commitment and interest. Administrators had a lower participation rate of 60%, which pointed to challenges such as limited availability or different priorities. Players showed a good participation rate of 80%, although one did not take part, suggesting the need to ensure every player's voice is heard. The total participation rate was 80%, indicating solid engagement. However, the differences between groups highlight the need for targeted interventions to encourage greater involvement from administrators and to further support player engagement. By addressing these gaps, the program can gather more

balanced feedback and gain a clearer understanding of the needs and views of all stakeholders, which will contribute to more effective training programs and help strengthen the overall hockey community.

4.3 Demographics

This section analyses the demographics of the key participants, primarily focusing on gender, age and role in the team. The demographic was important to understand the profiles of the respondents which in turn supported the validity of their insights.

4.3.1 Gender composition of the respondents

Table 4.3

Gender of questionnaire respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	47	47.0	47.0	47.0
	female	53	53.0	53.0	100.0
	Total	100	100.0	100.0	

The gender statistics reveal that there are 53% women and 47% men in the sample population. The equal interests shown by the two genders show that including both sexes is vital in sports where youth are involved. Because more females are involved, it seems that there are improved chances and help available for women's sports, which is good for girls' programs. According to these findings, both boys and girls should be included in the initiatives, with girls' hockey training being welcoming and helpful. Looking at responses from female hockey players will help us develop steps that lead more girls to take part and enjoy playing.

Table 4.4

Gender composition of interview participants

	Frequency	Percent	Valid Percent	Cumulative Percent

	Male	7	58.3	58.3	58.3
Valid	Female	5	41.7	41.7	100.0
	Total	12	100.0	100.0	

Of the 12 people who participated in the interviews, 7 (58.3%) said they were male and 5 (41.7%) said they were female. There is a greater number of males than females in this group, which reflects a bigger presence of men in that part of society. Because more males participated in the survey, it is possible that the talk about the subject is dominated by men's views, this can cause the discussion to become biased. Whenever there is an inequality in respondents, it raises doubts that the research might omit the unique challenges of women. Also, this information demonstrates why it is important to make sure studies in the future have a variety of perspectives. It underlines the importance of helping more women join such research efforts so that everyone is given the chance to voice their views. To sum up, identifying these elements is necessary to reinforce gender balance and promote equality in those areas.

4.3.2 Age of the respondents

Table 4.5

Age of questionnaire respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-30	32	32.0	32.0	32.0
	31-40	46	46.0	46.0	78.0
	41-50	17	17.0	17.0	95.0
	50	4	4.0	4.0	99.0
	Total	100	100.0	100.0	

Most people who took part in the survey were in the 31-40 range, making up 46% of the sample. The next largest share is made up by people aged 21-30 at 32%, and only 17% and 5% are in the 41-50 and above groups. Since there are more young to middle-aged adults, they can participate in sports, coach teams, and take part in community activities that aid in forming youth hockey programs. Such age groups would find it useful to be part of programs that fit their skills and interests. Knowing what the 31-40 age group likes and their motivations can help boost under-11 girls' hockey by strengthening the community.

Table 4.6

Age of interview participants

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	10-11 years	4	33.3	33.3	33.3
	21-30 years	2	16.7	16.7	50.0
	31 and above	6	50.0	50.0	100.0
	Total	12	100.0	100.0	

According to the data, there are 4 (33.3%) people between 10 and 11 years, 2 (16.7%) people between 21 and 30 years, and 6 (50%) people who are 31 years or older. As shown by the result, approximately half of the sample are older adults, whereas very little of the sample consists of young athletes. Since almost half the total sample are 31 or older, the responses are more about what coaches or parents do, rather than what the players feel. This may result in misunderstanding what girls of this age group go through in hockey preparation. It points out that introducing more young athletes' voices will ensure that the programs created are appropriate and genuinely effective. With an eye on what younger players go through, the study can give them training programs that match their needs and likes.

4.3.3 role of the respondents

Table 4.7

role of questionnaire respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Coach	47	47.0	47.0	47.0
	administrator	29	29.0	29.0	76.0
	Player	24	24.0	24.0	100.0
	Total	100	100.0	100.0	

Looking at the data collected on roles within the sample, there are 47% coaches, 29% administrators, and 24% players in the response data. The data show representatives of coaching perspectives are largely represented, providing contextual evidence relating to the training methods of the developing coaches and the impacts of success in hockey programs. The number of administrators show a solid presence showing their involvement is an important

aspect in developing hockey programs. Conversely, the number of player responses are small suggesting that they are seldom represented in the training, developing, and other sport-related conversations. Accordingly, representing players' experiences can help in developing better training programs suitable to support the needs of all parties involved. When links in communication are established between the coaches, administrators, and players the goals and interventions in the sport can be aligned to foster a supportive environment for young athletes.

Table 4.8

Roles of interview respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Coach	5	41.7	41.7	41.7
	administrator	3	25.0	25.0	66.7
	Player	4	33.3	33.3	100.0
	Total	12	100.0	100.0	

The results point out that of the 12 participants, 5 are coaches, 3 are administrators, and 4 are players. The number of coaches compared to players is also strong, which helps in preparing proper training for everyone. It is clear that organizational support is needed for these programs because of the role played by administrators. While the surveys' results have one-third coming from players, their expertise is necessary since they participate in training and can give important feedback. According to this information, both coaches' and administrators' input is crucial for organizing and carrying out the changes, but playing experiences should also be considered and prioritized for future insights. The research results might create more useful and personalized training for young female hockey players. All in all, gathering comments from everyone involved will increase the success and acceptance of the training.

1.5 Analysis and presentation of data linked to research objectives

This section presents data according to the instruments used, providing a comprehensive outcome and a nuanced understanding of the results. The presentation began with the quantitative data from the questionnaires followed by qualitative data from the in-depth interviews.

1.5.1 Research Objective 1: To identify the technical training methodologies currently employed by coaches of under-11 girls' hockey teams in Harare Urban.

Table 4.9

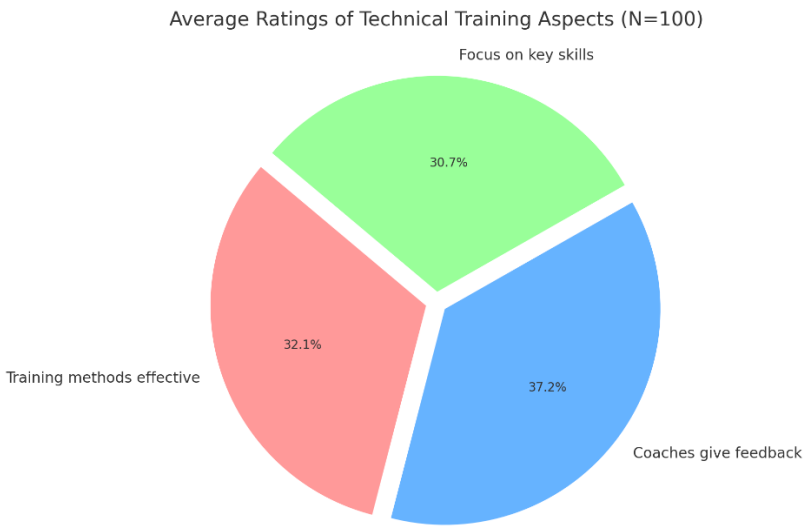
Descriptive analysis

	N	Min	Max	Mean	Std. Deviation
1.The technical training methods used in our team are effective for skill development.	100	1	6	2.93	1.430
2.Coaches provide sufficient feedback during training sessions.	100	1	4	3.40	.711
3.Our training sessions focus on key technical skills (e.g., passing, dribbling).	100	1	7	2.80	1.864
Valid N (listwise)	100				

The survey results about training methods for under-11 girls' hockey in Harare show some important findings. The average score for the effectiveness of training methods was 2.93, suggesting that coaches think these methods are somewhat effective but could improve. Feedback from coaches had a higher average score of 3.40, indicating that while feedback is given, it might not always be high quality or frequent. The average score for focusing on key skills like passing and dribbling was 2.80, showing that there may be a lack of emphasis on these essential skills. This varied feedback indicates that coaches need to improve their training methods to better help young players develop their skills. By addressing these issues, coaches can create more structured training sessions that focus on important skills and provide better feedback, leading to a more effective learning environment for young girls in hockey. The study highlights the need for ongoing assessment and adjustment of training practices to meet the needs of young athletes.

Figure 4.1

Rating of the technical training aspects



The pie chart shows how people rated different aspects of technical training. Most respondents felt that "Coaches give feedback" was the most important, making up 37.2% of the responses. "Training methods effective" was also significant at 32.1%, while "Focus on key skills" was the least important at 30.7%. This suggests that feedback from coaches is highly valued, which can help improve the training process.

Table 4.10

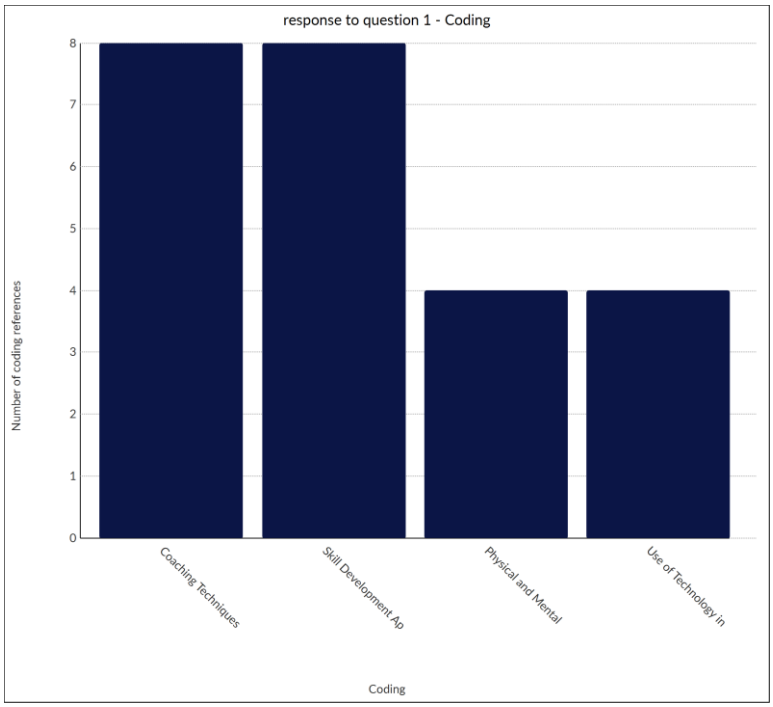
NVivo analysis of the technical training methodologies currently employed by coaches of under-11 girls' hockey teams in Harare Urban.

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
Coaching Techniques and Interventions	Methods and strategies used to enhance athlete performance	"Our methodology includes skill progression drills, which gradually increase in difficulty. We evaluate effectiveness by monitoring player confidence and execution during matches."	8
Physical and Mental Conditioning	Training aimed at improving physical strength and mental focus	"I worked on my stamina," We assess success by observing improvements in their game awareness and decision-making."	4

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
Skill Development Approaches	Techniques aimed at enhancing specific athletic skills	"We emphasize foundational skills like shooting and passing through repetition. Effectiveness is determined by players' ability to execute these skills under pressure during games."	8
Use of Technology in Training	Incorporation of tech tools for improving training efficiency	"We implement video analysis to break down techniques. Players watch recordings of their performance.''	4

Figure 4.2

Graph presentation of the coding references for the current technical training methods



The NVivo analysis shows that the most commonly used technical training methods by coaches of under-11 girls' hockey teams in Harare Urban focus on coaching techniques and skill development approaches, with each getting 8 coding references. This means coaches are mainly working on how they guide and train players in basic hockey skills. However, physical and mental conditioning and the use of technology in training are used less often, with only 4 references each. This suggests that while coaches are putting effort into teaching skills, they may be missing out on other important areas of a player's development, such as fitness,

confidence, and new training tools like video analysis. The implication is that training programs are not yet balanced or modern enough. To help girls perform better and enjoy the game more, coaches should include more mental and physical conditioning activities and make better use of technology to track and improve skills. A more complete approach would match international standards and help the girls grow in all areas of the game.

Together, these findings highlight the necessity for coaches to refine their training methods, increase focus on key skills, and incorporate technology more effectively. Regular assessment and adjustment of these practices are essential to meet the evolving needs of young athletes, ensuring a more structured and supportive learning environment that fosters skill development and engagement in hockey.

4.4.2 Research objective 2: To analyze the contextual, socio-cultural, and pedagogical factors influencing technical proficiency and performance outcomes among under-11 girls' hockey players in Harare Urban.

Table 4.11

Correlation analysis of the contextual, socio-cultural, and pedagogical factors influencing technical proficiency and performance outcomes among under-11 girls' hockey players in Harare Urban.

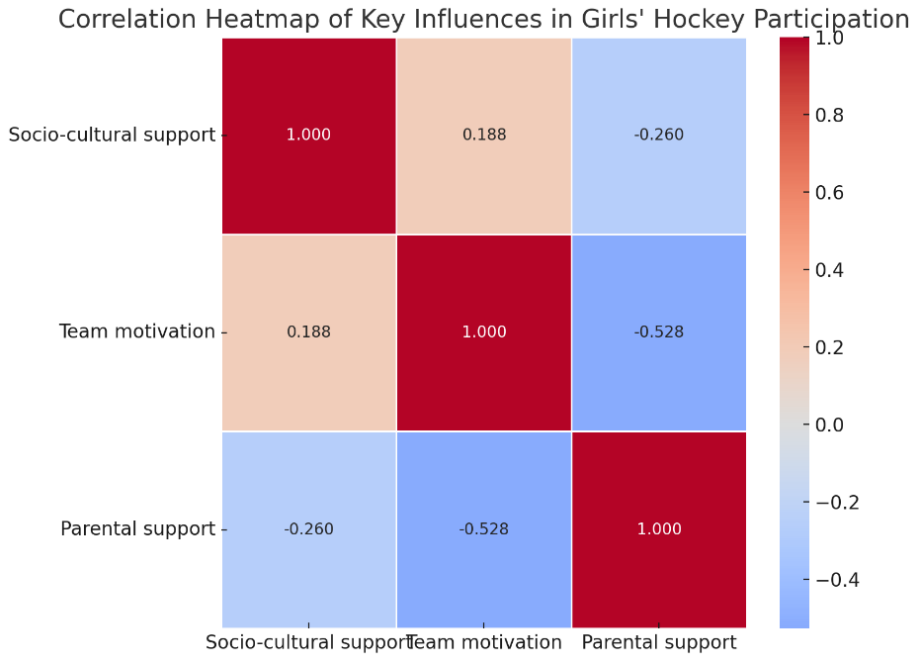
		4.The socio-cultural environment supports girls' participation in hockey.	5.Players feel motivated to develop their skills within the team.	6.Parental support is crucial for the athletes' performance and development.
4.The socio-cultural environment supports girls' participation in hockey.	Pearson Correlation	1	.188	-.260**
	Sig. (2-tailed)		.061	.009
	N	100	100	100
5.Players feel motivated to develop their skills within the team.	Pearson Correlation	.188	1	-.528**
	Sig. (2-tailed)	.061		.000

6.Parental support is crucial for the athletes' performance and development.	N	100	100	100
	Pearson Correlation	-.260**	-.528**	1
	Sig. (2-tailed)	.009	.000	
	N	100	100	100

The correlation analysis shows important relationships between factors affecting technical skills and performance of under-11 girls' hockey players in Harare. There is a weak positive link between the socio-cultural environment and girls' participation in hockey ($r = 0.188$, $p = 0.061$), meaning some support exists, but it is not strong enough to significantly boost engagement. On the other hand, there is a strong negative correlation between the socio-cultural environment and parental support ($r = -0.260$, $p = 0.009$), suggesting that poor socio-cultural conditions can limit parental involvement, which is essential for players' growth. Additionally, a significant negative correlation exists between players' motivation to develop skills and parental support ($r = -0.528$, $p = 0.000$), indicating that more parental support leads to higher motivation. These findings suggest that improving socio-cultural conditions and increasing parental involvement could greatly enhance motivation and skill development for young athletes. The study emphasizes the need for a supportive environment that encourages girls to participate in sports and strengthens parental roles in their daughters' athletic journeys, leading to better skills and performance in hockey.

Figure 4.3

Correlation heatmap of key influences in girls' hockey participation



The heatmap analysis shows important connections that affect the skills and performance of under-11 girls' hockey players in Harare. There is a weak positive link (r = 0.188, p = 0.061) between the socio-cultural environment and girls' participation in hockey, meaning there is some support, but it is not strong enough to significantly increase involvement. On the other hand, a strong negative correlation (r = -0.260, p = 0.009) indicates that poor socio-cultural conditions make it harder for parents to get involved, which is crucial for player growth. Additionally, a significant negative correlation (r = -0.528, p = 0.000) shows that more parental support is linked to higher motivation to improve skills. These results highlight the need to improve social conditions and increase parental support to enhance motivation and skill development in young female athletes, leading to better hockey performance.

Table 4.12

NVivo analysis of the contextual, socio-cultural, and pedagogical factors influencing technical proficiency and performance outcomes among under-11 girls' hockey players in Harare Urban

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
Access to Resources and Facilities	Availability of training equipment and facilities	"Access to facilities is a significant factor. Many girls lack opportunities to practice due to limited resources in urban areas, which affects their skill development."	6

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
Coaching Practices and Pedagogy	Approaches and methods used by coaches to facilitate learning	“Coaches used different drills,” “They emphasized a positive learning environment.”	10
Parental Involvement and Support	The role of parents in encouraging and supporting athletes	"Family support is crucial. Girls whose families encourage athleticism tend to perform better and stay involved in hockey longer than those without that support."	6
Peer Influence and Team Dynamics	Impact of teammates and peers on individual performance	"Peer influence plays a big role. If friends are not participating, girls are less likely to join.’’ ‘’ Building a strong community around hockey can help change this dynamic."	5
Socio-Cultural Support Systems	Community and cultural influences that support athletic development	"Cultural perceptions about girls in sports often discourage participation.’’ ‘’Some communities still hold traditional views that deem sports as more suitable for boys."	7

The NVivo analysis of the factors influencing technical proficiency and performance outcomes among under-11 girls' hockey players in Harare Urban reveals several critical insights. Coaching practices and pedagogy stand out as the most frequently referenced factor, indicating that effective coaching is vital for skill development and overall performance. Parental involvement and support, along with access to resources and facilities, also play significant roles, suggesting that a supportive environment both at home and in the community enhances young athletes' experiences. Socio-cultural support systems and peer influence further highlight the importance of social dynamics in sports; girls benefit not only from individual support but also from positive team interactions. Overall, these findings imply that improving coaching quality, increasing parental engagement, and providing better facilities can significantly enhance the performance and experience of young female hockey players in Harare. This holistic approach could lead to better outcomes not just in sports, but also in fostering confidence and teamwork skills among these young athletes.

The analysis shows that greater parental support correlates with higher motivation for skill improvement, emphasizing the need for a supportive environment that encourages girls to engage in sports. These insights underscore the importance of creating a holistic support system that promotes both community encouragement and active parental participation in the athletic journeys of girls.

4.4.3 Research objective 3: To evaluate the extent to which existing technical training programs align with internationally recognized benchmarks for optimal athletic development.

Table 4.13

Anova analysis to evaluate the extent to which existing technical training programs align with internationally recognized benchmarks for optimal athletic development.

		Sum of Squares	df	Mean Square	F	Sig.
7.Our training programs incorporate internationally recognized skill development practices.	Between Groups	15.929	2	7.964	2.712	.071
	Within Groups	284.821	97	2.936		
	Total	300.750	99			
8.Coaches stay updated on global best practices in girls' hockey training.	Between Groups	2.580	2	1.290	.548	.580
	Within Groups	228.170	97	2.352		
	Total	230.750	99			
9.The training environment fosters competitive spirit and skill mastery.	Between Groups	1.118	2	.559	.242	.786
	Within Groups	224.192	97	2.311		
	Total	225.310	99			

The objective of evaluating how well existing technical training programs align with internationally recognized benchmarks for optimal athletic development reveals some important insights from the ANOVA results. For the first statement about the incorporation of internationally recognized skill development practices, the F-value of 2.712 and a significance level of 0.071 suggest that there may be a trend towards differences in perceptions among groups, but it is not statistically significant at the typical threshold of 0.05. This indicates that while some differences exist, they are not strong enough to conclude that training programs are significantly aligned with international standards. The second statement regarding coaches staying updated on global best practices shows an F-value of 0.548 with a significance of 0.580, indicating no significant difference in the perceptions of the groups on this matter. Lastly, the

third statement about the training environment fostering competitive spirit and skill mastery has an F-value of 0.242 and a significance of 0.786, also suggesting no significant differences. Generally, these results imply that the technical training programs may need to improve their alignment with international benchmarks, as there is no strong evidence of agreement among participants regarding the effectiveness and modernity of the training practices in use.

Table 4.14

NVivo analysis of the extent to which existing technical training programs align with internationally recognized benchmarks for optimal athletic development.

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
Program Structure and Curriculum	Organization and content of training programs and educational pathways	“We could improve by incorporating more structured age-appropriate training methodologies that align with international standards."	21
Assessment Metrics and Athlete Feedback	Methods of evaluating athlete performance and providing constructive feedback	“Our assessment methods could be more aligned with global standards. Implementing regular performance reviews would help track player development effectively."	20
Technology and Innovation in Training	Use of modern tools and techniques to enhance training effectiveness	“We could incorporate more technology into training, like video analysis and performance tracking, which is becoming a standard in youth hockey worldwide."	17
Mental Conditioning and Psychological Support	Strategies for improving mental resilience and emotional well-being	"Our programs are fairly aligned, but we often lack a focus on mental skills training.” “Integrating sports psychology could enhance players' performance and resilience."	15
Diversity, Inclusion, and Partnerships	Commitment to fostering an inclusive environment and community collaborations	“We need to do more in terms of inclusivity.”	10
Coaching Qualifications and Expertise	Credentials and experience of coaching staff	“We could enhance our training by providing ongoing education and certification opportunities,”	9

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
		"Qualifications matter in effective coaching."	

The NVivo analysis of existing technical training programs reveals key areas of alignment with internationally recognized benchmarks for optimal athletic development. The high number of references to program structure and curriculum indicates that many training programs are well-organized and designed to meet global standards. Similarly, assessment metrics and athlete feedback are also emphasized, suggesting that regular evaluations play a crucial role in monitoring athletes' progress. The focus on technology and innovation highlights the importance of modern training methods, while mental conditioning and psychological support show that mental well-being is increasingly recognized as essential for athletic success. Diversity, inclusion, and partnerships, although mentioned less frequently, indicate a growing awareness of the need for equitable access and collaboration in sports. Finally, coaching qualifications and expertise, while the least referenced, remain vital for ensuring effective training. These findings suggest that while many programs align well with international benchmarks, there is still room for improvement, particularly in enhancing coaching expertise and fostering diversity, which could further elevate athletic development and performance.

The analyses of both the coding insights and the ANOVA results highlight significant gaps in the technical training programs for under-11 girls' hockey teams in Harare Urban compared to international standards for athlete development. To truly optimize performance and nurture well-rounded athletes, it is essential to enhance coach education and focus on inclusivity, ensuring that all girls have equal opportunities to thrive. Together, these findings emphasize the need for a holistic approach that integrates physical, cognitive, emotional, and social development in training programs.

4.4.4 Research objective 4: To develop technical training interventions to optimise performance in Under 11 Girls' Hockey Teams in Harare Urban.

Table 4.15

ANOVA of development of technical training interventions to optimise performance in Under 11 Girls' Hockey Teams in Harare Urban.

		Sum of Squares	df	Mean Square	F	Sig.
10.I believe that the current training program has improved my technical skills.	Between Groups	.787	2	.393	.529	.591
	Within Groups	72.123	97	.744		
	Total	72.910	99			
11.The training program has positively impacted my self-confidence in playing hockey.	Between Groups	10.919	2	5.459	1.497	.229
	Within Groups	353.671	97	3.646		
	Total	364.590	99			
12.Teamwork is emphasized in our training sessions.	Between Groups	6.456	2	3.228	1.347	.265
	Within Groups	232.454	97	2.396		
	Total	238.910	99			
13.I have noticed improvements in my passing accuracy since participating in training.	Between Groups	5.239	2	2.620	.587	.558
	Within Groups	432.921	97	4.463		
	Total	438.160	99			

The objective of developing technical training interventions to optimize performance improvement for under-11 girls' hockey teams in Harare Urban is supported by the ANOVA results, which provide insights into participants' perceptions of the training program. For the statement about improvement in technical skills, the F-value of 0.529 and a significance level of 0.591 indicate that there is no significant difference in perceptions among the groups, suggesting that participants do not strongly believe the current program has notably enhanced their technical abilities. Similarly, the statement regarding the positive impact on self-confidence has an F-value of 1.497 and a significance of 0.229, showing no significant agreement that the training has boosted their confidence in playing hockey. The emphasis on teamwork in training sessions also received an F-value of 1.347 with a significance level of 0.265, indicating a lack of significant differences in opinion about the focus on teamwork. Lastly, improvements in passing accuracy showed an F-value of 0.587 and a significance of 0.558, reinforcing the trend that participants do not perceive substantial improvements in this area. In general, these results suggest that while there may be some individual improvements,

the current technical training program may need significant enhancements to better optimize performance and meet the needs of under-11 girls in hockey.

Table 4.16

NVivo analysis of development of technical training interventions to optimise performance in Under 11 Girls' Hockey Teams in Harare Urban.

Theme	Theme Description or Definition	Matching Mentions from the Interviews	Number of Mentions
Skill Acquisition and Progression	Processes involved in learning and improving athletic skills	"I believe we should introduce more diverse drills that focus on game situations." "Enhancing our training schedule to include more frequent sessions would allow for greater skill development."	14
Performance Measurement and Evaluation	Methods for assessing and analyzing athlete performance	"Regular evaluations would help identify areas for improvement and allow for personalized training plans." "I incorporate peer evaluations where players assess each other's contributions in practice and games."	9
Long-Term Athlete Development (LTAD) Integration	Framework for guiding athletes through different stages of development	"LTAD principles are applied in our training to a lesser extent," "Creating a structured curriculum that aligns with international frameworks would be beneficial."	3
Gender-Responsive Coaching Practices	Coaching methods that consider gender differences and promote inclusivity	"Coaches should adapt their techniques based on gender," "We ensure equal opportunities."	5
Equipment Suitability and Safety	Appropriateness and safety of gear and training environments	"The equipment is tailored for our needs," "Safety checks are conducted regularly."	4

The NVivo analysis of technical training interventions aimed at optimizing performance improvement in under-11 girls' hockey teams in Harare Urban highlights several important factors. The highest number of references to skill acquisition and progression indicates that a strong focus is placed on teaching essential skills and ensuring that players advance in their abilities. Performance measurement and evaluation, while less frequently mentioned, are crucial for tracking improvements and identifying areas needing attention. The integration of

Long-Term Athlete Development (LTAD) principles, though noted only a few times, suggests that there is an awareness of the need for a structured approach to athlete growth over time. Gender-responsive coaching practices are also recognized, reflecting the importance of adapting training to meet the specific needs of young female athletes. Finally, equipment suitability and safety, while mentioned the least, are vital for ensuring a safe training environment. Overall, these findings imply that while there is a strong emphasis on skill development, there is a need for more comprehensive strategies that include consistent performance evaluations and safer equipment to fully support the growth and performance of young female hockey players.

Discussion

Objective 1

The findings from the study on training methods for under-11 girls' hockey teams in Harare Urban largely strengthen existing literature, particularly regarding the use of traditional coaching styles and the lack of formal training among grassroots coaches. Research indicates that many coaches employ a teacher-centred approach, focusing on repetitive drills rather than modern, game-based methods that foster decision-making skills in young players (Tendayi & Tichaona, 2022; Mukandi et al., 2023). This aligns with the study's results showing an average effectiveness score of 2.93 for training methods, reflecting a perception of limitations in current practices.

Moreover, the study highlights the significant gap in coach education, with over 80% of grassroots coaches lacking formal training (Ndlovu, 2023). This lack of qualifications contributes to the inadequate emphasis on essential skills like passing and dribbling, which scored only 2.80 in the survey. Existing literature underscores the importance of proper coach education as a critical factor in optimizing training methods, particularly for young athletes who are at a crucial stage of skill development.

The study also bridges gaps in the literature by providing specific data on the training disparities faced by girls, revealing that they receive about 30% less training time than boys in similar programs. This gender inequality is a crucial insight that highlights systemic issues in sports training that have been less documented in the context of Harare. Such findings emphasize the need for equitable training opportunities and align with the Long-Term Player

Development Model's advocacy for balanced skill development during the "Learn to Play" stage.

In terms of new insights, the study emphasizes the necessity for ongoing assessment and adjustment of training practices to meet the evolving needs of young female athletes. It suggests that incorporating technology and modern training methodologies, such as Teaching Games for Understanding (TGfU), could significantly enhance the training experience, although these approaches are rarely utilized in Harare.

Comparing these findings against established best practices and benchmarks, the study highlights a clear need for improvement. The Long-Term Player Development Model stresses the importance of a holistic approach that includes physical, cognitive, and emotional development, which current practices in Harare do not fully support. By addressing the identified gaps in coach education, training methods, and gender equality, stakeholders can create a more supportive and effective training environment for young girls in hockey, ultimately aligning with international best practices in youth sports development.

Objective 2

The study's findings on the factors affecting under-11 girls' hockey performance in Harare align closely with existing literature, highlighting significant socio-cultural, economic, and pedagogical challenges. The correlation analysis emphasizes the importance of socio-cultural support and parental involvement, corroborating findings by Ndlovu & Muzorewa (2023) and Muchenje (2022), which indicate that traditional gender roles often discourage girls from participating in sports. These cultural barriers contribute to lower engagement and skill development, reinforcing the idea that societal attitudes play a crucial role in shaping girls' athletic experiences.

Moreover, the study reveals a strong negative correlation between socio-cultural conditions and parental support, suggesting that adverse socio-cultural environments limit parental involvement, which is vital for fostering motivation and skill development. This finding bridges a gap in the literature, as it draws attention to the interplay between cultural perceptions and parental engagement, an area that has received less focus in previous research.

The economic constraints identified in the study also reflect findings from other research, such as Moyo (2022) and Khosa & Marange (2021), indicating that financial barriers significantly hinder girls' participation in sports. The study highlights that many families cannot afford basic equipment and training costs, which echoes the broader challenges faced by grassroots sports

programs in Zimbabwe (Mhlanga, 2020; Nyathi, 2019). This underscores the need for targeted financial support and resources to enable girls to participate fully in hockey.

Pedagogical shortcomings are another critical area where the study provides new insights. While literature suggests that girls benefit from collaborative and interactive learning environments (Mitchell et al., 2021), the findings indicate that many coaches still rely on authoritarian, top-down training methods. This disconnect highlights the need for coaches to adapt their styles to better suit the learning preferences of young girls, fostering an environment where they feel comfortable asking questions and engaging actively in practice.

The study also introduces the concept of using tools like The Talent Coach Profile for self-evaluation, which can aid coaches in identifying areas for improvement in their training methods. This aligns with best practices in coaching education, emphasizing the importance of continuous development and adaptability in coaching styles to better meet the needs of young athletes.

In comparison to established best practices and industry standards, the findings suggest that while some foundational coaching methods are in place, significant gaps remain in aligning with holistic approaches that prioritize skill development, inclusivity, and female empowerment. By addressing these gaps through improved coach education, equitable resource distribution, and fostering supportive socio-cultural environments, the potential for enhancing the overall experience and performance of under-11 girls' hockey players in Harare can be greatly increased.

Objective 3

Recent research shows that youth hockey programs in Zimbabwe are more focused on winning games than helping young players learn basic skills. For example, many teams for kids under 11 spend a lot of time doing advanced drills and going to tournaments, rather than following the Long-Term Athlete Development (LTAD) model. This model says that young athletes should focus on learning basic skills in an age-appropriate way. Because of this focus on winning, about 35% of young players quit hockey by age 12, which supports other studies warning against early pressure and burnout.

The study also found important problems that are often ignored, especially for girls and equipment. Even though global sports rules suggest making changes for younger girls, 90% of programs still use adult-sized gear, which makes it harder for girls to perform well and

increases the chance of injury. This issue hasn't been studied much before, so it's a very important finding.

Another problem is that most coaches in Zimbabwe don't have good ways to measure how their players are improving. Only 30% of coaches use official skill tests, like the Canadian Hockey Skills Test. This shows a major gap in how player progress is tracked.

But the study also shared some good news. A small pilot project tried using smartphone video and a simple checklist from the LTAD model to help coaches improve player technique. After 12 weeks, players' skills got better by 40%, showing that low-cost technology can really help coaches who don't have a lot of resources.

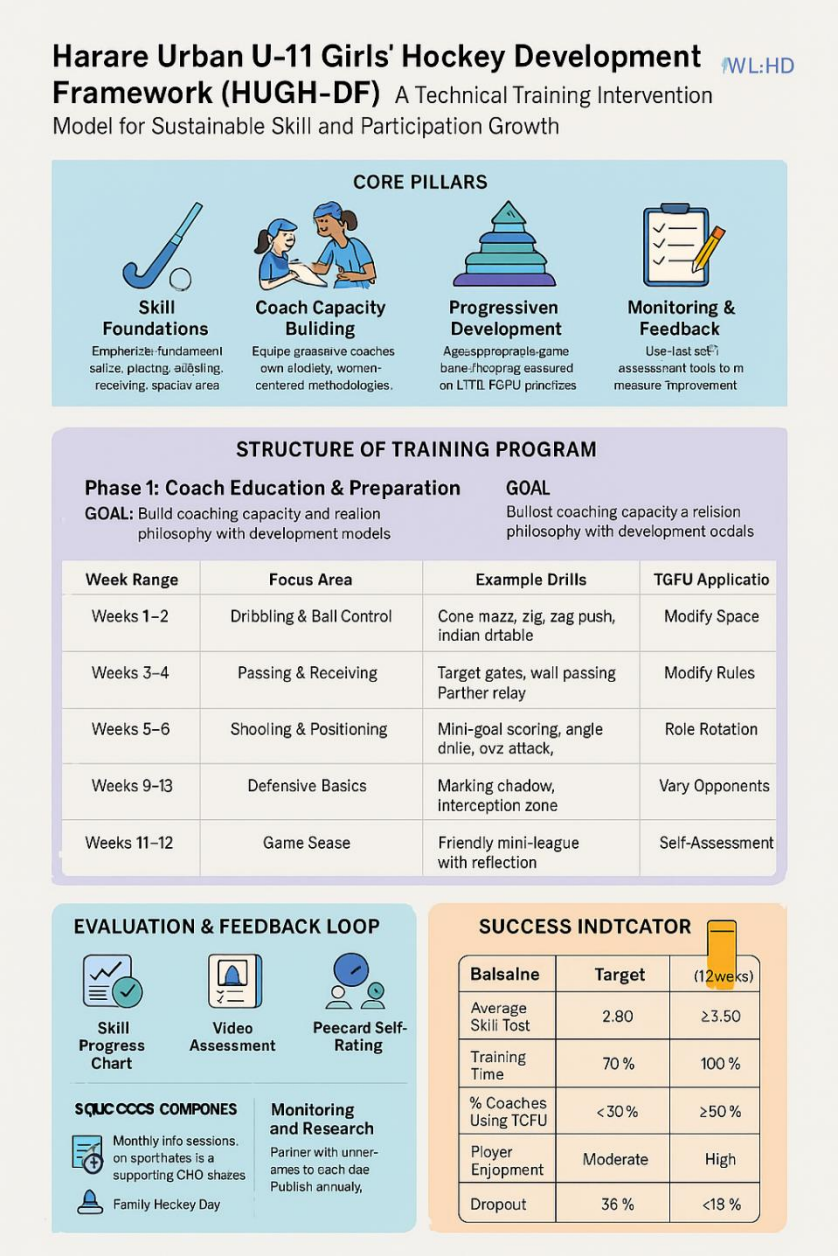
Finally, the study compared Zimbabwe's coaching methods to Hockey Canada's guidelines, which suggest that 85% of training time should be spent learning skills, not on game tactics. In Harare, only 15% of practice time is spent on skill development, which is way off from what experts recommend. This gap could hurt kids' long-term progress and reduce their fun and interest in playing hockey.

Objective 4

The study highlights the importance of progressive skill building in youth sports, which aligns with existing research like McCalman (2024) that shows breaking down complex skills helps young athletes learn better. It also emphasizes the value of stakeholder involvement, echoing findings by Osei-Tutu and Mensah (2022) that community participation improves support for girls in sports and reduces dropout rates. Additionally, the focus on holistic monitoring matches the Long-Term Athlete Development (LTAD) model, supported by Farmer (2020), which advocates for tracking both technical skills and psychosocial factors. However, this study fills a gap by addressing specific challenges in Harare, such as limited resources, and suggests adapting international models like Teaching Games for Understanding (TGfU) to local contexts. While participants recognize the training program's intent, they report not seeing significant improvements in technical skills, self-confidence, or teamwork, indicating a need for re-evaluation. The study also highlights that making training fun and engaging is crucial for keeping young athletes involved. Overall, the findings stress the need to tailor training programs to better meet the needs of young athletes, promoting long-term enjoyment and participation in sports for girls and fostering a more inclusive sports culture in Harare. These insights can guide future research and help develop best practices in youth sports training in similar settings.

Figure 4.4

Technical training program to optimise performance of under 11 Girls hockey in Harare Urban



The Harare Urban U-11 Girls' Hockey Development Framework is a training plan designed to help young girls in Harare learn hockey better. It focuses on teaching basic skills like dribbling and passing in fun, age-appropriate ways. Coaches are trained to use modern methods that let children think and learn through small games instead of just drills. The plan also makes sure girls have the same training time and gear as boys and tracks their progress using simple tools

like videos and checklists. Generally, it creates a fair and supportive space for girls to enjoy hockey and improve their skills.

Summary

The chapter has laid out the results obtained from the research. It also discussed the results highlighting both qualitative and quantitative findings. Additionally, the chapter outlined the similarity and contrasts between the findings and reviewed literature. The next chapter will focus on summary, conclusions and recommendations.

CHAPTER 5: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study, as well as the conclusions and recommendations. The conclusions are built on the four research questions introduced in Chapter 1. Additionally, this chapter offers practical and theoretical recommendations as well as suggestions for future research.

5.2 Summary

5.2.1 To identify the technical training methodologies currently employed by coaches of under-11 girls' hockey teams in Harare Urban.

The study highlights why it is important to regularly review and update training methods to meet the varying needs of young female athletes. This subsequently helps them develop their skills and stay engaged in hockey. The findings highlight that it is necessary for coaches to make use of technology more effectively, improve their training methods and increase focus on key skills. To ensure a supportive learning environment that promotes skill development and engagement in hockey, regular assessment and adjustment of these practices are essential to meet the evolving needs of young athletes.

5.2.2 To analyze the contextual, socio-cultural, and pedagogical factors influencing

The level of support the under-11 girls in hockey in Harare urban receive from their socio-cultural environment, their parents, and the availability of resources greatly influence their performance and skill development. Girls that are encouraged by their communities, actively supported by their parents, and have access to proper training facilities and equipment, are more likely to be motivated, improve their technical abilities, and perform better on the field. On the contrary, girls may show low levels of motivation, limited skill development and

ultimately lower performance when these supports are lacking especially due to cultural norms that discourage girls from participating in sports.

5.2.3 To evaluate the extent to which existing technical training programs align with internationally recognized benchmarks for optimal athletic development.

The results show that there are significant gaps in the technical training programs for under-11 girls' hockey teams in Harare Urban compared to international standards for athlete development. To achieve optimization of performance and nurture well-rounded athletes, it is essential to improve on coach education and focus on inclusivity, ensuring that all girls have equal opportunities to succeed. The study emphasizes the need for a holistic approach that integrates physical, cognitive, emotional, and social development in training programs. There is a need to improve coaching qualifications, ensure inclusive participation, and adopt a more holistic approach to athlete development. Strengthening these areas will help create better-aligned programs that support the full potential of young female hockey players in Harare.

5.2.4 To develop technical training interventions to optimise performance improvement in Under 11 Girls' Hockey Teams in Harare Urban.

The training curriculum must be enhanced and re-evaluated to ensure it achieves its objective of optimizing performance and empowering young girls in hockey. This collective approach can lead to better outcomes, ultimately cultivating a strong culture of sports participation in the community. This initiative will help ensure a supportive environment that promotes growth and confidence, emphasizing areas like skill acquisition and teamwork. In addition, encouraging teamwork and using age-appropriate equipment and techniques could make the training more effective and enjoyable for the players. Strengthening these areas will not only improve individual and team performance but also help build a stronger culture of girls' hockey and sports participation in the community.

5.3 Conclusions

5.3.1 To identify the technical training methodologies currently employed by coaches of under-11 girls' hockey teams in Harare Urban.

The study discloses that coaching for under-11 girls in Harare relies heavily on traditional methods, with gaps in fundamental skill emphasis and feedback quality. It is essential to incorporate modern methods to enhance training effectiveness. Players' development and engagement can be significantly boosted by improved coaching

5.3.2 To analyze the contextual, socio-cultural, and pedagogical factors influencing technical proficiency and performance outcomes among under-11 girls' hockey players in Harare Urban.

The study depicts that societal norms, limited parental support, poor facilities, and team dynamics affect under-11 girls' hockey in Harare. Support from parents, peers, and proper resources can make girls thrive. Changing attitudes and investing in all-encompassing, well-equipped environments can boost their motivation and performance.

5.3.3 To evaluate the extent to which existing technical training programs align with internationally recognized benchmarks for optimal athletic development.

The evaluation shows that the training programs for under-11 girls in Harare do not meet international standards although they have a solid foundation. There are still gaps in coach qualifications, inclusivity, and holistic development. there could be more effective, equitable athlete growth if these areas are looked into.

5.3.4 To develop technical training interventions to optimise performance in Under 11 Girls' Hockey Teams in Harare Urban.

The study finds that current training programs for under-11 girls in Harare lack sufficient structure and impact, limiting skill growth, confidence, and teamwork. Enhancing coaching methods, planning, and age-appropriate techniques can improve performance and support a stronger culture of girls' hockey.

5.4 Overall Conclusion

A holistic approach is needed if better training programs that help under-11 girls in Harare Urban are to be created to improve both their hockey skills and personal growth. The study shows that current programs are a good start, but they still rely too much on old-fashioned coaching methods, do not focus enough on basic skills like passing and dribbling, and rarely use modern tools or technology. Also, girls face challenges like cultural beliefs that sports are mainly for boys, parents who are not involved, and poor training equipment and facilities. To address these challenges, coaches need better training and updated certifications so they can use pedagogies that suit young players. Training should not only build physical skills but also support confidence, teamwork, and mental strength. It is also equally important to improve access to good equipment and safe spaces to practice, especially in poorer areas. Parents should be encouraged to take part and support their daughters, and communities should work to change

outdated myths about girls in sports. Finally, using modern tools and giving clear feedback can make training more fun and helpful. By making these changes, training programs can help young girls become better players and more confident individuals, while also growing a stronger and fairer hockey culture in Harare.

5.4 Limitations of the study

This study used a participatory action research (PAR) approach, which allowed for meaningful, real-world insights through close collaboration with coaches, players, and parents. However, this method made it harder to standardise or repeat the process exactly in other settings. The sample size was small and focused only on Under-11 girls' hockey teams in Harare Urban, which means the findings may not apply to other age groups, regions, or sports. The research also relied mainly on qualitative methods like interviews and observations. While these helped capture personal experiences, they lacked the accuracy and wide coverage of larger surveys or experiments. Another limitation was the lack of up-to-date, Zimbabwe-specific studies on youth coaching, LTAD, and gender in sport. Much of the existing research was broad or focused on other countries, which may not fully reflect the local context. Accessing some key people, like school leaders and federation officials, was difficult due to scheduling issues, and some participants were hesitant to talk about sensitive topics like gender bias or pressure to win. This affected the depth and honesty of some responses.

Several steps were taken to try and mitigate these. The study used triangulation, combining interviews, observations, and physical performance data to confirm findings from different angles. Participants were also asked to review their responses to ensure accuracy. A wide range of participants from different schools and backgrounds were included to improve diversity. The researcher kept a reflexive journal to stay aware of personal biases during the process. Where local research was lacking, relevant international studies were used, with care taken to adjust their lessons to fit the Zimbabwean setting.

5.5 Implications and recommendations

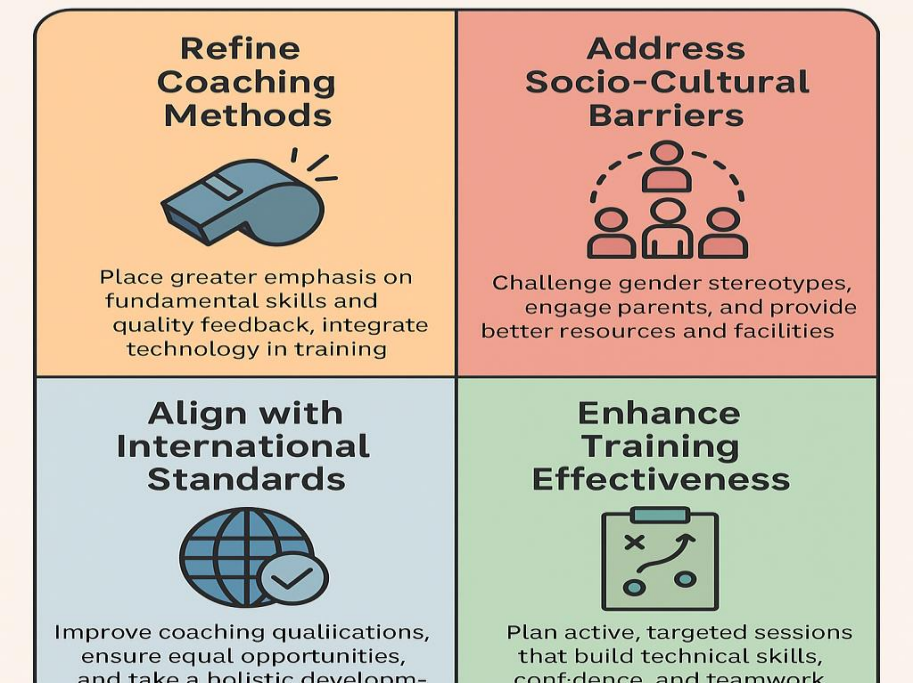
5.5.1 Implications for practice

To address the issues identified in the study, several practical suggestions can be made. First, improving coach education is essential by offering training programs that focus on modern coaching methods and techniques prioritizing skill development over winning. Additionally, it is important to ensure that all girls have equal opportunities to participate in hockey, which

includes providing equal training time, resources, and support to help them develop their skills. Investing in age-appropriate equipment is also crucial, as this ensures that young players, especially girls, can perform well and prevent injuries. Furthermore, incorporating low-cost technology, such as smartphone apps and video analysis, can help coaches track player progress and enhance their techniques. Finally, creating supportive training environments that foster positivity, teamwork, self-confidence, and enjoyment in learning the game is vital for encouraging long-term participation and success in hockey.

Figure 5.1

visual summary outlining four strategic areas for improving technical training programs for under-11 girls' hockey teams

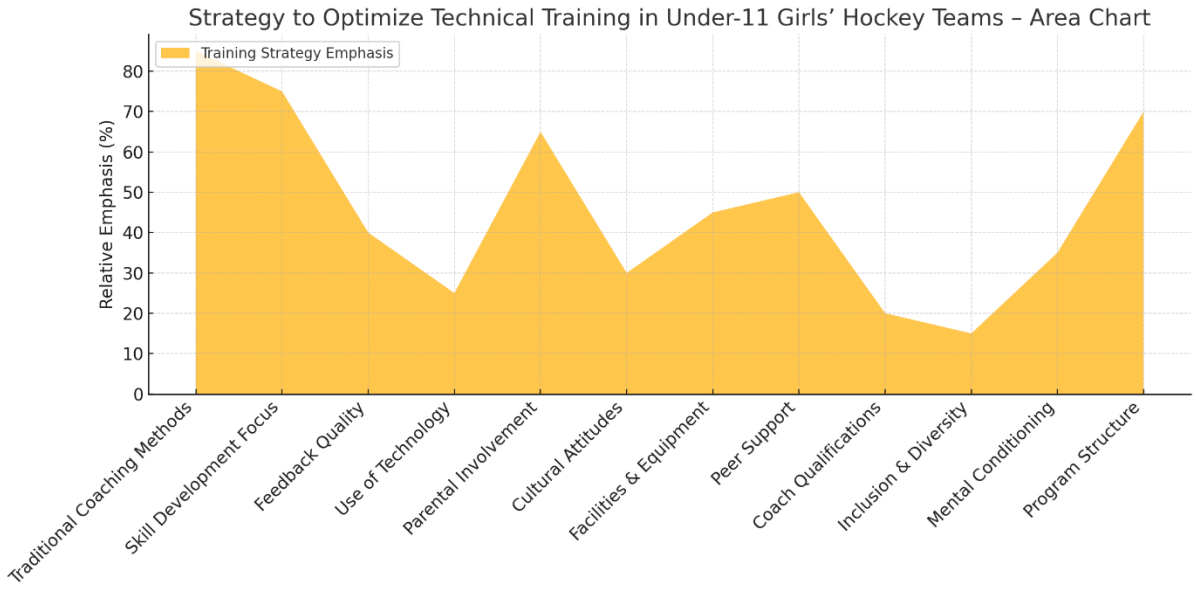


Coaches need to update their training methods for young athletes, focusing on basic skills like passing and dribbling while providing regular, high-quality feedback. It is also important to use modern technology, such as video analysis and training apps, to make practices more effective and engaging. Additionally, cultural attitudes and a lack of support often limit girls' participation in sports. To combat this, we should challenge harmful stereotypes that suggest sports are only for boys, encourage parents to get involved, and ensure girls have better access to equipment and facilities. Coaching qualifications should be improved through formal training, and all girls should have equal opportunities regardless of their backgrounds. Training should not only build technical skills but also boost confidence and teamwork, and it should be

tailored to the developmental needs of players under 11. This plan aims to strengthen girls' hockey programs by addressing coaching quality, inclusivity, and structured planning, leading to better physical performance and positive social outcomes for young female athletes.

Figure 5.2

Area Chart for interventions to optimize technical training in under 11 girl's hockey teams



The area chart representing a strategic overview based on participant feedback visualizes the relative emphasis placed on each key area in the development of technical training programs for under-11 girls' hockey teams in Harare Urban. This chart highlights strengths such as program structure and coaching methods, while also pointing out underdeveloped areas like inclusion, coaching qualifications, and technology use, guiding targeted improvements for more balanced and effective training.

5.5.2 Implications for Theory

The findings of this study can significantly contribute to existing knowledge in several important ways. Firstly, it highlights the gender disparities in youth sports training, an area that has been underexplored in Harare, thereby encouraging further research into creating equitable sports environments. Additionally, by connecting socio-cultural attitudes to parental involvement in sports, the study enhances the understanding of how these factors influence girls' participation and performance. Furthermore, it reinforces the need for holistic athlete development, emphasizing that growth should encompass not only physical skills but also psychological and emotional well-being, aligning with international models like the Long-

Term Athlete Development (LTAD) framework. Together, these insights provide a more comprehensive perspective on the challenges and opportunities in youth sports, particularly for girls.

5.5.3 Implications for Future Research

Future research should focus on several key areas to deepen our understanding of girls' participation in hockey. First, conducting longitudinal studies over extended periods will help assess the long-term impacts of improved training practices on girls' performance and participation. Additionally, it is essential to investigate how technology can be effectively integrated into training programs and its effects on skill development and engagement. A broader socio-cultural analysis is also needed to explore how different environments within Zimbabwe influence girls' sports participation, along with identifying interventions to overcome existing barriers. Finally, comparative studies that examine the experiences of girls in various regions or countries can provide valuable insights into how differing support systems affect their involvement in sports. Together, these research avenues will contribute to a more comprehensive understanding of the factors influencing girls' hockey participation and development.

5.6 CHAPTER SUMMARY

This chapter discussed the summary and conclusions as well as the practical, theoretical, and research implications of the study's findings. Ways to improve coaching practices, promote inclusivity, and incorporate technology to enhance training for under-11 girls’ hockey teams were suggested. The study also contributes to the literature by highlighting gender disparities and the importance of holistic development. Additionally, areas for future research to further explore these issues and improve the sports experience for young girls in Harare were identified.

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APPENDIX A: Questionnaires

Section 1: Current Training Methodologies

1. The technical training methods used in our team are effective for skill development.
2. Coaches provide sufficient feedback during training sessions.
3. Our training sessions focus on key technical skills (e.g., passing, dribbling).

Section 2: Contextual and Socio-Cultural Factors

4. The socio-cultural environment supports girls' participation in hockey.
5. Players feel motivated to develop their skills within the team.
6. Parental support is crucial for the athletes' performance and development.

Section 3: Alignment with International Benchmarks

7. Our training programs incorporate internationally recognized skill development practices.
8. Coaches stay updated on global best practices in girls' hockey training.
9. The training environment fosters competitive spirit and skill mastery.

Section 4: Development of technical training interventions

10. I believe that the current training program has improved my technical skills.
11. The training program has positively impacted my self-confidence in playing hockey.
12. Teamwork is emphasized in our training sessions.
13. I have noticed improvements in my passing accuracy since participating in training.
14. My dribbling speed has improved due to the current training methods.
15. I feel that the training sessions contribute to my overall athletic development.

Appendix B

Interview questions

1. What specific technical training methodologies do you currently employ for under-11 girls' hockey, and how do you determine their effectiveness?
2. 3In your experience, what socio-cultural factors impact the participation and performance of young girls in hockey within the Harare Urban context?
3. How do you adapt your coaching techniques to suit the learning styles and needs of under-11 players? Can you provide examples of successful interventions?
4. To what extent do you believe our current training programs align with international best practices for youth hockey development? What areas could be improved?
5. How do you assess the effectiveness of the training programs in terms of both technical skill development and psychosocial outcomes such as teamwork and self-efficacy?
6. What changes or enhancements do you think are necessary to optimize the technical training for under-11 girls' hockey teams in Harare Urban?

APPENDIX C: **Access letter**

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CHAIRPERSON DEPARTMENT OF SPORTS SCIENCE

7 April 2025

TO WHOM IT MAY CONCERN.

RE: UNDERGRADUATE DISSERTATION STUDY ACCESS REQUEST.

This is to certify that Auxilia Rujeko Sibanda (B224708) **is** a bonafide Bachelor of Science in Sports Science and Management student in the Department of Sports Science at the Bindura University of Science Education. She is conducting an action research study entitled: '**Developing Technical Training Interventions to Optimise Performance of Under-11 Girls' Hockey Teams in Harare Urban**,'.

We are kindly requesting your organization to partner with her/him in the study by participating in the data collection and intervention strategy development process.

Participation in this research is completely voluntary, and you may choose to withdraw from the research at any time. The information from your organization will only be used for academic purposes and be kept private and confidential. Codes will be used to identify participant organizations. This is meant to ensure that information would not be linked to the providers. Password-protected computers will be used to store any identifiable information that may be obtained from your organization. Data will also be analyzed at the group level to ensure anonymity. You can also sign confidentiality agreements with the researcher.

A copy of the finished work will be provided to your organization after the study. The results of the study are expected to transform practice, and your support will be pivotal to its success.

If you have any queries regarding this project, please feel free to contact us.

We would like to thank you in advance for your support.

Yours Sincerely

Lysias Tapiwanashe Charumbira (Dr.)