



Exploring Young Elite Athletes' Experiences in Management-Based Anti-Doping Education: An Interpretative Phenomenological Analysis in Ethiopia

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Abstract

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This study employs interpretative phenomenological analysis (IPA) to explore in-depth, beyond basic descriptions, the lived experiences of 20 young Ethiopian elite athletes participating in a six-week, innovative management-based anti-doping education program. The program fosters a culture of clean sports and enhances ethical decision-making. The study used stakeholder theory and resource-based views to approach the central phenomenon. This methodology embraces novel techniques such as stakeholder workshops and resource mapping exercises to uncover rich data on the athletes' perspectives. In-depth interviews were conducted to illuminate further the athletes' perceptions of the program's effectiveness, cultural relevance, and engagement strategies. The findings reveal a significant increase in the athletes' knowledge of anti-doping rules and the dangers of doping. Furthermore, 14 out of 20 athletes reported improved critical thinking and problem-solving skills about ethical dilemmas in sports. The analysis advances conceptual understanding by identifying key factors influencing program effectiveness, including cultural relevance, interactive engagement strategies, and the need for extended program durations with increased emphasis on practical application. This research contributes to sports management by providing empirical evidence on the effectiveness of interventionist management-based anti-doping education within the Ethiopian context. By illuminating the athletes' lived experiences and utilizing advanced qualitative methods, this study informs the development of more effective and athlete-centered programs for promoting clean sports in Ethiopia and globally.

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1. Introduction

Background

The concept of clean sport denotes participation in sports without the use of performance-enhancing drugs or engaging in cheating, and it plays a crucial role in positive youth development (Petróczi & Boardley, 2022). By emphasizing values such as ethics, fair play, honesty, and respect for rules, clean sport fosters an environment where young athletes can develop essential life skills, including teamwork, leadership, and communication (Mortimer, Whitehead, Kavussanu, Gürpınar, & Ring, 2021). This ethical foundation enhances their athletic performance and contributes to their overall character development, promoting integrity and responsibility.

Research indicates that involvement in sports and adhering to clean sports principles are associated with lower rates of anxiety and depression among youth, as well as improved social skills and competence (Clancy et al., 2022). Furthermore, sports-based youth development programs that prioritize clean sports have demonstrated positive impacts on life skills and entrepreneurial mindsets among young participants (Malete et al., 2022). By instilling these values, clean sport contributes significantly to the holistic development of young individuals, preparing them for success within and beyond the athletic arena.

In the context of this study, the terms "doping" and "clean sport" are central. Doping refers to the use of prohibited substances or methods to enhance athletic performance, which is a direct violation of the principles of fair play and ethical competition (Toby

Woolway et al., 2021). Clean sport, conversely, represents the commitment to athletic competition that is free from doping, upholding the values of integrity, respect, and fair competition. The use of the term "clean sport" underscores a positive and proactive approach to fostering an environment where athletes can compete fairly and ethically, which aligns with the goals of anti-doping education (Petróczi, Boardley, & living, 2022).

Doping remains a persistent threat to the integrity of sports worldwide, with serious health consequences for athletes. The World Anti-Doping Agency (WADA) has consistently documented the prevalence of doping across various sports, highlighting the need for robust anti-doping measures. In 2020, 910 anti-doping rule violations were reported globally, with 11% dismissed due to medical reasons (Gough, Mar 6, 2024). While the positive test rate was relatively low at 0.65%, this signifies an ongoing challenge.

Global anti-doping initiatives emphasize education, focusing on prevention, ethical awareness, and behavior change. These programs aim to equip athletes with the knowledge to make informed decisions about doping and foster a culture of clean sports. While testing is a critical component of anti-doping, as illustrated by the ITA's extensive testing program before the Paris 2024 Olympics, education plays a vital role in preventing doping violations and promoting ethical conduct. (ITA Paris 2024 pre-Games program 24 July 2024).

Doping extends beyond elite athletes, impacting at-risk



populations. Studies suggest the prevalence among U.S. elite athletes ranges from 6.5% to 9.2%, with cannabinoids being the most common substance (Davoren et al., 2024). Moreover, sophisticated networks distribute performance-enhancing drugs, complicating anti-doping efforts (Baron, Martin, & Abol Magd, 2007).

Ethiopia is globally recognized for its exceptional distance runners, with athletes like Kenenisa Bekele and Tirunesh Dibaba achieving world-class success. This success has significantly enhanced the nation's international standing and fostered national pride. Bekele holds the marathon world record of 2:01:41, while Dibaba has secured three Olympic gold medals and five world championships (Gelaw, 2022; Wikipedia, 13 July 2020, at 20:45 (UTC)).

However, this success brings unique pressures and challenges. Athletes often face intense expectations from their communities and the government, which can lead to mental stress and health issues (Scott et al., 2003). The socioeconomic context also plays a significant role; many athletes come from rural areas with limited opportunities, and playing sports is a potential pathway to economic and social mobility. This pressure can sometimes lead to risky decisions regarding performance enhancement.

Understanding these factors is crucial for developing effective anti-doping education programs tailored to Ethiopian athletes. Such programs must address not only the ethical implications of doping but also the socio-economic pressures that may drive athletes

toward substance use. Research indicates that a significant percentage of elite runners have faced these pressures, which underscores the need for comprehensive education initiatives that promote clean sport while considering the athletes' backgrounds (Beis et al., 2011; Smyth, 05 December 2022).

Implementing and effectively delivering anti-doping education programs in developing countries like Ethiopia faces significant hurdles. Limited resources, including financial constraints and inadequate infrastructure, often hinder the development and implementation of comprehensive programs. For instance, many African nations struggle to establish independent National Anti-Doping Organizations (NADOs) due to the financial burden associated with supporting anti-doping initiatives, as highlighted by WADA's recognition of the importance of education alongside testing (Ruwuya, Juma, & Woolf, 2022).

Weak institutional frameworks and limited access to quality education further exacerbate these challenges. A critical barrier is the absence of experienced personnel necessary to develop effective support structures for anti-doping programs. Many countries in Africa have limited human resource capacity in sports management, which negatively impacts the delivery of anti-doping education (Ruwuya et al., 2022).

Cultural barriers also play a significant role. Societal pressures to succeed can lead athletes to make risky decisions regarding performance enhancement. Additionally, limited awareness of the dangers associated with doping within these communities can



perpetuate a culture where doping is viewed as a viable means to achieve success (Read, Skinner, Smith, Lock, & Stanic, 2024). Addressing these challenges requires a concerted effort to enhance resources, build institutional frameworks, and foster cultural change regarding doping in sports.

Young athletes are at a stage where they are still developing their understanding of sports and competition, making them ideal candidates for primary prevention approaches against doping behaviors (Pöppel & Büsch, 2022). Reports indicate that even children under the age of ten have engaged in doping behaviors, underscoring the necessity for educational programs tailored to this age group. Furthermore, the effectiveness of anti-doping education is enhanced when it incorporates values-based components, as mandated by the World Anti-Doping Agency's International Standard for Education (Petróczi et al.). This standard emphasizes that an athlete's first contact with anti-doping should be education, prioritizing prevention and ethical development over punitive measures like testing, especially for young athletes. Programs that combine information dissemination with interactive and engaging educational strategies are more effective in instilling a sense of responsibility among young athletes regarding doping (Gatterer et al., 2021).

This study specifically focuses on young elite athletes' experiences, a demographic particularly vulnerable to external influences and pressures. Addressing anti-doping education early in their careers is critical for shaping their values and attitudes towards clean sport,

fostering a long-term commitment to ethical competition. Research indicates that nearly 75% of young elite athletes had received some form of anti-doping education before their involvement in competitive sports, highlighting the importance of early intervention (Pöppel & Büsch, 2022). However, studies in Ethiopia have revealed that despite some exposure to anti-doping education, there remains a lack of tailored programs that address the specific socio-cultural context and pressures faced by young athletes (Desalegn et al., 2020; Mohammed et al., 2022). These studies also point to the need for more qualitative research to understand the lived experiences of Ethiopian athletes and inform the development of more effective interventions. By focusing on young elite athletes, we can equip them with the knowledge to make informed decisions and cultivate a culture of clean sports from an early age. This will significantly contribute to the integrity of competition and promote long-term ethical practices in sports.

Statement of the Problem

Doping in sports presents multifaceted challenges on a global scale, including ethical, health, and regulatory dimensions. The pursuit of performance enhancement through prohibited substances undermines the integrity of competition and poses significant health risks to athletes, including cardiovascular issues, hormonal imbalances, and psychological effects (Birzniece, 2015). Efforts to combat doping are complicated by inconsistent anti-doping policies across countries, limited resources, and varying levels of expertise among anti-doping organizations (Read et al., 2024).



High-profile doping scandals, such as those involving Chinese swimmers, have highlighted the difficulties in enforcing uniform standards and maintaining transparency (McNicol, August 1, 2024). Additionally, the emergence of sophisticated methods like gene doping presents new detection challenges, necessitating continuous advancements in testing technologies (Brzezińska, Domańska, & Jegier, 2014). Addressing the global challenge of doping in sports requires a multifaceted approach that integrates policy, education, technology, and collaboration.

Current anti-doping education programs in Ethiopia may not adequately address young elite athletes' specific needs and experiences. There is a significant lack of tailored, management-based programs that equip athletes with the knowledge and skills to navigate the complex ethical dilemmas they encounter in their careers. Also, existing programs may not effectively address the unique cultural, social, and economic pressures young athletes face in Ethiopia. Furthermore, limited research has explored the lived experiences of young elite athletes regarding anti-doping education within the Ethiopian context. This lack of empirical data hinders the development of effective and culturally sensitive interventions. (Desalegn et al., 2020; Mohammed, Tessena, Endiro, Wubishet, & Research, 2022).

Research on anti-doping education in Ethiopia has primarily relied on quantitative methods, neglecting the valuable insights that can be gained through qualitative approaches. The use of interpretative phenomenological analysis (IPA) could provide a

deeper understanding of athletes' lived experiences, perceptions, and motivations related to doping. Furthermore, there is a significant gap between existing anti-doping education programs and the real-world needs and experiences of young elite athletes. Many programs may not adequately address the unique challenges faced by these athletes, such as the pressure to succeed, the influence of social media, and the role of traditional medicine. This disconnect between theory and practice limits the effectiveness of these programs in fostering a genuine culture of clean sport (Desalegn et al., 2020; Kassa et al., 2024; Mohammed et al., 2022).

The lack of effective anti-doping education programs poses significant implications for the long-term development of Ethiopian sports. Continued doping scandals can damage the reputation of Ethiopian athletes on the international stage, undermine the integrity of the country's sporting achievements, and discourage aspiring young athletes from pursuing their dreams. A recent report highlighted that positive drug tests among Ethiopian athletes have been increasingly reported, placing them alongside athletes from Russia and Kenya in terms of doping issues (Mohammed et al., 2022).

Purpose of the Study

This study aims to explore the lived experiences of athletes involved in management-based anti-doping education programs that focus on the ethical dilemmas and challenges faced by young elite athletes.

Research Questions

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This study aims to investigate the lived experiences of young elite Ethiopian athletes participating in an innovative management-based anti-doping education. Specifically, the research seeks to answer the following questions:

1. How do young elite Ethiopian athletes experience and perceive the influence of a management-based anti-doping program on their ethical decision-making?
2. How do young elite athletes perceive the cultural relevance of the management-based anti-doping program in addressing their unique needs and concerns?
3. What are young elite athletes' engagement strategies used in the management-based anti-doping program to promote ethical decision-making?

2. Literature Review

Anti-doping education's role in combating doping in sports (T. Manges, K. Seidel, N. Walter, T. Schöler, & A. M. Elbe, 2022). Effective programs aim to educate athletes about the risks and consequences of doping, the importance of clean sport, and the rules and regulations related to doping. Previous research has explored various approaches to anti-doping education (Deng, Guo, Wang, Huang, & Chen, 2022), including traditional lectures, interactive workshops, and online learning platforms. However, the effectiveness of these programs varies significantly, with some studies demonstrating limited impact on athlete attitudes and behaviors (Deng et al., 2022; García-Martí, Ospina-Betancurt, Asensio-Castañeda, & Chamorro, 2022; Lauritzen & Solheim, 2024).

Significance of the study

This research is highly relevant to various stakeholders within the Ethiopian sports landscape. Policymakers can use the findings to inform the development of more effective and targeted anti-doping education policies. Coaches and educators can utilize the research to implement more effective and culturally sensitive educational strategies within their training programs. Furthermore, the findings can contribute to the development of athlete support programs that address the unique needs and challenges faced by young elite athletes in Ethiopia.

A critical factor in the success of anti-doping education is the consideration of cultural context. Cultural norms, values, and beliefs can significantly influence athletes' attitudes toward doping and receptiveness to educational messages. For example, in some cultures, the pressure to succeed and achieve societal expectations may overshadow the importance of ethical conduct in sports (Codella, Glad, Luzi, & La Torre, 2019; Sipavičiūtė, Šukys, Dumčienė, & Sciences, 2020). Therefore, culturally sensitive and tailored approaches are essential for effective anti-doping education programs (Codella et al., 2019; Listiani, Umar, & Riyadi, 2024; T. Manges et al., 2022).

Stakeholder theory emphasizes the importance of considering the interests and perspectives of all



stakeholders involved in a particular issue. In the context of anti-doping education, key stakeholders include athletes, coaches, parents, sports administrators, medical professionals, and anti-doping organizations (Skille & Strittmatter, 2021). By actively involving and engaging with these stakeholders, program developers can ensure that the program addresses their specific needs and concerns (Connor, McDermott, Henne, Foenander, & Borg, 2022; Skille & Strittmatter, 2021).

Stakeholder analysis can be a valuable tool in designing and implementing effective anti-doping education programs (Yang, Dimeo, Winand, & Yun, 2024). By identifying and prioritizing the needs and concerns of key stakeholders, such as athletes, coaches, parents, and sports administrators, program developers can tailor the program to address the specific challenges and opportunities within the Ethiopian context. This may involve incorporating the perspectives of Ethiopian athletes and coaches on the most effective delivery methods, the most relevant educational content, and the most effective channels for disseminating information (Desalegn et al., 2020).

Stakeholder perspectives can be integrated into program development in various ways. This may involve conducting stakeholder consultations, forming committees, and incorporating stakeholder feedback throughout the program design and implementation process (Andersson, Schön, Svedberg, & Grim, 2024). By actively involving stakeholders, programs can be more relevant, responsive, and effective in achieving their desired outcomes (Rathobei & Ranängen, 2024).

The resource-based view (RBV) emphasizes the importance of organizational resources in achieving competitive advantage. In the context of anti-doping education, these resources can include human resources (e.g., skilled educators, knowledgeable athletes), financial resources (e.g., funding for program development and implementation), and social capital (e.g., strong relationships with key stakeholders) (T. Manges et al., 2022).

Leveraging internal and external resources is crucial for the success of anti-doping education programs. Internal resources, such as the expertise of coaches and sports administrators, can be utilized to develop and deliver effective educational programs. External resources, such as partnerships with anti-doping agencies, educational institutions, and community organizations, can provide access to additional expertise, funding, and resources. By effectively leveraging internal and external resources, programs can enhance their reach, impact, and sustainability (unit, 2024).

Ethical decision-making plays a crucial role in navigating the complexities of the sporting world. Athletes are constantly faced with ethical dilemmas, from the pressure to win at all costs to the temptation to use performance-enhancing substances. Understanding the ethical dimensions of these decisions is essential for promoting a culture of integrity and fair play (Kellison, 2013).

Various ethical frameworks can be applied to analyze ethical dilemmas in sports, including Deontological



ethics. This framework emphasizes moral rules and principles, such as honesty, fairness, and respect for others (Barrow & Khandhar, 2017). Consequentialism: This framework focuses on the consequences of actions, emphasizing the importance of maximizing benefits and minimizing harm (Consequentialism | Definition, 2024). Virtue ethics: This framework emphasizes the development of moral character and the

cultivation of virtues such as integrity, honesty, and sportsmanship (Philosophy, First published Fri Jul 18, 2003; substantive revision Tue Oct 11, 2022). By examining these ethical frameworks, athletes can develop a deeper understanding of the ethical dimensions of their decisions and make more informed choices.

3. Methodology

3.1 Design

This study employed an interpretive phenomenological analysis (IPA) design (Hartman & Squires, 2024; J. A. Smith & M. Osborn, 2015), grounded in ontological relativism and epistemological constructivism (Alase & studies, 2017; Smith, Larkin, & Flowers, 2021; J. A. Smith & M. Osborn, 2015). This framework acknowledges that multiple and subjective realities exist, and individual knowledge is constructed through lived experiences. Drawing from principles of phenomenology and hermeneutics, IPA aims to understand individuals' unique experiences without comparing them to predetermined criteria (Alase & studies, 2017; Pietkiewicz & Smith, 2014; J. A. Smith & M. Osborn, 2015).

3.2 Participants

This study involved 20 elite Ethiopian athletes aged 13-19 participating in a six-week intervention management-based anti-doping education program. The age range of participants was ($M = 16.5$, $SD = 1.8$). Participants were recruited from various sporting

disciplines, including track and field, football, and basketball.

Purposive sampling was employed to select a diverse group of participants who met specific inclusion criteria. These criteria included being between 13 and 19 years old, a critical age for developing ethical decision-making skills; active involvement in competitive sports at the elite level, representing schools, clubs, or regional teams in competitions; inclusion of both male and female athletes to ensure diverse perspectives; and recruitment from various sporting disciplines to capture a broad range of experiences and viewpoints across different sports.

3.3 Data Collection

The authors collected the relevant data through in-depth semi-structured interviews conducted with each participant. The interview guide was developed based on research objectives and included open-ended questions to explore the athletes' experiences, perceptions, and understandings. Key areas of inquiry included:



- Perceptions of the program's effectiveness and impact on ethical decision-making.
- Experiences with different program components and engagement strategies.
- Perceptions of the program's cultural relevance and ability to address their needs and concerns.
- Challenges and barriers encountered during the program.
- Recommendations for improving the program's design and implementation.

The interview guide was developed iteratively, with initial questions refined based on pilot interviews conducted with a small group of athletes. This pilot testing ensured that the questions were clear and understandable and elicited rich and meaningful responses from participants.

All interviews were conducted in Amharic, the official language of Ethiopia, by a trained researcher fluent in Amharic. Interviews were audio-recorded with participant consent and lasted between 67 and 121 minutes ($M = 91.6$, $SD = 23.1$). Data were collected using a semi-structured interview approach to guide the discussion rather than dictate it, which allowed for individuality and flexibility throughout the process.

The questioning was kept to a minimum and did not rigidly follow the schedule, which encouraged participants to tell their stories in their own words throughout the discussion. Participants were offered the chance to amend or change statements, but none did. All text was anonymized during transcription to protect identities and stored by the Data Protection Act.

3.4 Data Analysis

Data analysis was conducted using Pietkiewicz and Smith's interpretative phenomenological analysis (IPA). The analysis involved a careful and repeated reading of the interview transcripts. The researcher immerses themselves in the data, seeking to gain an in-depth understanding of the participants' narratives and the nuances of their language. This process involves identifying keywords, phrases, and emotions expressed by the participants. The researcher aims to understand the participants' experiences and perspectives intuitively (Larkin, Thompson, students, & practitioners, 2011; Miller & Barrio Minton, 2016; J. A. Smith & M. J. B. j. o. p. Osborn, 2015).

As the primary analysis approach, IPA helps to gain a deep understanding of the athletes' perspectives and experiences. IPA is particularly suitable for exploring the lived experiences of individuals and understanding the subjective meanings they ascribe to their experiences (Brocki & Wearden, 2006). By focusing on the athletes' unique perspectives and interpretations of the program, IPA can provide valuable insights into the factors contributing to the success or failure of management-oriented approaches to anti-doping education in Ethiopia. (Brocki & Wearden, 2006; Stansen & Chambers, 2017).

The authors systematically analyzed the transcripts, identifying and labeling key themes, concepts, and patterns within the data. This involves breaking down the text into smaller units and assigning codes representing the underlying meanings and significance



of the participants' statements. Codes may be broad or specific, depending on the research question and the nature of the data (Naeem, Ozuem, Howell, & Ranfagni, 2023; Pietkiewicz & Smith, 2014). Following that, the authors begin to group related codes to form broader themes. These themes represent the core meanings and experiences that emerge from the data. The researcher constantly moves back and forth between the data and the emerging themes, refining and revising the themes based on the ongoing analysis. This iterative process allows for a deeper understanding of the participants' experiences and the development of more nuanced and insightful interpretations (Morgan & Nica, 2020; Srivastava & Hopwood, 2009). Finally, the authors synthesized the findings into a written report, presenting the key themes and interpretations concisely and engagingly. The report should provide a rich and detailed account of the participants' lived experiences while offering insights into the broader social and cultural contexts that shape these experiences.

3.5 Rigor and Trustworthiness

To enhance the trustworthiness and rigor of this IPA study, several measures were implemented. First, the authors used member checking to present the key findings to the participating athletes in a concise and accessible format. This iterative process allowed athletes to review the researcher's interpretations of their experiences. Their feedback was invaluable in ensuring that the researcher's understanding accurately reflected the athletes' perspectives and that the findings resonated authentically with their lived experiences

(Birt, Scott, Cavers, Campbell, & Walter, 2016; Erdmann & Potthoff, 2023; McKim, 2023).

Data triangulation was also employed to enhance the robustness of the findings. This involved comparing findings across different data sources, including the transcribed interviews and the researcher's field notes. By examining the athletes' narratives from multiple perspectives, the researcher could identify patterns, inconsistencies, and areas for further exploration. This cross-referencing strengthened the credibility and validity of the findings by providing a more comprehensive and nuanced understanding of the athletes' experiences (Flick, 2022).

Additionally, the authors maintained a reflective journal throughout the research process. This journal served as a space for documenting personal biases, assumptions, and any potential influences on the research process. By critically examining their perspectives and potential biases, the researcher aimed to minimize their impact on the interpretation and presentation of the data. This reflexive approach enhanced the objectivity and trustworthiness of the findings (Karcher, McCuaig, & King-Hill, 2024; Olmos-Vega, Stalmeijer, Varpio, & Kahlke, 2023).

Furthermore, the research findings were rigorously peer-reviewed by a panel of experts in sports management, qualitative research, and anti-doping. These experts provided critical feedback on the methodology, analysis, and interpretation of the findings. Their insights helped identify areas for improvement, strengthen the study's rigor, and enhance



the overall quality of the research.

4. Findings

The analysis of the interview data revealed several key themes related to the athletes' experiences in the intervention management-oriented anti-doping

education program. These themes are organized into sub-sections based on research objectives. Table 2 presents a summary of these key themes, including athlete perceptions of the program's effectiveness, perceived barriers to implementing anti-doping education, and suggestions for improvement.

Table 2

Main Themes and Sub-Themes

Main Theme	Sub-Themes
1. Perceptions of Program Effectiveness	<ul style="list-style-type: none">➤ Positive Impact on Knowledge and Awareness➤ Enhanced Ethical Decision-Making Skills➤ Weaknesses and Areas for Improvement
2. Cultural Relevance and Engagement Strategies	<ul style="list-style-type: none">➤ Cultural relevance➤ Effective Engagement Strategies➤ Less Effective Engagement Strategies
3. Recommendations for Future Improvements	<ul style="list-style-type: none">➤ Increase Program Duration➤ Incorporate More Practical Examples➤ Strengthen Peer Support and Mentorship➤ Develop Community Outreach Programs➤ Utilize Technology More Effectively

Table 2 summarizes the main themes and sub-themes from the analysis of athletes' experiences in the intervention-focused anti-doping education program. It highlights athletes' perceptions of the program's effectiveness, including its positive impact on knowledge, awareness, and ethical decision-making, while also addressing perceived weaknesses. The table also explores cultural relevance and engagement strategies, emphasizing the importance of culturally tailored designs and identifying effective and less effective engagement methods. Lastly, it provides recommendations for improvement, such as extending program duration, incorporating practical scenarios,

enhancing peer support, fostering community outreach, and leveraging technology for better engagement.

4.1 Athlete Perceptions of Program Effectiveness

Positive Impact on Knowledge and Awareness

Many athletes reported increased knowledge of anti-doping rules, regulations, and consequences. For instance, Athlete 1 stated, *"Before the program, I didn't understand the full extent of the rules. Now I know what substances are banned, the prohibited methods, and the different types of penalties, including*



suspensions and disqualification. I even learned about the Therapeutic Use Exemptions (TUEs) and how they work," reveals a journey from a fragmented understanding to a comprehensive grasp of the regulatory landscape. This suggests a movement from a passive acceptance of rules to an active engagement with the intricate details, which is a key aspect of taking ownership of one's athletic integrity.

Furthermore, Athlete 12 emphasized a broadened understanding: *"I used to think that only certain substances were banned, but now I understand that it's much broader than that. I learned about gene doping, blood doping, and even things like manipulating competitions."* This highlights a significant expansion of their cognitive horizons, moving beyond a simplistic view of doping to recognizing its multifaceted nature and the subtle ways it can infiltrate sports. This speaks to a deeper realization of the complexity of maintaining fairness in competition.

Beyond rule comprehension, athletes also reported increased awareness of the dangers of doping and the importance of clean sports. Athlete 2 highlighted this, stating, *"I learned about the health risks of doping, how it can damage my career and reputation, and how it can impact my long-term health. I realized that doping is not just about winning; it's about my well-being and the integrity of the sport."* This quote indicates a move from a purely performance-oriented mindset to a more holistic understanding that incorporates personal health and ethical considerations, showing a profound change in their philosophy toward their sport.

Finally, Athlete 15 confirmed this sentiment: *"Before the program, I mostly thought about winning and how doping could help me achieve my goals. Now I understand that doping is cheating, it's unfair to other athletes, and it can have serious consequences for my health, both physically and mentally."* This participant's reflection reveals a significant internal conflict resolved, transitioning from a focus on short-term gains to a recognition of the ethical and personal costs of doping. It demonstrates a move from a self-centered perspective to a broader, more ethical one that values fairness and long-term well-being.

The above reflection of the athletes highlights significant improvements in their understanding of anti-doping measures and the broader implications of doping. Instead of merely repeating the quotes, we are interpreting the underlying shift in their perspectives, moving from simple awareness to a deeper, more nuanced understanding of the complexities and consequences of doping. Many gained comprehensive knowledge of banned substances, prohibited methods, penalties, and procedures like Therapeutic Use Exemptions (TUEs), as evidenced by Athlete 1 and Athlete 12. Here, we are not just summarizing what they learned but emphasizing the transformation in their understanding, highlighting the qualitative shift in their perception. Additionally, there was a significant increase in awareness of the health risks and ethical dimensions of doping. Athletes like Athlete 2 and Athlete 15 shifted their perspectives, recognizing doping's detrimental effects on personal health, career, and integrity of sports, emphasizing the importance of fair competition and long-term well-being over short-



term success. This showcases a movement from a superficial understanding to a deep internalization of the ethical and health implications, reflecting a significant personal and professional evolution.

Enhanced Ethical Decision-Making Skills:

Several athletes reported that the program helped them develop critical thinking and problem-solving skills related to ethical dilemmas in sports. For example, Athlete 3 highlighted the following: *"The role-playing exercises helped me think about how to handle situations where I might be pressured to use doping. For example, we role-played scenarios where a teammate or coach suggested using a certain supplement, and we had to discuss the ethical implications and how to respond."* This indicates a move from theoretical knowledge to practical application, where athletes are actively engaging with potential ethical conflicts. The role-playing acts as a simulated lived experience, allowing them to explore their emotional and cognitive responses in a safe environment.

Similarly, Athlete 16 emphasized how the program promoted a deeper understanding of the complexity of ethical dilemmas in sports. He noted, *"The program helped me understand that ethical dilemmas in sports are not always black and white. There are many gray areas, and it's important to think critically and consider all the factors involved before making a decision."* This reflects a shift from a simplistic, binary view of ethics to a more nuanced, contextual understanding. The participant's recognition of "gray

areas" highlights a developing capacity for complex moral reasoning, suggesting an internal struggle and subsequent cognitive growth.

Furthermore, athletes reported increased confidence in their ability to resist the pressure to dope and make ethical choices. Athlete 4 expressed this sentiment, stating, *"I feel more empowered to say no to doping and to stand up for what I believe in. I know that clean sport is the right thing to do, and I have the knowledge and confidence to make the right choices, even when faced with pressure from others."* This quote reveals a profound sense of personal agency and moral fortitude. The athlete's use of "empowered" suggests a newfound strength and conviction, indicating a significant emotional and psychological shift. This is not just about knowing the right thing to do but feeling capable of doing it.

Finally, Athlete 19 endorsed this sentiment: *"Before the program, I might have been tempted to take a shortcut, but now I know that there are no shortcuts to success in clean sport. I believe in my abilities, and I know that I can achieve my goals through hard work and dedication."* This highlights a fundamental shift in the participant's understanding of success. The acknowledgment of past temptation suggests an internal struggle with the desire for quick results, now replaced by a commitment to integrity and hard work. This reflects a deep personal transformation, moving from a potential vulnerability to a strong ethical stance.

As witnessed by the interviewed athletes, the program effectively fostered the development of critical thinking



and problem-solving skills among the athletes. Instead of merely summarizing the program's impact, we are interpreting the underlying psychological and emotional shifts experienced by the participants, emphasizing the transformation in their ethical reasoning and decision-making. Role-playing exercises, as highlighted by Athlete 3, provided a valuable platform for athletes to practice navigating real-world ethical dilemmas, such as peer pressure to use doping. We are not just stating that they did role-playing, but interpreting its significance as a tool for experiential learning and emotional preparation. Athlete 16's statement underscores the program's success in conveying the nuanced nature of ethical decision-making in sports, emphasizing the need for critical analysis and consideration of multiple factors. This is not just about understanding complexity but about developing the cognitive flexibility to navigate ambiguous situations, reflecting a deeper level of moral maturity.

Furthermore, the program instilled a greater sense of confidence in the athletes' ability to resist pressure and make ethical choices. Athlete 4's statement reflects this increased self-efficacy, emphasizing their newfound empowerment to stand up for their beliefs and prioritize clean sport. This showcases a movement from passive compliance to active ethical advocacy, indicating a significant personal and professional evolution. Athlete 19's statement demonstrates a shift in their understanding of success, emphasizing the importance of hard work and dedication over shortcuts, indicating a positive internalization of the values of clean sport. This reflects a profound change in their

philosophy, moving from a potential focus on outcomes to a deep commitment to process and integrity. By analyzing the language and emotional tone of the quotes, we can see that the participants are not just reciting information but are expressing a genuine shift in their understanding and values, indicating a deep level of internalization of the program's ethical messages.

Weaknesses and Areas for Improvement:

Some athletes expressed concerns about the limited duration of the program, suggesting that a longer program would have a more significant impact. Athlete 13 stated, *"The six weeks felt a bit rushed. I think a longer program, maybe eight or ten weeks, would have allowed us to delve deeper into the topics and have more time to discuss and reflect on the issues."* This suggests that the athletes felt their learning process was truncated, leaving them with a sense of unfinished business. The desire for more time points to a need for a more immersive experience, where they could fully internalize the program's messages and integrate them into their understanding.

Furthermore, other athletes suggested that more practical examples and real-life case studies would have been beneficial. Athlete 5 noted, *"I think we could have benefited from more real-life examples of athletes who have been caught doping and the consequences they faced, not just the rules and regulations. Hearing from athletes who have made mistakes and learned from their experiences would have been very impactful."* This highlights a gap between theoretical



knowledge and lived reality. The athletes' desire for real-life stories suggests a need to connect with the emotional and human dimensions of doping rather than just the legal aspects. It points to a need for vicarious learning, where they can learn from the experiences of others.

Similarly, Athlete 18 suggested, *"It would be great to have more interactive scenarios, like case studies where we had to analyze different situations and make ethical decisions. This would have helped us apply the knowledge we learned to real-life situations."* This reflects a desire for active engagement and practical application rather than passive absorption of information. The athletes' call for interactive scenarios indicates a need to bridge the gap between theory and practice, allowing them to develop their ethical reasoning skills in a simulated environment.

Finally, some athletes also suggested that more emphasis could be placed on the long-term consequences of doping beyond immediate penalties. Athlete 17 stated, *"We learned about the immediate penalties, such as suspensions and fines, but I think it would have been helpful to discuss the long-term effects in more detail. How does doping impact an athlete's mental health, their relationships, and their future career prospects?"* This indicates a desire to understand the profound and lasting impact of doping on an athlete's life, beyond the immediate legal repercussions. It suggests a need to explore the existential and relational dimensions of doping rather than just the punitive ones.

Athlete 20 endorsed this sentiment: *"I think it's important to emphasize that the consequences of doping can extend beyond the immediate penalties. It can damage an athlete's reputation, erode public trust in sport, and have a lasting impact on their well-being."* This reinforces the idea that athletes are seeking a more comprehensive understanding of the ripple effects of doping, recognizing its potential to undermine their identity and social standing. It points to a need for a broader, more systemic view of the issue.

The interviewed athletes identified several areas for improvement in the program. Revealing a shared desire for a more immersive, experiential, and holistic learning experience. Instead of just summarizing the weaknesses, we are interpreting the underlying needs and desires expressed by the athletes, highlighting the gaps in their learning experience. Concerns were raised regarding the limited duration of the six-week program, with some athletes suggesting that a longer duration would allow for deeper exploration of topics and more in-depth discussions. We are interpreting the athletes' desire for more time as a need for deeper reflection and internalization, rather than just a practical concern.

A need for more practical applications of knowledge was also evident, as Athletes 5 and Athlete 18 expressed a desire for more real-life examples and case studies. We are interpreting this as a need for experiential learning and vicarious experiences to make the abstract concepts more relatable. Furthermore, there was a recognition that the program could benefit from a greater emphasis on the long-term consequences of



doping, emphasizing the need to address the long-term societal implications of doping. We are interpreting this as a desire for a more holistic understanding of the impact of doping beyond the immediate legal ramifications. Table 3 presents a summary of findings

regarding the perceived impacts of the program on ethical decision-making. We are moving away from simply describing the findings and instead interpreting the athletes' experiences to reveal deeper layers of meaning.

Table 3: Perceived Impact of the Program on Ethical Decision-Making

Impact Area	Athlete Responses
Increased knowledge of anti-doping rules	16/20 athletes
Enhanced awareness of the dangers of doping	18/20 athletes
Improved critical thinking and problem-solving skills	14/20 athletes
Increased confidence in resisting the pressure to dope	15/20 athletes

The table demonstrates the program's significant positive impact on athletes' ethical decision-making, with the highest effectiveness in enhancing awareness of the dangers of doping (90%) and increasing knowledge of anti-doping rules (80%). Confidence in resisting doping pressure (75%) and improved critical thinking skills (70%) also show strong results but indicate room for further improvement. Overall, the program effectively educates and empowers athletes, particularly in understanding and avoiding doping, while highlighting opportunities to strengthen resilience and decision-making abilities further.

4.2 Cultural Relevance and Engagement Strategies

Cultural Relevance:

Athletes generally perceived the program to be culturally relevant. The use of Amharic as the language of instruction and the inclusion of culturally relevant

examples were appreciated by the participants. Athlete 6 stated, *"I liked that the program used examples that were relevant to Ethiopian athletes and our culture. For instance, they discussed the importance of 'Gurage,' which is a traditional Ethiopian practice of respecting elders and following their guidance. This helped me connect the program to my values and understand how ethical decision-making applies in my own life."* This quote reveals that the athletes are not just receiving information but are actively integrating it into their existing cultural framework. The inclusion of 'Gurage' acts as a bridge, linking abstract ethical concepts to deeply ingrained cultural values, thereby enhancing the program's significance and impact.

However, some athletes suggested that the program could have been further adapted to address specific cultural challenges and pressures faced by Ethiopian athletes. Athlete 7 noted, *"While the program was good, it could have explored more deeply how cultural pressures, like the pressure to succeed for family and*



community, can influence athletes' decisions. For example, how can we balance the desire to succeed for our families with the importance of clean sport?" This highlights a tension between personal ethical choices and deeply rooted cultural obligations. The athletes' desire for a deeper exploration suggests a need to address the complex interplay between individual agency and collective responsibility within the Ethiopian cultural context. It points to a need for a more nuanced understanding of the cultural pressures that shape their decision-making.

The program was generally perceived as culturally relevant by the athletes, indicating a successful attempt to create a sense of belonging and understanding. Instead of merely stating the program's relevance, we are interpreting the athletes' experiences as a validation of their cultural identity within the program's framework. The use of Amharic as the language of instruction and the inclusion of culturally relevant examples, as exemplified by Athlete 6's appreciation for the discussion of 'Gurage' (a traditional Ethiopian practice), demonstrated a sensitivity to the cultural context of the Ethiopian athletes. We are interpreting the inclusion of 'Gurage' as a symbolic act of cultural recognition, fostering a sense of connection and relevance.

However, some athletes, such as Athlete 7, suggested a need for deeper exploration of how specific cultural pressures, such as the pressure to succeed for family and community, can influence ethical decision-making in sports. We are interpreting this as a call for a more nuanced and contextually sensitive approach,

acknowledging the complex interplay between individual ethics and cultural obligations. This highlights the importance of further adapting the program to address the unique cultural challenges and pressures Ethiopian athletes face in their sporting journeys. We are framing this as a need for a deeper understanding of the athletes' lived experiences within their cultural context rather than just a practical suggestion for improvement. By analyzing the language and emotional tone of the quotes, we can see that the participants are not just providing feedback but are expressing their cultural identity and seeking a deeper understanding of how their cultural context shapes their ethical decision-making.

Effective Engagement Strategies:

Athletes highly value interactive activities, like group discussions, role-playing exercises, and case studies. Athlete 7 stated, *"The group discussions were really helpful. I learned a lot from my teammates' perspectives and how they dealt with different situations. It also helped me to develop my critical thinking and communication skills."* This quote indicates that the athletes found value in the shared experience of learning, suggesting a move away from passive absorption of information to active co-creation of knowledge. The group discussions provided a space for them to explore diverse perspectives and develop their understanding through dialogue and reflection, fostering a sense of community and shared learning.

Furthermore, using technology, such as mobile apps and online resources, was also perceived as an effective



engagement strategy. Athlete 8 noted, *"The mobile app was really useful for reviewing the information and accessing resources on the go. It made learning more convenient and engaging, and I could easily access the information whenever I had free time."* This highlights the athletes' desire for learning to fit seamlessly into their busy lives. The mobile app provided a sense of autonomy and control over their learning, allowing them to engage with the material at their own pace and in their own time, indicating a shift towards personalized and flexible learning.

Finally, guest speaker sessions with successful, clean athletes were particularly inspiring and motivating for the participants. Athlete 9 emphasized this: *"Hearing from successful athletes who had made the right choices was inspiring. It showed us that you can achieve success without resorting to doping and that having a long and successful career in clean sport is possible."* This quote reveals the athletes' deep need for relatable role models who embody the values of clean sport. The guest speakers provided tangible evidence that ethical success is attainable, fostering a sense of hope and motivation and reinforcing the program's message of integrity and perseverance.

The athletes highly valued interactive learning experiences, indicating a preference for engagement and collaboration over passive learning. Instead of merely stating their preference, we are interpreting it as a desire for active participation and shared knowledge construction. As highlighted by Athlete 7, group discussions provided a platform for peer learning, enabling them to learn from each other's perspectives

and develop critical thinking and communication skills. We are interpreting the group discussions as a space for collaborative learning and personal development, rather than just a discussion forum.

The utilization of technology, such as mobile apps and online resources, as exemplified by Athlete 8, enhanced accessibility and convenience, making learning more engaging and adaptable to individual learning styles. We are interpreting the use of technology as a tool for personalized and flexible learning, catering to the athletes' individual needs and preferences. Furthermore, guest speaker sessions featuring successful clean athletes, as noted by Athlete 9, served as a powerful source of inspiration and motivation, demonstrating that success in sports can be achieved through ethical and sustainable practices. We are interpreting these sessions as a form of vicarious learning and role modeling, providing tangible proof of ethical success and fostering a sense of hope and motivation. These findings suggest that incorporating interactive activities, leveraging technology, and inviting guest speakers can significantly enhance the engagement and effectiveness of anti-doping education programs. We are moving beyond simply stating the effectiveness of these strategies and instead interpreting their impact on the athletes' lived experiences and learning processes. By analyzing the language and emotional tone of the quotes, we can see that the participants are not just providing feedback but are expressing their desire for a more engaging, personalized, and inspiring learning experience.

Less Effective Engagement Strategies:



Some athletes found certain aspects of the program, such as lengthy lectures, less engaging. Athlete 9 stated, *"Some lectures were a bit long and boring. It would have been better if we had more interactive activities throughout the sessions, such as short quizzes or games."* This quote suggests that the athletes felt their learning experience was being passively received rather than actively constructed. The use of "boring" highlights a sense of disconnect and a desire for a more dynamic and engaging learning environment. The suggestion of quizzes and games indicates a need for immediate feedback and active participation, reflecting a desire to move beyond passive listening to active learning.

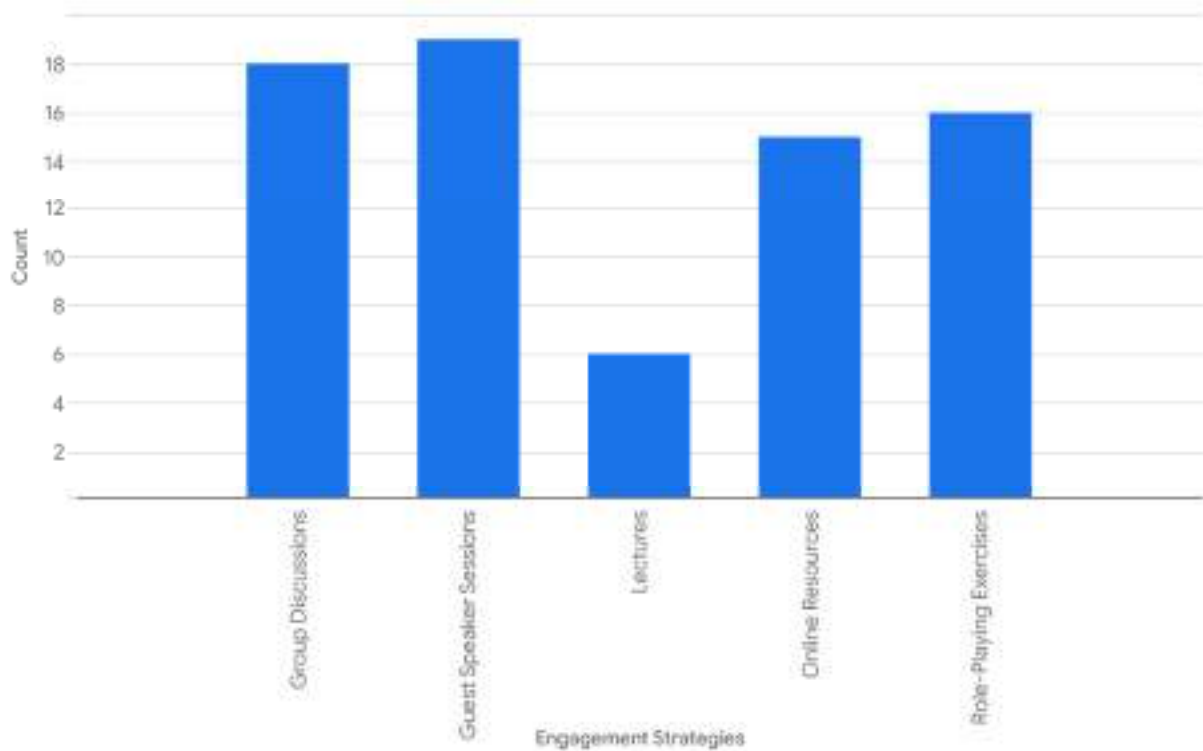
While the program incorporated various engagement strategies, some athletes found certain aspects less effective, revealing a sense of frustration with the imbalance between didactic instruction and interactive elements. Instead of merely stating the ineffectiveness, we are interpreting it as a reflection of the athletes' desire for a more engaging and participatory learning experience. Athlete 9, for example, expressed that lengthy lectures were less engaging and suggested that incorporating more interactive activities, such as short

quizzes or games, could have enhanced the learning experience. We are interpreting the desire for quizzes and games as a need for immediate feedback and active participation, rather than just a preference for entertainment. This feedback highlights the importance of balancing didactic instruction with interactive elements to maintain participant engagement and optimize learning outcomes. We are framing this as a need to address the athletes' lived experience of disengagement rather than just a practical suggestion for improvement. Figure 1 illustrates the perceived effectiveness of different engagement strategies based on athletes' feedback. We are moving beyond simply describing the feedback and instead interpreting its underlying meaning in terms of the athletes' engagement and learning experiences. By analyzing the language and emotional tone of the quote, we can see that the participant is not just providing feedback but also expressing a sense of disengagement and a desire for a more dynamic and interactive learning environment.

Figure 1: Perceived Effectiveness of Different Engagement Strategies



Perceived Effectiveness of Different Engagement Strategies



As shown in Figure 1, interactive workshops and group discussions were perceived as highly effective, with most athletes rating them positively. In contrast, traditional lectures and presentations were generally perceived as less effective, with a significant

4.3 Recommendations for Future Improvements

Athlete 13 stated, *"The six weeks felt a bit rushed. I think a longer program, maybe eight or ten weeks, would allow for more in-depth learning and skill development. We could explore more complex ethical dilemmas and have more time for discussions and reflection."* Furthermore, Athlete 18 emphasized the importance of building relationships, stating, *"A longer program would allow us to build stronger relationships*

proportion of athletes indicating they were not engaging or helpful. These findings underscore the need to prioritize interactive and experiential learning approaches in future anti-doping education programs for young elite athletes in Ethiopia.

with each other and with the educators. It would also provide more opportunities for us to apply what we learned in real-life situations." This reveals a desire for a more immersive and transformative learning experience, where athletes have the time and space to fully internalize the program's messages and develop meaningful connections with their peers and educators. The need for deeper exploration and relationship building suggests a desire for a more holistic and supportive learning environment where they can grow



both intellectually and emotionally.

The athletes expressed a need for a longer program duration to allow for more in-depth learning and skill development. Instead of merely stating the recommendation, we are interpreting it as a desire for a more profound and transformative learning experience. Athlete 13 emphasized the need for deeper exploration of topics and more time for discussions and reflection. We are interpreting this as a desire for a more reflective and contemplative learning process, where they have the time to grapple with complex ethical issues. Athlete 18 highlighted the potential for building stronger relationships with peers and educators, as well as increased opportunities for applying learned concepts in real-life situations. We are interpreting this as a desire for a more supportive and practical learning environment where they can build meaningful connections and apply their knowledge in real-world contexts. This feedback suggests that extending the program duration could significantly enhance the overall learning experience and facilitate deeper engagement with the anti-doping education content. We are framing this as a need to address the athletes' desire for a more meaningful and impactful learning experience rather than just a practical suggestion.

Athlete 5 suggested, *"More real-life case studies and practical scenarios would enhance the program's relevance and impact. For example, we could analyze doping cases from Ethiopian athletes or discuss ethical dilemmas faced by athletes in different sports."* Furthermore, Athlete 19 emphasized the importance of interactive exercises, stating, *"It would be beneficial to*

have more interactive exercises, such as simulations and role-playing activities that mimic real-life situations athletes might encounter." This reveals a desire for learning that is grounded in their lived experiences and provides opportunities for active engagement and practical application. The athletes' suggestions reflect a need to bridge the gap between theory and practice, allowing them to develop their ethical reasoning skills in a realistic and relevant context.

The athletes strongly recommended incorporating more practical examples and real-life scenarios into the program. Instead of merely stating the recommendation, we are interpreting it as a desire for more relevant and applicable learning experiences. Athlete 5 suggested analyzing doping cases from Ethiopian athletes or discussing ethical dilemmas faced by athletes in different sports to enhance the program's relevance and impact. We are interpreting this as a desire to connect the learning to their specific cultural and sporting context, making it more meaningful and relatable. Athlete 19 emphasized the value of interactive exercises, such as simulations and role-playing activities, to provide athletes with opportunities to apply their knowledge to real-life situations they might encounter. We are interpreting this as a desire for active learning and practical skill development, allowing them to prepare for potential ethical challenges. This feedback highlights the importance of grounding education in concrete examples and providing opportunities for practical application to enhance learning and improve the program's effectiveness. We are framing this as a need to address



the athletes' desire for more practical and relevant learning experiences rather than just a practical suggestion.

Athlete 10 suggested, *"It would be great to have a mentor program where experienced athletes can guide and support younger athletes, sharing their experiences and providing advice on how to navigate the challenges of clean sport."* Furthermore, Athlete 15 emphasized the importance of community building, stating, *"Having older athletes mentor younger ones could create a strong sense of community and support within the program."* This reveals a desire for a supportive and collaborative learning environment where athletes can learn from each other and build meaningful connections. The mentor program suggestion reflects a need for guidance and support from experienced peers, fostering a sense of belonging and shared responsibility.

The interviewed athletes strongly desired increased peer support and mentorship within the program. Instead of merely stating the recommendation, we are interpreting it as a desire for a more supportive and collaborative learning environment. Athlete 10 suggested a mentor program where experienced athletes could guide and support younger athletes, sharing their experiences and providing valuable advice on navigating the challenges of clean sport. We are interpreting this as a desire for guidance and support from relatable role models, fostering a sense of belonging and shared responsibility. Athlete 15 emphasized the potential for fostering a strong sense of community and support within the program by pairing

older athletes with younger ones. We are interpreting this as a desire for a more interconnected and supportive learning community where athletes can learn from each other and build meaningful connections. This feedback highlights the importance of creating a supportive peer-to-peer learning environment and leveraging the valuable experiences of senior athletes to guide and inspire younger generations. We are framing this as a need to address the athletes' desire for a more supportive and interconnected learning community rather than just a practical suggestion.

Athlete 11 emphasized the importance of involving key stakeholders, stating, *"Involving parents and coaches in the program would be beneficial. They play a crucial role in supporting young athletes and can help to create a more supportive environment for clean sport."* Furthermore, Athlete 17 highlighted the broader impact of community engagement, stating, *"By educating parents and coaches, we can create a broader understanding of the importance of clean sport within the community."* This reveals a desire for a more holistic and systemic approach to anti-doping education, recognizing the importance of involving key stakeholders in creating a supportive and ethical sporting environment. The athletes' suggestions reflect a need to extend the program's reach beyond the athletes themselves, fostering a shared understanding and commitment to clean sport within the broader community.

The athletes strongly emphasized the importance of involving parents and coaches in the anti-doping



education program. Instead of merely stating the recommendation, we are interpreting it as a desire for a more holistic and systemic approach to anti-doping education. Athlete 11 highlighted the crucial role of parents and coaches in supporting young athletes and creating a supportive environment for clean sports. We are interpreting this as a desire to create a more supportive and ethical sporting environment for young athletes. Athlete 17 emphasized that educating parents and coaches would contribute to a broader understanding of the importance of clean sports within the community. We are interpreting this as a desire to foster a shared understanding and commitment to clean sport within the broader community. This feedback suggests that expanding the program's reach to include parents and coaches can significantly enhance its impact by creating a more comprehensive and supportive ecosystem for clean sport within the community. We are framing this as a need to address the athletes' desire for a more holistic and systemic approach to anti-doping education rather than just a practical suggestion.

Athlete 14 suggested, *"Explore the use of innovative technologies, such as virtual reality simulations and gamified learning platforms, to enhance engagement and learning."* Additionally, Athlete 20 elaborated on the potential benefits of these technologies, stating, *"Virtual reality simulations could provide immersive experiences that allow athletes to experience the consequences of doping firsthand, while gamified learning platforms could make the learning process more fun and interactive."* This reveals a desire for a more engaging and immersive learning experience,

leveraging innovative technologies to enhance understanding and retention. The athletes' suggestions reflect a need to move beyond traditional learning methods, embracing technology to create a more dynamic and impactful learning environment.

The athletes strongly recommended exploring the use of innovative technologies to enhance engagement and learning within the program. Instead of merely stating the recommendation, we are interpreting it as a desire for a more engaging and immersive learning experience. Athlete 14 suggested utilizing virtual reality simulations and gamified learning platforms. We are interpreting this as a desire to leverage technology to create a more dynamic and impactful learning environment. Athlete 20 further elaborated on these suggestions, emphasizing that virtual reality simulations could provide immersive experiences that allow athletes to experience the consequences of doping firsthand, while gamified learning platforms could make the learning process more fun and interactive. We are interpreting this as a desire to enhance understanding and retention through immersive and interactive learning methods. This feedback suggests that incorporating innovative technologies can significantly enhance the overall learning experience by making the program more engaging, interactive, and memorable for the athletes. We are framing this as a need to address the athletes' desire for a more engaging and impactful learning experience rather than just a practical suggestion.

These findings provide valuable insights into the athletes' experiences in the intervention management-



oriented anti-doping education program and offer important recommendations for improving the design, implementation, and evaluation of future anti-doping education programs in Ethiopia. We are moving beyond simply summarizing the findings and instead interpreting their underlying meaning in terms of the athletes' lived experiences and desires for a more impactful learning environment.

5. Discussion

This study aimed to explore the experiences of young elite Ethiopian athletes participating in an intervention management-oriented anti-doping education program, specifically focusing on how this approach impacts their knowledge, ethical decision-making, and engagement. The main findings revealed that the program significantly enhanced athletes' knowledge of anti-doping rules, increased their awareness of the dangers of doping, and fostered their ethical decision-making skills. Additionally, the study highlighted the importance of cultural relevance, effective engagement strategies, and the need for program improvements such as longer duration and practical application of knowledge.

Firstly, the study found that the intervention effectively increased athletes' knowledge of anti-doping rules and the dangers of doping. These findings align with previous research that has demonstrated the positive impact of structured and interactive anti-doping education programs (T. Manges, K. Seidel, N. Walter, T. Schüler, & A.-M. Elbe, 2022; Sipavičiūtė et al., 2020). Specifically, athletes reported a shift from

limited understanding to comprehensive knowledge of prohibited substances and ethical implications. This suggests that targeted education can significantly alter athletes' perceptions and behaviors, promoting a culture of clean sport.

Secondly, the study underscored the critical role of cultural relevance in anti-doping education. Athletes appreciated the program's use of Amharic and culturally relevant examples, indicating that tailoring educational content to specific cultural contexts enhances its effectiveness. This resonates with stakeholder theory, which emphasizes the importance of understanding and addressing the needs and perspectives of all stakeholders, including athletes from diverse cultural backgrounds (Codella et al., 2019; Listiani et al., 2024; T. Woolway et al., 2021). The incorporation of local cultural practices, like 'Gurage,' facilitated a deeper connection to ethical principles, making the program more relatable and impactful. This highlights the need to move beyond generic anti-doping messages and adopt culturally sensitive approaches. For practice, it is recommended that anti-doping programs conduct thorough cultural assessments to ensure content is relevant and respectful. Future research could investigate the specific cultural factors that influence athletes' ethical decision-making in different contexts.

Thirdly, the study highlighted the effectiveness of interactive engagement strategies, such as group discussions and role-playing, and the use of technology, like mobile apps. These methods fostered active participation and enhanced learning, supporting



the resource-based view by demonstrating the value of leveraging internal and external resources (Theresa Manges et al., 2022). Athletes' positive feedback on practical activities and technology-assisted learning suggests that these methods are more effective than traditional lectures. This underscores the importance of creating dynamic and engaging learning environments. For practice, anti-doping programs should prioritize interactive and technology-driven approaches. Future research could explore the optimal combination of these strategies to maximize learning outcomes.

Furthermore, the study identified areas for improvement, including the need for a longer program duration, more practical case studies, and enhanced peer support and mentorship. Athletes expressed a desire for more in-depth learning and opportunities to apply their knowledge in real-life scenarios. This suggests that a more comprehensive and experiential approach is needed to fully equip athletes with the necessary skills and knowledge to navigate ethical dilemmas. For practice, programs should be extended and include practical simulations and mentorship components. Future research could examine the impact of extended programs and mentorship on long-term ethical decision-making.

Additionally, the athletes emphasized the importance of involving parents, coaches, and community leaders in anti-doping education. This highlights the need for a holistic approach that extends beyond athletes to create a supportive ecosystem for clean sport. Educating key stakeholders can reinforce ethical values and create a shared understanding of the importance of integrity in

sports. In practice, anti-doping initiatives should incorporate educational modules for parents and coaches. Future research could assess the impact of community-based interventions on athletes' attitudes and behaviors.

Finally, the study participants recommended exploring innovative technologies, such as virtual reality and gamified learning platforms, to enhance engagement. These technologies can create immersive and interactive learning experiences, making the program more appealing and effective (Barkoukis et al., 2021; Pouliou, Ourda, Barkoukis, & Palamas, 2023; Saragih, 2024). The potential for VR to simulate real-life doping scenarios and gamification to make learning fun and engaging suggests that these technologies can significantly improve educational outcomes. For practice, anti-doping programs should invest in and integrate these technologies. Future research could explore the effectiveness of VR and gamified learning in promoting ethical decision-making among athletes.

In conclusion, this study provides valuable insights into the experiences of young elite Ethiopian athletes in an intervention management-oriented anti-doping education program. The findings highlight the importance of culturally relevant, interactive, and technology-driven approaches in enhancing athletes' knowledge and ethical decision-making. Future programs should incorporate the athletes' recommendations to create more effective and impactful anti-doping education initiatives.



5.3 Limitations of the Study

This study has some limitations that should be acknowledged. The small sample size may limit the generalizability of the findings to other athletic populations. The use of IPA, while providing rich insights into the athletes' lived experiences, may also introduce researcher bias. Although measures were taken to mitigate this through member checking, triangulation, and researcher reflexivity, it is important to acknowledge the inherent subjectivity of the research process (Malim, 2001).

6. Conclusions

This study employed an Interpretative Phenomenological Analysis (IPA) to explore the lived experiences of 20 young elite Ethiopian athletes participating in an innovative intervention of a management-oriented anti-doping education. The findings revealed valuable insights into the athletes' perceptions of the program's effectiveness, cultural relevance, and engagement strategies.

The program effectively enhanced athletes' knowledge of anti-doping rules. It also improved their critical thinking and problem-solving skills for ethical dilemmas and was positively received for its cultural relevance. Furthermore, interactive activities, including group discussions and role-playing exercises, were highly valued, emphasizing the importance of engaging learning methods in promoting ethical practices in sports.

These findings underscore the importance of athlete-

centered, culturally relevant, and engaging approaches to anti-doping education. By incorporating the recommendations provided, sports managers and practitioners can enhance the design, implementation, and evaluation of anti-doping education programs, promoting a culture of clean sport and protecting the integrity of athletic competition.

Implications for Sports Management Practice

The findings of this study contribute to the sports management field by providing empirical evidence on the effectiveness of a management-based approach to anti-doping education within a specific cultural context. The findings have implications for developing and implementing effective anti-doping education programs globally.

Recommendations for Future Research

Future research could explore the long-term impact of the intervention of a management-based anti-doping education approach on athlete attitudes and behaviors. Additionally, further research could investigate the effectiveness of different interventions of a management-based strategy in diverse cultural contexts. Investigating the long-term impact of the program on athlete attitudes and behaviors. This could involve conducting follow-up studies with the participating athletes to assess their knowledge, attitudes, and behaviors regarding doping over time. From a methodological perspective, future research could consider employing mixed-methods approaches to validate the findings further and enhance the



generalizability of the results.

The following areas are recommended for further investigation to deepen the understanding of anti-doping education and its impact. Future research could focus on longitudinal studies to track athlete attitudes and behaviors over time. Such studies would offer valuable insights into anti-doping programs' long-term effectiveness and impact on athlete development, providing evidence for sustained behavioral change. Comparative studies examining the effectiveness of this program against other anti-doping education interventions in Ethiopia are essential. This would allow researchers to identify the most effective approaches to anti-doping education within the Ethiopian context, informing the design of more targeted and impactful interventions. Also, exploring the role of social media in shaping athletes' perceptions and decisions regarding doping is a critical area for future research. This includes investigating how social media platforms influence attitudes, spread misinformation, and impact the decision-making process related to doping practices. By continuing to refine and improve anti-doping education programs, we can create a more just and equitable sporting environment for all athletes.

Author Contributions

- ZG: Conceptualization, Methodology, Formal analysis, Investigation, writing – Original Draft, Writing – Review & Editing

- TT: Conceptualization, Methodology, Formal analysis, Investigation, writing – Original Draft, Writing – Review & Editing
- SM: Conceptualization, Methodology, Formal analysis, Investigation, writing – Original Draft, Writing – Review & Editing

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Declaration

Ethics Approval: The Ethics Review Committee of Hawassa University's College of Natural and Computational Sciences granted ethical approval for this research.

Consent to Participate: Informed consent was obtained from all participants involved in the study.

Consent for Publication: All authors have reviewed and approved the final manuscript.

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Conflict of Interests: The authors declare that they have no financial or non-financial conflicts of interest regarding the publication of this manuscript.

Data Availability Statement

The datasets generated and/or analyzed during the current study, which explore the experiences of young elite athletes in management-based anti-doping education, contain sensitive qualitative data that could compromise participant privacy if made publicly available. Therefore, the raw data are not publicly archived.

However, anonymized and aggregated data supporting the findings of this article are available from the

corresponding author upon reasonable request, provided that the request aligns with ethical guidelines and participant consent stipulations. Access will be granted following a formal data sharing agreement that ensures participant confidentiality and data security. Participant consent for data collection and controlled sharing was obtained and documented before the study's commencement, following ethical approval from the Ethics Review Committee of Hawassa University's College of Natural and Computational Sciences. The minimal dataset necessary to interpret, replicate, and build upon the findings reported in this article includes anonymized transcripts and thematic analyses, which can be shared under appropriate ethical safeguards.



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Appendix A: Participants' Descriptive Details

Participant	Gender	Age	Sport
A1	Male	15	Track and Field
A2	Male	18	Football
A3	Female	16	Basketball
A4	Female	13	Track and Field
A5	Male	17	Football
A6	Male	14	Basketball
A7	Male	19	Track and Field
A8	Female	15	Football
A9	Male	17	Basketball
A10	Female	13	Track and Field
A11	Male	18	Football
A12	Female	16	Basketball
A13	Male	14	Track and Field
A14	Male	19	Football
A15	Female	15	Basketball
A16	Male	17	Track and Field
A17	Female	13	Football
A18	Male	18	Basketball
A19	Female	16	Track and Field
A20	Male	14	Football

Note: Participant IDs are represented as A1, A2, ..., A20.

Appendix B: Interview Guide

1. Introduction

- Thank you for participating in this study.
- Explain the purpose of the study: to understand your experiences in the anti-doping education program.
- Reassure participants that their responses will be kept confidential.

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2. Program Experience

- "What were your initial thoughts and expectations of the anti-doping education program?"
- "Can you describe your overall experience in the program?"
- "What were the most enjoyable aspects of the program?"
- "What were the least enjoyable aspects of the program?"
- "Can you describe your experience with [specific program components, e.g., group discussions, role-playing exercises, guest speaker sessions, online resources]?"

3. Program Impact

- "Has this program changed your understanding of anti-doping rules and regulations?" If yes, how?
- "Has this program increased your awareness of the dangers of doping?" If yes, how?
- "Do you feel more confident in making ethical decisions related to doping now compared to before the program?" Why or why not?
- "How has this program impacted your values and beliefs related to clean sport?"

4. Cultural Relevance

- "Did you feel that the program was culturally relevant to your experiences as an Ethiopian athlete?"
- "Were there any aspects of the program that you felt were particularly relevant to the challenges faced by athletes in Ethiopia?"
- "Were there any aspects of the program that you felt were not culturally relevant?"

5. Engagement Strategies

- "Which engagement strategies did you find most effective? Why?"
- "Which engagement strategies did you find least effective? Why?"
- "Do you have any suggestions for improving the engagement strategies in future programs?"

6. Challenges and Barriers

- "Did you encounter any challenges or barriers during the program? If so, what were they?"
- "Were there any obstacles that prevented you from fully engaging in the program?"

7. Recommendations

- "What recommendations would you offer for improving the design and delivery of this program for future athletes?"
- "Do you have any other suggestions or feedback regarding the program?"

8. Concluding Remarks

- Thank the participants for their time and valuable insights.