



**Opportunities and Challenges of Anti-Doping Policy Harmonisation: Comparative
Analysis of the Implementation and Perceived Legitimacy of Testing and Retesting
between China and the United Kingdom**

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Abstract

The perceived legitimacy of anti-doping policies by stakeholders plays a vital role in harmonising implementation and sustaining the legitimacy of global anti-doping regime. Despite the vast research on anti-doping policies, comparative analysis of implementation and perceived legitimacy issues across political and cultural boundaries is limited. Consequently, there remains the opportunity for conducting comparative analysis between divergent national contexts. The aim of this thesis is to compare how testing and retesting are implemented and perceived in China and the United Kingdom (the UK) to extend empirical evidence and critically examine issues related to harmonisation and perceived legitimacy based on theoretical underpinnings of implementation and legitimacy. Semi-structured interviews were conducted with 47 stakeholders, comprising officials, coaches, and athletes from China, and coaches and athletes from the UK. Following reflexive thematic analysis, results showed that although scepticism about the credibility of China's anti-doping is persistent, its implementation strategies for testing and retesting are convergent with those of the UK and stakeholders from both countries support anti-doping in general. However, it was also identified that stakeholders raised questions about the effectiveness, consistency and fairness of testing and retesting. Through critical analysis, the understanding of harmonisation in anti-doping was reframed, a multi-layer perceived legitimacy framework was proposed, the reasons for convergence between both countries were analysed, and the potential risks of the hegemonic character of the anti-doping regime were highlighted. Recommendations for improving the implementation of anti-doping policies and enhancing legitimacy were provided.

Keywords: China; perceived legitimacy; policy implementation; the UK; World Anti-Doping Agency

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Declaration

I declare that this thesis was composed by myself, it is a result of my own original research except where explicitly stated otherwise in the text. All primary data contained herein was collected by me, under the supervision of Professor Paul Dimeo and Dr. Hee Jung Hong.

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List of Abbreviations

Anti-Doping Rule Violations – ADRVs

Athlete Support Personnel – ASP

China Anti-Doping Agency – CHINADA

China General Administration of Sport – CGAS

Chinese Communist Party – CCP

Court of Arbitration for Sport – CAS

Doping Control Officers – DCOs

Erythropoietin – EPO

Fédération Internationale de Football Association – FIFA

German Democratic Republic – GDR

International Federations - IFs

International Olympic Committee – the IOC

Major Event Organisations – MEOs

National Anti-Doping Organisations – NADOs

National Governing Bodies - NGBs

National Olympic Committees – NOCs

National Paralympic Committees – NPCs

Reflexive Thematic Analysis – RTA

Regional Anti-Doping Organisations – RADOs

The United Kingdom – the UK

The United States – the US

UK Anti-Doping Agency – UKAD

UNESCO Convention against Doping in Sport – the UNESCO Convention

World Anti-Doping Agency – WADA

World Anti-Doping Code – the WADC

World Health Organisation – the WHO

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Chapter 1 Introduction

Research Context

Doping remains one of the most pressing and complex challenges confronting global sport that demands continuous critical attention. The harm of doping exists both within and outside of sport. Within sport, doping can result in the reduction of the credibility of sport, ideal of fair play and legitimacy of sports governance, and causing harm to athletes (Houlihan, 2002; Naughton et al., 2024; Waddington & Smith, 2009). It also poses a threat to sports reputation and brings significant commercial risks to sports sponsorship (Backhouse et al., 2012; Dimeo & Møller, 2018; McNamee, 2012; Schnitzer et al., 2025). Beyond sport, doping risks normalising substance use among youth and amateur sport participants due to athletes' social influence as role models (Blank et al., 2016; Bloodworth & McNamee, 2010; Martin et al., 2006; Stanger et al., 2020).

Sociological analyses suggest that doping is not merely a matter of individual misconduct but a systematic product of performance enhancement, commercial incentives and technological innovation (Dimeo, 2008; Hoberman, 2001, 2005; Mazzeo et al., 2018; Morrison, 2023). These perspectives indicate that the issue of doping is complex, not only involving sport itself but also having a broader impact on society and economy. The existing anti-doping policies are a set of standardised global rules formulated by the World Anti-Doping Agency (WADA), yet their implementation is carried out in different national legal systems, resources and sports cultures (Anagnostopoulos & Begović, 2025; Read et al., 2024). This characteristic can lead to inconsistent implementation across countries, posing a challenge to the legitimacy of anti-doping policies. Consequently, the overarching aim of this thesis is to extend empirical evidence by building a better understanding of policy implementation and stakeholders' perceived legitimacy of testing and retesting in China and

the UK and providing implications for global harmonisation of anti-doping policies by comparing the Chinese and British contexts.

A key task for WADA is to create a harmonised global anti-doping system. Historical reviews suggest that anti-doping was fragmented before the establishment of WADA in 1999 with International Federations (IFs) and national bodies applying divergent testing protocols, sanction lengths and prohibited substances (Dimeo, 2008; Gleaves, 2012; Hoberman, 2005; Henning & Dimeo, 2022; Ritchie, 2013). These historical reviews also indicate that past anti-doping efforts were ineffective due to limited out-of-competition testing, and sports leaders lacked sufficient determination to prevent cheating. To address the fragmentation and therefore to improve anti-doping, WADA sought to harmonise anti-doping standards across the globe through the World Anti-Doping Code (the WADC) to create a level playing field where athletes are treated consistently (WADA, 2008, 2021b).

Notwithstanding WADA's efforts to achieve harmonisation, standardised rules do not mean that standardised enforcement can be achieved. Scholars argue that the discrepancies of national capacities (e.g. human resources, intelligence systems and legal support) and varying degrees of political wills can affect the willingness to set priorities and bear the financial costs related to implementation (Houlihan, 2002; Houlihan & Vidar Hanstad, 2018; Read et al., 2024). From a theoretical perspective, it is not uncommon for policies to deviate from established standards when crossing governance levels, as national actors must interpret rules, manage constraints and make decisions in daily implementation (Lipsky, 2010; Pressman & Wildavsky, 1984). Consequently, despite there are standardised global rules, the consistency of anti-doping policies depends on the capacity, interpretation and commitment of countries.

Harmonisation also depends on the perceived legitimacy within the global anti-doping system. From a theoretical perspective, perceived legitimacy refers to stakeholders' belief that

an authority, institution, policy, or its associated rules are appropriate, proper, and justified, leading to their acceptance of both the authority and its rules as deserving of voluntary compliance rather than compliance solely by fear of sanctions (Bitektine, 2011; Deephouse et al., 2017; Suchman, 1995; Tyler, 2006). In terms of anti-doping, when stakeholders perceive enforcement as inconsistent, untransparent and disproportionate, the legitimacy of anti-doping policies declines, and they may distrust the system and comply with the rules to a minimum degree, thereby undermining harmonisation (Read, 2019). Thus, implementation and perceived legitimacy are interwoven factors that jointly affect the transformation of standardised global anti-doping rules into practices across different national contexts.

Given that the disparities of national contexts can influence implementation and perceived legitimacy, the focus of this thesis is on how anti-doping policies are implemented and perceived in different national contexts, particularly in terms of testing and retesting in China and the UK. The perceptions of officials, coaches and athletes from China, alongside those of coaches and athletes from the UK, were brought together for examination. China and the UK are sports powerhouses (e.g. often rank among the top ten in the Olympic medal table) with substantial institutional and cultural differences. Both countries also have different reputations in anti-doping. For instance, the UK has demonstrated significant commitment to anti-doping, such as developing anti-doping education programmes that have received endorsement from WADA (Batt, 2014; Houlihan & Lindsey, 2012), while China has encountered persistent scepticism about the credibility of Chinese sport (Hong & Zhouxiang, 2012; Yang et al., 2021).

The significance of this thesis lies in that the perceptions of these stakeholders can provide new and intriguing empirical evidence that transcends political and cultural boundaries, especially that there is limited empirical evidence of China. The uniqueness of this thesis lies in its comparative lens. Existing anti-doping studies that focus on national

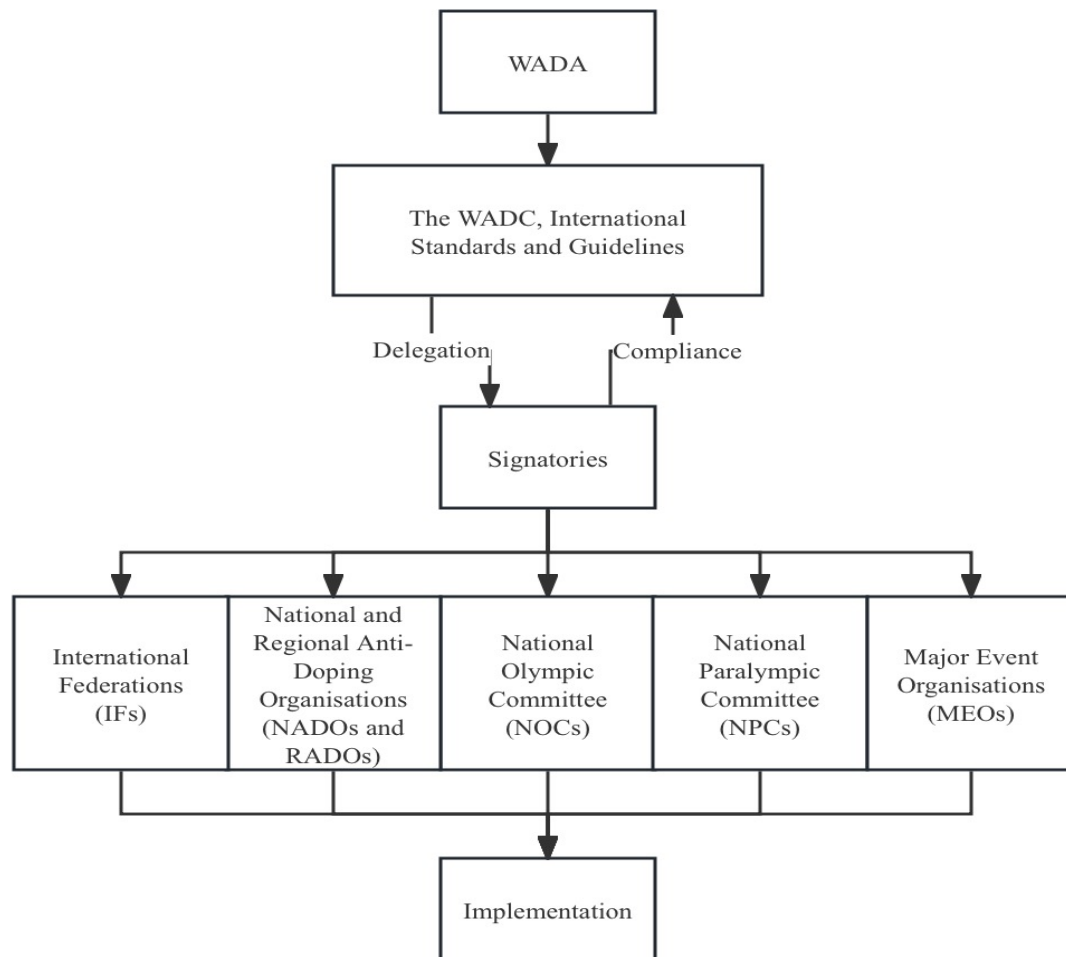
contexts mostly shed lights on European and North American contexts (e.g. Henning & Andreasson, 2022; Hurst et al., 2020; Manges et al., 2022; Ritchie & Jackson, 2014). A body of work also shed lights on comparing European or North American countries that have similar political systems, resources and sports traditions (e.g. Houlihan et al., 2020; Martinelli et al., 2023; Wagner & Hanstad, 2011). Nevertheless, direct comparative analysis of policy implementation and perceived legitimacy across fundamentally different systems is limited. Comparing China and the UK therefore helps to examine the extent to which differences in governance structures, resources and sports traditions shape the implementation and perceived legitimacy of anti-doping policies at the national level and offer insights for enhancing harmonisation of anti-doping policies.

The Current Anti-Doping Landscape

Scholars in sports policy analysis define WADA as an international regime (Gray, 2019; Houlihan, 2014). An international regime is defined as the “principles, norms, rules and decision-making procedures around which actor expectations converge in a given issue-area” (Krasner, 1982, p. 185). Following Krasner (1982), a well-established policy regime requires stable and shared principles, norms, rules and decision-making procedures. This means that without these factors, governance may be fragmented, and coordination may become difficult to maintain. As historical reviews suggest, global anti-doping prior to WADA was characterised by fragmentation of efforts, mutual suspicion among key actors, absence of sufficient coordination, and a severe lack of resources (Henning & Dimeo, 2022; Hunt et al., 2012; Wagner & Pedersen, 2014). These characteristics make global anti-doping prior to 1999 unable to be regarded as a well-established policy regime.

The establishment of WADA marked an important attempt to unify global anti-doping efforts. The rapid acceptance of the WADC in 2003 and ratification of the UNESCO

Convention against Doping in Sport (the UNESCO Convention) by governments in 2005 seem to indicate that the fragmented anti-doping efforts before 1999 were being addressed through a significantly strengthened policy regime (Houlihan et al., 2019). In this regime, WADA delegates the authority of implementing its globally established rules to national and regional organisations. By delegating the authority of implementation, it allows a relatively small international organisation to exercise power over a large and diverse network of stakeholders through incorporating compliance with the WADC into the conditions for participating in the Olympics and international competitions (Casini, 2009; Henne, 2015). For comparison, WADA utilises roughly 187 employees and a budget of around \$44 million (WADA, 2025b, 2026), while the International Olympic Committee (the IOC) has over 630 employees and a budget of around \$7.4 billion for 2025-2028 (IOC, n.d.-a, n.d.-b). The significant gap may indicate that WADA lacks sufficient resources to achieve its goals and the resource differences among countries may increase the difficulty of achieving its goals, making the WADA regime an intriguing case in sport governance. The following figure illustrates the WADA regime.

Figure 1*The WADA regime*

Note. This figure was generated by summarising and highlighting the information on the page of signatories provided by WADA (n.d.-a).

Deterrence and Prevention

WADA developed deterrence and prevention as anti-doping strategies. Deterrence is pursued mainly through doping control, which is a technical term defined in the WADC that covers all steps and processes from planning and conducting testing, through sample collection and analysis, to results management and sanctions (WADA, 2021b). Enhancing deterrence also relies on retesting, which requires long-term sample storage for a maximum

of 10 years and re-analysis of samples to extend athletes' accountability after the competition (WADA, 2021b). This means that testing is designed to detect whether athletes have doped and deter other athletes from doping by enforcing the fear of being caught and punishing athletes, while retesting can extend the fear to a maximum of ten years. Such a blend of immediacy and longevity has received scholarly support but also criticism.

The consensus of supportive voices is reflected in emphasising the significant role of testing and retesting in enhancing deterrence (de Hon et al., 2015; Lauritzen & Solheim, 2024; Viret, 2016). The study by de Hon et al. (2015) is of great significance. It combines anonymous survey data from more than 2,000 elite athletes with the prevalence modelling and compares actual doping behaviours with positive results. Their findings indicate that testing has played a significant deterrent role by holding athletes accountable. Through a comprehensive legal analysis of anti-doping regulations, Viret (2016) demonstrates how the application of extending the time of sample storage and re-analysing samples can strengthen the evidentiary basis of sanctions and reduce the opportunities for athletes to evade sanctions by using the limitations of testing.

Despite the consensus of support, the ethical, practical and legal concerns have brought criticism to testing and retesting. These critical voices emphasise their impact on legitimacy and question whether they can achieve the expected deterrence (Dimeo & Møller, 2018; Henne, 2015; Overbye, 2016a). Dimeo and Møller (2018) present a critique that testing is drawn into a race against increasingly sophisticated doping strategies. They argue that athletes with abundant scientific resources or even state support are more likely to take advantage of the limitations of testing to evade sanctions, which means that testing disproportionately punishes athletes with fewer resources. Using the social legal framework, Henne (2015) indicates how the practice of retesting blurs the line between athlete protection and regulation, as individuals continue to be subject to long-term scrutiny after athletes retire.

Retesting is not an anti-doping measure that emerged recently, and it has shown effectiveness in practice. Retesting was introduced in the 2003 WADC, and in the 2015 version the sample storage period was extended from eight years to 10 years (Dimeo & Møller, 2018; WADA, 2003, 2015). Prior to the 2016 Rio Olympic Games, the IOC re-analysed 1,243 samples collected at the 2008 Beijing and 2012 London Olympic Games, which revealed a total of 98 positive results that had gone undetected by in-competition testing (Wilson, 2016). In addition, targeted re-analysis of weightlifting samples collected at the 2008 and 2012 Olympic Games revealed 61 positive results, including nine gold medalists, 10 silver medalists, and 15 bronze medalists (Kolliari-Turner et al., 2021).

Despite demonstrating effectiveness in practice, the description of retesting in the WADC is vague and its implementation is limited. Retesting is contrary to the detailed prescription and frequent implementation of testing. In the most recent WADC, retesting was only addressed in Article 6.5 and 6.6, and it did not prescribe when re-analysis or sample storage should occur, for which sports, or which samples should be selected (WADA, 2021b). Moreover, apart from the re-analysis of samples from Beijing and London Olympic Games and weightlifting, there are no new cases where retesting has been implemented. It is unknown to what extent retesting can reduce doping. Although retesting is intended to enhance deterrence, the anti-doping literature has paid limited attention to how it is implemented at the national level. Therefore, it is necessary to explore how NADOs implement retesting, or whether they implement retesting at all.

To add to the evidence regarding the limitations of testing, the gap between WADA's testing statistics and estimates derived from survey-based prevalence studies is worth noting. The number of athletes being tested has been steadily increasing since the establishment of WADA. Its latest figure reported that a total of 288,865 samples were analysed in 2023 among Olympic and non-Olympic sports (WADA, 2025a). WADA's anti-doping statistics

indicate a steady rate of positive test results at 1.62-2.13% since 2003 (Dimeo & Taylor, 2013). However, survey-based studies using indirect questioning techniques suggest that doping may be more prevalent than indicated by testing statistics alone (de Hon et al., 2015; Elbe & Pitsch, 2018; Ulrich et al., 2018; Ulrich et al., 2023).

A study by de Hon et al. (2015) estimated the prevalence of doping could range between 14-49%. Using the Unrelated Question Model of the randomised response technique, which is designed to encourage honest reporting on sensitive behaviours, Ulrich et al. (2018) investigated doping among 2,167 athletes competing at the 13th World Championships in Athletics and the 12th Pan-Arab Games in 2011. The study reported prevalence estimates of 43.6% and 57.1%, respectively. Under cautious assumptions regarding potential respondent non-compliance, the estimates remained at least 30-31% and 45-49%, respectively.

Using the Total Cheater Detection Model of the randomised response technique with 771 Danish elite athletes for last-season doping, Elbe and Pitsch (2018) reported 0% honest affirmative responses, 69.4% honest negative responses, and 30.6% respondents who did not answer according to the survey instructions. As the true doping status of respondents who did not comply with the survey instructions could not be determined, the authors concluded that 30.6% represented the maximum possible rate of doping rather than a confirmed prevalence estimate. More recently, Ulrich et al. (2023) further discussed the application of randomised response technique using the same dataset as that of Ulrich et al. (2018) and argued that these findings should be interpreted as evidence that official testing statistics are likely to underestimate the true prevalence of doping.

Although these studies reported different estimates, they consistently suggest that doping is likely to be under-detected by testing and official anti-doping statistics. Scholars have therefore argued that testing and retesting can serve as layered deterrence, as athletes

may be discouraged by the possibility that prohibited substances and methods could be detected not just during competitions, but years later with detection technology advances (e.g. de Hon et al., 2015; Lauritzen & Solheim, 2024). However, critical policy analysis by scholars highlighted a lack of effectiveness and fairness of testing and retesting (e.g. Badoud et al., 2011; Dimeo & Møller, 2018; Lu et al., 2023). Given the role of deterrence in anti-doping and the continuing debates surrounding it, the focus of this thesis is on testing and retesting and on examining how they are implemented and perceived across different national contexts.

In a broader scope, WADA also frames anti-doping education under the umbrella of doping control, which acts as a tool of prevention. Anti-doping education aims to raise awareness, provide accurate information and develop decision-making capability for athletes to prevent them from doping (WADA, 2021b). To prevent athletes from doping, WADA prescribed a range of education initiatives, including workshops, e-learning modules, targeted messaging for high-risk groups and outreach at major events (WADA, 2021a). Beyond information transfer, value-based education is increasingly emphasised to encourage athletes to integrate clean sport ideals with personal identity and moral reasoning (WADA, 2021a). The preventive role of anti-doping education may be regarded as a complement to deterrence that relies on punitive measures, as it prevents athletes from doping through knowledge and shaping morality (Backhouse et al., 2018; Donovan et al., 2002; Kavussanu & Ring, 2017). Such emphasis on morality that goes beyond punishment has gained academic support.

Anti-doping education is widely recognised as a pillar that complements deterrence. The findings in previous studies highlighted the barriers of attitudinal and knowledge gaps to reducing doping and emphasised that value-based and theory-informed education can reduce moral disengagement and enhance athletes' resistance to doping (Backhouse et al., 2012; Ring et al., 2022; Sagoe et al., 2016; Whitaker et al., 2014). A recent study by Reynoso-

Sánchez et al. (2025) synthesised studies on the intervention features of education involving over 2,000 athletes from multiple countries and emphasised the significant effectiveness of interactive and culturally tailored education in preventing athletes from doping. Their findings indicate that deterrence alone is insufficient, education programmes based on anti-doping values may promote a clean sport culture, thereby enhancing the preventive effect of education.

Despite the support, the effectiveness and design of anti-doping education are questioned. Critics argue that many education programmes have limited behavioural impact, weak theoretical grounding and failure to address diverse athletes' needs (Petróczi & Boardley, 2022; Engelberg et al., 2015; Petróczi et al., 2024). A study by Barkoukis et al. (2022) surveyed 1,328 competitive athletes from Germany, Greece, Italy, Russia, Serbia and the UK regarding the influence of anti-doping education on the legitimacy of anti-doping policies. Their findings suggest that athletes who live in Germany and the UK with comprehensive education (use value-based contents to enhance the morality of athletes) tend to be more supportive of anti-doping than athletes from the other countries with basic education provisions (non-value-based). These critical voices may suggest that despite the fact that education is essential, there are challenges to overcome to strengthen prevention and harmonisation.

The focus of this thesis is on the crucial measures (i.e. testing and retesting) that WADA utilises to detect and deter doping. This focus is based on two considerations. Firstly, the effectiveness of education is difficult to assess because many education programmes measure knowledge rather than behavioural change and rarely take into account long-term influence (Filleul et al., 2024). It may be impossible to assess whether education is effective without testing and retesting because changes in doping prevalence cannot be observed if statistics are not generated by detection.

Secondly, education may not reliably prevent athletes from doping as a non-punitive measure (Petróczi et al., 2024). Because athletes' decision to dope is complex and, in some cases (e.g. the Russian doping scandal), they are likely to be forced to dope by doctors and coaches (Harris et al., 2021). Consequently, testing and retesting, which can directly exercise deterrence by detecting athletes' samples and sanctioning athletes may be more reliable than education. The WADA regime relies on NADOs to implement testing and retesting, which means that varying local contexts can influence the outcomes of implementation. Examining how NADOs implement testing and retesting may be helpful for understanding the opportunities and challenges of harmonisation.

Policy Implementation at the National Level and Legitimacy Issues

Policy implementation at national level is where WADA's ambition to harmonise global anti-doping rules conflicts with the reality of practice. The concept of policy implementation gap describes the disparity between formally adopted policies and their actual implementation (Gunn, 1978). This concept reveals the potential limitations of WADA's top-down regime because the top-down system may neglect the impact of different local contexts on achieving consistent policy implementation. Without adaptive adjustments to local contexts, policies may not be coordinated across different systems, and the risk of inefficiency may increase (Hudson et al., 2019; McConnell, 2015). For global anti-doping, the policy implementation gap highlights the practical constraints that make standardised rules uneven in delivery and impact.

In practice, the implementation of anti-doping policies has challenges, revealing the barriers to harmonising implementation across countries. Scholars point out that the differences in resources, organisational capabilities and political priorities may lead to inconsistent implementation of anti-doping rules (Gray, 2019; Houlihan, 2014). For example,

differences in resources can affect testing volumes, investigation and education, while differences in political wills can affect financial allocation and commitment (Houlihan, 2002, Read et al., 2024). A recent study by Read et al. (2024) explored the challenges of achieving globally coordinated enforcement of anti-doping rules through interviews with 22 RADOs officials. Their findings suggest that a persistent obstacle to global harmonisation is uneven enforcement driven by cross-national differences in resources, capacity and commitment, especially in less-developed countries, as testing, investigations, legal support and laboratory access are harder to sustain consistently in these settings.

The findings of Read et al. (2024) are crucial for this thesis, as they highlight an explanation of uneven enforcement of anti-doping policies across the globe. The factors that hinder harmonisation were linked to financial and human resources, organisational capacity, and political commitment. This argument suggests that harmonisation is primarily shaped by material and commitment coherence across developed and less-developed countries. The prime focus of this thesis is comparing China (i.e. less-developed) and the UK (i.e. developed), which provides a valuable opportunity for examining whether similar patterns (i.e. inconsistent implementation is mainly caused by disparities across national contexts) can be observed within the comparison between both countries.

Perceived legitimacy is at the core of governance and plays a significant role in the success of policies. Theoretically, perceived legitimacy is stakeholders' belief that an authority, institution, policy, or its associated rules are appropriate, proper, and justified, leading to their acceptance of both the authority and its rules as deserving of voluntary compliance rather than compliance solely by fear of sanctions (Bitektine, 2011; Deephouse et al., 2017; Suchman, 1995; Tyler, 2006). In anti-doping, this means that in contexts of lower perceived legitimacy, actors (e.g. NADOs and athletes) may only engage on formal basis to

meet the minimum requirements (Read, 2019). For instance, athletes may cooperate with sample collection only because it is required.

In practice, perceived legitimacy is shaped not only by the everyday interactions between officials, coaches, and athletes but also by engagement with the values and assumptions of the governing organisation. Empirical evidence shows that legitimacy can be fragile and may be undermined when inconsistencies emerge (Barkoukis et al., 2022; Engelberg et al., 2015; Blank et al., 2021; Overbye, 2016b). Using survey data from multiple European countries, Barkoukis et al. (2022) demonstrate how the perceived fairness of anti-doping education influences whether athletes and coaches view anti-doping authorities as credible, when athletes recognise the values of anti-doping, they perceive anti-doping policies as legitimate. Overbye (2016a) conducted a survey of 645 elite Danish athletes and found that the intensive testing system would bring psychological pressure and distrust to the athletes, affecting their willingness to cooperate with anti-doping organisations.

Perceived legitimacy of anti-doping can therefore be understood as operating in a misaligned pattern. There is the legitimacy of the overall goals and values of anti-doping (e.g. protecting clean sport), and empirical evidence has shown that there is a consensus in supporting anti-doping (e.g. Barkoukis et al., 2022; Martinelli et al., 2023). However, legitimacy is also based on stakeholders' perception of policy implementation. When they notice inconsistent standards and certain countries or sports are targeted disproportionately, legitimacy can be undermined (e.g. Cox et al., 2022; Overbye, 2016a, 2018; Qvarfordt et al., 2024). The Russian doping scandal exemplifies how both consensus in supporting anti-doping and perception of implementation can be undermined by system-level corruption, as the institutional misconduct required intelligence-led investigations (e.g. whistleblower) rather than routine testing to uncover, leading to scepticisms about the credibility and

effectiveness of anti-doping (Harris et al., 2021; Ohl et al., 2020). More examples of how perceived legitimacy influence anti-doping are presented in the next chapter.

Anti-doping can be interpreted differently across political systems and cultural contexts. The concept of anti-doping was largely proposed by Western countries (e.g. European and North American countries). Scholars have emphasised the role of legal and cultural contexts of Western sports and ethics in shaping anti-doping (Callery & McArdle, 2011; Christiansen, 2010; Exner, 2018; Hoberman, 2005; McNamee & Tarasti, 2011). Hoberman (2005) traced how anti-doping policies evolved from the Western debate on medicalisation and the ideal of natural achievement. Historical reviews showed that Western sport organisations (e.g. the IOC and Fédération Internationale de Football Association [FIFA]) formulated the first rules and enforced the first tests in the 1960s (Dimeo, 2008; Henning & Dimeo, 2022). It indicates that the challenge of global harmonisation lies in enforcing policies shaped by Western countries globally and demanding the same level of compliance and implementation when non-Western countries may hold different views on sports ethics, state involvement and resource allocation.

Existing scholarly attention to implementation and perceived legitimacy of anti-doping policies tends to focus on European and North American cases (e.g. Batt, 2014; Blank et al., 2021; Henning & Andreasson, 2022; Martinelli et al., 2023; Valkenburg et al., 2014). While their work has provided important insights into athletes' experience and organisational practice, it suggests less clarity about how implementation and legitimacy operates beyond Western contexts. Although a body of academic work has also focused on non-Western contexts (e.g. Juma et al., 2022; Star, 2022; Yang et al., 2023), there remains the gap of comparing evidence from a Western country (i.e. the UK) and a non-Western country (i.e. China). Consequently, addressing this gap is crucial for understanding how anti-doping policies are perceived and interpreted across national contexts.

Regarding comparative analysis between countries, recent studies focused on athletes' participation in anti-doping governance in Germany and Poland (Fiege & Zembura, 2024), psychosocial factors that influence doping among athletes from the US, the UK and China (Zhang et al., 2025), and the doping scandals in Canada, Russia and China (Kidd et al., 2001). However, these studies primarily focused on behavioural and organisational factors instead of analysing policy implementation alongside perceived legitimacy. Moreover, no existing study has conducted comparative analysis of policy implementation and perceived legitimacy among countries that have significant differences in political systems, governance models and sporting traditions. By conducting such comparative analysis between China and the UK, these research gaps can be addressed and empirical evidence in relation to how testing and retesting are implemented and perceived across contrasting political and governance contexts can be advanced.

China and the UK

In the east of Asia and the northwest of Europe lie two powerful sporting countries, China and the UK. In the most recent summer and winter Olympic and Paralympic Games (Sochi, Rio, PyeongChang, Tokyo, Beijing and Paris), China won a total of 629 medals and the UK won 440 medals (IOC, n.d.-c). The two countries often rank among the top ten in the Olympic medal table, reflecting significant investment in elite sport by both countries (de Bosscher et al., 2015; Green & Houlihan, 2005). Beyond their success on the Olympic podium, both countries produce significant influence in international sports organisations such as the IOC and WADA.

The influence is exemplified by the officials from both countries who entered the decision-making levels of WADA and the IOC, and both countries' contributions to WADA's budget, showing their significance in global anti-doping. For instance, Lord Sebastian Coe

from the UK is one of the presidential candidates of the IOC in 2025 (Roan, 2025). Former Chinese short-track speed skater Yang Yang has been the Vice-President of WADA since January 2020 (WADA, n.d.-b). In WADA's financial report, China contributes over 60% of the financial contribution among Asian countries and the UK is one of the five European countries that contributed over \$1 million (WADA, 2026). Their sporting achievement and influence in global sports make them useful cases for exploring how anti-doping policies are implemented and understood in different national contexts. However, despite the similar sporting power and influence of the two countries in global sports, they have significant differences in geography, governance models and sporting traditions.

Regarding geographical differences, China expands across a vast land area while the UK occupies a much smaller area. China is a large country with an area of approximately 9.6 million square kilometres, and its population is approximately 1.4 billion (National Bureau of Statistics of China, 2024). The UK has a land area of approximately 240,000 square kilometres, and its population is approximately 69.5 million (National Statistics, 2025; United Nations, n.d.). The vast difference reflects that the human resources and financial resources required for conducting testing, retesting and education in China and the UK are largely different. Understanding how the disparities in resources affect the implementation of anti-doping policies in both countries is helpful for exploring policy implementation in different national contexts.

Regarding anti-doping budgets, publicly available statistics indicate that the anti-doping budget of China Anti-Doping Agency (CHINADA) is less than that of UK Anti-Doping Agency (UKAD). Despite China's far larger land size and population compared with the UK, CHINADA operates with a smaller budget (approximately £6.88 million; CHINADA, 2024) than that of UKAD (approximately £11 million; Kelner, 2018). In other words, CHINADA's smaller budget is spread to manage anti-doping across approximately 9.6

million square kilometres, whereas UKAD's larger budget operates across approximately 240,000 square kilometres.

Regarding governance models, China and the UK adopt different strategies. A country's governing system influences policy implementation, especially sports policy (Houlihan, 2005). China's sports governance operates through a highly centralised structure where the state exercises strong power over sports organisations such as CHINADA (Yang et al., 2021). The potential strengths of this centralisation may enable efficient distribution of resources and consistent enforcement, yet it may also lack adaptive responses to local needs, as central authority can overlook diverse regional contexts and capacities (Matland, 1995; Smith, 2009). In contrast, British sports governance operates through a decentralised governance model where sports organisations (e.g. UKAD) collaborate with other sports bodies (e.g. British Olympic Association) to enforce sports policies (Houlihan & Lindsey, 2012; Read, 2019). Although the decentralised structure transfers decision-making power from the central level to the local level, it may lead to inconsistencies due to imbalanced coordination (Smith, 2025; Treisman, 2007).

Regarding sporting traditions, the UK faces less scepticism or criticism in terms of doping issues than China. Doping has been an issue in China, from scandals involving athletes in the 1990s driven by bringing honour to the country (e.g. winning medals to present a strong national image) to the recent four-year ban in 2022 on a famous figure in weightlifting, Lyu Xiaojun, whose out-of-competition testing showed positive results for erythropoietin (EPO; Hong & Zhouxiang, 2012; International Testing Agency, 2025). The food contamination case involving 23 Chinese swimmers in 2021 also adds to China's doping issue.

Scepticism about state-supported systematic doping in China and criticisms of the untransparent procedures, inconsistent testing and limited independency of CHINADA have

long existed (Tan et al., 2018). In contrast, the UK is considered as one of the leading countries in anti-doping governance for the establishment of one of the earliest national anti-doping systems and the enforcement of policies that often exceed the minimum standards of WADA (Grix & Carmichael, 2011; Houlihan & Lindsey, 2012).

It is clear that China and the UK are two powerful sporting countries with significant differences in governance models and sports traditions. Their sports achievements and influence may make them valuable subjects to be studied in the field of anti-doping. However, most of the existing studies on the Chinese context focus on reviewing historical issues and reasons for doping among Chinese athletes (e.g. Hong, 2006; Hong & Zhouxiang, 2012; Yang & Leung, 2008). Recent studies on the Chinese setting demonstrate how centralised governance influences implementation in specific ways (Yang et al., 2021; Yang et al., 2023). Despite these two recent studies offered valuable insights into China's anti-doping, their work largely focuses on Chinese anti-doping governance and effectiveness of education from the stakeholders' perspective. Their contributions can be extended by this thesis to exploring the implementation and perceived legitimacy of testing and retesting in China, and to assessing the opportunities and challenges of harmonisation through comparisons with the UK.

Research Aims and Objectives

The aim of this thesis is to extend empirical evidence by building a better understanding of policy implementation and stakeholders' perceived legitimacy of testing and retesting in China and the UK and providing implications for global harmonisation of anti-doping policies by comparing the Chinese and British contexts. The objectives of this thesis have been set to achieve its aims, including

1. To critically examine prevailing discussions of harmonisation challenges and perceived legitimacy issues in global anti-doping.
2. To examine the implementation and perceived legitimacy of testing and retesting in China and the UK.
3. To identify the opportunities and challenges of harmonisation by comparing the national contexts of China and the UK.
4. To propose a theoretical framework for understanding perceived legitimacy issues in anti-doping.
5. To provide insights for the WADA regime and offer recommendations for future studies.

Research Questions

Based on the research aims and objectives, this research asks the following research questions:

1. How do NADOs in China and the UK implement testing and retesting?
2. How do officials, coaches and athletes in China and coaches and athletes in the UK perceive testing and retesting?
3. What are the similarities and differences between China and the UK in terms of the implementation and perceived legitimacy of testing and retesting?
4. To what extent do national resource and capacity influence harmonisation in anti-doping?
5. How can perceived legitimacy issues be understood in a clear and consistent analytical lens?

Thesis Structure

To address these research questions, this thesis is divided into six chapters. Chapter 1 presents the introduction. Chapter 2 provides discussions of theoretical underpinnings of policy implementation and legitimacy, and reviews existing literature. Chapter 3 considers the philosophical foundations and approaches for data collection and analysis. Chapter 4 reports the findings of the thesis. Chapter 5 presents critical discussion of findings in combination with theories and existing literature. Lastly, Chapter 6 concludes the key insights and contributions, and provides recommendations for future research by reflecting the limitations of this research. The next chapter discusses the theoretical underpinnings of policy implementation and perceived legitimacy, and reviews existing literature.

Chapter 2 Literature Review and Theoretical Frameworks

Doping is an interdisciplinary issue that involves history, political science, law, governance, psychology and sociology. As demonstrated in this chapter, anti-doping policies designed to protect fairness have evolved into complex instruments of global governance, implemented through networks that stretch across international and national governing bodies. Yet anti-doping policies do not simply flow from WADA to these governing bodies; they are interpreted, negotiated, and sometimes resisted by the people and institutions that bring them to life. Therefore, it is important to understand how anti-doping policies are interpreted, how authority is accepted, and how legitimacy is defined.

The structure of this chapter helps to move from a broad examination of the theoretical underpinnings of policy implementation and perceived legitimacy to the specific context of the anti-doping regime under WADA. It first examines policy implementation and perceived legitimacy, drawing from public policy and political science to understand their significance as analytical frameworks. The subsequent section more specifically focuses on the WADA regime, critically assessing its development and the central challenges of harmonisation across diverse national contexts. Lastly, it develops a detailed justification for comparing China and the UK. Throughout the chapter, the focus is on identifying knowledge gaps and establishing the rationale of the current research. The literature review also lays the foundation for the subsequent design of methodology.

Policy and Governance

Before reviewing the theoretical underpinnings of policy implementation and legitimacy, it is necessary to provide an overview of policy and governance, as these concepts are crucial to the way sports governance is formulated, implemented and sustained. In public

policy and administration, governance has shifted from state control to more networked and collaborative arrangements, in which power is distributed to public and private stakeholders (Bevir, 2011; Hill & Hupe, 2002). Anti-doping reflects this shift in that it operates through a global network of organisations whose legitimacy and effectiveness depend on harmonisation and compliance rather than orders from WADA. Therefore, understanding policy and governance is crucial for analysing anti-doping as a governance process formed by power and shared responsibility.

The definitions of policy are interpreted from different perspectives to demonstrate its complexity and dynamics. In a foundational contribution to policy analysis, Burstein (2003) emphasises that policy should be viewed as a dynamic and interactive process that is shaped by both institutional structures and external influences, such as public opinion, interest groups and cultural expectations. In a standard reference for policy, Birkland (2019, p. 6) defines policy as “a statement by government of what it intends to do, such as law, regulation, ruling, decision, order, or a combination of these”.

By defining policy as a series of interrelated decisions made by political actors in response to particular problems, Hogwood and Gunn (1984) offer a comprehensive framework for understanding how policies are made and implemented. Anderson (2003) highlighted policy as whatever governments choose to do or not to do, indicating policy is a course of action or inaction. In a contemporary interpretation of how policies are formed and understood within complex political systems, Cairney (2022, p. 1) defines policy as “the sum total of government action, from signals of intent to the final outcomes”. These definitions reflect the complexity of political choices shaped by power dynamics, institutional constraints, and competing agendas.

Adopting Anderson’s (2003) definition of policy as a purposive course of action or inaction provides the conceptual basis for this thesis and offers a clear lens for examining

variations in implementation and perceived legitimacy across China and the UK. This definition is well suited to anti-doping because it conceptualises policy as a purposive and multi-actor course of action oriented towards addressing a recognised problem, which aligns with the multi-level and multi-stakeholder character of anti-doping governance. More importantly, it emphasises the possibility of inaction, which captures the reality of inconsistent implementation in anti-doping due to limited resources or low political priorities. Consequently, it enables the examination of how the harmonisation of standardised rules is pursued and contested in practice across multiple levels of governance.

Governance plays a significant role in the relationship between established rules and their enforcement. By viewing governance as a collaborative and interactive process, Kooiman (2003) emphasised that modern governance is based on the interaction of a wide variety of governing and governed actors, each with their own roles, resources and responsibilities. For example, modern fisheries can no longer be effectively managed through state control because they involve diverse and interdependent actors such as governments, industry stakeholders, environmental organisations and local communities (Kooiman, 2003). Scholars in political science and public policy regard such collaborative network as collaborative governance, which is a type of administrative arrangement that directly engages non-state stakeholders in a collective decision-making process that aims to make or implement public policy (e.g. Ansell & Gash, 2007; Getha-Taylor et al., 2018). In the field of sports governance, there are examples of collaborative networks that involve diverse stakeholders.

WADA would be the prime example of collaborative governance. Scholars in law and sociology characterise WADA as a hybrid organisation that binds public (e.g. governments) and private (e.g. sports organisations) sectors (Casini, 2009; Van Bottenburg et al., 2020; Wagner, 2009). In this hybrid system, NADOs adopt anti-doping rules and athletes become

bound by anti-doping rules through contractual agreements with their governing bodies that require athletes to accept obligations such as being tested, reporting whereabouts information, and accepting sanctions for violations (Gardiner et al., 2012; Houlihan, 2014). This means that compliance in the WADA regime is not entirely voluntary because governing bodies such as the Court of Arbitration for Sport (CAS) and the IOC have the power to impose sanctions for non-compliance (Duval, 2022). A key factor of governance is to put policies into practice.

Policy Implementation

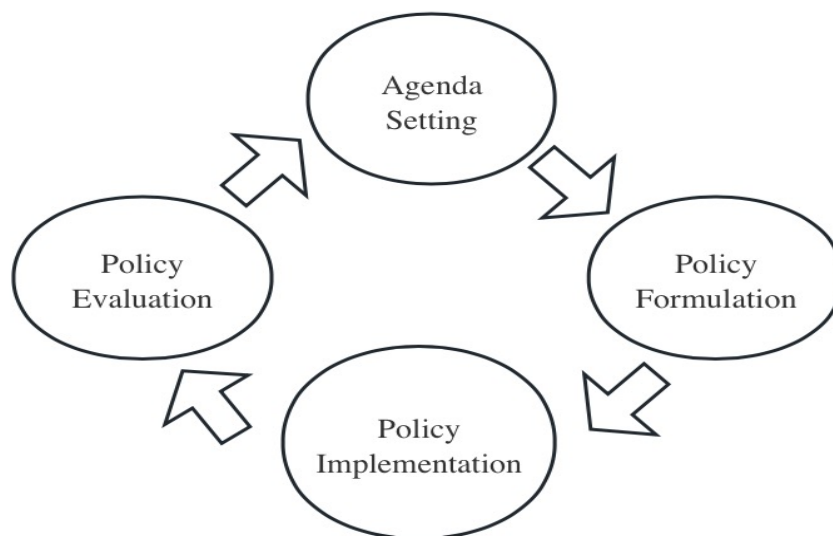
The policy stage model (see Figure 2) is an important analytical framework in public policy because it divides policymaking into a sequence of political activities to help understand the policy process. In their widely referenced public policy literature, Knill and Tosun (2022) highlight the policy stages, including agenda setting, policy formulation, policy implementation, and policy evaluation. Agenda setting is the starting point of policymaking which conceptualises public issues as a set of priorities that need to be addressed (Hill & Varone, 2021; Knill & Tosun, 2022). Policy formulation is the stage where effective and acceptable courses of action are developed to address what has been placed on the policy agenda (Howlett et al., 2015). Policy implementation is the stage during which policy is carried out to accomplish the goal of policy (Brynard, 2009; Smith, 1973). Lastly, policy evaluation is the stage during which policymakers are informed by feedback to shape future policy agenda (Hill & Varone, 2021; Hudson & Lowe, 2009).

This thesis does not engage with all stages of the policy process but focuses primarily on the implementation stage. While WADA is responsible for agenda-setting (i.e. conceptualising the doping issue as a priority to be addressed; Hill & Varone, 2021) and policy formulation (i.e. developing standardised anti-doping policies to address the doping issue; Howlett et al., 2015), NADOs are responsible for interpreting and implementing these

policies within their respective national contexts. Accordingly, how testing and retesting are interpreted and implemented by CHINADA and UKAD, and how stakeholders perceive testing and retesting based on their experiences and knowledge are examined in this thesis. Rather than treating implementation as merely one stage of the policy process, it is highlighted in this thesis that policy implementation is the stage at which globally standardised anti-doping policies are translated into practice, and where harmonisation and perceived legitimacy are constructed and experienced.

Figure 2

The policy stage model



Note. This figure is generated by summarising Knill and Tosun's (2022) description of the policy stages.

Policy implementation plays a significant role in transforming policy design into policy outcomes. It can be understood as the process of transforming broad ambitions into practice through interpretation and negotiation, and it is also the stage where the gap between

policy design and policy outcomes is most obvious (Hupe & Hill, 2015; Pressman & Wildavsky, 1984). As a crucial stage within the policy process, policy implementation has been extensively studied to understand the relationship between policy decisions and their translation into practice.

Policy Implementation within the Policy Process

The policy implementation literature helps explain the processes influencing the translation of policy decisions into tangible outcomes. Scholars have demonstrated how the stages, factors and actors shape the process of putting governmental or organisational decisions into practice to address certain issues or problems (Bullock & Lavis, 2019; Hill & Hupe, 2002; Howlett, 2018). For example, Ontario's School Mental Health Assist was created to address critical gaps in schools' organisational capacity and supports local-funded programmes through an implementation team working across the region (Bullock & Lavis, 2019). This example reflects the key in policy implementation, because it demonstrates how actors make organisational decision (i.e. assisting mental health in schools) is transformed into practical operations (i.e. an implementation team working across the region) to solve specific public issues (i.e. the critical gaps in schools' capacity). Nevertheless, the translation of policy decisions can deviate from policy goals and affect the policy outcomes.

As policies progress through different stages of the policy process, implementation outcomes are often not equivalent to the expectations established at the formulation stage. By emphasising the distinction in policy studies between policy formulation and implementation, Howlett (2018, p. 5) argues that "simply stating policy goals is not sufficient, attention must also be paid to how these goals are implemented in practice, as the process of implementation often determines policy success or failure". For instance, the goal of the Economic Development Administration's Oakland Project in the United States (the US) was to stimulate

urban outcomes development and increase employment opportunities for minorities, yet the expense of \$26 million across 53 projects did not translate into the core outcomes the programme promised (Pressman & Wildavsky, 1984). Analysis attributed this policy failure to the inordinate number of agencies involved in the implementation process, creating excessive decision-making, objectives and constraints (Pressman & Wildavsky, 1984). Therefore, effective policy implementation involves more than simply translating established policies into practice.

Scholars of policy implementation have highlighted the key factors required for an effective policy implementation process. These key factors include policy design, resources, stakeholders, and evaluation (Cairney, 2022; Freeman, 2010; Sabatier & Mazmanian, 1980). In an influential overview of policy design, Cairney (2022) provides a clear account of how policy design translates intentions into deliverable interventions. Policy design focuses on the questions of what (i.e. clear objectives) and how (i.e. “technically and politically feasible solutions”; p. 22) of the policy itself, and feasibility requires adequate financial, technical and human resources (Cairney, 2022). In the case of low-carbon energy transition, despite addressing climate change is a shared policy aim, moving from policy aim to delivery is often limited by available funding and staff capacity, thereby restricting the consistency of governments’ implementation (Cairney, 2022). Therefore, overlooking feasibility in policy design can undermine the effectiveness of policies due to the discrepancies of resources.

Stakeholders play a crucial role in policy implementation because failing to address their interests and concerns can lead to deviations from policy goals or policy failure. In a foundational contribution to stakeholder theory, Freeman (1999) defines a stakeholder as any group or individual who can affect or is affected by the achievement of the organisation’s objectives. This means that both public and private sectors must consider not only formal authorities (e.g. governments) but also employees, clients, communities, regulators and others

whose cooperation or resistance can shape outcomes (Bridoux & Stoelhorst, 2022; Freeman, 1999). Consequently, identifying and engaging stakeholders has a significant impact on the process of carrying out a policy to accomplish its goals.

A bridge between stakeholder theory and implementation was provided by Bryson (2004) in their widely accepted methodological guide to stakeholder identification. They argue that the cost of neglecting stakeholders' interests and concerns is significant, as ignoring affected groups can lead to policy failures and wasted resources, whereas the time and effort required to identify and engage key stakeholders is comparatively small. For example, Tuchman's (1984) case studies of the Trojan war, the British loss of American colonies, and the US involvement in Vietnam demonstrate how policy outcomes can be undermined when warnings and opposition from affected groups (i.e. stakeholders) are neglected. In Bryson's (2004, p. 23) words, these were "disastrous misadventures" caused by decision-makers who failed to listen to those affected by their choices. Thus, the connection of stakeholder theory to implementation lies in that the success of policy implementation depends on managing stakeholder relationships, rather than simply issuing rules.

It is crucial to highlight that implementation is not finished when a policy is adopted and put into practice, because policy success relies on feedback and adjustment. By treating evaluation as a part of implementation in their classic implementation framework, Sabatier and Mazmanian (1980) provide an influential work that frames implementation as a continuous learning and adjustment process. They suggest that implementation involves the ability of implementors to track performance, detect problems, and modify their behaviour. This means that if policy outcomes are poor or unexpected, implementors must adapt tools, resources, or procedures rather than rigidly following original plans (Ansell et al., 2017; Sabatier & Mazmanian, 1980).

Drawing on policy studies in environmental policy (e.g. Ingram, 1978), Sabatier and Mazmanian (1980) analysed the implementation process of the 1970 and 1977 Clean Air Act amendments by the US Environmental Protection Agency. They demonstrate that policy outcomes improved only after regulators developed better monitoring, reporting, and enforcement feedback strategies. For example, the outcomes of the 1970 amendments were undermined due to limited monitoring, inconsistent reporting, and poor emissions inventories, regulators were unable to reliably determine whether areas were meeting the established standards (Sabatier & Mazmanian, 1980). However, the 1977 amendments achieved better outcomes because more robust feedback systems were introduced through improved monitoring, reporting, and compliance planning, which allowed regulators to detect failures and adjust strategies (Sabatier & Mazmanian, 1980). Therefore, evaluation and feedback are critical to policy implementation, as they enable policymakers to monitor the policy process, analyse policy outcomes, and adapt implementation strategies accordingly for continuous improvement.

Taken together, these insights provide a theoretical foundation for understanding policy implementation within the WADA regime. The WADC signatories that are tasked with putting anti-doping rules into practice operate in varying local contexts. This means policy outcomes can be undermined due to the disparities in resources, stakeholders' commitments and political systems. As Bullock and Lavis (2019) argue, policy implementation moves beyond the simple creation of policies on paper to understanding the complex processes that are involved in making a particular policy a reality. Moreover, policy evaluation is a key element in an effective policy implementation process (Wollmann, 2017). Consequently, drawing upon the policy implementation literature helps examine the opportunities and challenges of harmonisation in the implementation processes of anti-doping policies and provide useful feedback for the WADA regime.

The Top-Down Approach

One area of focus within the policy implementation literature concerns the theoretical perspectives used to explain the implementation process, one of which is the top-down approach. In their seminal work on policy implementation, Sabatier and Mazmanian (1980) describe top-down implementation as a linear process that emphasises the role of central actors in setting goals, integrating resources, and ensuring policy implementation. They argue that the success of top-down implementation depends on the clarity of objectives, consistency of enforcement, and ability of central actors to direct and monitor subordinate actors. Therefore, the strength of top-down implementation lies in its potential effect on promoting clarity of the goals and consistency of the implementation (Hupe et al., 2014). The top-down implementation is closely related to the concept of centralisation.

A key characteristic of top-down implementation is its emphasis on the power of central actors. Scholars in public management and public policy highlight such emphasis as centralisation (Li, 2022; Page & Goldsmith, 1985). Centralisation is the consolidation of strategic decision-making and resource allocating within a dominant governing body, enabling more efficient deployment of resources across the system (Hutchcroft, 2001; Kooiman, 2003). An evident example of centralisation is China's administrative system, where policy decisions are made by the State Council and the Communist Party's Central Committee, with implementation delegated to provincial and local governments under supervision (Mertha, 2009). By adopting centralisation, governments or organisations can potentially concentrate decision-making power and simplify accountability lines in administration (Cairney et al., 2019). However, centralisation can create constraints.

By emphasising central authority, centralisation can overlook variations in local capacity and contexts, leading to weaker responsiveness to these variations. In their

comparative work on European policy implementation, Treib (2006) argues that a centralised framework may lead to significant inconsistencies due to the differences in institutional capacity, political culture and resource availability among members. As Matland (1995) states, the success of a centralised framework depends on low ambiguity and low conflict. This means that it can be difficult to ensure consistent policy implementation within a centralised framework owing to the diverse political, resource and cultural contexts. For example, the tax rate setting in China's centralised administrative system led to inconsistencies between provincial tax policies as the policies did not reflect local economic and demographic realities (Wei & Zhiyuan, 2015). Consequently, the effectiveness of centralised top-down implementation approach is often questioned.

The top-down implementation approach can neglect local constraints and interpretations, which can produce outcomes that depart from policy goals. In one of the earliest systematic discussions of such disparity, Gunn (1978) conceptualises the disparity between policy intentions and policy outcomes as policy implementation gap. They argue that the gap inevitably emerges between the adoption of policy and what is achieved in practice because real-world conditions rarely meet the preconditions required for flawless implementation. Therefore, Gunn (1978) highlights that ineffective implementation is an inherent feature of policymaking in complex and multi-actor environments rather than administrative incompetence. The concept of policy implementation gap is echoed by recent studies to describe how policy intentions and outcomes become inconsistent owing to a lack of focus on disparities across local contexts (e.g. Hudson et al., 2019; McConnell, 2015).

Because the WADA regime operates through a top-down structure, it exhibits the limitations associated with the top-down implementation approach. A qualitative study by Gray (2019) highlighted how top-down implementation poses challenges to WADA's goal of harmonisation. By interviewing staff who holds senior position in the WADA regime (e.g. the

Chief Operating Officer of WADA), Gray (2019, p. 252) identifies the factors that undermine WADA's harmonisation, including "top-down implementation, cultural variation and resource constraints". Specifically, Gray's (2019) theoretical framework highlights that cultural variation and resource constraints influence the implementation of anti-doping policies to a significant extent and these challenges are particularly more severe for NADOs and RADOs with limited resources and commitment.

A useful demonstration of harmonisation challenges is offered by Gray (2019) through highlighting the resource constraints in developing countries. For instance, UKAD's annual budget was £5.4 million in 2015-2016, whereas the Jamaican Anti-Doping Organisation operated with £81,000 (Butler, 2015). Drawing on Houlihan's (2014) analysis of achieving compliance, Gray (2019) highlights that such resource constraints are widespread in developing countries because many NADOs in Africa, Eastern and Central Europe lack the resources required for compliance. Gray's (2019) findings also suggest that in developing countries (e.g. Syria or the Palestine territories), governments face competing national priorities, which restrict the resources allocated to anti-doping.

It is evident that Gray's (2019) reasoning for the harmonisation challenges coalesces with critiques of the top-down implementation approach, as it indicates that WADA's standardised rules may fail to accommodate variations across local contexts. Despite the standardised rules formulated by WADA, it is clear that the implementation of these rules is conducted across different national contexts with uneven resources, institutional capacity, and political priorities. Drawing connections to policy implementation literature (e.g. Gunn, 1978; Hudson et al., 2019; McConnell, 2015), this means that it is difficult for WADA to sustain consistent enforcement because anti-doping policies are interpreted and operationalised within divergent legal, organisational and political contexts. Consequently, responding and

adapting to the variations across local contexts are as crucial as complying with standardised rules to mitigate the deviation between policy intentions and outcomes.

The Bottom-Up Approach

As the limitations of the top-down approach are associated with central authority, there is a growing emphasis on the bottom-up approach which prioritises the power of implementors (e.g. Braithwaite et al., 2018; Elmore, 1979; Hill & Hupe, 2002). In their study on regulatory theory, Braithwaite et al. (2018) argue that implementors are not passive executors but active agents who interpret rules with respect to local conditions, resource constraints, and stakeholder relationships. They consider that the success of policy relies on negotiation, learning and adaption at the ground level rather than prioritising central authority. The Rapid Response System in the healthcare sector in Australia between the 2000s and 2010s was designed to detect early warning signs of patients' deterioration, Braithwaite et al. (2018) analysed this case to demonstrate the importance of implementors. Their analysis suggested that the system became widely adopted not through government mandates but when front-line clinicians (e.g. nurses and ward staff) began using it, recognised its effectiveness and adapted it to routine practice.

This perspective contrasts with the top-down implementation approach because it treats policy enforcement as a socially embedded process shaped by the judgements of those working at the front-line. Rather than assuming that front-line actors will simply carry out instructions as written regardless the local needs and constraints, it recognises that implementors must interpret rules, prioritise tasks, and adapt practices in response to local needs, resource constraints, and stakeholder expectations (Nilsen, 2020). Consequently, in the bottom-up approach, policies are not simply adopted but actively constructed in practice, meaning that policy outcomes depend on how implementors adjust policies through their

interpretation and judgements (Lipsky, 2010; Tummers & Bekkers, 2013). The concept of implementors in bottom-up approach takes different forms.

Although the bottom-up approach emphasises implementors at the ground level, these implementors take different forms such as frontline officials, street-level bureaucrats and local administrators. The concept of street-level bureaucrats originates from the foundational work by Lipsky (2010), which refers to the public service workers (e.g. teachers, police officers and health inspectors) who interact directly with citizens. Frontline officials are policy actors involved in the interface between the state and the public with less discretion in individual cases than street-level bureaucrats (Brodkin, 2011). Local administrators are responsible for translating national or central directives into local frameworks, coordinating frontline implementation and allocating resources, their interaction with citizens is less direct than street-level bureaucrats (Hupe & Hill, 2007). The bottom-up approach is conceptually related to decentralisation.

Similar to the bottom-up approach, the concept of decentralisation emphasises transferring administrative and decision-making authority to local levels of governance. Scholars in public administration and governance describe decentralisation as the transfer of authority, responsibility and resources from central governments to subordinate units with the goal of improving efficiency, accountability and responsiveness (Faguet, 2014; Rondinelli, 1981). It enables local actors to adapt public services to the priorities of citizens and increases citizen participation (Tummers & Bekkers, 2013). By adopting decentralisation, governments or organisations can potentially strengthen both efficiency and equality by aligning decision-making with local realities (Meyers & Nielsen, 2012). Decentralisation has been associated with improved governance outcomes across different policy settings in different countries.

Evident examples of decentralisation in administration can be seen in local departments managing implementation of education, health, or welfare programmes. In

Brazil, responsibilities and fundings for primary education shifted strongly towards municipal governments, leading to enhanced responsiveness and accountability by bringing key decisions (e.g. school management and spending priorities) closer to local communities (Madeira, 2007). Kenya's Devolution Reforms in 2010 allowed key healthcare arrangements moved from central to county governments, reshaping planning, budgeting, and financial management at local level and enabling improvements in infrastructure investment (Masaba et al., 2020; Tsofa et al., 2017). The welfare reform under Temporary Assistance for Needy Families in the US enabled states governments to gain significant discretion over programme rules and administration, allowing service delivery to be adjusted to local labour markets, clients' needs, and administrative capacity (Kim & Fording, 2010). However, similar to centralisation, decentralisation can also create constraints.

The limitations of decentralisation can potentially result in increased inefficiency and inequality. In their critical review on the equity risks of decentralisation, Smith (2025) argues that there is no guarantee that decentralisation will enhance equality, it may reproduce or even amplify disparities between richer and poorer regions. As Treisman (2007) states, it may be harder for citizens to know who to hold accountable because the lines of responsibility are blurred by devolving authority. This means that it can be difficult to ensure consistency and equality within a decentralised framework owing to the disparities between local capacities. For example, the UK's city region devolution policy which aims to address regional growth imbalances has increased inequality between regions because local authorities lack the capacity of efficient planning and management (Schneider & Cottineau, 2019).

Beyond the top-down and bottom-up approaches, policy implementation scholars have also proposed hybrid or integrated approaches. Rather than viewing policy implementation as driven primarily by either central authority or implementor discretion, hybrid or integrated approaches emphasise that successful implementation depends on the

interactions between multiple factors (e.g. policy design, institutional contexts, and autonomy of local implementors) across different levels of governance (Pülzl & Treib, 2006). For example, studies on the implementation of England's National Literacy Strategy found that the effectiveness of the policy was determined not only by clear objectives and guidance at the national level but also by how schools and teachers interpreted, adapted, and embedded the strategy within their organisational contexts (Fisher et al., 2000; Huxford, 2002). This illustrates that policy implementation is shaped not only by central policy design or local level interpretation but also by how actors interact across governance levels (Matland, 1995).

Collectively, these approaches provide important implications for exploring the implementation of anti-doping policies. From the perspective of top-down, WADA establishes the WADC and International Standards, followed by Guidelines for how NADOs and RADOs operate. By doing so, it creates a linear process that can potentially strengthen the clarity of objectives and consistency of implementation (Sabatier & Mazmanian, 1980). From the perspective of bottom-up, NADOs and RADOs adopt the established rules and adjust them to their local contexts for implementation. By doing so, anti-doping policies can be implemented with respect to local conditions, resource constraints and stakeholder relationships (Braithwaite et al., 2018). From the perspective of hybrid or integrated approaches, effective implementation depends on the interaction between actors across different governance levels within the WADA regime (Matland, 1995; Pülzl & Trieb, 2006). However, these approaches provide less insight into how policies are evaluated by stakeholders.

Although it can be useful to examine the implementation of testing and retesting from the perspective of policy implementation, this perspective alone may not be sufficient to explain the complex dynamics in anti-doping governance. Drawing on insights from the policy implementation literature, the success of anti-doping requires the clarity of objectives,

guidance and monitoring capabilities of WADA, ability of NADOs and RADOs to correctly understand and implement policies, and the willingness of athletes to be compliant (Braithwaite et al., 2018; Hupe et al., 2014; Nilsen, 2020). However, if WADA neglects or fails to understand what is realistic and achievable, or if NADOs and RADOs fail to implement anti-doping policies according to standards and guidelines, or if key stakeholders ignore or undermine the rules, the WADA regime may not succeed at both the international and national levels. Consequently, understanding anti-doping governance requires examination of policy implementation within the WADA regime as well as the ways in which anti-doping policies are evaluated by stakeholders.

Based on these insights, the analytical framework developed in this thesis integrates policy implementation with the concept of legitimacy. Regarding policy implementation, the framework primarily draws upon top-down and bottom-up approaches because the top-down perspective provides a suitable lens for examining how WADA's globally standardised policies establish objectives, rules, and implementation expectations, whilst the bottom-up perspective illuminates how these policies are interpreted, implemented, and experienced by stakeholders at the national level. Although hybrid or integrated approaches offer a broader understanding of interactions across governance levels, they are not adopted as a separate analytical framework because the primary purpose of this thesis is not to explain how inter-organisational coordination or multi-level governance relationships shape implementation outcomes. Rather, it seeks to examine how testing and retesting are implemented and perceived in China and the UK. Therefore, within this framework, policy implementation provides the analytical basis for examining how testing and retesting are translated into practice, while legitimacy provides the analytical lens for examining how testing and retesting are evaluated by stakeholders.

Legitimacy

To assess how the concept of legitimacy can help examine harmonisation challenges encountered by the anti-doping regime, it is necessary to understand different types of legitimacy because they can provide insights for examining anti-doping governance from different perspectives. These types of legitimacy include legal legitimacy, multi-level legitimacy and perceived legitimacy. Therefore, this section reviews established academic works on the legitimacy theory and analyses how different types of legitimacy help understand anti-doping governance.

The concept of legitimacy has been widely examined in studies of public management. Legitimacy refers to “a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed systems of norms, values, beliefs, and definitions” (Suchman, 1995, p. 574). For governments, the importance of legitimacy lies in its role in obtaining public support for policy decisions and the willingness of citizens to coproduce, which in turn affects the broader policy outcomes (Riccucci & Van Ryzin, 2017; Schmidt, 2013; Tyler, 2006). For organisations, the importance of legitimacy lies in its role in sustaining the organisation’s status and viability (Ruef & Scott, 1998; Zimmerman & Zeitz, 2002). Because legitimacy plays a significant role in the operation of governments and organisations, failing to sustain legitimacy can lead to policy or management failures.

Empirical evidence has demonstrated how low legitimacy can affect governments and organisations. The Community Charge (poll tax) in the UK was perceived as unfair by British citizens, leading to weakened legitimacy and widespread resistance and non-payment (Barker, 1992; Besley et al., 1997). For example, Bellamy’s (1994) analysis reports that in 1990-1991, approximately a quarter of the registered population in England and Wales and 38% of the registered population in Scotland were pursued by legal means for non-payment.

At the organisational level, failing to sustain legitimacy can undermine an organisation's strategic objectives. By studying the case of Kerzner International's programme for a Manchester super-casino, Reast et al. (2018) found that the programme failed because the national media and citizens questioned the legitimacy of the proposal due to moral and cognitive concerns. It is evident how low legitimacy can undermine governments' policy outcomes or organisations' strategic objectives.

The concept of legitimacy is crucial for this thesis because it moves beyond the perspective of policy implementation to provide interpretations for how harmonisation challenges in anti-doping are shaped. For instance, whilst policy implementation literature helps assess harmonisation in relation to the adoption of standardised rules and consistency of enforcement, such perspective is insufficient to reflect whether standardised rules and enforcement are perceived as fair, justified, or acceptable by stakeholders. Therefore, the concept of legitimacy helps explain why stakeholders accept, resist, or ignore anti-doping policies and why the consensus in supporting anti-doping coexists with stakeholders' questions about the consistency and effectiveness of anti-doping policies. However, legitimacy is a broad concept and it consists of different forms.

Different Types of Legitimacy

To be legitimate to regulate, governments or organisations must acquire legal legitimacy. In their study on the legitimacy in international governance, Føllesdal (2007) defines legal legitimacy as the authority derived from formal legal rules, procedures and institutional mandates. They argue that "laws or authorities are legally legitimate insofar as they are enacted and exercised in accordance with constitutional rules and appropriate procedures" (Føllesdal, 2007, p. 216). Consequently, for governments or organisations to acquire legal legitimacy, their decisions must be made according to transparent, rule-based

and legally accepted procedures (Bodansky, 1999; Buchanan & Keohane, 2006). This form of legitimacy is commonly seen in international governing bodies.

The examples of legal authority in practice can be seen in international governing bodies such as the IOC, WADA and the World Health Organisation (the WHO). The IOC's legal legitimacy is acquired from the ratification of the Olympic Charter by National Olympic Committees (NOCs) and IFs, which means that the IOC's authority only exists when its stakeholders accept that the Charter is legitimate (Geeraert, 2016). Regarding the WHO, its legal legitimacy is acquired from the WHO Constitution and International Health Regulations, which means that the WHO's authority only exists when its member states recognise that these two formal legal documents are legitimate (Fidler, 2005; Gostin et al., 2015). Similarly, WADA's legal legitimacy is acquired from the WADC, which means that only when its stakeholders sign and accept the WADC does WADA acquire legal legitimacy and the authority to regulate anti-doping policies (Henning & Dimeo, 2018).

Beyond legal legitimacy, legitimacy can take the form of multi-level legitimacy that focuses on the interaction between individual cognition and institutional context. By refining the traditional perspective that treats legitimacy as how institutions gain acceptance or compliance, Bitektine and Haack (2015) propose multi-level legitimacy to treat legitimacy as an ongoing social judgment process across micro and macro levels. At the micro level, individuals (e.g. organisational members or stakeholders) evaluate whether an organisation's actions are appropriate, desirable, or credible according to social norms (Bitektine & Haack, 2015). At the macro level, broader cultural, legal and institutional pressures (e.g. regulatory frameworks, media coverage, or societal expectations) shape the judgements (Bitektine & Haack, 2015). Consequently, scholars in this domain argue that legitimacy operates as a dynamic feedback system, where judgments at the micro level influence legitimacy

outcomes, which in turn influence an institution's future behaviour (Baba & Brunet, 2023; Bitektine & Haack, 2015).

The concept of multi-level legitimacy has been adopted to analyse how WADA constructs, maintains, and negotiates its legitimacy within global sports governance. By adopting Bitektine and Haack's (2015) framework, Read (2019) conducted a qualitative study that treats WADA as a case study by using thematic analysis. They argue that WADA's legitimacy operates across interrelated levels, including micro (i.e. individual perceptions), meso (i.e. inter-organisational relations), and macro (i.e. global institutional structures). Read (2019) demonstrated examples of these interrelated levels. At the micro level, athletes' acceptance of testing and sanctioning depends on their perceptions of procedural fairness and transparency. At the meso level, NADOs' collaboration reflects their perceptions of the legitimacy of WADA's oversight and monitoring processes. At the macro level, WADA's authority is supported by formal legal instruments such as the WADC and UNESCO Convention. A key concept in these interrelated levels is the perception of legitimacy.

Another area of focus in legitimacy theory is the concept of perceived legitimacy, which emphasises individual's personal moral reasoning and social learning process. Perceived legitimacy is defined as stakeholders' belief that an authority, institution, policy, or its associated rules are appropriate, proper, and justified, leading to their acceptance of both the authority and its rules as deserving of voluntary compliance rather than compliance solely by fear of sanctions (Bitektine, 2011; Deephouse et al., 2017; Suchman, 1995; Tyler, 2006). For example, in non-sport sectors the concept of perceived legitimacy has been adopted to understand issues such as policy acceptance and gender representation in policing (Gibson et al., 2005; Riccucci et al., 2014). Within sport, the concept has been adopted to understand issues in relation to sporting aggression, moral reasoning, and motivational climate (Boixadós et al., 2004; Rasche et al., 2010; Miller et al., 2005).

Taken together, these forms of legitimacy have significant impact on the WADA regime from different perspectives. However, the perceived success or failure of anti-doping organisations in implementation is a decisive feature of their legitimacy and ability to sustain support (Read et al., 2018). WADA has established its legal legitimacy by binding signatories with the WADC. From the perspective of multi-level legitimacy, this reflects WADA's success at the macro level. Yet the perceived legitimacy at meso and micro level is complex and needs to be examined. As discussed before, the implementation of anti-doping policies cannot be treated as a dichotomy of top-down or bottom-up, while examining perceived legitimacy at organisational and individual levels can potentially create a link between top-down and bottom-up. Thus, given the WADA regime is a collaborative network, adopting a framework that concerns the perceived legitimacy of collaborative governance can be useful.

The Perceived Legitimacy of Collaborative Governance

Beyond legitimacy in public management, a body of work in network governance has examined the legitimacy of collaborative governance. As stated before, collaborative governance is a type of administrative arrangement which directly engages non-state stakeholders in a collective decision-making process that aims to make or implement public policy (Ansell & Gash, 2007). The perceived legitimacy of collaborative governance is a universal perception that the actions of collaborative entities are desirable, appropriate, or within a system of norms, beliefs and definitions (O'Leary & Vij, 2012). The legitimacy of collaborative governance becomes important because governance has shifted from a command-and-control bureaucracy to collaborative network settings (Bryson et al., 2014; Getha-Taylor et al., 2018). The WADA regime can be regarded as collaborative governance in that it combines international and national governing bodies and local implementors (e.g.

NADOs officials and Doping Control Officers [DCOs]) in a collective decision-making process that aims to implement anti-doping policies across the globe.

To sustain its viability in governing global anti-doping, the WADA regime needs to maintain the perceived legitimacy of actors within its collaborative network. This means that the success of the WADA regime depends on whether organisational actors (e.g. NADOs and RADOs) and individual actors (e.g. athletes and coaches) perceive anti-doping as legitimate. Without actors perceiving an authority as legitimate, there is a risk that the authority's right to formulate and enforce rules may not be recognised (Gowthorp et al., 2016; Read, 2019). For the WADA regime, this might mean that organisational and individual actors would not strictly comply to anti-doping rules, leading to more doping issues. Therefore, the perceived legitimacy of collaborative governance is crucial for the WADA regime.

Owing to the importance of perceived legitimacy to collaborative networks, it has received extensive scholarly attention. The perceived legitimacy of collaborative governance has been studied as it relates to regulation and administration (Dupuy & Defacqz, 2021; Mosley & Wong, 2020), national case studies of governance (Hui & Smith, 2021; Orr et al., 2015) and stakeholders' perceptions (Birnbaum, 2015; Cristofoli et al., 2021; Hillo et al., 2024). The implementation of anti-doping policies is influenced by the actions of international and national governance entities within the collaborative network, how different actors (e.g. officials, athletes and coaches) perceived the legitimacy of such collaborative governance may provide implications for policy implementation and harmonisation. To assess the perceptions of actors, the determinants of perceived legitimacy of collaborative governance are adopted.

Determinants of Perceived Legitimacy of Collaborative Governance

To address the research gap of how citizens perceive collaborative governance, scholarly attention has been paid to the mechanisms through which perceived legitimacy is enhanced in collaborative networks. An experimental study by Lee and Esteve (2022) recruited 1,479 survey participants from the US and examined the factors that drive the perceived legitimacy of collaborative governance based on participants' perceptions. They identified that factors that drive the perceived legitimacy of collaborative governance are representation, performance information, and issue complexity.

Representation of affected public or stakeholder groups takes the forms of passive, active and symbolic representation. Representation refers to the degree to which the affected public or stakeholder groups are represented in governance structures, processes and outputs (Koski et al., 2016). Riccucci and Van Ryzin (2017) presented definitions of the three forms of representation. Passive representation refers to the extent to which public organisations reflect the general population in terms of demographic characteristics. Active representation refers to the situation where the interests of different groups within the general population are represented in the governance process by the actions of bureaucrats who belong to the group. Symbolic representation refers to the social background of bureaucrats can influence citizens (who share these social backgrounds) on the legitimacy of the government, regardless of the actions of bureaucrats (Riccucci & Van Ryzin, 2017).

Among the three forms, active representation is the most crucial for the WADA regime to sustain its legitimacy. Academic attention to active representation suggests that in bureaucratic agencies, active representation increases citizens' perception of legitimacy of the agencies, including performance and credibility (Riccucci et al., 2018), fairness (Roch et al., 2017), programme satisfaction (Gade & Wilkins, 2012), and willingness to coproduce (Riccucci et al., 2015). This means that perceived legitimacy increases when bureaucrats

actively represent the interests of different groups within the collaborative network (Lee & Esteve, 2022). Therefore, active representation in the WADA regime is determined by whether WADA, NADOs, officials and implementors (e.g. DCOs) represent not only organisational interests but also athletes' interests (e.g. protection of athletes and timely update of information).

Another determinant of perceived legitimacy of collaborative governance is the performance information. Positive performance information can influence actors' attitudes towards authority, including satisfaction with authority (Ho & Cho, 2016; James, 2010), credibility (Porumbescu et al., 2018), and evaluation of effectiveness (James & Moseley, 2014). It is important because performance information enables actors to monitor authority's actions and when actors perceive the actions positively the authority is considered useful and worthy (Emerson & Nabatchi, 2015). For example, when actors perceive governments or organisations' performance information as positive, they are more likely to accept that the government or organisation is legitimate to regulate (Lee & Esteve, 2022). However, performance information is different for internal and external actors.

Internal actors in collaborative networks assess performance using internal data and personal experiences, whereas external groups usually lack access to equivalent data and opportunities for direct evaluation. Research indicates that when detailed information on collaborative actions is limited, external actors use information cues to evaluate the performance and legitimacy of collaborative arrangements (James, 2010; James & Moseley, 2014). For this thesis, the information cues can be understood as internal actors' perceptions based on their personal experiences (e.g. testing experience) and publicly available data (e.g. testing figures). Although publicly available data is accessible, the perceptions of internal actors based on their personal experiences need to be explored. Consequently, personal perceptions and public data were integrated. By examining the perceptions of internal actors

and analysing them in combination with public data, it can provide insights into the opportunities and challenges of harmonisation from the perspective of perceived legitimacy.

An additional determinant of collaborative governance legitimacy is the recognition of the complexity of issues. Many policy issues are described as complex because they lack a clear set of definitions, causes and effects, and solutions (Koliba et al., 2019; Rittel & Webber, 1973). Recognising issue complexity is important because by accepting the limitations of a single authority in solving complex policy issues, a collaborative approach is expected to involve diverse actors to produce innovative policy solutions and help address the complex issues (Emerson et al., 2011; Moore & Hartley, 2010). By solving complex issues that a single authority cannot solve, the collaborative network can establish legitimacy (Klijn et al., 2010).

Complex issues that require collaborative governance can be seen across different policy settings. For example, problems such as water pollution and ecosystem degradation are characterised by scientific uncertainty, cross-jurisdictional conflicts, and competing stakeholder interests, which exceed the capacity of a single authority to manage effectively and must require collaborative governance (Emerson et al., 2011). However, the perceived legitimacy of such collaborative governance is difficult to be sustained unless stakeholders recognise the complexity of the problem and the effectiveness of the collaborative governance in solving the complex problem (Klijn et al., 2010). The problem of doping in sport exemplifies issue complexity.

The WADA regime can be regarded as a collaborative network that attempts to solve a complex issue which a single authority cannot solve, while also attempting to address the differences and conflicts among diverse actors. As policy experts and historical reviews suggest, international sports organisations (e.g. the IOC and FIFA) and a limited number of governments failed to address the doping issue before the establishment of WADA (Henning

& Dimeo, 2022; Houlihan, 1999; Gleaves & Hunt, 2015). However, the continuous emergence of doping cases seems to indicate that this collaborative network has not been able to solve the issue, which affected its legitimacy. Moreover, the diverse contexts of actors within the network also pose difficulties for this network in addressing the doping issue. These determinants were therefore adopted to examine how Chinese and British stakeholders perceive their roles in the anti-doping regime and the performance of anti-doping policies, and whether they recognise the complexity of doping and how they perceive the WADA regime's capacity to address this complex issue.

The Interdependence between Implementation and Perceived Legitimacy

The interdependence between policy implementation and perceived legitimacy has been examined by scholars. Read (2019) argues that legitimacy is not a mere legal quality, but a psychological and social quality that is built upon consistency, effectiveness, and fairness demonstrated by an authority in its processes of making and enforcing policies or laws. They highlight that when implementation is seen as corrupt, arbitrary, unfair, or incompetent, the same functional beliefs among the governed groups or individuals are undermined, thereby transforming a regulatory system from a respected, accepted authority into an oppressive force that is resisted, avoided, or rejected. The impact of poor implementation on legitimacy has been observed in governance systems.

The negative impact of poor policy implementation on legitimacy is extensively documented across diverse policy domains. Drawing from public health governance, the research by Jennings et al. (2021) on COVID-19 policies established that perceived inconsistencies in policy implementation directly undermined public trust in health authorities and governments. For example, their findings suggest that the frequent and rapid changes in rules on social distancing and use of masks led to decreased compliance with and

rejection of public health mandates. Based on this example, it is evident that the relationship between legitimacy and compliance is a common challenge in governance. Policies that are well designed based on evidence can fail if the implementation process is perceived to be unfair, incompetent, inconsistent, or incoherent by those who are governed.

In anti-doping, a clear and consistent way of discussing perceived legitimacy is important because it helps to understand why a widely supported system encounters practical difficulties in delivery. Empirical evidence demonstrates that perceived legitimacy operates in a distinct pattern, characterised by broad stakeholder support for the goals and values of anti-doping (e.g. Barkoukis et al., 2022; Martinelli et al., 2023), alongside continuing expressions of distrust, frustration, and perceived ineffectiveness (e.g. Cox et al., 2022; Overbye, 2016b; Qvarfordt et al., 2024). Perceived legitimacy of anti-doping should therefore not be treated as a single construct but as misaligned, as the consensus on values and goals does not necessarily translate into acceptance of procedures.

This misaligned pattern of perceived legitimacy in the anti-doping system were highlighted in this thesis. Existing studies on perceived legitimacy (e.g. Barkoukis et al., 2025; Read, 2019; Woolway et al., 2020) mostly focus on the question of whether legitimacy exists (e.g. whether athletes perceive anti-doping education as fair). To extend upon this perspective of analysis, a framework that focuses on the question of how to distinguish different layers of perceived legitimacy was proposed. The framework clarifies how legitimacy judgements should be conceptualised across the layer of shared goals and values, the layer of perceived unfairness and inconsistency in implementation, and the layer of stakeholders' everyday interactions with anti-doping processes. This adds value by providing a clearer and more consistent lens for analysing the perceived legitimacy issues in the anti-doping system.

Taken together, it is evident that the interdependence between implementation and perceived legitimacy is crucial because it shows that widely supported governance systems can still encounter practical challenges if implementation is undermined. Even when stakeholders recognise the overarching objectives and values of a policy regime, they may question its credibility when enforcement is regarded as inconsistent, unfair, or unresponsive to local constraints. As the following sections demonstrate, insufficient effectiveness of implementation has been a challenge encountered by anti-doping. Owing to this challenge, although anti-doping acquired support, its legitimacy has persistently been questioned and often been met with distrust.

Early Anti-Doping Efforts and Issues of Implementation since the Establishment of WADA

Brief Historical Review of the IOC's Anti-Doping

Prohibitory drug policies in sport predate WADA's anti-doping policies by many decades. In 1889, policies in horse racing banned administration of stimulants to horses due to concerns over gambling (Gleaves & Llewellyn, 2013). In early twentieth-century, sports organisations (e.g. the IOC) issued rules against doping but the enforcement capacity of these efforts was limited (Dimeo, 2008; Hunt, 2015; Ritchie, 2013). For example, the IOC announced that marathon athletes would be disqualified if found doping at the 1908 London Olympic Games, yet this rule was almost impossible to be effective because it was only applied to marathon, it did not specify which substances were prohibited, and there were no practical testing methods (Henning & Dimeo, 2022). Although the IOC formally began to treat doping as a serious threat in 1936-1938, it did not have the capacity to effectively address the doping issue due to a lack of practical methods (Hunt, 2015).

The absence of detection tools highlights that early anti-doping efforts remained largely symbolic. It was not until 1968 that the IOC performed the first Olympic tests on athletes at the Summer and Winter Olympic Games (Hunt, 2011). These tests were supported by an IOC-adopted list of prohibited substances, which at that time focused primarily on alcohol, amphetamines, caffeine, and steroids (Henning & Dimeo, 2022). However, the first attempt of IOC was limited because there was no effective analytical method to detect steroids and it could not stop athletes from manipulating the tests by exchanging samples or using a catheter (Dimeo et al., 2011). Steroids mimic the effects of testosterone, increasing protein synthesis in skeletal muscles for enhanced muscle mass and strength, which has remarkable impact on performance-enhancement (Young, 2023). Consequently, the absence of viable testing for steroids played a role in the German Democratic Republic (GDR) doping scandal.

The fall of the Berlin Wall led to the disintegration of the GDR in November 1989, what follows are revelations of the country's doping programme. Media coverage at the time and historical review suggest that all GDR athletes in sports including figure skating, gymnastics and swimming, starting as young as 13, were forced to take drugs such as steroids, and were told the drugs were just vitamins (Dimeo & Hunt, 2011; Harvey, 1989). With the help of a highly organised system and support of coaches and doctors, GDR won 66 medals at the 1972 Summer Olympics and 14 at the Winter Olympics (Dimeo & Hunt, 2011). When the IOC's testing for steroids was introduced in 1975, GDR coaches and doctors quickly found that they could adjust the time and doses of giving drugs and that they could find an excuse to make athletes withdraw from events abroad if athletes were tested positive by GDR's testing prior to the events (Mottram, 2021).

The IOC's efforts in developing testing have been recognised by scholars (e.g. Goh, 2021; Henning & Dimeo, 2022; Houlihan, 2008). Drawing from what Becker (1963, p. 147)

describes as “rule creators” who defend the society from what they cast as a threat, Henne (2013, p. 885) located the interplay between scientific advances and moral underpinnings of anti-doping in the concept of “moral technopreneurialism”. By analysing the IOC documents, they explored the early anti-doping efforts of the IOC’s Medical Commission, particularly its implementation of testing to detect evidence of doping between 1966 and 1976. Their findings suggest that the technological advancement of anti-doping during this period provided support for making systematic anti-doping a reality (Henne, 2013). Nevertheless, the IOC’s testing was still incapable of ridding sport of drugs despite its efforts in technological innovations.

Historical reviews identified that the issues limiting the IOC’s testing from the 1970s were mainly cost and inaccuracy (Dimeo, 2008; Henning & Dimeo, 2022; Krieger, 2016). The IOC’s testing could only be employed during the Olympics, even if the IOC wanted to test athletes regularly it was financially challenging for the IOC (Dimeo, 2008). For instance, it cost \$1.5 million to build a testing laboratory for an Olympic Games in the 1970s, which is equivalent to approximately \$9 million today, and at the time the IOC was largely relying on the host countries to pay for the facilities (Henning & Dimeo, 2022). Moreover, there were plenty of opportunities for athletes as doping methods were far ahead of testing and the lack of accuracy of testing became a main obstacle to the progress of testing (Krieger, 2016). Consequently, it is clear that the enforcement of the IOC’s anti-doping rules was significantly limited.

These practical constraints raised questions about the credibility and effectiveness of the IOC’s anti-doping efforts. Historical reviews indicate that the IOC’s limited and irregular testing gave stakeholders the perception of selective and symbolic enforcement (Hoberman, 2001; Houlihan, 2002; Hunt, 2015). For example, the inconsistent enforcement of testing and limited testing capacity raised doubts among athletes and officials, who questioned the

effectiveness and fairness of the IOC's testing (Waddington & Smith, 2013). Moreover, due to the IOC's dependence on the financial support provided by host countries, its regulatory capacity was largely restricted, undermining the trust in its authority for effective regulation of doping issues (Houlihan, 2002). Therefore, it is evident that scrutiny of the IOC's anti-doping efforts intensified.

High-profile doping cases that emerged during the 1980s and 1990s pushed the IOC's anti-doping to unprecedented levels of public and institutional examination. Mainly in major events such as the 1980 Moscow Games, 1983 Pan American Games, 1988 Seoul Games, and 1994 and 1998 World Aquatics Championships (Hong & Zhouxiang, 2012; Hunt et al., 2012; Ritchie, 2013; Todd & Todd, 2001; Todd & Rosenke, 2016). A prime example is the doping scandal of Canadian 100-metre sprinter Ben Johnson at the 1988 Seoul Olympic Games. Johnson won the gold medal and set a record time of 9.79 seconds, yet his urine sample was tested positive for steroids three days after the race, leading to his gold medal being stripped and his record time being erased (Rachini, 2024). These scandals exposed the continuous issues of the IOC's testing, such as being incapable of detecting drugs in athletes' samples (Todd & Todd, 2001), easily manipulated by athletes (Todd & Rosenke, 2016), and unable to stop the wide-spread use of steroids across sports and countries (Dubin, 1990). The Festina scandal at the 1998 Tour de France led to the peak of criticism towards doping.

As one of the most successful professional cycling teams of its time, Festina won the 1994 Tour de France and finishing third and second in the race in 1996 and 1997 respectively. However, the truth behind these achievements was revealed after the team's physiotherapist (Willy Voet) was stopped by police at the Franco-Belgian border and found syringes as well as multiple drugs including EPO and steroids (Christiansen, 2005; Henning & Dimeo, 2022). EPO is the main circulating hormone in the bone marrow that regulates the conversion of red blood cells to reticulocytes, which can enhance stamina (Warrier et al., 2023). Voet was then

arrested and the police launched investigations on Festina team, almost all members of the team were detained and later admitted that they were using stimulants, resulted in the team being expelled from the race (Lentillon-Kaestner, 2011).

According to media coverage at the time, among the drugs seized were 235 doses of EPO, 82 doses of sauratopine (which strengthens muscles), 60 doses of pantestone (which enhances endurance but causes cancer), as well as various types of adrenalcortical hormones for pain relief and amphetamines for reducing fatigue (Lichfield, 1999). The publicity surrounding the scandal put the organisers of the Tour de France under public pressure, yet doping was pervasive in cycling that the International Cycling Union could do little about it, as the IOC could do about doping at the Olympics (Stanley, 2021). Consequently, the aftermath of these high-profile doping cases brought global anti-doping to a critical point in the development of anti-doping policies.

At this critical point, the challenges encountered by the IOC extended beyond limitations of enforcement capacities to significant issues of legitimacy. As the above discussions suggest, distrust increased due to persistent concerns about the consistency and effectiveness of testing across sports and countries (Hunt, 2015). However, as the central governing body, the IOC could not effectively regulate across diverse sports and national contexts to address these issues, highlighting how a lack of responsiveness to local constraints can affect implementation and result in undermined legitimacy (Henning & Dimeo, 2022; Houlihan, 2002; Lipsky, 2010; Read, 2019). Consequently, opportunities were created for countries and coaches to organise highly systematic doping programmes, exemplified by the GDR doping scandal (Dimeo, 2008; Dimeo & Møller, 2018).

Owing to growing concerns about doping, fragmented anti-doping rules, legitimacy issues, and prevalence of high-profile doping scandals, a unified system for anti-doping became necessary. As scholars pointed out that the challenges encountered by the IOC during

the twentieth-century highlighted the need for an independent organisation which is not influenced by the interests of a particular sport or country to manage anti-doping (Henning & Dimeo, 2022; Houlihan et al., 2019). Consequently, the IOC convened a conference in Lausanne in 1999 to explore the future direction of anti-doping.

Issues of Implementation since the Establishment of WADA

The outcome of this conference and its subsequent development was a milestone for anti-doping. The conference held in 1999 led to the Lausanne Declaration on Doping in Sport and the establishment of WADA, and the rapid acceptance of the 2003 WADC and speed of ratification of the 2005 UNESCO Convention demonstrated the global ideals of commitment to drug-free sport (Henning & Dimeo, 2022; Houlihan, 2014; Houlihan et al., 2019). WADA was established to create a standardised policy framework that requires compliance, collaboration and harmonisation among global sports organisations and governments (Van Bottenburg et al., 2020; Hanstad et al., 2008). This means the fragmentation of anti-doping was expected to be addressed by WADA.

Academic focus on the success of the WADA regime is extensive. This body of work is filled with debates surrounding the best policy approaches to anti-doping, including deterrence and prevention, harm reduction, criminalisation, responsibilities that WADA should bear, and its progress in achieving drug-free sport with the financial support it received (Dimeo & Møller, 2018; Houlihan & Vidar Hanstad, 2018; Smith & Stewart, 2015; Waddington & Møller, 2019). Houlihan and Vidar Hanstad (2018) argue that the success of WADA can be assessed against two factors, performance and effectiveness.

By adopting international relations theory, Houlihan and Vidar Hanstad (2018) developed a framework that distinguishes internal and contextual factors that affect the effectiveness of WADA. They conceptualised performance as the degree to which WADA

utilises its resources to generate positive organisational outputs. By analysing WADA's performance through their framework, they point out that WADA has demonstrated positive performance by establishing itself at the centre of global anti-doping, specifying signatory responsibilities, creating compliance monitoring bodies, and obtaining wide-spread global recognition. Houlihan and Vidar Hanstad (2018) also pointed out that effectiveness is related to results and impacts, such as whether positive behavioural changes have occurred among members and whether the scale of the problem has decreased (e.g. whether doping has been reduced). However, empirical evidence that assesses doping prevalence beyond the official WADA testing results suggests that the effectiveness of WADA is questionable.

A number of empirical studies have adopted the randomised response technique, which is designed to encourage honest responses by assurances of anonymity to investigate the estimated prevalence of doping across different sports and countries (Elbe & Pitsch, 2018; Ulrich et al., 2018; Ulrich et al., 2023). These studies consistently suggest that doping is substantially more prevalent than indicated by official testing statistics. For example, Ulrich et al. (2018) reported estimated prevalence of up to 57.1% among athletes at the 2011 Pan-Arab Games. Elbe and Pitsch (2018) estimated a maximum last-season doping rate of 30.6% among Danish athletes. For comparison, statistics reported by WADA have steadily remained below 1.32% between 2012 and 2023 (WADA, 2025a). Experts in the field of anti-doping highlight that this significant gap can be attributed to insufficient commitment due to cultural tolerance for doping (Girginov, 2006; Read et al., 2021) and lack of effectiveness due to insufficient resources and inconsistent implementation (Dimeo & Møller, 2018; Gray, 2019; Read et al., 2020).

A body of work has connected a lack of effectiveness to the issues of compliance (Cho et al., 2022; Houlihan, 2002, 2014; Mazanov, 2016). Among which, Houlihan (2002, 2014) provided extensive discussions of compliance by drawing from theoretical

underpinnings of policy. For example, Houlihan (2002) identified the challenges of compliance are due to signatory inability (e.g. financial resources), inadvertence (e.g. misinterpretation of rules), or priorities (e.g. conflict with other political objectives). Mazanov (2016) emphasised that the challenge of compliance stems from the neglect of required depth of compliance, including issues related to athletes and support staff. Ritchie and Jackson (2014, p. 201) argue that anti-doping lacks long-term strategic planning, consistent investment and support because its development is often a response to “politics and shocks” (e.g. high-profile doping scandals). These challenges are similar to the issues of implementation that cause a lack of effectiveness.

One area of focus shed lights on the challenges of implementation due to disparities across different local contexts (Cannock, 2020; Hanstad et al., 2010; Read et al., 2024; Star, 2022). Ensuring anti-doping policy implementation is harmonised between signatories is a core task for WADA. Read et al. (2024) identified the challenges of harmonisation, including insufficient financial and human resources, political variations and staff expertise. Star (2022) provided a case study of India that examines the challenges of harmonisation. Their findings highlight issues such as the suspension of the Indian testing laboratory due to a series of false positive results, procedural errors in domestic tribunals, and a lack of resources for athletes. Star (2022) suggests that the issues of implementation in different national contexts, especially in developing and non-Western contexts, can lead to challenges of harmonisation and undermine the perceived legitimacy of the WADA regime.

Implementation challenges in non-Western contexts have received extensive scholarly attention. A body of case studies have focused on implementation in non-Western contexts (e.g. Juma et al., 2022; Yang et al., 2021; Muwonge et al., 2025). A systematic review by Chin and Tan (2025) examined the implementation of anti-doping policies in Malaysia by synthesising legislative texts, official reports, longitudinal testing data, and enforcement cases

(a corpus of 39 sources included in the review). Their findings suggest that testing coverage in Malaysia appears significantly low compared to athletes participation. For example, 821 samples were collected at an event in 2018, yet there were over 7,400 athletes participated. Moreover, there was only one blood sample recorded between 2012 and 2022, which shows a near-absence of blood testing in Malaysia's anti-doping system. Chin and Tan (2025) highlighted that despite the fact that Malaysia has made progress in developing its anti-doping system, there remains persistent challenges such as dependence on foreign laboratories, resource and bureaucratic constraints, and uneven compliance among national sport associations.

A study by Yang et al. (2021) is important because it provides empirical evidence of Chinese anti-doping governance and connects policy delivery at the national level to Van Meter and Van Horn's (1975) top-down implementation approach. Through conducting semi-structured interviews with 42 participants (e.g. Chinese and WADA officials), they examined the implementation of anti-doping policies in China based on stakeholders' perspectives. Their findings suggest that while China has strong organisation and financial support, there remains inconsistencies in implementation between well-resourced provinces and poorer provinces. For example, the limited funding in poorer provinces restricted the testing coverage. Moreover, they highlighted that vertical communication within China's anti-doping system is frequent because of the emphasis on central authority, yet horizontal communication among local agencies is limited, indicating insufficient collaboration within the system.

To enhance the understanding of Chinese anti-doping, a recent work by Yang et al. (2023) shed lights on the effectiveness of Chinese anti-doping education. By conducting a total of 45 semi-structured interviews with stakeholders in the Chinese anti-doping system, Yang et al. (2023, pp. 122-126) analysed how stakeholders experience and evaluate the

education system, particularly the education system's target audiences ("who"), delivery strategies ("how and where"), timing ("when"), and content ("what"). It is important because it extended the empirical evidence from Yang et al. (2021) by adopting a more focused analytical lens on how Chinese anti-doping education is structured, delivered, and evaluated. The findings of their study suggest that despite Chinese anti-doping education has made significant progress, there remains the necessity of continuous improvements to meet evolving stakeholder needs and system demands. For example, the authors highlighted the need for expanding target groups, strengthening awareness-raising, and establishing education across an athlete's lifecycle.

Beyond the Asian contexts, inconsistencies in implementation have been reported in case studies of African countries. Scholars have focused on Kenya for its achievements in long-distance running and examined why anti-doping education is difficult to be delivered effectively in Kenya based on perspectives of athletes and educators (Juma et al., 2022). By conducting semi-structured interviews with 11 long-distance runners and 2 educators, their study examined how anti-doping education is delivered and experienced under local constraints, and how it shapes trust and legitimacy. This is an important study owing to its examination of the interdependence between implementation and perceived legitimacy. For example, their thematic analysis highlighted the absence of reliable education in Kenya, making athletes rely on coaches and managers for information, which could lead to risks of misinterpretation. Consequently, due to their perceived inconsistencies and unfairness, athletes questioned the quality of anti-doping education in Kenya and expressed scepticism about its effectiveness.

Beyond Kenya, empirical evidence shows significant inconsistencies in the development of anti-doping system across African countries. A study by Ruwuya et al. (2022) examined the structural and contextual challenges that have been encountered by 52 African

countries in establishing anti-doping system and implementing standardised anti-doping rules. By drawing on historical sources, policy documents and existing literature, their findings suggest that only 25 African countries (i.e. less than 50%) have established operational NADOs after ratifying the UNESCO Convention and most of the 25 NADOs were established in the last decade. The authors argue that the reasons for the significant inconsistencies are complex. For example, apart from limitations in financial resources and staff capacity which can be widely seen in other developing countries, African countries also struggle with issues such as addressing colonial legacies and human development priorities.

Together, these studies indicate that despite the fact that WADA has made progress in unifying global governments and sport organisations since its establishment, there remain significant challenges of compliance and harmonisation. As Gray (2019) highlighted, there are three factors undermining compliance and harmonisation, including top-down implementation, resource constraints and cultural variations between Western and non-Western countries. Existing case studies across Asian and African countries have demonstrated how resource constraints can undermine the effectiveness of implementation and how cultural or political priorities can rank over anti-doping commitments, exemplifying the difficulties in responding to variations in local contexts for WADA's top-down system. Considering the importance of harmonisation to the WADA regime, there is a significant opportunity for theoretical examination in relation to how theoretical underpinnings of policy implementation can help inform WADA's top-down system regarding the harmonisation challenges.

Beyond theoretical examination, there is a significant opportunity for extending empirical evidence of the Chinese context. Despite Yang et al. (2021) and Yang et al. (2023) providing valuable insights into understanding Chinese anti-doping, there remains the necessity of continuous examination of the Chinese context. Most existing studies have

mainly reviewed Chinese anti-doping from a historical perspective and reasons for doping among Chinese athletes (e.g. Hong & Zhouxiang, 2012; Yang & Leung, 2008). A few studies have examined Chinese anti-doping from the perspectives of implementation and compliance (e.g. Tan et al., 2018; Yang et al., 2021; Yang et al., 2023). Nevertheless, these studies focused on China as a single case study. Valuable findings can be acquired through comparing what the similarities and differences are between a non-Western context (i.e. China) and a Western context (i.e. the UK). By doing so, valuable insights into how policy implementation unfolds across diverse local contexts were offered.

Perceived Legitimacy in Anti-Doping

Perceived legitimacy is another key theme of this thesis, it is important because legitimacy shapes not only acceptance of anti-doping goals but also willingness to cooperate with implementation. As this section demonstrates, perceived legitimacy of anti-doping appears to be misaligned, as there is broad acceptance of anti-doping values but scepticism about consistency and effectiveness. The following sections review existing literature that focuses on perceived legitimacy from the perspective of athletes and Athlete Support Personnel (ASP).

Athletes' Perspectives

Scholars have attempted to examine how athletes perceive the legitimacy of anti-doping (e.g. Cox et al., 2022; Overbye et al., 2014; Overbye, 2018; Qvarfordt et al., 2025; Woolway et al., 2020). As Overbye (2018) notes, studying the perspectives of athletes is critical in research and practice, particularly because these perspectives are paramount to the perceived legitimacy of WADA, given the position of athletes as the primary subjects of the

rules and whose compliance determines the success of the regime. Therefore, it is important for the WADA regime and researchers to understand the perceptions of athletes.

Within this area of focus, Woolway et al. (2020) developed a systematic mapping review of 39 studies (ranging from 2002 to 2019) that involve a total of 15,434 athletes from countries such as Australia, Denmark and Norway. The review primarily focused on athletes' views on the underpinning values, effectiveness, and fairness of the anti-doping rules and procedures. Their findings suggest that athletes' perception of legitimacy is a blend of support and scepticism. This means that athletes generally agree with anti-doping values such as protecting clean sport. However, their views differed on whether the anti-doping system is effective and fairly implemented. For instance, athletes feel that reporting whereabouts and being tested are an intrusion of their lives (Scharf et al., 2018). Athletes also voiced concerns over the prevalence of doping, they did not believe testing is implemented across sports and countries and complained about the intrusiveness of reporting whereabouts information (Woolway et al., 2020, p. 9).

Henning and Dimeo (2018) conducted a qualitative study on the perceived legitimacy, attitudes, and buy-in towards anti-doping policies among international and national level athletes ($n = 24$) drawn from seven selected countries across the world and six selected sports. By interviewing the participants, they found that the majority of athletes are generally in favour of anti-doping in principle and the testing system, education programs, and penalties for violations. Nevertheless, the authors found that participants were generally sceptical about the ability to test all athletes across all sports and countries and to accurately detect and deter them from engaging in doping activities. The study further indicated that the participants were able to identify areas of weakness in the regime that could be utilised to circumvent the procedure and engage in doping.

The difference between NADOs' practices and athletes' perceptions of fairness and justice has been examined internationally. By using mixed methods, Huseynli et al. (2025) compared the official data provided by 42 NADOs regarding their due process in implementation to 13 participants' perceptions (seven athletes and six athlete representatives recruited across 13 countries) of legitimacy and fairness. Their study aimed to examine what procedures NADOs say they use in practice and how athletes and athlete representatives experience such procedures. The findings of their study suggest that the due process in implementation is applied consistently across countries, yet athletes and athlete representatives questioned the fairness, transparency, and athletes' rights protection in implementation. For example, participants questioned issues such as whether it is fair to sanction someone who has never been educated and whether athletes from poorer backgrounds can afford to defend themselves when they are accused of Anti-Doping Rule Violations (ADRVs).

Because of the recognition of variations in local contexts, examinations of perceived legitimacy have focused on both under-resourced and well-resourced countries. A case study of the Ugandan-context by Muwonge et al. (2025) examined how Ugandan athletes and coaches perceive the effectiveness of doping control through mixed methods. The mixed methods consist of a survey among 346 athletes using a WADA questionnaire that evaluates perceptions on testing accuracy, detection likelihood and enforcement seriousness and 12 focused group discussions that involve 196 coaches across four regions of Uganda. Their findings suggest that although participants recognised the fairness and transparency of anti-doping in general, questions were raised in terms of how NADO-Uganda treated athletes. For instance, perceived institutional barriers such as inconsistent implementation of testing, concerns about sample handling, and limited procedural transparency appeared in their study,

highlighting that athletes do not see themselves represented in the governance or implementation of anti-doping in Uganda.

Beyond under-resourced contexts, a similar pattern of misaligned perceived legitimacy is reported in the European context. Barkoukis et al. (2025) established that although the participating athletes were generally supportive of anti-doping, they expressed various concerns regarding the fairness, trust, and effectiveness of the regime. In particular, 110 athletes, drawn from six European countries across different sports, noted certain disparities in how the policies are implemented, with strong perceptions that some athletes and teams (did not specify by participants) are subjected to more rigorous and frequent testing than others, which creates a sense of unfairness (Barkoukis et al., 2025). Their study also found that athletes have concerns about the fairness of anti-doping. For example, athletes questioned whether creating a level playing field is possible because they noticed issues such as inconsistencies in testing frequency when exchanging information with athletes from other countries. In terms of effectiveness, the study found that athletes question the overall effectiveness of anti-doping, particularly the doping scandals they witnessed and the perceived inconsistencies in policy implementation.

The studies presented thus far provide evidence that athletes' perceived legitimacy of anti-doping is complex. Although there is a broad consensus in support of the values of anti-doping and the WADA regime, they have concerns about the effectiveness and fairness of the existing system. This highlights the necessity of examining the implementation and perceived legitimacy of anti-doping policies in different national contexts. However, existing literature tends to focus on athletes in the European and North American context (e.g. Cox et al., 2022; Martinelli et al., 2023; Masucci et al., 2019; Overbye, 2016a). Limited academic attention has been paid on non-Western contexts (e.g. China) regarding perceived legitimacy, and none has compared perceived legitimacy across Western and non-Western boundaries. Moreover, there

is limited examination of how different layers of perceived legitimacy can be conceptualised. Therefore, by comparing the perceptions of legitimacy among athletes from China and the UK, it can provide empirical evidence based on comparative analysis and implications for theoretical understanding of perceived legitimacy issues.

Perceptions of ASP

The perception of legitimacy among ASP has been extensively studied (e.g. Blank et al., 2023; Lim et al., 2024; Mazanov et al., 2013; Patterson & Backhouse, 2018; Weber et al., 2022). WADA defined ASP as “any coach, trainer, manager, agent, team staff, official, medical, paramedical personnel, parent or any other person working with, treating or assisting an athlete participating in or preparing for sports competition” (WADA, 2021b, p. 6). Their perception is important because ASP have significant influence in athlete decisions to dope or abstain (Mazanov et al., 2011). Some academic works have explored the perceptions of medical practitioners, pharmacists, physicians and parents (e.g. Backhouse & McKenna, 2011; Erickson et al., 2017; Salih & Abd, 2021). However, most studies in this area of focus shed lights on the perception of coaches because they were found to be the most important source of information on supplement, behaviour and training routines as athletes spend substantial amount of time with them (Allen et al., 2017; Boardley et al., 2024).

Scholarly attention has been paid to the perceptions of coaches. By conducting semi-structured interviews with twelve football and rugby league coaches, Patterson and Backhouse (2018) explored the coaches’ experiences, opinions and behaviours in relation to their roles and responsibilities in anti-doping. Through a qualitative thematic analysis approach, the authors found that coaches were generally supportive of anti-doping efforts and influenced athletes by monitoring, giving advice and shaping athletes’ morality. However, their findings also suggest that coaches tended to rely on others (both internally and

externally to their club) to provide anti-doping support. The authors concluded that coaches' current behaviours were not driven by policy as they were unaware of expectations and consequences outlined in the WADC.

Scholars have also focused on the perceptions of those who participate in Paralympic sports. Blank et al. (2023) paid attention to the perception of athletes and coaches in Paralympic sport. By using a quantitative survey approach, the authors investigated the perceptions, responsibility and anti-doping education experiences from the perspective of Paralympic athletes and Paraspport coaches. They analysed a total of 161 survey responses among athletes and coaches from four European countries and found that a generally good level of education led to the consensus in support of the values of anti-doping among participants. However, the authors highlighted that participants perceived doping as more prevalent in endurance and strength sports (e.g. weightlifting and cycling) than skilled sports (e.g. judo), indicating concerns about high-risk sports in Paralympic sport.

A cross-national case study has shed lights on the perspective of German and British coaches. A total of 11 coaches from Paralympic sport were recruited from Germany and the UK by Weber et al. (2022) to participate in semi-structured interviews that explore their knowledge about anti-doping, opinions on risk factors for doping in Paralympic sport, and perceptions of fairness and effectiveness of the anti-doping system. A key theme regarding perceived legitimacy that their Reflexive Thematic Analysis (RTA) identified was the “differences in culture and imbalances in anti-doping efforts across countries influence doping risk” (Weber et al., 2022, p. 5). For example, participants argued that anti-doping is challenged when the system of some NADOs (participants did not specify) “do not work” so that dopers are “always one step ahead of WADA”, indicating distrust towards the effectiveness of anti-doping system (Weber et al., 2022, p. 5).

Another issue that coaches mentioned in Weber et al. (2022) was the inconsistency of testing. For example, one of the coaches argued that it is difficult to access and test athletes in Iran, Iraq, Syria, Egypt, and Nigeria, whereas it is much easier to access and test athletes from Western European nations, America, and Australia. Moreover, since participants are coaches from Paralympic sport, they highlighted the inconsistency in testing frequency between Paralympic sport and other sports. For instance, the coaches argued that testing for Paralympic sport is not undertaken as rigorously as it could be, and athletes hardly get out-of-competition testing. However, for successful athletes whose “media profile is higher” (p.5), they are tested much more than less successful or young athletes (Weber et al., 2022).

Beyond the European context, Lim et al. (2024) investigated the anti-doping knowledge, attitudes and practices of ASP in Southeast Asian countries, including Brunei Dar-ussalam, Cambodia, Indonesia, Lao People’s Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Timor-Leste, and Vietnam. By using an anonymised self-administrated questionnaire and analysing responses of 596 respondents, their findings suggest that participants’ knowledge appears to be poor and that their attitudes towards anti-doping efforts appear to be negative. For example, the results of the knowledge test among ASP was interpreted by the authors as having poor knowledge and ASP’s attitudes were interpreted as relatively more accepting of doping. Therefore, the authors highlighted the need to address the significant knowledge gap among ASP in Southeast Asian countries and encourage ASP to have a positive attitude towards anti-doping.

The evidence presented in this section suggests that ASP, has shown varying attitudes towards anti-doping. The difference is reflected in both the differences between sports disciplines and between cultural contexts. For example, participants from Europe have more abundant knowledge about anti-doping and a more positive attitude than those from Southeast Asia. Such differences highlight the need to examine coaches’ perceptions of anti-

doping in non-Western contexts. Furthermore, as part of ASP, the perceptions of officials (e.g. senior staff in NADOs and DCOs) have been rarely explored. Although officials spend much less time with athletes than coaches, their perceptions as the local implementors of anti-doping policies are crucial to the legitimacy of the WADA regime. Thus, it is also necessary to examine the perceptions of officials and coaches. By comparing the perceptions of officials, coaches and athletes in the non-Western context of China with those of coaches and athletes in the Western context of the UK, further insights into the perceived legitimacy of anti-doping were provided.

Critical Reflections and Research Gaps

Limited Empirical Evidence of Policy Implementation and Perceived Legitimacy in China

Based on a review of the existing literature, there is a research gap due to the lack of empirical evidence regarding the implementation in China and perceived legitimacy among Chinese officials, coaches and athletes. Although official reports from China, such as those released by CHINADA, provide a large amount of data on testing and educational programmes, such data is mainly quantitative outputs and there is little empirical evidence of anti-doping policy implementation in China apart from Yang et al. (2021) and Yang et al. (2023). In addition, despite they have focused on policy implementation in China, there is limited discussion of the implementation of retesting. More importantly, no existing studies have examined Chinese stakeholders' perceived legitimacy of anti-doping.

The existence of this gap can be attributed to the characteristics of Chinese political system. While China defines itself as a multi-party state under the leadership of the Chinese Communist Party (CCP), only the CCP holds any effective power and it can be understood as a one-party system (Saich, 2025). In China's centralised setting, political control can constrain topic choice, access and reporting, encourage self-censorship and limit inquiry into

sensitive governance issues (Reny, 2016). Consequently, what researchers can observe, measure, study and report in China-focused qualitative research is restricted by constrained access to interviewees, sites and documents (Lawrence, 2020).

The Chinese government (led by CCP) plays a dominant role in the administration system in China, including anti-doping governance (Yang et al., 2021). Consequently, strict administrative control can make anti-doping governance a politically managed domain, thereby restricting independent scrutiny and limiting external research access (Tan et al., 2018; Yang et al., 2021). Previous studies on Chinese anti-doping (e.g. Yang et al., 2021; Yang et al., 2023) have encountered these challenges and offered strategic recommendations for future research, how these challenges were responded by adopting their strategic recommendations is discussed in detail in the next chapter.

Uniqueness of Comparative Lens between China and the UK

The aim of this thesis is to extend empirical evidence by building a better understanding of policy implementation and stakeholders' perceived legitimacy of testing and retesting in China and the UK and providing implications for global harmonisation of anti-doping policies by comparing the Chinese and British contexts. Such analysis can provide a powerful analytical framework that is more comprehensive than using a single case study and enables the development of transferable theoretical insights into the relationship between national context, policy implementation and perceived legitimacy. The comparative analysis compares two countries that have different political systems, governance models, and cultural traditions to explore the extent to which these contextual differences shape and influence policy implementation. It also enables an examination of how stakeholders from different political systems, governance models, and cultural traditions perceive testing and retesting, thereby generating insights into the understanding of legitimacy issues in anti-doping.

Justification of Thesis Contribution

The original and significant contributions to the field were facilitated by directly addressing the identified gaps. Empirically, it generates a better understanding of the important yet under-researched context of China's policy implementation while also providing a comparative analysis of China and the UK. Theoretically, different layers of perceived legitimacy were distinguished and conceptualised to offer a clearer and more consistent way of discussing perceived legitimacy issues in anti-doping. By demonstrating the similarities and differences in implementation and legitimacy between China and the UK, the findings of this thesis provide new insights into the opportunities and challenges of harmonisation, as well as maintaining legitimacy. Lastly, recommendations for policy implementation and legitimacy within the WADA regime were also offered.

To conclude this chapter, the review of literature focused on various themes, including policy implementation, legitimacy theory, historical development and current issues of anti-doping, as well as the perceived legitimacy of athletes and ASP. It identified gaps in empirical evidence and opportunities for theoretical advancement. To achieve the aim of this thesis and answer the research questions, philosophical foundations of research design and approaches for data collection and analysis should be considered. Therefore, the next chapter concerns the methodology.

Chapter 3 Methodology

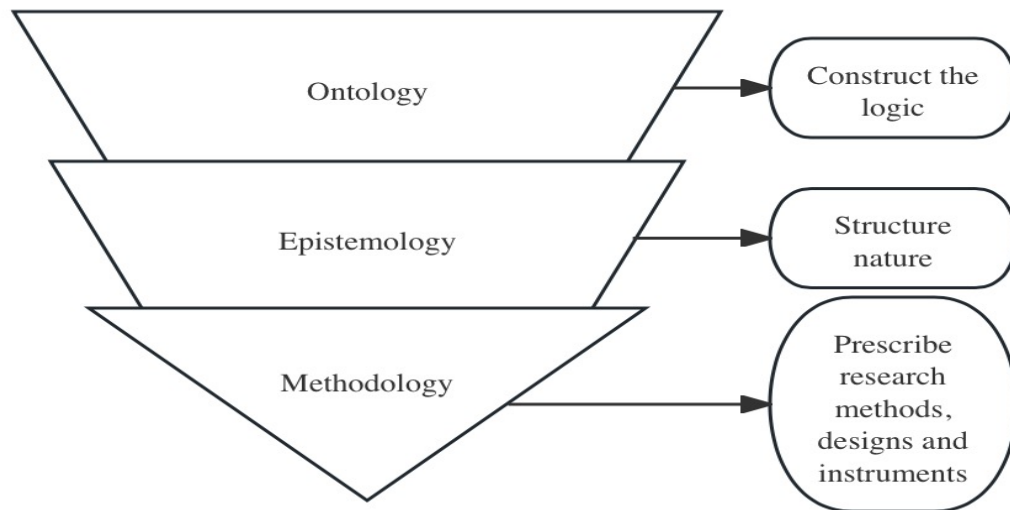
This chapter outlines the methodological approach adopted in this thesis, including the research design, data collection method and analytical procedures. It begins by locating this thesis within a qualitative interpretivist paradigm. Subsequently, attention is given to the researcher's positionality and the strategies used to ensure trustworthiness and credibility. The following section explains the rationale behind using semi-structured interviews, sampling strategies, and reflexive thematic analysis.

Philosophical Foundation

Research philosophy is a fundamental and important aspect of academic research. In their foundational research methods textbook, Saunders et al. (2015) defined research philosophy as how a researcher's assumptions about knowledge and about the nature of the realities encountered shape how research question is understood and the associated research design. In other words, it is the cornerstone of research that aims to develop new and reliable knowledge and involves the choice of research strategy, problem identification, research design, data collection, and data analysis (Saunders et al., 2015; Žukauskas et al., 2018). Researchers make assumptions concerning the nature of society and the nature of science (Burrell & Morgan, 2019). The sociological dimension involves a choice between regulatory or radical change in society, with the former perspective assumes that society develops rationally and the latter views society as in constant conflict (Burrell & Morgan, 2019). The science dimension involves either subjective or objective approaches to research, which are described by assumptions including ontology (reality), epistemology (knowledge), and methodology (Holden & Lynch, 2004).

An appropriate philosophical stance aids choosing the research methods that align with the philosophical stance, as this alignment has significant implications for research design and enhances the credibility of the research (Gannon et al., 2022). For instance, an interpretivist approach may lead to the use of in-depth interviews and thematic analysis, while a positivist approach may involve structured surveys and statistical analysis. Therefore, owing to the importance of research philosophy, it is necessary to discuss the definitions of ontology, epistemology and methodology.

Ontology, epistemology and methodology are associated with different philosophical stances but set in a hierarchical and deterministic order. Neuman (2010) describe the definition of ontology and epistemology, the former refers to a philosophical field concerned with being or the nature of being, studying what is real and what are the fundamental categories of reality; and the latter refers to a field of philosophy concerned with knowledge creation that focuses on how we know what we know, or what is the most efficient way to reach the truth. Methodology concerns the nature of research design and methods (Howell, 2016). These three assumptions are set in a hierarchy determined order, as illustrated in the figure below. Within the order, the logic of epistemology is constructed by ontology, the nature of methodology is structured by epistemology, and the appropriate types of research methods, designs and instruments are prescribed by methodology (Sarantakos, 2013).

Figure 3*The foundations of social research*

Note. This figure was adopted from Sarantakos (2013, p. 28).

The philosophical positions of ontology play an important role in determining the epistemology, methodology, paradigms and design of research. Ontology is consisted by two philosophical positions, including realist and constructionist position (Sarantakos, 2013). The table below illustrates the differences between the two philosophical positions of ontology. As methodology can establish links between ontological and epistemological principles of logic and the actual practice of research, it plays a significant role in the research process (Sarantakos, 2013). Therefore, it is necessary to discuss and compare the methodologies in the domains of realist ontology and constructionist ontology in order to determine the design of this thesis.

Table 1*Theoretical construction of research*

	Research strategy 1	Research strategy 2
Ontology	Realism/objectivism	Constructionism
Epistemology	Empiricism	Interpretivism
Methodology	Quantitative	Qualitative
Paradigms	Positivism	Symbolic interactionism and Phenomenology
Research	Fixed design	Fixed/Flexible design

Note. This table was generated by concluding and highlighting the description by Sarantakos (2013).

Realist Ontology

The realist ontology entails an empiricist epistemology, a quantitative methodology, a positivist paradigm and a fixed design. Quantitative research is often grounded in positivism, directed by a realist and objectivist ontology and by an empiricist epistemology (Sarantakos, 2013). It integrates the practice and norms of natural science model, especially positivism, and often embodies a view that society is treated as something that exists independently of individuals and can be studied objectively (Bryman & Bell, 2019). Quantitative researchers usually apply more formal and mathematical measurement and analysis techniques, they prefer precise quantitative data and often use experiments, surveys and statistical analysis (Bryman & Bell, 2019; Neuman, 2010). Quantitative research is commonly associated with a deductive orientation, whereby researchers draw upon existing theory to develop hypotheses that are subsequently examined using empirical data (Bryman & Bell, 2019). It should be noted that no quantitative data was collected as primary data in this thesis.

Constructionist Ontology

The constructionist ontology entails an interpretivist epistemology, a qualitative methodology, a number of paradigms such as symbolic interactionism and phenomenology, and a fixed or flexible design (Sarantakos, 2013). Qualitative research is often grounded in naturalistic, interpretive domain, and guided by principles of a relativist orientation, constructionist ontology and an interpretivist epistemology (Sarantakos, 2013). It rejects the natural science and positivist model instead replacing them with methodologies that attempt to determine how individuals interpret their social world and often embodies a view of social reality that is the constantly shifting and emergent creation of attributes of the individual (Bryman & Bell, 2019). Qualitative researchers usually rely on words and other non-numerical symbols (Neuman, 2010). Although qualitative research often adopts a primarily inductive orientation, the research process can be iterative, meaning that existing theory may inform data collection and interpretation while meanings and patterns are developed through engagement with the empirical data (Neuman, 2010).

Drawing on the discussions above, ontology is relevant to this thesis because anti-doping policies are not only a set of formal rules but a social reality that is produced and reproduced. Anti-doping policies are therefore enacted through interpretations, practices and interactions of different actors in the system. Instead of conducting analysis through mathematical measurements that the realist ontology entails, interpretations of how standardised rules are translated into practice and how stakeholders perceive the rules are constructed. Consequently, the constructionist ontology provides the most appropriate foundation for this thesis, as it helps to focus on how anti-doping policies are interpreted and perceived based on stakeholders' words. Based on the description of quantitative and qualitative methodologies, it can be seen that both methodologies have their own unique

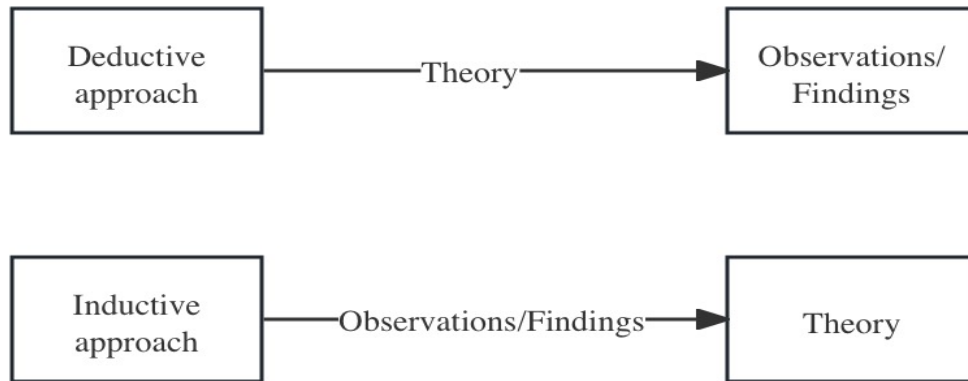
characteristics, it is therefore necessary to compare and distinguish the approaches that both methodologies entail.

Inductive and Deductive Approaches

It is evident that the difference between quantitative and qualitative research is not limited to the extent of quantification but reflects broader differences in their orientations towards conducting social research. A deductive approach typically begins with theory, with researchers designing a research strategy to examine that theory, whereas an inductive approach typically begins by exploring a phenomenon through data collection, allowing theory or interpretation to be developed from empirical evidence (Blaikie, 2007; Ketokivi & Mantere, 2010; Saunders et al., 2015). However, the distinction between deductive and inductive approaches should not be regarded as absolute, as research may also involve iterative engagement between theory and empirical evidence (Neale, 2016). This means that existing theory can inform the development of research design, data collection, and interpretation of findings, while empirical data also contributes to enhancing theoretical understandings through the construction of new patterns and insights (Kennedy & Thornberg, 2017). The figure below illustrates the development processes of deductive and inductive approaches.

Figure 4

The development processes of deductive and inductive approaches



Note. This figure was adopted from Bryman and Bell (2019) to illustrate their typical methodological characteristics. In practice, research may involve an iterative engagement between theory and empirical evidence.

Philosophical Underpinnings of the Current Thesis

The overarching aim of this thesis is to examine the implementation and perceived legitimacy of testing and retesting based on perceptions of Chinese and British individuals. Without engaging the individuals in an in-depth discussion of their subjective lived experiences, this objective may not be achieved. Therefore, qualitative methodology and the philosophical positions that inform qualitative methodology are adopted, including constructionist ontology and interpretivist epistemology (see Table 1). The adoption of the philosophical positions for the current thesis is explained from the following aspects.

Firstly, the belief and assumptions of constructionism are considered. Constructionism assumes that there are no absolute truths, and that meanings are not fixed but emerge out of people's interaction with the world (Sarantakos, 2013). For instance, personnel involved in the implementation of anti-doping policy may have different perceptions, yet these

perceptions are not absolute truths (e.g. the perceptions of anti-doping officials may not be completely objective and correct), owing to that the perceptions are constructed through the interaction of these individuals with the implementation of anti-doping policy in different roles and positions. Thus, when understanding and interpreting the perceptions of different individuals, the researcher must take these factors into consideration. This means that the researcher should neither develop biases due to the roles of the personnel (e.g. considering a perception correct simply because it was proposed by an official), nor neglect the possibilities that the perceptions are influenced by the positions and roles of the individuals (Berger, 2013; Finlay, 2002).

Secondly, the epistemological position of interpretivism is adopted. Consistent with the constructionist ontology underpinning this thesis, interpretivism provides the epistemological framework through which qualitative research is conducted, as it “looks for culturally derived situation and historically situated interpretations of the social life-world” (Crotty, 2021, p. 67). The qualitative researcher goes beyond identifying the subjective meaning and explores the processes of constructing social situations and everyday structures that guide and explain personal views and opinions, as well as focusing on the mode of production of social structures (Charmaz, 2021; Denzin & Lincoln, 2018).

For instance, the relevant personnel involved in the implementation of anti-doping policy may have different interpretations of policy implementation due to the influence of the cultural, historical and political characteristics of the country they are in. This includes the extent of open discussion on the sensitive topic of doping, terms or slang that have evolved under the influence of their social and cultural environment, as well as attitudes and social norms towards anti-doping. Thus, the researcher must be able to understand and accurately interpret the discourse of the research subjects and consider how the formation of the research

subjects' perceptions is influenced by the social, cultural and political environment in which they are located (Berger & Luckmann, 1990; Fairclough, 2003).

Qualitative Research

Qualitative research has been widely used in policy analysis for in-depth interactions with policy-relevant stakeholders and has its own characteristics. Scholars have applied qualitative research to explore first-hand experiences of policy-relevant stakeholders such as legislators, implementors, community members through in-depth interviews, and the prime focus of qualitative research methods in public policy analysis can be understood as interpretive (Yanow, 2017). The main feature of these interpretive methods is that the content is word-based throughout the entire process from data collection to data analysis and to final report, this means that researchers do not need to convert words into numbers during the analysis process, which helps researchers see meanings and sources of meanings (Yanow, 2017).

As the approach to interpretation is ontological constructivism rather than realism, and epistemological interpretivism rather than objectivism, it is more applicable to argumentative, deliberative and other approaches to policy research (Yanow, 2017). Accordingly, the research design emphasises understanding how participants construct and interpret meanings within their social contexts. Sadovnik (2017) pointed out the key elements of qualitative research designs, including the participant selection and sampling procedures, ethical clearance, design of data collection and analysis instruments, rationale for the choice of site, participants and cohort size, deployment of varied data collection methods, systematic protocols for data recording and transcription, procedures for data analysis, and the reliability of the sample size. With the key elements of qualitative research design understood, it is also important to consider the strengths and weaknesses of qualitative research.

Qualitative research has its own strengths and limitations; it is important to consider these factors in order to maximise its strengths whilst mitigating its limitations when conducting the research. Onwuegbuzie et al. (2009) described that the strengths of qualitative research include that it provides an in-depth understanding of participants' personal experiences and meanings, captures the complexity of phenomenon, identifies contextual factors that influence the phenomenon, and being responsive to local situations, conditions and stakeholders' needs. However, Bryman and Bell (2019) pointed out that qualitative research can be limited by subjectivity and potential researcher bias, challenges of making quantitative predictions or testing theories, and difficulties in generalising findings from small participant samples. The strategies for enhancing trustworthiness of qualitative research are presented in a later section.

Researcher's Positionality

The researcher's positionality is a crucial factor in shaping the research process and interpretation. Positionality describes both the researcher's view of the world and the position that the researcher adopts about the social and political contexts of a research study (Foote & Gau Bartell, 2011; Holmes, 2020). The researcher's view of the world concerns ontological assumptions (i.e. researcher's beliefs about the nature of social reality), epistemological assumptions (i.e. researcher's beliefs about the nature of knowledge) and researcher's assumptions about the way we interact with our environment (Marsh, 2025; Ormston et al., 2014). Positionality reflects "the position that the researcher has chosen to adopt within a given research study" (Savin-Baden & Major, 2013, p. 71). Therefore, the researcher's positionality can influence how the current thesis is conducted and impact its outcomes.

In this thesis, positionality is understood as the researcher's background in anti-doping policy studies and the ways in which this background may shape the research process.

The researcher developed an academic background in anti-doping policy through academic training in conducting research and studying sports policy and anti-doping governance, which enabled familiarity with institutional structures and terminologies in anti-doping, and existing knowledge in the field. The familiarity helped the researcher to translate technical terminologies and institutional jargon into accessible language for different stakeholders, particularly for athletes, thereby enhancing understandability during data collection.

The researcher occupies a cross-cultural position, participating in academic practices in a Western context and examining the implementation and perceived legitimacy of Western-shaped anti-doping policies in China and the UK. This cross-cultural position facilitated engagement with different stakeholder groups, particularly Chinese stakeholders, by enabling the researcher to navigate cultural expectations, communication norms, and institutional protocols. For example, the researcher's familiarity with Chinese cultural practices and social norms (e.g. sensitivity to what can be said, how requests should be framed, and when indirect language is more appropriate) enabled secure access to Chinese stakeholders through a formal and appropriate channel and helped getting approval from Chinese officials. Moreover, the researcher lives, participates in academic practice and conducts this thesis in the UK, the communication skills (e.g. language fluency and awareness of Western social norms) and professional relationships (e.g. relationships that were built within the researcher's institution and sports community) helped secure access to British stakeholders.

The researcher's position across the power dynamics is another factor that needs to be treated with caution. Power dynamics is the inherent and unavoidable unequal relationships of influence and authority that exists between the researcher and participants throughout the qualitative research process (Berger, 2013). According to Berger (2013), this means that researchers inevitably occupy positions of authority in relation to participants by controlling

the research design, framing questions and interpreting responses, which may influence how participants describe their experiences and how their description is interpreted.

Accordingly, the researcher incorporated reflexive attention to how power dynamics might shape both stakeholders' responses and the researcher's interpretations. Detailed discussions of how reflexivity was conducted is presented in the data analysis section.

Data Collection

Types of Data and Interviews

The researcher considered the nature of data in order to apply a suitable tool for data collection of this thesis. Primary data refers to the data that was previously unknown and obtained directly by the research for a particular purpose (Hox & Boeije, 2005). While secondary data refers to utilising existing data which collected by other people or organisations for another primary purpose (Johnston, 2017). In this thesis, secondary data was used to help assess the primary data, particularly in relation to participants' claims about compliance and policy implementation. For instance, publicly available testing statistics released by CHINADA were used to assess whether reported number of testing was consistent with Chinese officials' description of testing. By using secondary data to assess primary data, it helps the researcher interpret whether participants' descriptions aligned with statistical records and reduce the risk that the findings rely solely on a single source of information or organisational narrative, thereby enhancing the trustworthiness of the thesis.

Primary data for this thesis was collected through interviews with stakeholders in China and the UK. Conducting interviews aligns with the philosophical foundations that are adopted by this thesis (i.e. the constructionist ontology, interpretivist epistemology, and qualitative methodology). Guided by a constructionist ontology, the implementation and legitimacy of anti-doping policy are treated as socially constructed through actors'

interpretations and practices (Sarantakos, 2013). An interpretivist epistemology therefore underpins this thesis, emphasising the importance of assessing and explaining participants' views and opinions on anti-doping policy (Charmaz, 2021; Denzin & Lincoln, 2018). In line with these philosophical foundations, a qualitative methodology was adopted because it enables in-depth exploration of word-based content given by participants (Yanow, 2017). Consequently, interviews were selected as the method of data collection, as they allow participants to articulate how anti-doping policies are interpreted, enacted and perceived in practice (Brinkmann & Kvale, 2018; Bryman & Bell, 2019).

There are three types of interviews including structured, semi-structured and unstructured (Roulston & Choi, 2018). Structured interviews use structured questionnaire and are often employed in quantitative research, particularly in survey-based studies (Edwards & Holland, 2013). Unstructured interview applies unstructured questionnaire and tend to be flexible, including a number of open-ended questions (Bryman & Bell, 2019). Semi-structured interview can be considered as between the two, and include elements of both (Sarantakos, 2013). Unstructured and semi-structured interviews are usually applied in qualitative research (Roulston & Choi, 2018). The strengths of semi-structured interview include the combination of predetermined questions with the flexibility to explore topics in more depth (Bryman & Bell, 2019).

Given that constructionist ontology, interpretivist epistemology and qualitative methodology inform this thesis, semi-structured interviews were used as the method of data collection. From the perspective of constructionism, semi-structured interviews enable meanings to emerge through interaction and dialogue between researcher and participants (Brinkmann & Kvale, 2018). From the perspective of interpretivism, semi-structured interviews allow researchers to access and interpret how participants make sense of their experiences and the truths they articulate based on their experiences (Bryman & Bell, 2019).

Methodologically, semi-structured interviews provide flexibility because they offer space for unanticipated answers and minimise restrictions on the meanings that can be explored (Bryman & Bell, 2019). This allows this thesis to explore how implementation and legitimacy are interpreted across different stakeholder groups and national backgrounds.

Sampling Strategies

Sampling is an important factor in research that involves human participants. When conducting research that involves human participants, the type and number of participants who should be included in the research are important factors that a researcher should consider, and the process employed to extract samples for research is called sampling (Sarantakos, 2013). There are two main types of sampling, including probability sampling (or random sampling) and non-probability sampling (Douglas, 2022).

Purposive sampling and snowball sampling are adopted by this thesis. Purposive sampling is one of the non-probability sampling techniques that aims to select the participants strategically and requires all the chosen subjects are relevant to the research questions (Bryman & Bell, 2019). Consequently, the participants selected for this thesis are based on their nationality and relationship with testing and retesting. Firstly, the number of participants from China and the UK should be as balanced as possible, so that there is sufficient data from both countries to present findings. Secondly, participants should include athletes who have experiences of anti-doping from diverse sports disciplines, anti-doping officials that are in charge of formulating or implementing anti-doping policies at the national level, and coaches that are closely related to athletes' daily routines and performance.

To recruit Chinese athletes and coaches, snowball sampling was used apart from purposive sampling. Snowball sampling is a non-probability sampling strategy in which researchers begin with a small number of participants and then ask them to refer or recruit

other individuals (Noy, 2008). Recruiting Chinese athletes and coaches required establishing connections through personal channels of different individuals. For instance, the researcher's parents know a weightlifting coach, and with the help of this coach, other weightlifters or other weightlifting coaches could be reached, and with the help of other weightlifters or coaches, more participants could be recruited. In the Chinese socio-cultural context, this process is also called Guanxi, which can be interpreted as social practices of building and using personal relationships to get through life and work (Chen et al., 2013). Without Guanxi, participants would find it hard to trust a stranger without an intermediary's referral, and they would be unlikely to help recruit more participants.

To recruit officials from CHINADA, a gatekeeper is needed to get access to the participants. A gatekeeper is an individual or organisation that holds formal authority (e.g. officials) or informal influence (e.g. respected group members) that can help gain access to a research setting, a social group, or potential participants (Hammersley & Atkinson, 2019). Previous research on Chinese anti-doping contexts by Yang et al. (2021) has emphasised the significance of seeking help from gatekeeper to gain access and build trust with Chinese participants, especially the officials. This research involves engaging with participants about a sensitive topic, the researcher must negotiate with the individual who can enable access to participants and help build trust with them.

The researcher established contact with CHINADA officials through the help of a gatekeeper who works in a high-level educational organisation, yet the gatekeeper does not want to be mentioned by name due to the sensitivity of the topic. During the communication in April 2023, the gatekeeper said that "doping is a very sensitive topic, if you are studying in China, it should be your supervisor to help you with this". From the gatekeeper's perspective, if the researcher articulates a negative interpretation of China's anti-doping without respecting the truth, the gatekeeper will have to face the consequences due to the gatekeeper's

efforts to connect the researcher and officials. After giving detailed explanation of the design and objectives of this thesis, as well as the fact that the researcher is not in China and unable to establish contact with officials through personal channels, the gatekeeper agreed to help the researcher build contact with CHINADA officials.

To build trust with the CHINADA officials, the researcher was asked questions regarding the research design, objectives, and personal information such as educational background. From the perspective of officials, they expressed the concern that the researcher might take their responses out of context or misinterpret the responses, tarnishing the country's image and bringing trouble to themselves. This concern seems reasonable because, according to CHINADA officials, this situation had previously occurred to officials in other government departments and resulted in a scandal. The request for interviews was approved after two months of communication. The main reason for approval is that the researcher gained trust through detailed explanation of this research and cooperative attitude. The researcher's Chinese nationality also might have helped because it is more likely to lower the officials' guard compared to researchers of other nationalities. The same difficulty was encountered by Yang et al. (2021), the reason why their interview request was approved was similar to that of this thesis.

On the contrary, the process of recruiting British participants was much simpler and more straightforward. By using purposive sampling and snowball sampling, the researcher first located potential participants that are relevant to the research questions and requested for referral after the interviews. Through communication via emails, the researcher described the research objectives and examples of interview questions to British participants. They would not ask to know about more and did not proactively ask questions related to anonymity and the potential risks of participation. For comparison, most Chinese athletes would ask for the permission from their coaches and team leaders. In other words, once British participants

were interested in participating in this thesis they would agree and schedule the interview without worrying about having discussion on a sensitive topic.

A small number of bodybuilders (a total of 4) was included in the sample as an exploratory sub-case because of their experiences of anti-doping policies and practices. Although bodybuilding is not uniformly governed under the WADA regime, these participants had experiences that were relevant to the research questions concerning the implementation and perceived legitimacy of testing and retesting. Their inclusion was therefore intended to broaden the range of stakeholder perspectives rather than to represent bodybuilding as a sport governed under WADA or to make sport-specific comparisons. Accordingly, the findings relating to bodybuilding were interpreted cautiously and were used to complement, rather than shape, the broader conclusions regarding anti-doping policy implementation and perceived legitimacy.

Both sampling strategies were helpful in connecting and building trust with stakeholders. Purposive sampling enabled this thesis to recruit participants with direct experience of anti-doping policy, supporting the relevance and depth of data. Snowball sampling, particularly in the Chinese context, allowed access to stakeholders and supported gaining trust of stakeholders. Nevertheless, when using snowball sampling, the risk of network bias was noticed. Network bias appears because snowball sampling is built on referrals, which may lead to a sample that underrepresents parts of a population not connected to the initial participants (Biernacki & Waldorf, 1981). For example, when the researcher requested referral, participants were more likely to recommend others within similar sports discipline or departments. Consequently, weightlifting became comparatively over-represented within the Chinese sample, reflecting the challenges of recruitment through existing professional networks and participant referrals rather than a deliberate focus on a particular sport.

By recognising the risk of network bias, the researcher actively sought referrals that were not limited to certain sports, regions, or organisational roles during subsequent recruitment. For example, instead of recruiting all Chinese participants from well-developed regions, the researcher explicitly requested referrals to participants from relatively less-developed and under-resourced regions. Regarding sports discipline, rather than being referred only to athletes who compete in the same sport or within the same training network as earlier participants, the researcher requested referrals to athletes from different disciplines and performance levels wherever possible. By using these strategies, the researcher was able to broaden the range of participants included in this thesis, mitigate the risk of network bias, and enhance the credibility of findings by ensuring that interpretations were shaped by diverse perceptions across sports, regions and roles, rather than being shaped by a single referral network.

Access to UKAD Officials

Although officials, coaches and athletes from China were included in this thesis, access to UKAD officials was not obtained. Efforts were made to identify and recruit UKAD officials through publicly available contacts and professional networks. However, access was not secured within the timeframe of this thesis. Consequently, the UK sample comprised coaches and athletes only.

This difference in participant composition reflected the methodological challenges of accessing elite policy actors in qualitative research. Researchers studying policy frequently encounter barriers to accessing key decision-makers, with organisation controlling who can be interviewed and the information that can be disclosed (Duke, 2002). These barriers are influenced by concerns about confidentiality, anonymity and potential political consequences of participation, particularly in highly regulated or politicised policy domains (Lancaster,

2016). Therefore, these barriers might limit opportunities to recruit senior officials in qualitative research despite the active efforts of researchers in securing access. In this thesis, such access constraints meant that access to UKAD officials could not be secured within the timeframe. Consequently, the implementation of testing and retesting in the UK was represented based on the accounts of British coaches and athletes.

The absence of UK officials has implications of the interpretation of findings, particularly the direct comparisons of implementation between China and the UK. This means that participants' accounts of implementation practices involved officials perspectives from China but not from the UK. Consequently, discussions of implementation practices in the UK were informed primarily by experiences of British coaches and athletes, rather than by the perspectives of UKAD policymakers. Thus, comparisons of implementation between China and the UK were interpreted with this difference in evidence sources in mind.

Interview Guide

To engage with participants effectively in semi-structured interviews, it is important to establish connection at the beginning because participants are more likely to share their experiences and perceptions when they feel comfortable and understood. A semi-structured interview should begin without asking substantively oriented topics, but general questions that draw out the participants' own accounts, because this helps encourage open and detailed responses (Yanow, 2017). On this basis, the interview guide was designed to progress from participants' background and role to their description and experiences of policy implementation, and finally to their perceptions of testing and retesting. The design of interview guide was also informed by key literature in the field of anti-doping (e.g. prevailing discussions of harmonisation challenges and perceived legitimacy issues; Barkoukis et al.,

2025; Read et al., 2024) and theoretical underpinnings of policy implementation and legitimacy to address the research questions.

Given that the recruited participants have different roles in anti-doping, how to ensure interview questions were relevant to each role's experiences and responsibility must be considered. Interview questions for different roles need to be designed separately, because using identical questions for different roles risks misalignment with what each group can meaningfully reflect (Rubin & Rubin, 2017). For instance, it would be inappropriate to ask an athlete to answer how the targets of testing are determined, how annual testing plan is constructed, or how decisions to conduct retesting are made, because these processes fall within officials' responsibilities and require access to organisational procedures and data. Therefore, the researcher considered tailoring interview questions to different roles of participants.

The interview questions were designed to align with the key themes of research questions (i.e. implementation and perceived legitimacy of testing and retesting). Existing literature on policy implementation and perceived legitimacy informed the interview guide, while the semi-structured format allowed participants to articulate issues and experiences that were meaningful to them. In other words, participants were not asked random questions, but questions that cover the same overarching themes with adaption to their roles. For officials, the interview questions were phrased to cover the details of policy implementation for testing and retesting, the challenges of policy implementation, and how local implementors perceive testing and retesting. For athletes, the interview questions focus on their knowledge of testing and retesting, their personal experience during the policy implementation process, and their perceptions on testing and retesting. For coaches, the interview questions focus on how they cooperate with national governing body to monitor athletes and their perceptions on testing and retesting. All interview questions have been attached in the Appendices.

Where appropriate, participants were invited to reflect on high-profile doping scandal (i.e. the Russian doping scandal) as a part of the semi-structured interview process. The purpose of involving the Russian case was to encourage participants to discuss how such cases shaped their perceptions of the credibility, fairness, and effectiveness of anti-doping policies, particularly testing and retesting. These prompts were used to facilitate discussion of participants' legitimacy judgements rather than to evaluate the doping scandal itself.

It is important to prioritise participant protection when developing interview questions because qualitative interviews can expose participants to psychological distress, reputational damage and even legal or professional risk. Ethical guidance in qualitative research emphasises that when questions involve disclosure of wrongdoing or highly sensitive information, researchers are responsible for minimising harm and to design data collection in ways that protect participants (Orb et al., 2004). In this thesis, questions that ask whether athletes (or their peers) had doped, or whether coaches had assisted doping, were avoided because they could expose participants to risks. Consequently, the interview questions were designed to focus on experiences and perceptions of the implementation and legitimacy of testing and retesting, rather than prompting admissions of prohibited behaviours.

The interview questions were finalised after a series of revisions by discussing with the principal supervisor who has extensive expertise and well-established track record in the field of anti-doping (e.g. Dimeo, 2008; Dimeo & Hunt, 2011; Dimeo, 2016; Dimeo & Møller, 2018; Dimeo & Henning, 2022). Suggestions from the General University Ethics Panel of the researcher's organisation were also addressed before the data collection process. These revisions and suggestions mainly focused on the logic, selection of terms, and the translation for Chinese participants. For example, the principal supervisor suggested that the interview questions should be re-organised and begin with general questions regarding participants' personal background before moving forward to questions regarding policy implementation

and perceptions. Moreover, the ethics panel suggested improvements regarding the anonymity of participants, security of data, and the rationality of the data collection process. For instance, it was suggested that the recordings should be protected by passcode.

Because a sensitive topic (i.e. doping) was involved in this thesis and the sample size was relatively large (a total of 47 interviewees), the ethics application for this thesis went through a long process and was approved after four months (from September 2022 to January 2023). Following ethical approval, several steps were taken prior to data collection to ensure that participants were fully informed about the thesis and were comfortable with their participation. These steps included providing the Participant Information Sheet (attached in the Appendices) in advance of the interview.

Participants were also provided with the interview questions in advance to allow sufficient time for preparation. Although the semi-structured interview design allowed for the use of follow-up questions to clarify or elaborate on participants' responses where necessary (Ahlin, 2019), participants generally provided responses that adequately addressed the interview questions. Consequently, the follow-up questions were not conducted. This approach was appropriate considering the practical constraints of thesis, including the sensitivity of anti-doping, variations in participants' willingness to elaborate, and the need to maintain consistency across interviews. Therefore, while follow-up questions were not included, this approach helped minimise participants' burden while allowing participants to respond openly within the scope of research questions. Participants were included in the participant table (see Table 2) and categorised based on their roles and nationalities (e.g. Chinese official 1 and British athlete 1).

Table 2*Participant table*

Roles and Nationalities	Sports Discipline/Department	Performance Level	Time of Experience
British Athlete 1 (BA1)	Cycling	International	12 years
British Athlete 2 (BA2)	Bodybuilding	International	10 years
British Athlete 3 (BA3)	Weightlifting	National	11 years
British Athlete 4 (BA4)	Modern Pentathlon	International	13 years
British Athlete 5 (BA5)	Bodybuilding	International	8 years
British Athlete 6 (BA6)	Badminton	International	11 years
British Athlete 7 (BA7)	Badminton	International	10 years
British Athlete 8 (BA8)	Boxing	National	20 years
British Athlete 9 (BA9)	Badminton	National	14 years
British Athlete 10 (BA10)	Bodybuilding	National	10 years
British Athlete 11 (BA11)	Badminton	National	12 years
British Athlete 12 (BA12)	Badminton	International	13 years
British Athlete 13 (BA13)	Bodybuilding	National	13 years
British Coach 1 (BC1)	Trampoline	International	25 years
British Coach 2 (BC2)	Triathlon	International	10 years
British Coach 3 (BC3)	Gymnastics	International	5 years
British Coach 4 (BC4)	Weightlifting	National	7 years

British Coach 5 (BC5)	Badminton	National	12 years
Chinese Official 1 (CO1)	Legal Department, CHINADA	N/A	5 years
Chinese Official 2 (CO2)	Doping Control, CHINADA	N/A	2 years
Chinese Official 3 (CO3)	Doping Control, CHINADA	N/A	5 years
Chinese Official 4 (CO4)	Doping Control, CHINADA	N/A	5 years
Chinese Coach 1 (CC1)	Weightlifting	Provincial	20 years as athlete, 5 years as coach
Chinese Coach 2 (CC2)	Weightlifting	Provincial	20 years
Chinese Coach 3 (CC3)	Weightlifting	National	11 years
Chinese Coach 4 (CC4)	Weightlifting	Provincial	5 years
Chinese Coach 5 (CC5)	Wrestling	Provincial	7 years
Chinese Coach 6 (CC6)	Cycling	Provincial	10 years
Chinese Athlete 1 (CA1)	Weightlifting	National	13 years
Chinese Athlete 2 (CA2)	Weightlifting	Provincial	15 years
Chinese Athlete 3 (CA3)	Weightlifting	National	12 years
Chinese Athlete 4 (CA4)	Weightlifting	National	12 years
Chinese Athlete 5 (CA5)	Weightlifting	Provincial	13 years
Chinese Athlete 6 (CA6)	Weightlifting	International	11 years
Chinese Athlete 7 (CA7)	Weightlifting	International	13 years
Chinese Athlete 8 (CA8)	Weightlifting	Provincial	12 years

Chinese Athlete 9 (CA9)	Badminton	National	13 years
Chinese Athlete 10 (CA10)	Badminton	International	13 years
Chinese Athlete 11 (CA11)	Badminton	Provincial	14 years
Chinese Athlete 12 (CA12)	Weightlifting	Provincial	11 years
Chinese Athlete 13 (CA13)	Weightlifting	International	11 years
Chinese Athlete 14 (CA14)	Wrestling	National	14 years
Chinese Athlete 15 (CA15)	Wrestling	National	14 years
Chinese Athlete 16 (CA16)	Cycling	National	16 years
Chinese Athlete 17 (CA17)	Cycling	Provincial	12 years
Chinese Athlete 18 (CA18)	Cycling	National	12 years
Chinese Athlete 19 (CA19)	Cycling	National	14 years

Procedures

In order to ensure the quality of the interview questions, a pilot study was conducted. Pilot study is a small-scale implementation of a larger study or part of a larger study, it is shorter in duration and usually involves fewer participants and can assist in determining the time needed for interactions with participants, quality of interactions, and potential issues regarding ethics and anonymity (Thabane et al., 2010). Two pilot interviews were conducted prior to other interviews with a Chinese bodybuilder and a British powerlifter.

In the process of pilot interviews, the researcher mainly observed and noted the duration of interviews (20-30 minutes) and the understandability of interview questions. It was found that the main issue was the accuracy of translating the interview questions from

English to Chinese, which was caused by the use of translation software. For example, the word testing was translated as a Chinese word that has similar meaning to examine, rather than its original meaning. Therefore, the researcher manually re-translated all the interview questions into Chinese and asked a CHINADA official to read and check the accuracy of translated materials. By doing so, the researcher ensured that the translated interview questions were not only consistent with the original text in English but also allowed the Chinese participants to accurately understand the different terms in the interview questions.

After the pilot interviews, the researcher conducted 47 interviews in nine months, including 29 interviews with Chinese participants and 18 interviews with British participants. The semi-structured interview guide was shared with participants in advance, and they were assured that they would not be compelled to answer any questions they did not wish to. Each interview was recorded with the permission of the participants. The length of interviews was between 20 and 40 minutes. The recording tool was the recording function of Microsoft Teams and the files of recording are stored on the researcher's personal laptop, it is only kept at a secure place to avoid the possibility of being stolen or lost. All recordings were transferred and stored on Microsoft OneDrive with passcode to avoid the possibility of equipment failure. The anonymity of all participants was assured through compliance with relevant regulations of the General University Ethics Panel of the researcher's organisation. No personal identifying characteristics, such as participants' name, were shared in any resultant research outputs.

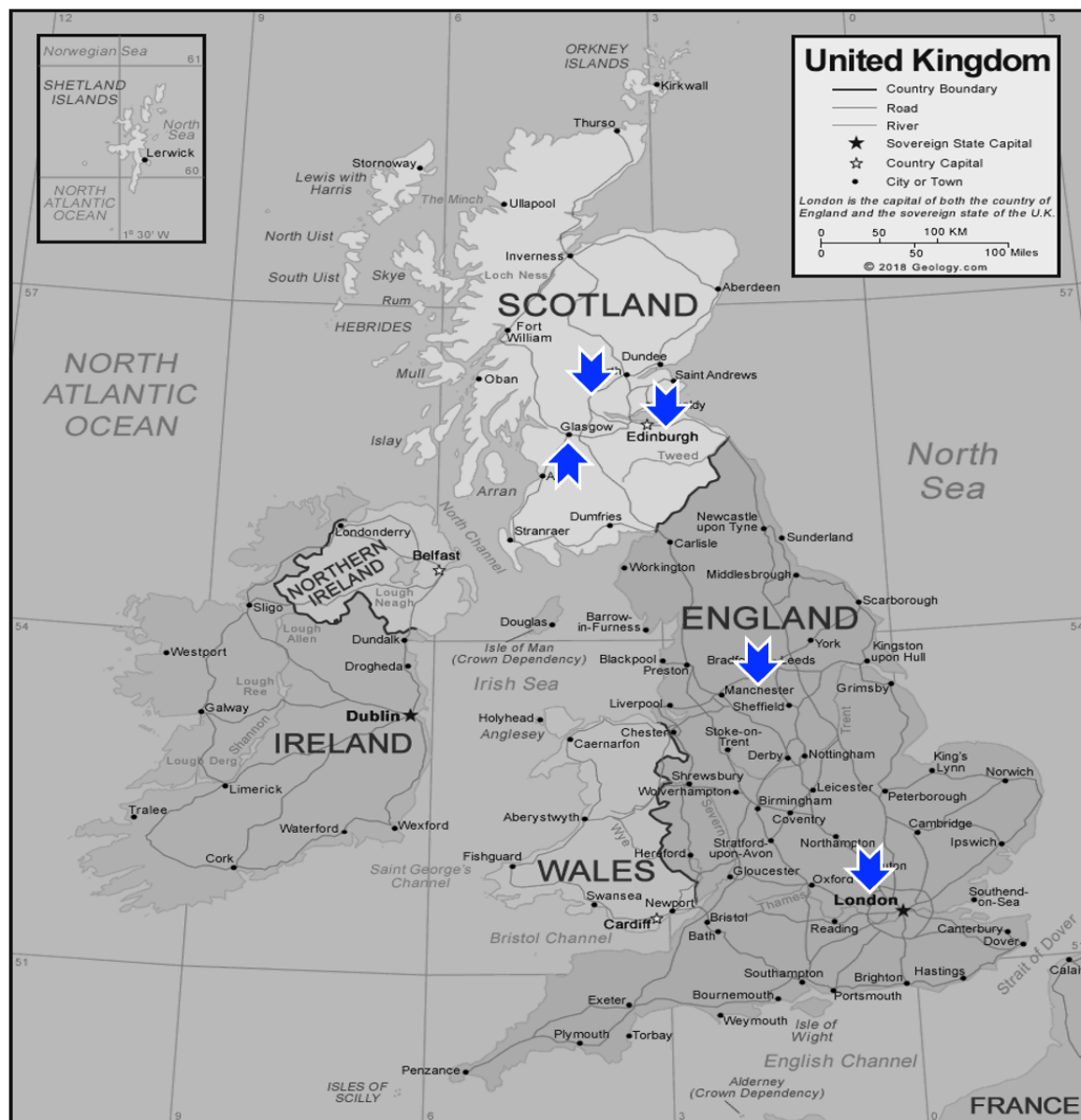
The following figures illustrate the interview maps. The purpose of the maps is to show that the researcher recruited participants who were not limited to specific regions but were drawn from a range of geographical and resource contexts. As the maps illustrate, Chinese participants were recruited from across northern, southern, western and eastern China, encompassing both more developed regions (e.g. Shanghai and Guangdong and

relatively less developed regions (e.g. Sichuan and Chongqing). British participants were recruited from multiple locations across the UK, including cities in both Scotland and England, to avoid being concentrated in a single geographical area.

Figure 5

Interview map in China



Figure 6*Interview map in the UK***Data Analysis**

Data analysis is described as the most complex phase of a qualitative research (Miles et al., 2019), and many qualitative research papers lack explicit description of the methods informing data analysis, or when included, the terms for describing data analytic methods are often used imprecisely or are mislabeled entirely (Sandelowski & Barroso, 2003;

Sandelowski, 2009). This imprecision may lead to a lack of transparency, making it difficult for readers to understand how data analysis was performed and how findings are interpreted (Nowell et al., 2017). Thus, it is important to consider the application of data analysis tool as it can aid mitigating these potential limitations.

RTA guided the interpretations of interview data in this thesis. RTA is a unique form of thematic analysis that adopts an interpretive approach to identify patterns of shared meaning across participants' accounts, while acknowledging the subjectivity and reflexivity of the researcher in data interpretation (Braun & Clarke, 2020). This means that when employing RTA, the researcher plays an active role in interpreting participants' accounts and constructing patterns to explain meanings and contexts in relation to qualitative data (Braun & Clarke, 2019). RTA moves beyond positivistic approaches that emphasise objectivity, inter-code reliability, and pre-defined codebooks (Braun & Clarke, 2019). The inductive coding approach ensures that the themes are reliable when interpreting the data, which can then be used to explain the theoretical implications of the data (Braun & Clarke, 2019).

Developing Themes Using RTA

It is important to understand how the codes were developed into themes from the 47 interview transcripts by using RTA, because the adopted philosophical stance of this thesis requires the information from qualitative data to construct interpretations. Although the analysis was primarily inductive, it involved an iterative engagement between existing theory and the empirical data. This means that the theoretical frameworks informed the interpretation of findings, while themes were constructed through in-depth engagement with participants' accounts. By engaging closely with the data, key patterns were identified regarding how testing and retesting are implemented and how participants perceive the legitimacy of anti-doping. These patterns were subsequently interpreted through the

conceptual lenses of policy implementation and perceived legitimacy to examine how stakeholders' accounts reflected the implementation of testing and retesting across two vastly different countries and how the legitimacy of anti-doping was perceived.

Initial coding was conducted following Braun and Clarke's (2019) RTA, which focused on identifying meaningful units of data that reflected the lived experiences and perceptions of participants. The researcher took notes when reading the transcripts and enhanced the notes by reading them repeatedly. For translating and transcribing the responses of Chinese participants, the researcher used the strategy of returning to the recordings to confirm that the responses were what they intended to express by listening to their tone when presenting a perception. Concise labels were assigned to phrases or sentences that captured specific ideas (e.g. "perceptions of the effectiveness of testing", "relationship between testing and education", "China's centralised governance", "management style for athletes"). Coding was conducted through NVivo to facilitate comparisons between the two countries. Approximately 150 initial codes were generated.

After generating the initial codes, similar codes were categorised into potential sub-themes. For example, codes such as "relationship between testing and education", "the role of information in testing", and "frequency of testing" were categorised under the sub-theme "how testing is implemented in both countries". This sub-theme was then developed into the overarching theme "two vastly different countries using similar implementation strategies". Similarly, codes such as "evaluation of the effectiveness of testing", "descriptions of the limitations of testing and retesting", and "confidence in anti-doping" were categorised under the sub-theme "perceived legitimacy of anti-doping among participants". It was then developed into the overarching theme "variations in perceived legitimacy among stakeholders". At this stage, the researcher focused on identifying similarities and overlaps in

the findings instead of breaking the themes down into detailed themes and settling the name of themes.

The researcher reviewed these initial themes and sub-themes to ensure that they provide sufficient meaning and that they are interpretive instead of descriptive. For example, sub-themes in relation to the implementation of testing and retesting in both countries were re-named as “perceived similarities in implementation strategies”, and it was supported by lower-order themes such as “high awareness and frequency of testing” to provide sufficient interpretive meaning. The overarching theme was re-named as “implementation: perceived similarities in implementation across divergent contexts” In doing so, it highlights the relevance of the overarching theme and sub-themes to one of the key topics of this thesis (i.e. implementation of testing and retesting in China and the UK). More importantly, the re-naming also provides sufficient interpretive meaning that shows interesting patterns from a comparative perspective.

With regard to the overarching theme and sub-themes in relation to perceived legitimacy, the researcher used the same strategy to ensure sufficient meaning and avoid being descriptive. For instance, the sub-themes were re-named as “legitimacy consensus: broad support” and “contested legitimacy: distrust and concerns”. The overarching theme was re-named as “perceived legitimacy: variations among stakeholders”. In doing so, it highlights the relevance of the overarching theme and sub-themes to another key topics of this thesis (i.e. Chinese and British stakeholders’ perceived legitimacy of testing and retesting). Moreover, the re-naming ensured that all overarching themes and sub-themes provide coherent interpretive meanings because they were organised into a consistent format that highlights both key analytical perspectives (e.g. implementation and perceived legitimacy) and recurrent patterns (e.g. high awareness and frequency of testing versus low awareness and frequency of retesting).

With the refined themes developed, the researcher settled the names of themes. The names were articulated by the researcher based on what each theme represents and how it contributes to understanding the findings that are related to the research questions. Following Braun and Clarke (2019, 2020), the themes were reported as interpretive patterns constructed through engagement with data, research questions, and theoretical frameworks, rather than as descriptive presentations of participants' responses (as demonstrated in the next chapter). To this stage, the researcher actively constructed the themes through interpretation and analysis rather than simply describing the patterns, which is consistent with the philosophical foundations adopted by this thesis.

Reflexivity and Trustworthiness

This thesis is guided by considering the strengths and limitations of qualitative research. The aim of this thesis requires in-depth interaction with actors involved in the implementation of testing and retesting in China and the UK in order to understand policy implementation and perceived legitimacy in local contexts through actors' own narrative. As the data is based on the participants' own categories of meaning, it can reflect how individuals perceive, or implement testing and retesting in different national circumstances, and allow the researcher to conduct comparison and analysis. However, it is also important to consider the limitations of qualitative research, as such consideration helps strengthen trustworthiness (Tracy, 2010).

To enhance trustworthiness and reduce researcher's bias, reflexivity was incorporated. Reflexivity is where the researcher critically reflect on their own influence during data collection and analysis (Creswell & Poth, 2012; Finlay, 2002). In this thesis, reflexivity was practiced throughout data collection and analysis. For example, prior to data collection, the

researcher reflected on their academic training and familiarity with anti-doping policies and considered how these may shape the interactions with stakeholders.

While qualitative research does not seek statistical generalisability, the researcher sought to enhance the transferability of its analytical insights by involving a diverse sample across different genders, roles, sports discipline, and time of working or playing sport. For instance, athletes that were recruited for this thesis include males and females that compete in sports disciplines such as weightlifting, badminton, wrestling, and bodybuilding. Additionally, due to the sensitivity of the topic and the strictness of Chinese government, creating a friendly and relaxed atmosphere for and explaining the level of confidentiality to Chinese participants was considered and carefully planned as this helped gain their trust and enhance the reliability and validity of their responses. For instance, the researcher informed Chinese athletes that this thesis had been approved by CHINADA officials to make athletes aware that the researcher approached them via a formal channel and ensured Chinese athletes regarding their anonymity during data collection.

With regard to the data collection process, the researcher used several strategies to ensure reflexivity and enhance trustworthiness. These strategies involved keeping reflexive notes to question the researcher's analytical decisions during coding to avoid making interpretations driven by the researcher's assumptions (Braun & Clarke, 2020, 2022). For example, the researcher initially noted the impression that Chinese athletes were reluctant to make criticism, yet by re-reading their responses this impression was reconsidered. The re-reading revealed that Chinese athletes did make criticism but tended to do so in a more subtle manner compared with British athletes.

During theme development, the researcher not only repeatedly revisited codes to consider alternative interpretations (Braun & Clarke, 2020, 2022) but also received valuable feedback from critical friends (Coghlan & Brydon-Miller, 2014). A critical friend is a trusted

person who asks proactive questions, views data through another lens, and offers critique of a person's work as a critical friend (Coghlan & Brydon-Miller, 2014). The critical friends for this thesis were the principal and secondary supervisors of the researcher. They provided constructive criticism for the constructed patterns, which helped the refinement of themes. When naming responses that describe the implementation of testing, the researcher labelled the theme as Implementation of Testing. However, this label was later suggested to be overly descriptive, vague and not reflecting the characteristics of both countries. Through further reflexive engagement with data, the theme was refined to better represent the characteristics of implementation in both countries. By doing so, the development of themes was informed by both self-reflection and constructive criticisms to deepen reflection and improve the quality of themes.

With regard to participants' responses in relation to compliance and implementation, it is necessary to assess the credibility of their accounts because they might choose to provide positive answers due to institutional pressure and social desirability. Institutional pressure is the expectations imposed by governing bodies, employers, or regulatory systems that encourage alignment with official norms and policies (DiMaggio & Powell, 1983; Munir & Baird, 2016). Social desirability is individuals' tendency to provide answers that align themselves with socially approved norms (Holden & Passey, 2010). This means that when asked about compliance and implementation, stakeholders might describe their organisations as compliant, effective and consistent with global anti-doping standards.

How institutional pressure and social desirability can undermine the trustworthiness of data was considered and triangulation was used as a strategy to enhance trustworthiness. Triangulation in qualitative research is conducted through using multiple data sources, theories, or methods to enhance the credibility, trustworthiness and depth of findings (Natow, 2019). For example, instead of solely relying upon participants' accounts of compliance and

implementation, policy documents (e.g. the WADC), archival sources (e.g. strategic plans and annual reports from CHINADA and UKAD), and statistics (e.g. WADA's anti-doping testing figures) were adopted to assess whether participants' accounts were reliable. Collectively, these strategies enhanced trustworthiness and transparency of this thesis.

To summarise this chapter, it outlined the constructionist ontology, interpretivist epistemology, and qualitative methodology underpinning the research design, together with a primarily inductive and iterative analytical approach. It discussed the researcher's positionality and the strategies used to ensure trustworthiness and credibility. Detailed consideration was given to data collection, sampling strategies and data analysis tool. The next chapter presents the findings of this thesis.

Chapter 4 Findings

This chapter begins by using a thematic map to present the themes identified in this thesis. The thematic map primarily presents overarching themes and sub-themes. However, where necessary, some sub-themes were further broken down into lower-order themes to provide greater detail and improve readability. This chapter then illustrates the anti-doping governance structures in China and the UK. Subsequently, it divides the findings into two main sections. One of which concerns policy implementation in China and the UK, and the other concerns Chinese and British participants' perceptions of legitimacy. This chapter provides detailed report and interpretation of the findings in these two sections, combining a large number of participant quotes.

The Thematic Map

The construction of themes was informed by the research questions and theoretical frameworks of this thesis. To help understand how the constructed themes address the research questions, a thematic map is provided (see Figure 7). As Figure 7 illustrates, the three overarching themes are:

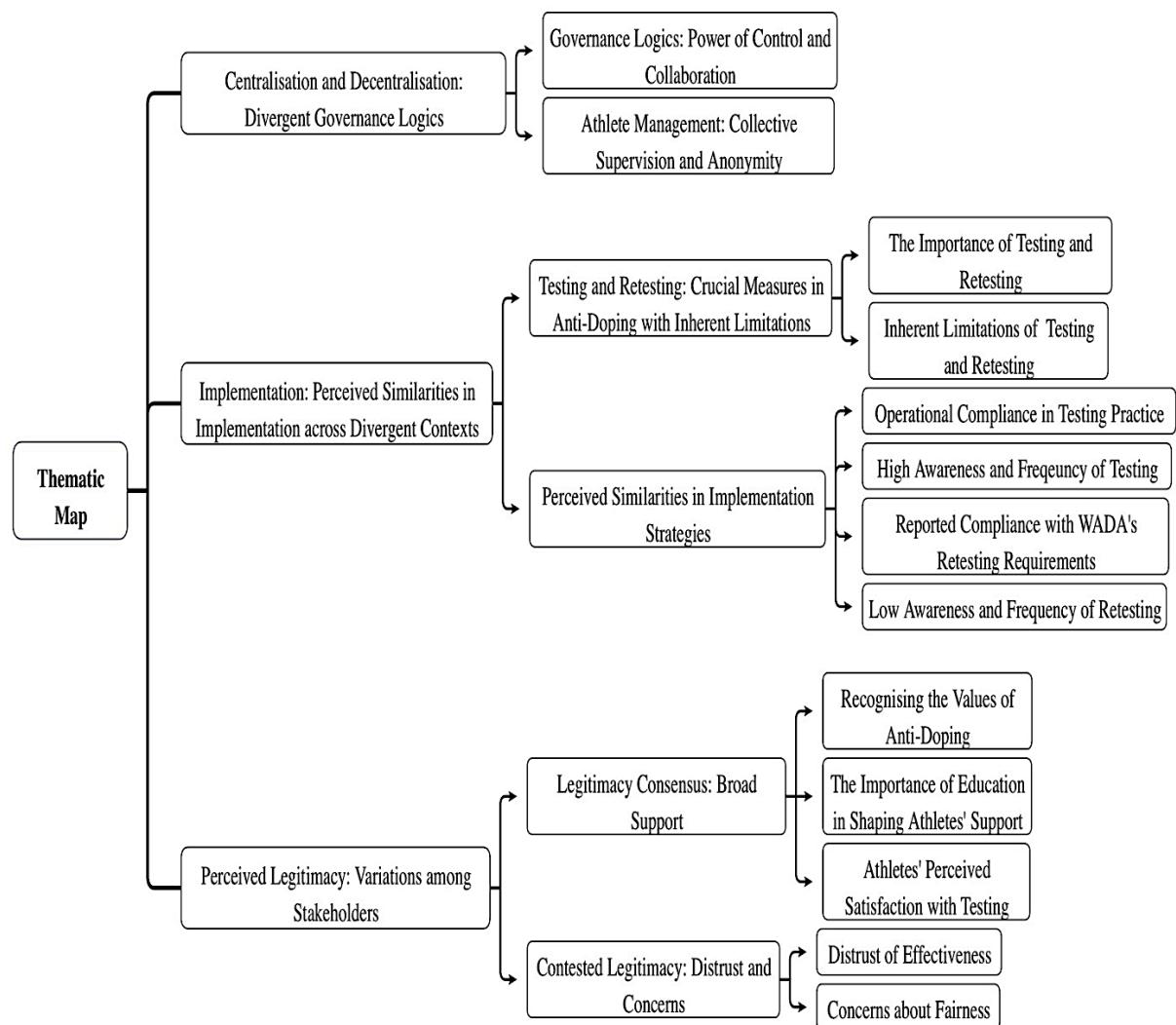
- Centralisation and decentralisation: Divergent governance logics.
- Implementation: Perceived similarities in implementation across divergent contexts.
- Perceived legitimacy: Variations among stakeholders.

The first overarching theme provides contextual insight into the divergent governance logics of CHINADA and UKAD. The second overarching theme addresses how testing and retesting are implemented in China and the UK, drawing on perceptions of Chinese officials, coaches, and athletes, and of British coaches and athletes. The third overarching theme

directly addresses how Chinese and British stakeholders perceive testing and retesting. Collectively, these three overarching themes also respond to the comparative research question by synthesising the similarities and differences between China and the UK in terms of implementation and perceived legitimacy. Each overarching theme was constructed from sub-themes, and two sub-themes were constructed from lower-order themes.

Figure 7

The thematic map



Centralisation and Decentralisation: Divergent Governance Logics

It is unsurprising that CHINADA and UKAD adopt divergent governance logics owing to significant differences in political systems, institutions and cultures between China and the UK. However, an important question that needs to be addressed is exactly how their governance differs because this helps examine whether differences in governance logics influence the strategies that CHINADA and UKAD adopt to implement testing and retesting. An interesting pattern that the findings demonstrate is that despite the significant differences in political systems and institutions, CHINADA and UKAD adopt similar governance structures with slight differences in composition and authority.

Governance Logics: Power of Control and Collaboration

Domestically, CHINADA and UKAD are affiliated with higher-level government departments in their respective countries at the first level of the governance structure and have at least one WADA-accredited laboratory. Of great importance here is what CO2 emphasised that “the one (laboratory) currently operating is in Beijing, and another is being constructed in Shanghai”. If the laboratory in Shanghai is accredited by WADA, China will become the first country to manage two accredited anti-doping laboratories.

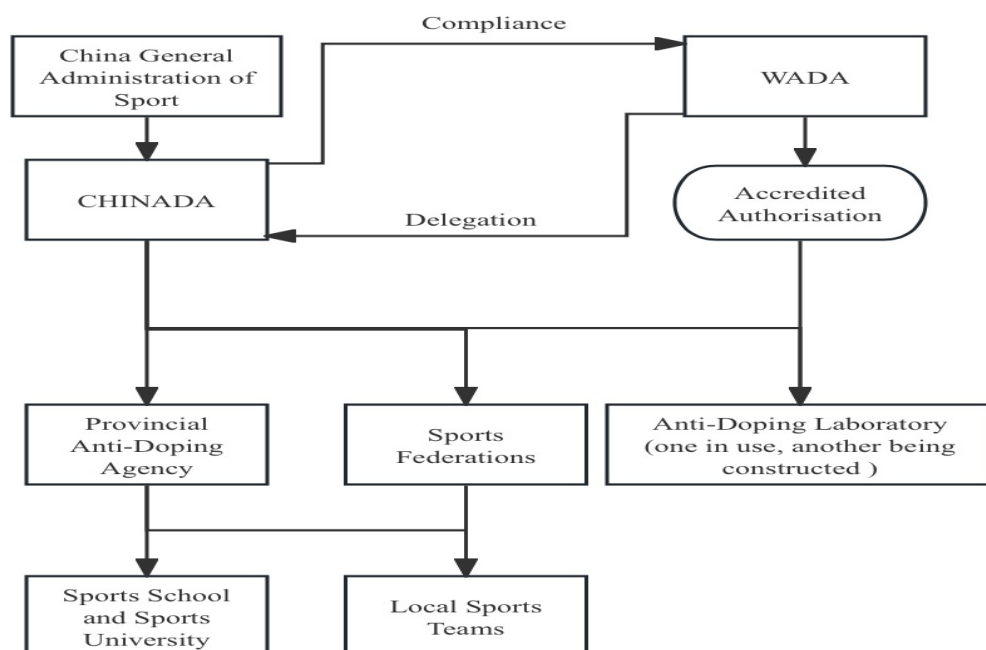
Unlike China, at the second level of the structure UKAD works closely with the Sports Councils, National Olympic and Paralympic Committees, and Commonwealth Games Associations, while China only has CHINADA at this level. However, CHINADA established Provincial Anti-Doping Agencies and Sports Federations to refine the management of local regions and different sport disciplines. The functions of Chinese Sports Federations and British National Governing Bodies (NGBs) are similar yet different in their authorities. Despite they are responsible for overseeing and managing specific sports, NGBs have the authority to establish and enforce rules, while in China the authority to establish

rules belongs to the China General Administration of Sport (CGAS). China and the UK are similar at the bottom level of the governance structure, where the subjects of governance are mainly athletes and ASP. The difference is that CHINADA includes sports schools and sports universities at the bottom level.

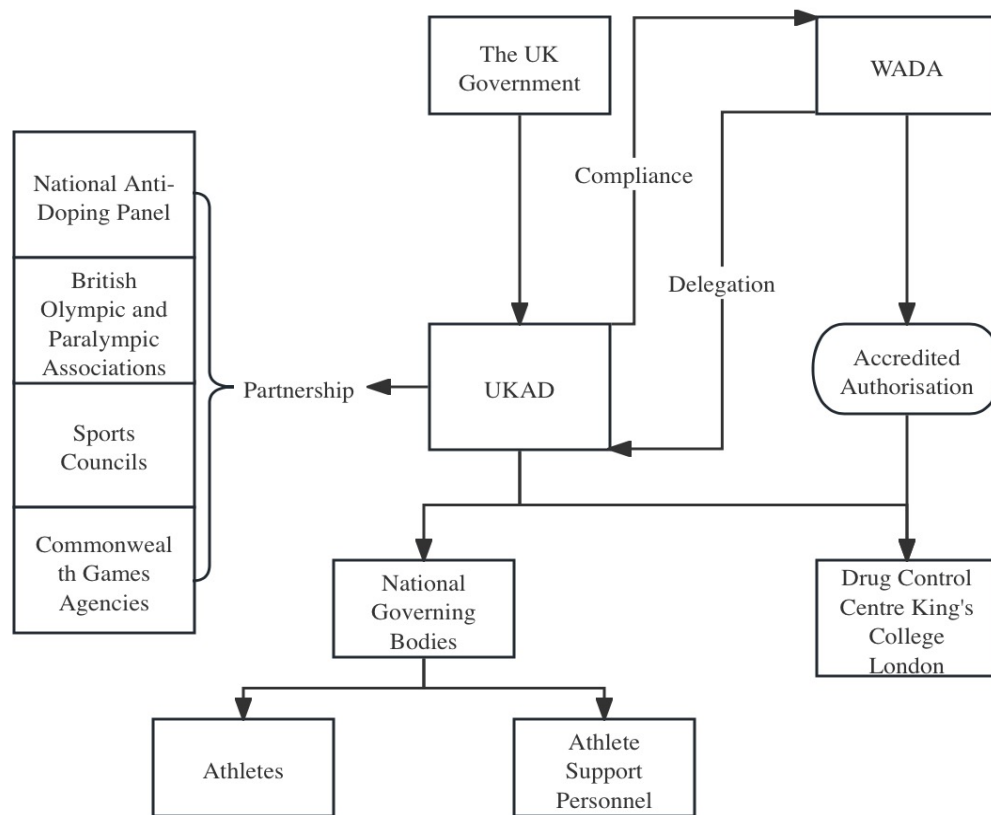
Visual illustrations support qualitative analysis by enabling complex qualitative insights to be communicated more effectively than text alone (Bauer & Sippel, 2024). The researcher developed figures from participants' descriptions as interpretive syntheses that illustrate how governance structures of CHINADA and UKAD were understood and described by participants (see Figure 8 and 9). Archival sources from CHINADA and UKAD were consulted to situate these interpretations within the latest official governance structures.

Figure 8

Anti-doping administration system in China



Note. Developed by synthesising Chinese participants' descriptions.

Figure 9*Anti-doping administration system in the UK*

Note. Developed by synthesising British participants' descriptions.

As the figures illustrate, it is evident that CHINADA has a more linear top-down system compared with UKAD because UKAD shares partnership with other governing bodies at the same level. The interpretation of interview data suggests that the governance logics of CHINADA and UKAD are divergent because CHINADA adopts a centralised approach while UKAD adopts a decentralised approach. For example, CHINADA emphasises the power of control and monitoring as the central governing body of China's anti-doping, and UKAD emphasises the collaboration with different sectors within its governance structure. Such characteristics are linked to the specific national contexts that CHINADA and UKAD are situated in.

Because China's land size and athlete population are much larger than those of the UK, CHINADA requires more regional departments and human resources than UKAD. This is reflected in CHINADA's organisational system. For example, a Chinese official said that "the national federations of each sport establish their own anti-doping department to supervise and educate high-level athletes, and provincial sports authorities establish their own anti-doping departments to supervise and educate provincial athletes" (CO2). This was echoed by another Chinese official, who noted:

From the perspective of national context, China has a large number of athletes and a vast territory. From the perspective of China's sports system, each province has its own professional teams, each sport has a system of development (i.e. from junior athletes to senior athletes), and on top of this, there is also the national team. If we do not vertically transfer some power, our management will be greatly challenged, which in turn will affect the quality and frequency of implementation (CO1).

As CHINADA has a similar governance structure to that of WADA (i.e. involving multiple governance levels, emphasising central authority, and delegating power), there are risks of implementation challenges in China. One of the Chinese officials said that "there is a certain degree of imbalance in China's anti-doping resources, particularly between coastal areas and inland regions" (CO4). Another Chinese official added that "the imbalance means that coastal areas have more investment, frequency and human resources in anti-doping than inland regions because they are more developed" (CO3). However, Chinese officials were confident in addressing such imbalance through their centralised management system. As one of them stated that "we have the ability to travel to any corner in China, we have over 1,300 DCOs who can hardly rest, and our supervision of athletes is consistent, I do not think the imbalance is a problem" (CO4).

Unlike CHINADA which oversees anti-doping work across China's vast landscape, UKAD shows more collaboration than CHINADA. As one of the coaches said that "from my experience, UKAD is a part of a bigger team. You can tell there is a lot going on between them to make sure anti-doping fit into different sports" (BC3). He added "from what I know there is around 170 DCOs in the UK, I assume this number would be bigger in other countries, so collaboration is important because we have limited human resources". Another British coach echoed this by saying "it (anti-doping in the UK) feels like a joined-up approach, every organisation has their part to play but for the same purpose" (BC5). When asked about UKAD's strengths of operating in a small country, he said that "I think UKAD can reach people quickly because of this and it feels more coordinated than bigger countries".

Although Chinese officials and British coaches were confident in their systems, questions need to be raised regarding issues such as whether CHINADA's organisational capacity can address resource imbalance between regions, or whether UKAD's collaboration-led system would conceal potential implementation inconsistencies due to its limited human resources. For example, despite Chinese officials believe their supervision of athletes is consistent, consistent supervision is not equivalent to that athletes from less-developed regions can receive the same frequency of testing or education as athletes from developed regions. For UKAD, although British participants described that collaboration could enhance implementation, limited human resources can cause gaps in testing frequency between sports. These questions are discussed in the next chapter by combining findings regarding the implementation of testing and retesting.

Athlete Management Culture: Collective Supervision and Anonymity

When describing anti-doping governance in their respective countries, athletes and coaches also commented on how athletes are managed within each system. The interpretation

of their responses suggests that a key difference lies in the degree of anonymity. CHINADA was described as operating a more centralised approach to athlete management, whereas British athletes have relatively higher anonymity. For example, a Chinese coach noted that “Chinese athletes have a tradition of collective training before major events, it is easier for us to monitor high-level athletes” (CC5). Chinese athletes gave more details of the tradition. For example, a Chinese weightlifter stated that “we only have a short holiday every year and spend most of the time training” (CA6). Another athlete described that “before major events we take part in collective training at a dedicated training base, we have meals with the teammates and share accommodations, this is to prevent us from eating randomly outside and ingest something we should not” (CA11).

In contrast, British athletes are under a relatively decentralised management culture where they have more decision-making power than Chinese athletes. For example, a British coach said, “athletes usually have a relatively high degree of independence and autonomy and can largely arrange their time freely” (BC2). A British athlete expressed a similar view, noting that “our trainings are planned based on the coach’s time, of course, but apart from that we can make plans for life. I think it is important to balance training, competition and life” (BA8).

A finding that needs to be highlighted is the tradition of collective training in Chinese sports governance because it poses a potential risk on the credibility of anti-doping work in China. Despite Chinese participants described that collective training could enhance athlete management and reduce the risks of food safety issues, there are a few questions that require critical discussion. For instance, whether collective training would conceal systematic doping, or whether athletes would receive the same degree of management and protection when they are not in collective training. These questions are discussed in the next chapter.

It is clear that although CHINADA and UKAD adopt similar governance structures under the same global anti-doping framework, patterns developed through comparative analysis suggest that there are obvious differences in the composition of governance logics and management cultures. Based on these differences, a possible assumption is that CHINADA and UKAD would adopt different implementation strategies despite both needing to comply with WADA's standards. Yet the findings indicate that the two countries adopt similar implementation strategies despite the differences between them. Hence, the next section reports in which aspects the implementation strategies adopted by CHINADA and UKAD are similar.

Implementation: Perceived Similarities in Implementation across Divergent Contexts

In contrast to the common scepticism about the credibility of Chinese anti-doping, the findings suggested that China is operating a strong and compliant anti-doping system. This is a compelling finding because it demonstrates harmonisation with UKAD in terms of the strategies for implementing testing and retesting. Participants from China (officials, coaches, and athletes) and the UK (coaches and athletes) described the implementation of testing and retesting from the perspectives of the role, compliance and practice based on their experiences and perceptions. Comparative analysis suggests that whilst CHINADA and UKAD regard testing and retesting as the most important anti-doping measures, and on the face of it, comply to WADA's standards, the inherent limitations of both measures (e.g. a lack of effectiveness) have undermined participants' confidence in anti-doping. Moreover, despite testing and retesting playing an important role in enhancing deterrence, there remains a significant gap in the frequency of implementation between the two measures.

Testing and Retesting: Crucial Measures in Anti-Doping with Inherent Limitations

The Importance of Testing and Retesting. The interviews indicated that Chinese officials and coaches from both countries articulated a similar understanding, suggesting that testing and retesting are of great significance in anti-doping. The reason for asking participants the role of both measures is that even if NADOs and RADOs are expected to prioritise testing and retesting, officials and coaches may not interpret their significance in the same way as WADA, making it important to examine their perspectives. Their responses indicated that their understanding of the importance of testing and retesting in China and the UK is consistent with WADA.

As one Chinese official said, “testing is certainly the most important in anti-doping because it is designed to be the most effective tool and it has the greatest deterrent effect” (CO1). Another Chinese official agreed with this by stating that “testing is the backbone of anti-doping efforts, WADA’s system is still significantly based on testing because it is a very mature tool after all” (CO3). Similarly, British participant highlighted the role of testing in the UK. One British coach noted, “I think testing is certainly the most important, it is the most direct way to get athletes who doped and it does prevent athletes from doping to some extent” (BC2). He added that “because the consequences are quite serious, it does make some athletes think twice”. Another British coach said, “in practice testing is used more than other strategies and I do not think there will be a more effective tool acting as deterrence to replace testing in the short term” (BC4).

Although existing evidence in the field of anti-doping provides little understanding of how retesting is interpreted by NADOs, interpretations were constructed to build a better understanding of retesting in China and the UK. Participants’ perceptions suggested that CHINADA and UKAD consider retesting as a complementary tool for testing and an extension of deterrence. For example, CO2 said:

It is a supplement to testing, in a way it acknowledged the inadequacy of testing and it refines that inadequacy, which I think is positive. People do not want to see an innocent person get framed and the bad individuals get unpunished, for those athletes who are not caught by testing, we cannot let them enjoy everything that is not theirs all the time as heroes. So retesting is like the law's pursuit of justice, even if it is cruel.

This is echoed by another Chinese official, saying that “(retesting) is mainly to compensate for the shortcomings of testing and to avoid athletes getting away because of substances or methods that cannot be detected by current testing technology” (CO1).

Similar recognition of the role of retesting was presented by British coaches. It is described as that “(retesting) allows time for anti-doping to develop so they can detect what they could not. It is a good deterrence because those who doped would be worried for 10 years, they would know they are not safe” (BC3). This description was echoed by another British participant, saying that “even of some athletes got away with testing, they might still be caught when WADA improves technologies, so eventually they will not get away” (BC2). In addition, retesting was considered as an extension of deterrence. For example, a British participant stated that “when athletes know that the samples will be stored for ten years and can be re-analysed at any time, those who want to cheat will be afraid. I would be terrified because I would be afraid of getting caught” (BC4). Similarly, BC1 noted that “it is good to have retesting because it gives fear to some of the athletes who got away with testing, they would be worried that they will get caught eventually”.

These findings are unsurprising considering CHINADA and UKAD are required to adopt WADA's rules and standards in which testing and retesting are two of the most important means to enhance deterrence. Nevertheless, it is important to highlight this unsurprising pattern, as the findings suggest that whilst participants widely recognised the

importance of testing and retesting in general, such recognition was challenged when both measures were unpicked in greater details during interviews. This means that when participants' discussions moved beyond the symbolic meaning of testing and retesting (i.e. the deterrence pillar of anti-doping), participants' experiences suggested that testing and retesting are insufficient to address the increasingly complex doping issues.

Inherent Limitations of Testing and Retesting. Although testing has undergone decades of development since it was introduced by the IOC, Chinese and British participants still considered its main limitation is that it is behind new substances and doping methods. As doping substances and methods are constantly evolving. The main limitation of testing is that it is behind new substances and doping methods. For example, a Chinese coach explained the reason for testing being behind new substances is that “only when we know about a particular substance can we design a testing method for it, as the technology to produce new substances has always been ahead of anti-doping” (CC1). This is echoed by a Chinese official, saying that “there are indeed limitations because technological progress takes time. This gives testing a delayed nature because it can sometimes be defeated by new substances or methods” (CO4).

Similarly, British coaches and athletes shared similar views on the limitation of testing. For example, a British coach said that:

I think there is not much they can do about this (limitation) even though testing has been developed a lot comparing to how it was before. There is always new drugs so doping can always get ahead of anti-doping, but like I said, I do not think there is a better way to sort it yet (BC4).

British athlete stated that “I was surprised and confused at the same time, as in why they could not detect some substances in time” (BA8). Another British athlete noted that “it does

make you feel surprised because using advanced substances or methods means athletes can potentially get away with testing even though it is so important to anti-doping.” (BA6). In addition, a British athlete also said that “testing is clearly not efficient enough, it should be improved so there is no need for retesting” (BA2).

With regard to the limitations of retesting, Chinese and British participants described retesting as financially prohibitive, timely inefficient, and not fundamentally different from testing. For example, one of the Chinese officials considered the cost of retesting as “too high, particularly storage costs and re-analysis costs. Our budget is mainly for testing because testing is used frequently, and after distributing budget to the testing plan there is not much left for retesting” (CO1). Other Chinese officials shared the similarly view, one of them said that “storing samples requires high standard facility and environment, laboratory staff needs expertise to ensure that samples are maintained well, and re-analysis of samples also requires money. These are the main reasons for the high cost of retesting” (CO3).

In addition to the high cost of retesting, CO2 described retesting as “good intentions but poorly designed”. He explained the reason from a legal perspective:

Retesting has the issue of violating the principle of non-retroactivity of law. Some substances in the Prohibited List were not included but later added to the List, using the current list to analyse athletes’ sample that previously taken and stored is unfair to athletes. Retesting cannot hold athletes accountable for substances that were not included in the Prohibited List when the sample was taken (CO2).

Another official echoed this by adding insights from a practical perspective, saying that “if you look at the WADC you will notice that there are only a handful of points, not even sections, to introduce and explain what retesting does. The International Standards do not add much more detail to it either” (CO4). He explained that “as a result, they do not tell anti-

doping organisations which samples are recommended for long-term storage and when these samples should be re-analysed, and WADA has not issued any guidelines on these problems”.

The limitations of retesting perceived by British coaches and athletes were different from those pointed out by Chinese participants. One of the British athletes felt confused as to “why the time for sample storage was extended from eight years to ten years, because as technology progresses it should be more advanced, so I would expect it to be shorter than eight years” (BA12). Another British athlete did not consider the 10-year storage as reasonable because it is too long, he explained that “maybe it will not take so long, but you know there are always new drugs, I do not think anyone can guarantee that technology can make a breakthrough in a short time” (BA4). A British bodybuilder expressed a stronger perception that there is no need to conduct retesting. They stated that “if athletes get tested and they are good then that is it, the resources should not be wasted on additional tests. WADA cannot say they protected sport just by returning the medal to someone, it is their fault that they did not find out at the first place” (BA2).

British coaches and athletes also perceived retesting as sample-dependent and referred to the Russian doping scandal to illustrate how system-level corruption can challenge the effectiveness of retesting. For example, one of the British athletes stated that “if there is not enough samples for them to analyse, or like the Russian case that they replaced the samples, then testing and retesting are not going to work” (BA6). Another British athlete shared the similar view, noting that “since testing and retesting rely on samples, WADA should monitor this more closely, this is obvious in the Russian case” (BA8). These perceptions were echoed by other British athletes, one of them stated that:

We know testing and retesting can fail if someone decides to play tricks on the samples, so if a country gets involved in those tricks, like Russia did, how does

WADA deal with it? I think if this issue cannot be solved then something similar is going to happen again (BA10).

Perceived Similarities in Implementation Strategies

Operational Compliance in Testing Practice. Despite showing a lack of confidence in anti-doping owing to the limitations of testing and retesting, Chinese and British participants perceived that their respective organisations are compliant with the standards of testing and retesting prescribed by WADA. However, whilst Chinese and British participants' perceptions of the implementation of testing showed a high degree of compliance and harmonisation, little evidence was acquired to assess whether the implementation of retesting is compliant due to a significant gap between the frequency in implementation between the two measures.

From the perspective of organisational responsibilities, one of the Chinese officials stated that “the WADC clearly states that anti-doping organisations have the responsibility to comply with the policy documents related to testing, such as the WADC and International Standards of Testing and Investigation” (CO2). He also noted that “when athletes are tested within our jurisdiction, we have to ensure that the atmosphere and facilities are comfortable for athletes, and that the process of sample collection is smooth”. As for UKAD, one British coach said, “I know UKAD plans testing based on WADA’s standards, such as which athletes to test and how samples are handled. Information about testing is introduced in education to make sure we understand how it works” (BC5). He added that “some of the athletes I coach have been tested by UKAD and apparently they were fine with the experience”.

Chinese and British athletes added insights by sharing their experiences on testing. For example, a Chinese athlete said:

I think the country's (China) testing system makes me feel that anti-doping is serious and strict. I guess I do not need to mention before and after competitions because we will get tested for sure. It is the surprises, like sometimes we might be suddenly notified. I also have to report my whereabouts and be there at a certain time to be tested even when I am on leave (CA5)

A British athlete echoed this, saying that "it is (testing in the UK) how I expected testing would be like, in-competition, out-of-competition, and reporting whereabouts to be tested. But I do not know if it is the same for others" (BC7)"

Some athletes also pointed out the inconsistencies they observed. For example, a Chinese athlete stated that "I think some sports are tested more than badminton, but to me it is reasonable. I mean badminton is skill-driven, not strength or stamina, there is no point of using drugs" (CA11). Another Chinese athlete shared their experience on collective training, saying that "it (testing) is certainly robust when we are in collective training, it feels slightly less frequent when we are not but I still need to report my whereabouts and get tested" (CA7). Similarly, British athletes shared their experiences on consistency, one of them said that "honestly speaking it does feel more frequent when you are in competition, but not as frequent in other times" (BA8).

High Awareness and Frequency of Testing. To be compliant with the testing standards, CHINADA and UKAD are required to use similar strategies for implementing testing even though they adopt different governance logics. A recurrent pattern regarding the implementation of testing was the sense amongst participants that testing works in conjunction with anti-doping education and risk-based information. Participants' responses were interpreted as that in addition to conduct testing in accordance with WADA's standards, education helps athletes and coaches understand testing, and risk-based information helps

testing target high risk sports. This finding is meaningful because it shows that although testing is considered as a crucial anti-doping strategy by CHINADA and UKAD, they do not treat testing as an independent tool. Instead, testing is treated as part of an integrated strategy that combines deterrence, prevention, and information.

With regard to the role that education plays in implementing testing, participants accounts suggested that education helps athletes and coaches understand all aspects of testing, such as the purpose, standard procedures and potential consequences. The purpose of incorporating education with testing is both to implement the preventive role of education and to let athletes know what will happen during the testing process. For example, a thorough understanding of the testing process can make sample collection smoother and reduce the discomfort of athletes.

As one Chinese coach said, “our athletes have gained sufficient knowledge of testing and its significance. We are usually in the role of supporting them, so I do not think we need to specifically make athletes cooperate” (CC4). This is echoed by another Chinese coach who said:

Athletes have a clear understanding of cooperation and the importance of testing through the education programmes, we do not need to manage them because this sounds like they are forced. Our athletes are willing to cooperate with testing and they will not be afraid of being tested (CC2).

Similarly, one British coach said, “athletes’ knowledge of testing largely comes from UKAD’s education programmes and their experience of being tested. The better they understand the procedures, the less likely they would be to make a mistake” (BC1).

To prove this, all responses from athletes regarding their knowledge and understanding of testing were reviewed. All athletes’ responses, apart from one British bodybuilder who is not required to be tested, indicated that they have sufficient knowledge

and understanding of testing. Some of the athletes also have abundant practical experience and described their experience in an interesting way.

For example, a Chinese athlete said, “to be honest, I can even urinate into the container with my eyes closed because I have been tested for so many times” (CA1). This echoed with what one Chinese official said that “many high-level Chinese athletes are tested a lot of times a year, and they may even be more familiar with the process than some DCOs who just started working” (CO2). Similarly, British athletes also demonstrated sufficient knowledge, understanding, and practical experience of testing. For example, one athlete said that “I have done workshops and been tested for quite a lot of times, I understand how testing works” (BA1).

With regard to risk-based information, participants’ accounts suggested that it helps testing target sports that have higher risks of doping, yet it can also pose potential risks on less tested sports. Chinese officials highlighted the importance of intelligence (e.g. risk-based plans, anonymous reports, and whistleblowing) in the implementation of testing. As one Chinese official stated that:

The Russian scandal actually reflected the importance of intelligence. Because of the whistleblower’s role in the scandal, WADA has since placed great emphasis on intelligence gathering and analysis. This is similar to the role of intelligence in war (CO2).

This is echoed by other Chinese officials, one of them noted that:

Our testing plan is intelligence-driven and graded according to drug risk in different sports to achieve the goals, such as endurance or strength-based sports. For different sports, we will develop different testing strategies, such as random testing and targeted testing, and the choice is closely related to the sports and the intelligence we obtain (CO4).

British coaches also highlighted the importance of intelligence-driven testing. For example, a British coach noted that “whistleblowing is certainly important, the Russian case has proven this. There are some channels for athletes to report anything they find suspicious to UKAD like sending a message to UKAD’s WhatsApp, and it is completely anonymous” (BC3). Other British coaches shared a similar view, one of them stated that “UKAD’s testing is risk-driven, as in targeting sports that are more likely to dope, like weightlifting. From what I learned, it also targets pre-competition and post-injury times as there is higher risk during these times” (BC4).

Whilst risk-based testing helps both CHINADA and UKAD target sports that have higher risks of doping, participants pointed out it may overlook doping risks in less tested sports. A Chinese official added insights from the perspective of management, saying that:

allocating resources strategically is reasonable, NADOs definitely want to target on all sports using all possible approaches but it is unrealistic. That is why developing a robust intelligence system is important because it can give us accurate information and encourage athletes to report the signs, particularly for less tested sports (CO1).

Another Chinese official noted that “I understand it gives the impression of inconsistency when some sports are targeted a lot while others are not, but since the resources are limited, there must be priorities” (CO3). Similarly, a British coach stated that “risk is based on past data, but the problem is some risks can be overlooked because certain sports are less tested. But I do not think any NADO would say they have enough resources to target all sports equally” (BC5).

The findings suggest that, despite CHINADA and UKAD operating in different contexts, the available evidence indicated broadly similar strategies for the implementation of testing. Drawing on the accounts of Chinese (officials, coaches, and athletes) and British participants (coaches and athletes), CHINADA and UKAD attach great importance to testing

in their anti-doping work and incorporate education and risk-based information with testing as significant support. Since participants considered retesting as important as testing in enhancing deterrence, the implementation of retesting should be expected to show a similar pattern. However, participants' accounts suggested a significant gap between the implementation of testing and retesting.

Reported Compliance with WADA's Retesting Requirements. Patterns identified from the data illuminate critical differences between testing and retesting. It was observed that only Chinese officials and some coaches from both countries have knowledge of the importance and compliance of retesting. This is significantly different from testing because all coaches have sufficient knowledge of testing. In contrast to athletes' abundant knowledge of testing, all athletes from both countries have almost no knowledge or practical experience of retesting. As for its practice, retesting is rarely implemented, which makes its frequency vastly different from that of testing.

With regard to compliance, the five interviewees who know about retesting believed that their respective organisations were compliant with the standards of retesting. For example, one of the Chinese officials said that "we have set out clear regulations for retesting, they are consistent with the expression in the WADC and International Standards" (CO1). Another Chinese official shared a comparable view by saying, "we do have regulations regarding sample storage and re-analysis, these are designed based on the Code and International Standards" (CO4). As for the UK, a British coach said, "from what I know, UKAD stores samples and these samples will be tested at a later time, it is mentioned in education as well, but not as much as testing" (BC5).

Interviewees' responses can only be considered as that CHINADA and UKAD have, on the face of it, complied with WADA's standards of retesting. The reason is that Chinese

officials and coaches from both countries may choose to describe compliance positively due to the importance of compliance and the potential sanctions for non-compliance. In addition, only a few interviewees have knowledge of retesting because it is rarely implemented, which restricted the observation of whether there are differences between participants' responses due to a limited number of responses regarding the compliance of retesting. The insights into how anti-doping has missed the opportunity to assess the effectiveness of retesting and enhance deterrence are discussed in the next chapter.

Low Awareness and Frequency of Retesting. A recurrent pattern in the interviews regarding the implementation of retesting was interviewees' limited knowledge. It was suggested that all athletes and most coaches from both countries have almost no knowledge or practical experience of retesting. This means that the majority of participants had never heard of retesting or knew only a little about it.

The majority of interviewees showed a lack of knowledge of it. In contrast to their sufficient understanding and interesting descriptions of testing, their responses to the question regarding retesting were brief. For example, "I do not know much about retesting" (CA6), "I have never heard of it" (BA9), and "I am not familiar with it" (BC5). A few interviewees mentioned that "I once signed a consent form about sample storage after being tested, but I do not know how it actually works" (CA8), "I know there is a consent form, but I do not know what happens next" (CA19), and "I only know it requires to store samples for further analysis" (BA7). Nevertheless, the Chinese officials offered detailed explanation of retesting in China.

As one of the Chinese officials explained:

The implementation of retesting is vested in anti-doping organisations. At the national level this is done by NADOs, which is CHINADA in China. At the provincial and

municipal level, they only have the right to assist CHINADA in collecting and transmitting samples, but do not have the right to decide whether to conduct retesting (CO1).

Another Chinese official added:

Long-term sample storage is mainly in the laboratory's cryogenic storage but will also be sent to other laboratories according to WADA's requirements. For example, samples from the Olympics are sent to a laboratory in Switzerland, where the IOC is responsible. If the initial test results are negative and no further requests are made within three to six months, the samples are disposed harmlessly, and for those with further requests, the samples will continue to be stored (CO2).

The Chinese DCOs also offered descriptions of regarding the time of conducting retesting and athletes' position in retesting.

With regard to the time of conducting retesting, it is described that:

Retesting of samples is usually conducted before major events, such as the IOC requires laboratories to do re-analysis before the Olympic Games. For samples from domestic events, we will ask the laboratory to re-analyse the samples after the technology has improved (CO3).

Another Chinese DCO described the position of athletes in retesting:

When athletes' sample is taken from their body, the ownership of the sample does not belong to the athlete but to the anti-doping organisation. This will be written on the paperwork that is presented to them at the time of sample collection. Retesting does not require the cooperation of athletes, they will be informed and need to cooperate and consent. As for athletes who failed their initial test, there is no need for retesting since they have tested positive (CO4).

The apparent knowledge gap between officials, coaches and athletes may stem from the fact that retesting is outlined in official documents but rarely carried out in practice.

Another recurrent pattern regarding the implementation of retesting was that Chinese officials and some coaches from both countries indicated that retesting is rarely implemented. For example, one of the British coaches noted that “I know retesting, but since it is not implemented much, I do not have enough knowledge of retesting like I have of testing” (BC1). The responses of Chinese officials were consistent with that of the coach, such as “retesting is not used that much” (CO3). Another Chinese official added:

In 2017, we saw retesting of samples from the 2008 Olympics, with three Chinese weightlifters tested positive. Retesting of samples from the 2012 Olympics also showed a number of positive results. This should be the most well-known application of retesting in recent years, but it is not used much other than that (CO2).

To this point, patterns regarding the governance, management and implementation of CHINADA and UKAD have been reported based on the accounts of Chinese (officials, coaches, and athletes) and British participants (coaches and athletes). The identified patterns include how CHINADA and UKAD designed their respective governance structures, what management cultures and operational capacities they demonstrated, and what similar strategies they used to implement testing and retesting. It has become evident that notwithstanding the differences in governance, management and capacity between China and the UK, both CHINADA and UKAD are perceived as having adopted similar strategies for implementing testing and retesting.

Perceived Legitimacy: Variations among Stakeholders

The perceived legitimacy of anti-doping is one of the significant concerns of this thesis. Through a comprehensive analysis, interpretations indicate variations in participants’

perceived legitimacy of anti-doping policies. Two broad sub-themes were identified from participants' responses, forming a misaligned pattern of perceived legitimacy. There is a broad consensus among participants on the value of anti-doping, importance of compliance and necessity of sanctions. Athletes with practical experience of testing also expressed satisfaction with their testing experiences. However, participants' perceptions shifted to concern, distrust and criticism when reflecting on anti-doping. For example, participants expressed concerns about the effectiveness and fairness of anti-doping.

Legitimacy Consensus: Broad Support

Recognising the Value of Anti-Doping. Of the interviewee population, all participants reached a consensus on supporting anti-doping, which was illuminated from the perspectives of officials, coaches and athletes. With regard to officials, one of the Chinese officials said:

In general, anti-doping is for protecting fair play and the integrity of sport, and I believe this is commonly shared by the Code signatories. China was criticised and questioned in the past, but the development of China's anti-doping in the past decade is obvious. In other words, if we (CHINADA) do not recognise the values of anti-doping, then the development of anti-doping in China would be impossible (CO3).

This perception is echoed by other Chinese officials, one of them said that "the purpose of anti-doping and the strategies designed to achieve this purpose are definitely widely accepted, otherwise WADA could not have been operating until now" (CO2).

With regard to coaches, they expressed their support for anti-doping from the perspective of understanding the efforts of athletes. Of the 11 coaches interviewed, eight of them mentioned the importance of anti-doping in promoting fair play for athletes. Among the Chinese coaches who mentioned the importance of anti-doping, one of them said:

I have watched athletes train and compete so hard from a young age and I believe that athletes from other countries have also put in a lot of efforts, it would be unfair if those efforts were defeated by athletes who deliberately doped. That is why I think anti-doping is necessary, especially sanctions (CC1).

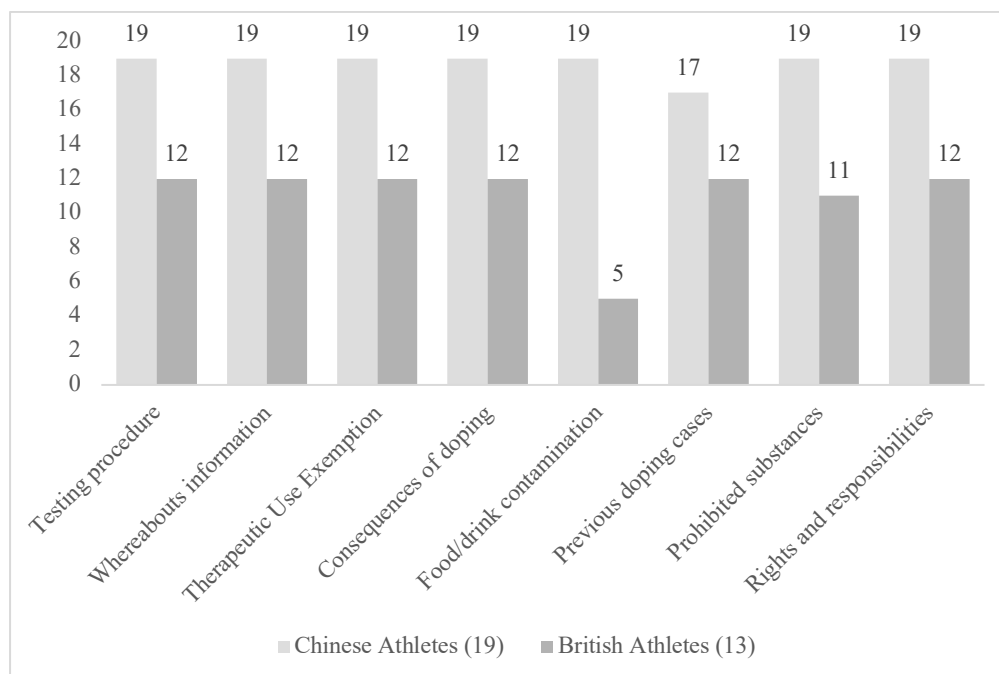
Of the three British coaches who expressed similar views, one of them said, “it is certainly frustrating when athlete is defeated by a doped athlete, there are things that can determine athlete’s performance, but that should come from training, not drugs” (BC5).

The Importance of Education in Shaping Athletes’ Support. Regarding athletes, they attributed their support for anti-doping to education and considered the main knowledge categories in education as having a large impact on shaping their recognition with anti-doping. The figure below visualises the knowledge categories of anti-doping education received by athletes from China and the UK, and the number of athletes from both countries participating in each category. As the figure illustrates, the categories of anti-doping education participated by athletes from both countries mainly include testing procedure, whereabouts information, Therapeutic Use Exemption, consequences of doping, food and drink contamination, previous doping cases, prohibited substances, and rights and responsibilities.

Among them, five categories are in which athletes from both countries have all learnt, including testing procedure, whereabouts information, Therapeutic Use Exemption, consequences of doping, and rights and responsibilities. A notable gap in the figure is the education about food/drink contamination received by athletes from both countries (19:5). A discussion regarding why CHINADA emphasises education on food/drink contamination is presented in the next chapter.

Figure 10

Knowledge categories of education received by different numbers of Chinese and British athletes



With regard to the role of these categories in shaping the understanding of anti-doping, a Chinese athlete stated that:

The courses I took were interesting and not hard to understand. It was a better atmosphere than studying in school. I built up a good understanding of the importance of anti-doping, procedure of testing, and filling out whereabouts information. As for moral value, I think the greatest gain from participating in anti-doping education is that I would not want to use doping to take advantage, nor would I want to lose a game because my opponents have taken advantage of doping. However, I cannot control what others do, so just as there is a saying, start with me (CA15).

Similarly, a British athlete noted that:

Doping is definitely a serious thing. Before taking the UKAD course I had learnt about some cases and I knew that doping is unethical and unfair. I think this

understanding has been strengthened after taking the UKAD courses, and I have learnt things like testing procedure, how to fill whereabouts information and so on. It is definitely good to have a full understanding of these important things. But as you know there are athletes trying to take advantage by doping, I think at least I would not do this (BA7).

Because of the role of education in shaping athletes' recognition with anti-doping, athletes highlighted how important they think it is to follow the rules. For example, one Chinese athlete said:

The ultimate goal of anti-doping is to protect fair play and clean athletes, I understand this and want it to be achieved, so even if some of the rules like reporting whereabouts information can sometimes be inconvenient I will still cooperate.

Besides, the rules are made by the governing bodies and we are under the governance, so we have to play by the rules (CA18).

Similar perception was presented by other Chinese athletes. For example, CA19 said that "I completely understand why we are required to follow the rules, it is very important because anyone suspicious will be noticed, so I do support it".

As for British athletes, they shared the same perception as Chinese athletes that they must follow the rules. For example, one of the British athletes said, "I get that the rules are important, things like the whereabouts are quite a pain to do, but I guess I will have to do it. I think you would rather to be inconvenient than being suspicious" (BA11). Other British athletes echoed this by stating, "I think it is the best to support anti-doping by following the rules" (BA13), and "playing by the rules is the easiest way to support anti-doping (BA8). Moreover, BA4 said, "it was an easy process to do, but the more I do it the more exhausting it becomes. However, I do stand on the NADO's side because it is fair and understandable for them to do so".

Athletes' Perceived Satisfaction with Testing. In addition to the support for anti-doping among athletes, they also shared their experience of being tested, which strengthened their support. Except for one British bodybuilder who was not required to be tested, the rest of athletes expressed satisfaction with the sample collection process.

For example, one of the Chinese athletes said:

Yes, the DCO was very professional. He introduced it very well before each step, I completely understand what I was going to do. The materials were all clean and hygienic, and the facility was private and clean. I did not have any sort of uncomfortable feeling (CA12).

Another Chinese athlete noted that:

The DCO was friendly and he explained what I was supposed to do next before moving on to the next step, I felt very supported. The facility was kept clean and private, it was a comfortable atmosphere to take sample (CA16).

Similarly, a British athlete said that:

The DCO was well-prepared in advance, the whole process was professional and comfortable. I felt that I was in good hands because he was explaining all the steps and telling me what he will be doing before each step (BA4).

Evidently, education has played an important role in shaping athletes' support for anti-doping and athletes who have been tested all demonstrated satisfaction with the sample collection process. However, athletes' satisfaction with testing should be interpreted with caution, because they were tested in countries such as the US, the UK, Europe, and China, which have relatively developed economies and sufficient resources. Although participants expressed comparable views on supporting anti-doping, their perceptions of legitimacy shifted to concern, distrust and criticism.

Contested Legitimacy: Distrust and Concerns

A number of issues were identified in the second layer of perceived legitimacy, including the concerns about fairness and distrust of effectiveness. These variables, which are contrary to the broad consensus, demonstrated the complexity of perceived legitimacy of anti-doping. The following sections elucidated on these variables.

Distrust of Effectiveness. The majority of interviewees expressed distrust of the effectiveness of anti-doping strategies. They pointed out that anti-doping cannot solely rely on detection and education, and they questioned whether the current anti-doping strategies are effective enough to stop doping.

Of the interviewees who expressed distrust of effectiveness, a group of them believed that global anti-doping needs to design new strategies in addition to detection and education. For example, a Chinese athlete stated that:

Testing and retesting act as deterrence from the perspective of consequences of being caught, education acts as morality builder from the perspective of prevention and testing and retesting also have some preventive effect too. They are certainly important in anti-doping, but they cannot do all the work (CA11).

Another Chinese athlete noted that:

I think simply relying on testing and retesting is like looking for a needle in the sea, there are many samples to be collected and analysed, there is always some new stuff, and there are things that can deceive the system. Like the Russian case, it was exposed because someone reported this issue. Education is good, but I think its effectiveness relies on the extent of people following the rules and how badly people want to win (CA17).

British participants expressed similar perception. A British athlete stated that “I think anti-doping needs more development, it would be better if some of the approaches can be improved and others get more emphasis. Currently I do not think they are balanced” (BA13). This perception was resonated by another British athlete, they said that “I think athletes who want to cheat will always find a way to do it, so relying on detection and education clearly will not stop them. There could be a more sophisticated approach” (BA7). Participants also questioned the effectiveness of testing and retesting.

Another group of participants who expressed distrust of effectiveness believed that the effectiveness of testing and retesting is uncertain. For example, a British athlete said that:

Testing has some extent of effectiveness but not enough, it is not unbeatable and certainly not effective in all circumstances. It should be improved otherwise this ineffectiveness will continue and it is unfair to athletes. Like I said it is WADA’s fault that they cannot detect the drugs by testing, and there is no point of retesting (BA2).

A Chinese DCO stated that “testing and retesting are good tools but I think they are not fully effective, let us say 70% maximum” (CO3). Moreover, a Chinese official noted that:

In the Russian case we learned that sample substitutions were taking place in laboratories, in this case, no matter how advanced testing or retesting is, either would be effective. However, I do not think there is anymore that can be done at the moment (CO1).

In addition to the questioning on effectiveness, a number of participants also expressed a passive perception of anti-doping.

There is also a number of participants who believed that doping may never be stopped. For example, a British coach stated that:

Many athletes know the consequences but still choose to do it. It shows that they are not worried about the punishments, or they do, but they still want to win. Doping seems unstoppable (BC4).

A British athlete noted that:

I do not think doping can be stopped completely, some athletes just do not care about the consequences. I know there are countries that still have death penalties but this does not stop people from doing horrible things. I think this applies to anti-doping too. Someone would always try to cheat and I think it will be those who have the resources (BA6).

Chinese athletes expressed similar perception, one of them said that “I think some athletes just want to win so much that they would risk anything. If they have the technological support they would be very likely to beat the system too” (CA13).

Concerns about Fairness. A recurrent issue interpreted from the interviews was the concerns about the fairness of anti-doping. Of the interviewed participants, the majority of them questioned whether anti-doping is fair. Their questioning includes whether retesting can compensate the true winner, whether unintentional or forced doping should be dealt with more respect to athletes’ career, and whether stripping medals is fair.

A number of interviewees pointed out that there are regrets that cannot be compensated. For example, a Chinese coach noted that:

Athletes who doped to get advantage may have enjoyed the fame and fortune, while clean athletes lost their chance to stand on the podium to celebrate. Also, awarding the true winner relies on whether retesting can actually detect the substances that testing failed to do so. Even if anti-doping work has restored the medals and ensured the

fairness of sport, the true winner's loss is incalculable. I think the compensation for clean athletes is still very limited (CC3).

Another Chinese coach agreed and added that "I believe athletes would prefer that the system can find out who have used drugs as soon as possible, because for athletes there are many regrets that cannot be made up" (CC6).

Similarly, a British athlete stated that "it is a shame that an athlete cannot have the moment because of a competitor cheating, it would be great if things more than the medal can be returned to the true winner" (BA1). A British coach reported similar perception that:

I think there is only so much that can be made up for athletes by retesting, as in giving them the medal they deserved probably a long time ago. They have lost the moment of celebrating and possibly better career opportunities and sponsorships (BC5).

Some participants expressed concerns about fairness, highlighting the difficulties for athletes when doping is unintentional or forced. For example, one British athlete noted:

My question is, did the athletes have choice? If it was done by their organisation or even the country, it is unfair to them to take extra punishments other than doping, like what they did in the Russian case. It is tough because in some sports cultures it really is not the athletes' choice, so I think WADA should distinguish athletes and organisation or country if that is the case (BA6).

Another British athlete stated that "the punishment should be made based on whether athletes chose to do it. In some countries athletes may not have the power to resist" (BA10).

Chinese interviewees expressed concerns about food or drink contamination because they perceive that it is unfair if athletes were sanctioned for unintentional doping. For example, one of them said that "I think it is unfair to athletes if we have banned substances unintentionally, because there are so many ways that can cause this problem and it will be extremely hard to prove innocence" (CA1). They used an example to demonstrate what

Chinese athletes are required to do in their training to mitigate the risk, stating that “during collective training we would be required to eat at the athlete restaurant so that things like this would be unlikely to happen” (CA1).

This strategy of being cautious was echoed by other Chinese athletes, one of them said that:

I tend to eat in the restaurant of our training base because it is safer than other restaurants or even homemade meals, like there could be clenbuterol in the meat. I will not drink a bottle of water if it is not in my sight for a while or given to me by people I am not familiar with. It is extremely hard to prove innocence if I am in that situation, and even if I do, it is still a bad impression and people may be suspicious of me (CA18).

Interviewees’ insights differed as to whether stripping medals is fair. For example, athletes who support stripping medals said that “I think punishment should be made and the medal should be returned” (BA3), “I think it is fair to the person who should win this medal” (BA8), and “it is certainly fair to make such punishment, the medal belongs to the athlete who stays clean and I think this person would rather have the medal than nothing” (BA12). On the contrary, athletes who disagree with stripping medals are much less, their perceptions show that “when an athlete is declared the winner, even if this athlete was not clean, it is WADA’s fault because they let this athlete through” (BA2), and “it is unfair to strip the medal and claim the medal is returned to the true winner, there is so much more than the medal that cannot be made up” (BA11).

It is evident that there is a broad consensus in supporting anti-doping among officials, athletes and coaches, yet they also perceived limitations in testing and retesting, and have doubts about the effectiveness, and fairness. Based on these findings, it is necessary to examine the insights of these variations in perceived legitimacy into anti-doping, because

enhancing perceived legitimacy not only helps to strengthen the consensus on anti-doping, but also contributes to the harmonisation and consistency of anti-doping policies. Thus, the next chapter presents critical analysis of the findings based on the theoretical underpinnings of policy implementation and perceived legitimacy.

To summarise this chapter, it presented a thematic map to visualise the overarching themes, sub-themes and lower-order themes that were constructed in this thesis. By combining participants' quotes, it provided detailed interpretations of each overarching theme to demonstrate how testing and retesting are implemented and perceived in China and the UK based on participants' accounts. The next chapter discusses how these findings provide insights into anti-doping and how some of the interpretations should be treated with caution.

Chapter 5 Discussion

The empirical focus of this thesis is to extend empirical evidence by building a better understanding of policy implementation and stakeholders' perceived legitimacy of testing and retesting in China and the UK and provide implications for global harmonisation of anti-doping policies by comparing the Chinese and British contexts. The theoretical focus of this thesis is to examine whether existing discussions of harmonisation and perceived legitimacy in the field of anti-doping are adequate and clear for understanding the harmonisation challenges and perceived legitimacy issues of anti-doping. These focuses consist of four questions:

- How do NADOs in China and the UK implement testing and retesting?
- How do officials, coaches and athletes in China and coaches and athletes in the UK perceive testing and retesting?
- What are the similarities and differences between China and the UK in terms of the implementation and perceived legitimacy of testing and retesting?
- To what extent do national resources and capacity influence harmonisation in anti-doping?
- How can perceived legitimacy issues be understood in a clear and consistent analytical lens?

It appears that the implementation of testing and retesting in China and the UK shows compliance and harmonisation according to the accounts of Chinese (officials, coaches, and athletes) and British participants (coaches and athletes). Despite CHINADA and UKAD adopt divergent governance logics (i.e. centralisation and decentralisation) and operate in contrasting national contexts (e.g. political systems, resources and athlete population), their strategies for conducting testing and retesting are perceived as similar. This finding seems

unsurprising because both CHINADA and UKAD operate within the global anti-doping regime and are required to adopt standardised anti-doping rules. Nevertheless, such harmonisation needs further explanation, as it helps understand why implementation demonstrates a high degree of convergence in countries with divergent political systems, governance logics and cultural contexts. This further explanation is presented near the end of this chapter through combining findings in relation to implementation and perceived legitimacy.

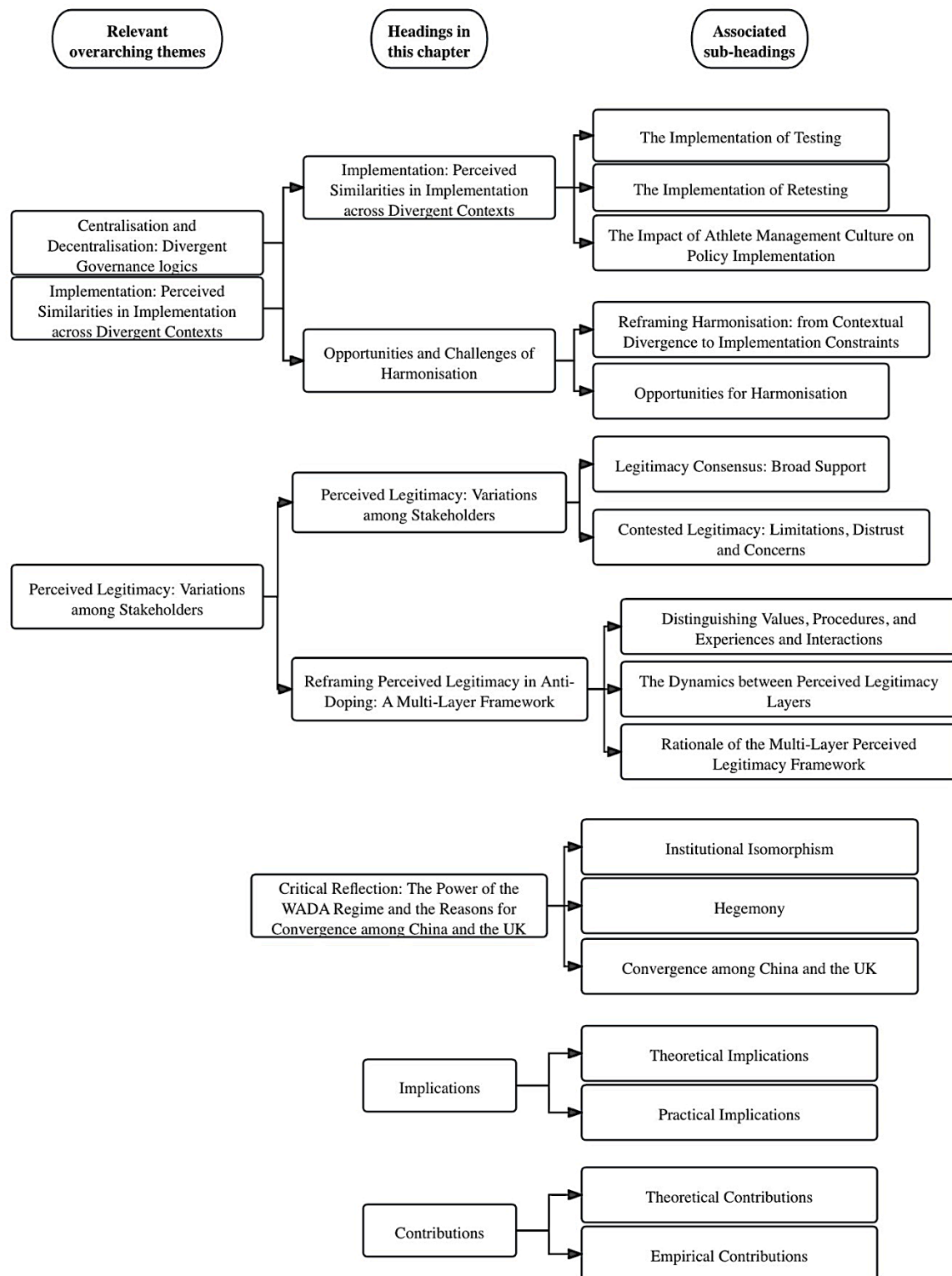
Participants showed consensus in support of anti-doping, yet they expressed distrust and concerns when the interview questions unpick issues related to testing and retesting. This finding resonates with existing literature, indicating variations in stakeholders' perceived legitimacy of anti-doping (e.g. Cox et al., 2022; Overbye, 2016a, 2018; Qvarfordt et al., 2025; Woolway et al., 2020). However, there remains the opportunity for a clearer and more consistent way of discussing perceived legitimacy issues in anti-doping. Consequently, a multi-layer framework was proposed to conceptualise different layers of legitimacy in anti-doping and explain how the dynamics of these layers influence the legitimacy of anti-doping.

In seeking to discuss the theoretical contributions of this thesis and its empirical contributions to the research gaps in the field, the following sections critically discuss the findings related to and beyond the research questions. The structure of these discussions was informed by the research questions and theoretical underpinnings of policy implementation and legitimacy to enhance the analytical and interpretive value. This means that the headings (and the sub-headings associated with these headings) in this chapter are not fully aligned with the themes in the Findings chapter. To help understand the structure of this chapter, the figure below illustrates the headings and sub-headings in this chapter and demonstrates how some of them were related to different overarching themes in the previous chapter.

As Figure 11 illustrates, the headings “Implementation: Perceived similarities in implementation across divergent contexts” and “Opportunities and challenges of harmonisation” and their associated sub-headings derived from two overarching themes from the previous chapter. These two headings were informed by the research questions and theoretical underpinnings of policy implementation. The headings “Perceived legitimacy: Variations among stakeholders” and “Reframing perceived legitimacy in anti-doping: A multi-layer framework” and their associated sub-headings derived from the overarching theme in relation to perceived legitimacy from the previous chapter. These two headings were informed by the research questions and theoretical underpinnings of legitimacy. The headings “Critical reflection: The power of the WADA regime and the reasons for convergence among China and the UK”, “Implications” and “Contributions” were informed by the research questions.

Figure 11

Structure of the discussion chapter and its relation to overarching themes



Implementation: Perceived Similarities in Implementation across Divergent Contexts

The Implementation of Testing

The interpretation of interviews constructed an intriguing pattern, despite operating within contrasting national contexts (e.g. political systems, governance logics, resources, and athlete population), CHINADA and UKAD are perceived as implementing testing through similar strategies. The findings suggest that both CHINADA and UKAD attach great importance to the significant role of testing as deterrence, use testing frequently in practice, and incorporate a large amount of knowledge related to testing into anti-doping education. This pattern is important because it shows whilst CHINADA and UKAD operates in contrasting contexts, how anti-doping policies are implemented can be coordinated, which is different from the common emphasis in existing literature that harmonisation and compliance are challenged due to variations across national contexts (e.g. Gray, 2019; Houlihan, 2014; Read et al., 2024).

The perception that CHINADA and UKAD implement testing through similar strategies also provides useful empirical evidence regarding anti-doping in China. The findings suggest that despite China has shown insufficient commitment to anti-doping in the past, now it is relatively harmonised in terms of testing with a country that has a more developed anti-doping system. Such progression can be attributed to the bilateral collaboration with Norway, which has proven beneficial for enhancing China's commitment to anti-doping (Vidar Hanstad & Houlihan, 2015). Moreover, the findings mirror that of the previous study that has examined anti-doping policy implementation in China, indicating that China has, on the face of it, achieved effective and smooth implementation (Yang et al., 2021). However, a note of caution is in order as participants may choose to express a positive view of their own anti-doping organisations. Consequently, it is necessary to draw upon

secondary data to assess whether CHINADA and UKAD are as compliant as what the interviewees described.

A useful source of information for assessing participants' accounts is the testing figures reported by CHINADA and UKAD. According to the latest available data, CHINADA conducts over 20,000 tests annually and UKAD conducts around 10,000 tests annually (WADA, 2025a). The volume of their annual tests makes them rank among the top in the world. For instance, the laboratory in Beijing is one of the four laboratories that exceeded 20,000 sample analyses among the others, and the London laboratory is one of the 12 laboratories that exceeded 10,000. Such consistency between primary and secondary data is interpreted as that participants' accounts of the testing performance of CHINADA and UKAD align with publicly available evidence released by WADA, demonstrating that CHINADA and UKAD have substantial capacity and commitment to achieving WADA's testing standards among most NADOs across the globe.

Careful interpretation is needed here for understanding the performance of CHINADA and UKAD in terms of the number of tests. One source of uncertainty is that good implementation is not sufficient to conclude that testing is effective. Interpretation of findings show that the generally accepted limitation of testing is that it lags behind new substances and methods, giving athletes the opportunity to evade sanctions. This finding resonates recent studies concerning the prevalence of doping among elite athletes, suggesting that the limitations of testing may lead to a much higher prevalence of doping than that indicated by testing (Davoren et al., 2024; Ulrich et al., 2023).

The Implementation of Retesting

To continue interpreting the findings, the second to compare is the implementation of retesting in China and the UK. Participants' accounts suggest that CHINADA and UKAD

rarely implement retesting due to its high cost even though they have set clear regulations on storage of samples and re-analysis in accordance with WADA's requirements. The impact of limited budget on the implementation of retesting is traceable. The findings suggest that CHINADA and UKAD can only put more emphasis on testing because of their limited budgets, which aligns with other evidence that suggests almost all NADOs are unable to substantially increase their testing rate due to budgetary constraints (Cuddihy, 2020). In other words, the challenge NADOs are facing is that they have to solve the issues in the implementation of testing with limited budgets while also considering the implementation of retesting. It can be inferred that since economically developed countries like China and the UK find it difficult to afford the cost of retesting, less developed countries are less likely to implement.

The rare implementation of retesting can lead to insufficient deterrence on athletes. The findings indicate that athletes almost have no knowledge of retesting, yet after the researcher explained the role of retesting in detail, almost all athletes agreed that retesting is a good deterrent tool. Officials and coaches who have a better understanding of retesting also consider retesting as an extension of deterrence and a tool to compensate the limitations of testing. Consequently, if NADOs rarely implement retesting due to budgetary issues and neglect the opportunity to enhance deterrence in education, athletes are likely to seek for the opportunity to use new substances and methods to evade sanctions and affect the fairness of competition. Given that only China and the UK were examined, it cannot be ruled out that other NADOs may provide athletes with sufficient education regarding retesting. Nevertheless, in contexts where such education is limited or underdeveloped, putting more emphasis on educating athletes regarding the role of retesting and the possibility of using retesting can help enhance deterrence on athletes.

The rare implementation of retesting can lead to a missed opportunity for the effectiveness of retesting to be assessed in practice. Despite the findings of this thesis are consistent with empirical evidence that suggests retesting has limitations such as relying on technological progress and sample reliability apart from its high cost (Kuورانne & Saugy, 2016), these limitations should not deny its potential effectiveness. The findings suggest that a large number of positive results were found in the re-analysis of samples from the 2008 and 2012 Olympics in 2017, including three Chinese weightlifters, and this is the most well-known application of retesting in recent years (can also see Kolliari-Turner et al., 2021). However, the findings also indicate that retesting is rarely conducted, showing a significant gap between the frequency of testing and retesting. These findings are useful because they indicate that retesting can be effective, yet there are rarely more opportunities to assess the extent of its effectiveness.

An additional interesting finding regarding retesting is its issues in both legal and practical perspectives. The findings suggest some substances are not included in the prohibited list when athletes' samples were collected but were later added to the list. A CHINADA official believes using the updated prohibited list to analyse previously collected and stored samples violates the principle of non-retroactivity of the law. Although no other participants pointed out this issue, it may be explained by the fact that retesting is rarely implemented, thereby having almost no opportunity to assess retesting. In addition, the findings indicate that although officials believe retesting is potentially a good tool, the WADC and International Standards offer little explanation, it is unclear which samples should be stored and when they should be re-analysed.

It can therefore be assumed that even if NADOs and RADOs are required to increase the frequency of implementing retesting, they would be confused about how retesting should be conducted. These findings should draw WADA's attention to the importance of

considering whether to refine the design of retesting to provide NADOs and RADOs with clearer standards and encourage anti-doping organisations at national and regional level to make more use of this potentially effective tool. Yet as what Cuddihy (2020) suggested, more pressure needs to be put on the funders of NADOs, especially at the government level, as even countries with more developed economies and resources struggle with budgetary constraints in conducting domestic anti-doping work.

The Impact of Athlete Management Culture on Policy Implementation

The analysis constructed an interpretation that CHINADA and UKAD adopt different athlete management cultures that adapt to their respective national contexts. The findings indicate that CHINADA's athlete management is more centralised while UKAD's is more decentralised. Larger scale of land area and population tends to make governance harder for central authorities because it requires effective coordination and monitoring across the governance levels (Hooghe & Marks, 2009; Treisman, 2000). Considering China's vast land area and number of athletes, it can be difficult for CHINADA to conduct efficient management and implementation across regions.

The tradition of collective training in China represents a strategy that responds to the difficulty of consistent governance and implementation within a vast jurisdictional area. Participants' accounts, particularly those of Chinese officials, suggested that Chinese athletes are often collectively managed at a dedicated facility where they live and train with other athletes who come from multiple locations, particularly before major events. This reflects the uniformity in centralised management because it allows authorities to monitor a large number of athletes and conduct anti-doping work (e.g. education and testing) at the same location, which can enhance governance efficiency and reduce cost (Jiang & Gervais, 2012). However, such tradition can lead to scepticism about credibility.

For observers such as media, sports organisations, athletes, and coaches who have limited access to Chinese anti-doping, collective training can undermine the trustworthiness and credibility. lead to questions about whether athletes' compliance is voluntary, or whether there is systematic doping. Because athletes' training routines, life, diet, and medical support are collectively managed, observers may question whether athletes' compliance is a result of organisational control rather than voluntary, or whether collective training enables China to conduct systematic doping. Such scepticism can be attributed to the characteristics of collective training. As it is highly organised and observers have limited access to Chinese anti-doping, collective training can give observers the impression that there is a lack of transparency, thereby undermining the trustworthiness and credibility of Chinese anti-doping (Schmidt & Wood, 2019; Tørstad, 2023).

With regard to the UK, it has smaller land area and athlete population, the accounts of British coaches and athletes suggested that the human resources of UKAD are correspondingly much fewer than CHINADA. Enabling British athletes to have more autonomy in management and decision-making reflects the way of mitigating the difficulties caused by limited organisational human resources through the delegation of decision-making power. The constructed patterns of athlete management in both countries align closely with the characteristics of centralisation and decentralisation (Cairney et al., 2019; Li, 2022; Rondinelli, 1981). It should be noted that the interpretations are not for comparing which management culture is better. On the contrary, the comparative analysis suggests an interesting pattern that even when governing bodies are required to meet standardised rules or practices, adapting them to local institutional and resource contexts remains significant because standards work better when they are adjusted to respond to local capabilities (Faguet, 2014; Meyers & Nielsen, 2012).

Both management cultures also led to interesting differences in the openness of athletes from both countries to the sensitive topic of anti-doping. The constructed patterns show that Chinese and British athletes have different attitudes when facing interview questions that may require questioning or criticising anti-doping policies. Whilst British athletes were open and straightforward to express their perceptions, Chinese athletes tended to criticise in a subtle manner or indicate that certain questions should be answered by leadership personnel. This reaction of Chinese athletes aligns with what Yang et al. (2021) found in their study. A possible explanation for the discrepancy between openness might be China's centralised management gives athletes less autonomy in decision-making compared to British athletes, which may lead them to be unsure whether they could utilise the opportunity to provide feedback on anti-doping policies.

Another intriguing finding on managing athletes is CHINADA's response to food contamination. The findings suggest a considerable gap between the number of Chinese and British athletes who received education about food/drink contamination. CHINADA's emphasis on this education category is related to the food contamination case involving 23 Chinese swimmers. The Chinese swimmers who tested positive for trimetazidine ahead of the 2021 Tokyo Olympics triggered scepticism about Chinese anti-doping despite WADA determined it was no-fault food contamination (Ingle, 2024). Interpretation of participants' accounts suggests that Chinese athletes have received extensive case-based education about understanding food and drink contamination since the case of 23 swimmers, and female Chinese athletes also mentioned the potential risks of cosmetics. Supporting this point, publicly available evidence released by CHINADA suggests that CHINADA analysed 3,054 meat samples and 452 supplement samples in 2022 (CHINADA, 2023), and 3,267 meat samples and 378 supplement samples in 2021 (CHINADA, 2022). It is worth noting that such emphasis did not appear in CHINADA's annual reports prior to 2021.

Interpretive analysis combining Chinese participants' accounts and secondary data indicates that CHINADA's centralised management enabled timely and consistent improvements in anti-doping education across its vast jurisdiction to enhance athletes' knowledge of emerging issues and risks. This strategy also reflects CHINADA's progress in enhancing compliance because the visible response to food contamination risks signals increasing organisational commitment to protecting athletes and preventing similar cases from happening. However, in the Chinese social context, it is not solely CHINADA's responsibility to effectively address food contamination risks. Empirical evidence on food safety in China suggests that issues such as the persistence of clenbuterol contamination in pork have been longstanding, highlighting the need for government to strengthen regulatory oversight and improve monitoring (e.g. He et al., 2020; Shao & Cai, 2016). This means that what CHINADA attempts to address is not isolated incidents but structural food safety risks, reflecting the need for preventive and risk-oriented approaches to protect athletes from inadvertent rule violations.

CHINADA also uses a strategy called extended consequence to enhance deterrence. Interpretation of findings suggests that extended consequence means when an athlete is found doping, it is not only the athlete who needs to be held responsible, but also the coach, team director, and even the leadership personnel of relevant sports organisations. Drawing on policy implementation theorists, this finding is interesting because such extended accountability can strengthen role awareness and expand the consequence of doping across governance levels, thereby enhancing consistency and implementation outcomes (Hupe et al., 2014; Pressman & Wildavsky, 1984). Nevertheless, the criminalisation of doping requires cautious interpretation due to the debate on its feasibility.

The tension between the goal of global harmonisation and the realities of the different legal and political contexts in different countries offers an explanation for the debate on

criminalisation. The potential benefits of criminalisation lie in extending law enforcement capabilities to national institutions and deterring trafficking networks and doping related personnel that cannot be reached by sports regulatory bodies (Henne, 2018; Sumner, 2017). Yet critics argue that criminalisation under different legal systems could lead to division, as it would bring different legal consequences for athletes, thereby undermining one of the most important tasks of global anti-doping to seek uniformity in sanctions (Kornbeck & Kayser, 2018; Waddington & Møller, 2019).

Such debates evidently demonstrate the complexity in pursuing effective anti-doping policies because the pursuit requires both international harmonisation and flexibility in domestic implementation, yet the consistency among nations often conflicts with various laws and jurisdictions (Houlihan, 2014; Geeraert, 2016). An insight for anti-doping is that criminalisation may be complex as a one-size-fits-all solution but could be used as a complementary measure to align national legal systems with sports regulations and coordinate with anti-doping standards. Addressing the areas where sport itself lacks sufficient authority through criminalisation may offer potential benefits for anti-doping governance.

As introduced at the beginning of this chapter, it is unsurprising that the implementation of testing and retesting in China and the UK shows a high degree of harmonisation, yet the reason for the convergence of implementation in divergent national contexts needs further explanation. To enhance analytical depth, this explanation integrated findings regarding implementation and perceived legitimacy. Consequently, the further explanation is presented after analysing perceived legitimacy issues. Before proceeding to perceived legitimacy, it is necessary to reflect on findings in relation to implementation because it helps examine the harmonisation issues in anti-doping.

Opportunities and Challenges of Harmonisation

The analysis has constructed valuable interpretations of the implementation of testing and retesting in both China and the UK based on the accounts of Chinese (officials, coaches, and athletes) and British participants (coaches and athletes). In order to address the research questions in relation to policy implementation in China and the UK and offer insights into the harmonisation of anti-doping policies, this section links these interpretations to policy implementation literature. By doing so, it provides not only valuable evidence of policy implementation in both countries through a comparative lens but also analytical insights with practical and theoretical implications for understanding anti-doping policy implementation in comparable contexts.

Reframing Harmonisation: from Contextual Divergence to Implementation Constraints

Existing evidence has repeatedly highlighted that challenges encountered by the WADA regime include insufficient commitment to anti-doping, resource constraints, contextual variations (e.g. legal frameworks), and limitations of top-down implementation (e.g. Anagnostopoulos & Begović, 2025; Gray, 2019; Houlihan, 2002). These challenges often lead to practical issues such as inconsistent levels of testing, insufficient education, divergent enforcement priorities, and uneven sanctions (e.g. Cuddihy, 2020; Houlihan, 2014; Read et al., 2024). The interpretation of findings has constructed new patterns that extend beyond these existing interpretations, indicating that harmonisation can occur despite divergence when policy implementation aligns with the WADC and International Standards and is compatible with local contexts. These patterns further suggest that challenges to harmonisation do not primarily stem from national variation itself, but from shared implementation constraints embedded within the anti-doping regime, indicating that some harmonisation issues are systematic instead of contextual.

Drawing upon policy implementation literature, the patterns constructed in this thesis suggest that challenges to harmonisation in anti-doping are better explained by implementation constraints than by variation across national contexts. Policy implementation theorists have noted caution against treating contextual divergence as the primary challenge to implementation, suggesting attention to the interaction between policy design, instrument specification, and implementation capability (Pressman & Wildavsky, 1984; Sabatier & Mazmanian, 1980). This means that effective policy implementation depends on the extent to which objectives are clearly specified, responsibilities are defined, resources are allocated, and enforcement is conducted (Hupe & Hill, 2015). In other words, policy implementation does not happen automatically, it requires translating policy goals into clear and operationally feasible practices across multiple governance levels (Brynard, 2009; Hooghe & Marks, 2009).

Linking to the anti-doping regime, the interaction between policy design, instrument specification, and implementation capability helps explain why harmonisation can occur between CHINADA and UKAD in terms of testing. As the findings suggest, despite the divergence between CHINADA and UKAD, testing is adopted from detailed prescriptions in the WADC and International Standards, frequently conducted through prioritising its deterrence role, and reinforced through education. This pattern reflects the characteristics associated with successful top-down implementation and the traditional command-and-control regulatory model, which highlights the potential benefits for improving compliance and consistent implementation through hierarchical governance and prescriptive regulation (Pülzl & Treib, 2006; Van Meter & Van Horn, 1975).

On the contrary, the findings in relation to retesting demonstrate challenges to harmonisation when policy objectives and means are poorly specified and designed. As the findings indicate, despite retesting being introduced by WADA as a tool for enhancing

deterrence, it lacks clear specification of procedures and is limited in its operational capability. Drawing on Matland's (1995, p. 155) concept of "policy ambiguity", the pattern regarding retesting reflects both ambiguity of policy goals and ambiguity of policy means, leading to difficulties in understanding, implementing, and monitoring. In other words, when ambiguity is low (e.g. clear specification and sufficient resources for testing), policy is more likely to produce coordinated outcomes (Matland, 1995).

From the bottom-up perspective, the pattern regarding retesting also reflects the limitations of WADA's top-down regime. Policy implementation theorists argue that top-down implementation can overlook local constraints and interpretations, leading to divergence between policy intentions and policy outcomes (Hudson et al., 2019; McConnell, 2015; Treib, 2006). As the findings suggest, the cost of retesting is significant and there is limited explanation of how retesting should be conducted. More importantly, despite the fact that retesting has shown effectiveness in previous implementation (i.e. re-analysis of samples from 2008 and 2012 Olympic Games), WADA has not provided specification in either the WADC or International Standards of Testing and Investigation for NADOs. Consequently, a policy implementation gap (Gunn, 1978) is created. Due to the budget and interpretation issues encountered by CHINADA and UKAD are not addressed by WADA, CHINADA and UKAD are unable to design and implement retesting as clear and frequent as testing to enhance deterrence.

The interpretations constructed in this thesis therefore challenge the common emphasis in anti-doping literature that links harmonisation challenges primarily to contextual differences (e.g. Gray, 2019; Houlihan, 2014; Read et al., 2024). The harmonisation in the implementation of testing between CHINADA and UKAD indicates that variations across national contexts do not inherently undermine harmonisation. On the contrary, harmonisation is more likely to be facilitated when policy is designed in ways that reduce ambiguity, help

interpretation, and is supported by resources. However, when a policy has insufficient resource support and lacks clear implementation guidance, harmonisation is likely to be challenged. As Pressman and Wildavsky (1984) argue, implementation failure often arises not from resistance or contextual incompatibility, but from the decision-making and feasibility constraints embedded in policy design.

The findings of this thesis also contribute to debates on limitations of top-down implementation. Critics often suggest that variations in local contexts can be overlooked by top-down implementation, leading to weaker responsiveness to local needs (Braithwaite et al., 2018; Hill & Hupe, 2002). Nevertheless, the evidence from this thesis shows that top-down implementation has facilitated harmonisation in testing between China and the UK, indicating that top-down implementation can be effective where policy is clear and operationalisable (Sabatier & Mazmanian, 1980). On the contrary, where policy prescription is ambiguous and resources are insufficient to support enforcement, harmonisation issues persist regardless context.

Collectively, these insights suggest that anti-doping harmonisation should be understood as a dynamic interaction between policy design, instrument specification, and implementation capability. This means that attention should be paid to whether policy is designed to be clear, specified, operationalisable, and monitored, rather than merely asking how variations across national contexts challenge harmonisation. Therefore, the analysis of findings helped reframe harmonisation challenges as arising less from national divergence but more from shared implementation constraints embedded within the WADA regime. This reframing not only clarifies why harmonisation can coexist with contextual divergence but also explains why certain policies tend to align in practice while others remain marginal in different systems.

Opportunities for Harmonisation

By shifting the attention to implementation constraints, a number of opportunities for strengthening harmonisation within the anti-doping regime are identified. Firstly, the findings suggest that harmonisation is more likely to be facilitated where policy is clearly specified, operationally feasible, and closely monitored. This highlights the importance of strengthening policy design in order to provide the guidance, resources, support and feedback that enable effective policy implementation. For example, the Acid Rain Program in the US was considered as a significant regulatory success because it developed clear and operational rules, robust monitoring system, and complimentary supports for implementation, leading to large emission reductions (Ellerman, 2003).

The second opportunity for harmonisation is through encouraging NADOs to implement retesting more frequently. As the findings indicate, testing is a frequently used and well-understood anti-doping measure, whilst retesting remains marginal and insufficiently understood by stakeholders. When policy design of retesting is refined by WADA, NADOs can have clearer guidance regarding how retesting should be adopted and implemented. More importantly, as Cuddihy (2020) suggested that pressure needs to be put on the funders of NADOs, especially at the government level, to address the budgetary constraints. In doing so, implementation strategies for testing, such as incorporating with education, can therefore be applied to retesting in order to develop consistent implementation, thereby enhancing deterrence.

The third opportunity for harmonisation is to strengthen NADOs' commitment to anti-doping. The findings suggest that despite there is persistent scepticism about the credibility of anti-doping in China, CHINADA has demonstrated harmonisation with UKAD which has a more developed anti-doping system. Scholars have attributed such progression to China's bilateral collaboration with Norway, indicating strengths in enhancing commitment (Vidar

Hanstad & Houlihan, 2015). Consequently, WADA could facilitate bilateral collaboration between NADOs to strengthen harmonisation, particularly between developed and under-developed NADOs, as it has been proven to be effective in strengthening commitment through shared accountability, practical learning and implementation support.

Perceived Legitimacy: Variations among Stakeholders

Legitimacy Consensus: Broad Support

The interpretation of findings constructed this interesting pattern, reflecting participants' consensus about supporting anti-doping. This section discusses the consensus by placing participants' perceptions within the determinants of perceived legitimacy of collaborative governance. One of the key determinants is the active or passive representation of local implementors (e.g. officials and coaches), whose level of acceptance for representing WADA at the national level reflects how they perceive themselves as local implementors and how they balance global anti-doping objectives with domestic sporting interests (Koski et al., 2016; Riccucci & Van Ryzin, 2017). Equally important is the determinant of performance management of CHINADA and UKAD. Performance in implementation can affect athletes' evaluation of organisational performance and shape their perception of the legitimacy of anti-doping (Ho & Cho, 2016; James & Moseley, 2014). By integrating these determinants, the findings highlight the consensus achieved at the intersection of global anti-doping and local implementation, providing a basis for exploring the dynamics of perceived legitimacy.

Broad Consensus and Support: Representation. In an attempt to understand the broad consensus and support, the first step is to discuss the representation of local implementors. The findings of this research indicate Chinese and British local implementors have a relatively high level of acceptance for their representation of anti-doping at the

national level. These findings are rather useful as they may indicate that officials conduct testing, retesting and education based on WADA's standards and guidelines, while coaches and educators communicate the values of clean sport to athletes in their daily interactions, which may demonstrate local implementors' active representation of their roles.

This active form of representation might enable local implementors not only narrow the gap between policies and athletes' understanding but also increase athletes' acceptance of anti-doping. Particularly for Chinese athletes who need local implementors to translate anti-doping policies in a non-native language into clear and appropriate interpretations. Furthermore, this could also be an indication of the improvements China has made in its commitment to anti-doping. Personnel at different levels of CHINADA's governance structure appear to show a similar willingness to comply and harmonise as UKAD, confirming what Yang et al. (2021) suggested that central and local levels of Chinese anti-doping governance are willing to comply and harmonise.

Building on the concept of representation, it is useful to analyse the level to which athletes accept themselves as subjects to anti-doping governance for understanding the broad consensus and support. The most obvious finding regarding athletes' level of acceptance is that athletes believe that the rules are necessary for protecting clean sport, accept the compulsion in the rules, and are willing to remain clean. An interesting metaphor is used by athletes to compare anti-doping governance to a game, in which anti-doping organisations act as rule-setters while athletes act as players, and players need to adhere to the rules to continue the game even though sometimes they find the rules inconvenient (e.g. reporting whereabouts information).

These findings are significant as it indicates that despite athletes are from two significantly different national contexts, consensus emerges in their perceptions. That is, although they do not consider all anti-doping rules to be pleasant, they believe in the anti-

doping objectives and are willing to cooperate with the implementation. Moreover, this finding not only resonates to the consensus among athletes from five European countries suggested by Martinelli et al. (2023) that they are supportive of anti-doping policies but also extends on their empirical contributions by shifting the focus to China, a non-Western context, and making comparisons with the UK.

Broad Consensus and Support: Performance Management. An important factor of the performance of CHINADA and UKAD may be the role of anti-doping education in shaping athletes' knowledge and attitudes. The findings suggest that the extensive and clear education provided by CHINADA and UKAD on various categories is beneficial in helping athletes develop a supportive consensus. The significance of this finding is that the content, delivery methods and information timeliness of NADOs' education are important for athletes to internalise knowledge and adopt a supportive attitude because of the close relationship between the perceived quality of education programmes and the trust in anti-doping organisations (Engelberg et al., 2015).

The knowledge in education not only helps athletes understand the rules but also enables them to become informed participants rather than passive subjects to governance by communicating the values of anti-doping and timely updated information, thereby shaping their perception of anti-doping as meaningful to themselves (Ricucci & Van Ryzin, 2017; Suchman, 1995). As a measure of doping control, improving the quality of anti-doping education by focusing on content, delivery methods and information timeliness can help athletes internalise the values of anti-doping as meaningful rather than being imposed externally, thereby enhancing the preventive effect. Nevertheless, a necessary condition for achieving this goal is sufficient resources, less developed countries need a more supportive

global policy environment to help them overcome the challenges brought by inadequate resources in effectively improving the quality of education programmes.

The outcome of the performance of CHINADA and UKAD in anti-doping education, in turn, contributes to the degree to which athletes accept themselves as the subjects being governed. The findings of this research suggest that athletes are willing to compete clean and not concerned about their samples being re-analysed. This attitude of athletes is critical because it demonstrates that the performance of CHINADA and UKAD in anti-doping education has helped shape athletes' voluntary commitment to clean sport and such commitment underpins the legitimacy of global anti-doping. The perception by athletes that the regulatory measures are appropriate and consistent with shared values plays a significant role in maintaining legitimacy (Efverström et al., 2016; Suchman, 1995). This means that education can help athletes realise that anti-doping is a shared commitment to fairness rather than merely a coercive regulation. Perhaps only when all athletes share the values of clean sport and the willingness to compete clean can anti-doping achieve the highest level of legitimacy and its goals.

Nevertheless, athletes' responses must be interpreted with caution because they may choose to express a positive attitude in interviews. Existing evidence suggests that athletes tend to claim in public that they are compliant with anti-doping rules but do not attach importance to compliance in private (McNamee & Tarasti, 2011; Waddington & Smith, 2009). This can be attributed to the pressure brought by social expectation of clean sport among athletes. However, such a potential change in attitudes is almost impossible to be noticed in time or effectively prevented, unless an athlete who has expressed a positive attitude is sanctioned, and the emergence of doping cases often leads to a reduction in trust and legitimacy. Such uncertainty is arguably one of the significant challenges for anti-doping to maintain its legitimacy. Therefore, emphasising how to design anti-doping education more

effectively to promote athletes to internalise the concept of clean sport as a shared value would be helpful in transforming the uncertainty of supportive attitudes into solid and durable legitimacy.

Another issue is that athletes' willingness to be clean does not mean they will always be treated fairly under the existing anti-doping regulations. This research found that athletes believe that being clean equals being safe and being safe means no prohibited substances will be found in their samples. However, strict liability makes athletes take full responsibility for any prohibited substances found in their bodies, regardless the intentions, and this may lead to inadvertent consequences (Dimeo & Møller, 2018). Examples of inadvertent consequences are commonly seen in the practice of anti-doping policies.

Athletes can be sanctioned for accidentally consuming contaminated food or beverage without the intention of doping. Yet the value of athletes denying the charge of doping is limited, they are not protected by regulatory bodies (e.g. CAS), and they can face increased severity of social sanctions, such as criticism from teammates and fans (Moston & Engelberg, 2018). These issues indicate that willingness to be clean does not always equate to being safe. When athletes face inadvertent consequences and do not feel protected, the perceived legitimacy of anti-doping will be undermined. To address this challenge, WADA and NADOs could invest in more sophisticated risk management education (as China is doing), enhance the fairness of the hearing process, and conduct more equity-based considerations for cases involving unintentional doping.

Another important factor of the performance of CHINADA and UKAD is whether athletes consider local implementors' actions appropriate. The findings of this thesis suggest that athletes are satisfied with their past experiences of being tested and have praised the professionalism of DCOs. This attitude is important because the satisfied experiences of athletes reflect the technical efficiency of DCOs and the fairness and respect athletes

received. Procedural justice and respectful treatment play an important role in improving the acceptance of the governance system (Riccucci & Van Ryzin, 2017). In anti-doping, this concept is crucial for maintaining legitimacy, because when DCOs demonstrate professionalism and respect athletes, athletes are more likely to perceive anti-doping as a credible system for protecting clean sport rather than a punitive approach. This resonates with Engelberg et al. (2015) that positive experiences in testing and education can enhance athletes' trust in anti-doping organisations. However, if negative experiences, such as inconsistent standards or lack of respect appear, the legitimacy of anti-doping risks being undermined.

One possible explanation for the interviewed athletes' satisfaction with their testing experience is that they experienced testing in countries with relatively high economic, resource and commitment levels (e.g. China, the UK, the US and Western European countries). However, these factors do not necessarily mean that testing can be consistently implemented in wealthier countries. For example, among 110 athletes drawn from six European countries (developed countries), some questioned whether creating a level playing field is possible because they noticed discrepancies in implementation when exchanging information with athletes from other countries (Barkoukis et al., 2025). Additionally, among 346 Ugandan athletes (less developed country), only 19% had ever been tested, 55% were confident that they can evade detection, and only 17% believe that NADO-Uganda treated athletes equally (Muwonge et al., 2025).

The implications of the gap between the findings of this thesis and broader empirical evidence are for both policy implementation and perceived legitimacy. From the perspective of policy implementation, it is evident that even countries with abundant resources are not immune to inconsistent implementation (Cairney, 2022; Hudson et al., 2019). However, if athletes' personal experiences are satisfactory, they would show positive perceptions of the

system. This poses a risk to policy implementation because individual satisfaction may mask the inconsistencies of implementation within the system, resulting in the bottom-level experience not truly reflecting system-wide compliance (Van Ryzin, 2004). From the perspective of perceived legitimacy, athletes are more likely to evaluate the credibility of anti-doping based on their immediate experience of fairness and professionalism, rather than the performance of the system. In other words, even when there is overall inconsistency, a good personal experience can enhance legitimacy, while an unsatisfactory experience can weaken legitimacy even in a well-resourced system.

Taken together, there is a consensus about supporting anti-doping, which was reflected in participants' acceptance of their roles and responsibilities in the anti-doping system, and their recognition of positive performance information. The findings of this thesis confirmed the pattern reported in similar studies regarding stakeholders' consensus about supporting anti-doping. These findings are encouraging because they demonstrated that WADA's deterrence and prevention strategies are, to some extent, effective and recognised. Nevertheless, risks that undermine legitimacy were identified, indicating perceived limitations, distrust of effectiveness, and concerns about fairness.

Contested Legitimacy: Limitations, Distrust and Concerns

Despite the consensus about supporting anti-doping, a contrasting theme emerged from the findings was participants' perceptions of the limitations of testing and retesting, distrust of the effectiveness of anti-doping and concern about the fairness of anti-doping. These findings are troubling because they add empirical evidence from China and the UK to the extensive similar findings reported by existing literature, indicating that challenges to sustaining legitimacy within the anti-doping system are widespread (e.g. Blank et al., 2023; Cox et al., 2022; Lim et al., 2024; Woolway et al., 2020). Participants' negative perceptions

seem to point to different issues of anti-doping policies (e.g. policy design, implementation, effectiveness and fairness), yet the characteristic that these perceptions reflect is the complexity of doping. To help understand this characteristic, the following section draws connection to the concept of issue complexity in the perceived legitimacy of collaborative governance to discuss the limitations, distrust and concerns that were interpreted in this thesis.

While most participants pointed out the inherent limitations of testing, only a few understood the difficulty of addressing such limitations. In terms of retesting, most participants knew little about retesting to recognise its inherent limitations and the difficulties in overcoming them. The complexity of doping is reflected in that doping prevalence is hard to measure, motivations to doping are diverse (e.g. performance pressure, peer influence), and doping methods are constantly shifting and being improved (de Hon et al., 2015; Dimeo & Møller, 2018). This means that merely relying on deterrence or prevention is insufficient to address the doping issue.

The Russian state-sponsored doping programme provides a prominent example of the complexity of addressing the doping issue. Rather than being uncovered through testing or retesting, the doping scandal was primarily exposed through investigations that were built on the intelligence provided by whistleblowers (Harris et al., 2021; Ohl et al., 2020). This helps explain why several participants questioned whether testing or retesting alone could effectively detect sophisticated forms of doping. It also demonstrates that system-level corruption can evade deterrence methods in anti-doping, indicating the necessity of improvements in investigative and intelligence-led approaches. The reality that testing or retesting cannot detect every form of doping resonates with participants' perceptions of limitations and ineffectiveness. However, despite expressing these concerns, most

participants continued to interpret deterrence as the primary means of combating doping, suggesting limited appreciation of the complexity of the doping issue.

Drawing upon the concept of issue complexity, participants' limited understanding of the complex nature of doping poses risks to legitimacy. When a policy problem has no single and straightforward solution, governing bodies turn to collaborative governance that involves cross-sector networks and shared decision-making to address the policy problem (Bryson et al., 2014; Emerson et al., 2011). If participating actors believe that a problem is simple or is manageable by a single organisation, collaborative governance can be seen as unnecessary, inefficient, or even illegitimate (Klijn et al., 2010). Consequently, if most stakeholders believe that doping is a simple issue that can be resolved through extensive number of tests, they may interpret the limitations of anti-doping measures as a system-wide failure, thereby undermining legitimacy (Klijn et al., 2010). Conversely, if most stakeholders were sufficiently aware of the complexity of doping, they would recognise that the challenges are multi-faceted and that either deterrence or prevention is not a panacea (Lee & Esteve, 2022).

It should be noted that the discussion here is not arguing that anti-doping should be immune to criticism just because the issue is complex. Rather, it emphasises that the complexity of doping requires diverse response strategies and highlights the importance of ensuring that stakeholders, especially athletes, are aware of its complexity and diversity. By doing so, it allows expectations of anti-doping to be grounded in a more realistic understanding of what can be achieved by existing anti-doping policies and reduces the risk that partial failure in the WADA regime being perceived as systematic failure.

From the perspective of issue complexity, it is understandable that participants expressed distrust of the effectiveness of anti-doping. The findings of this thesis indicate that the majority of participants believed that the current anti-doping strategies are limited in effectiveness, especially in terms of the effectiveness of testing. Moreover, the findings

suggest that although athletes were satisfied with their testing experiences, they expressed complaints about other strategies (e.g. reporting whereabouts information). It is not surprising that the participants' perceptions showed such similarity, as there is a gap between the issues of current anti-doping strategies and participants' expectations of anti-doping they have obtained in their comprehension of anti-doping. The continuous emergence of doping cases, high prevalence of doping and inconsistent implementation are often interpreted by stakeholders as evidence of the ineffectiveness of anti-doping (Dimeo, 2016; Overbye, 2018; Ulrich et al., 2023). Consequently, the gap between expectations and reality can fuel distrust and undermine legitimacy.

An insight into the distrust of effectiveness is that the WADA regime needs to improve not only the issues of policy effectiveness and implementation consistency but also the gap between stakeholders' expectations and reality. Satisfaction and perceived success of policy depend on experienced performance compares to expectations, meaning that unrealistic expectations can generate perceived failure even when performance improves (Van Ryzin, 2004). For example, the No Child Left Behind Act in the US created an expectation among parents, schools and policymakers that all students would be moved towards universal proficiency (Hunt, 2008). However, the expectation was failed due to unrealistic compliance demands that require schools to meet the yearly progress targets by improving the grades of all student groups regardless the race, income level and learning abilities (Ladd, 2017). As a result, the act was widely criticised and eventually replaced by Every Student Succeeds Act even when some improvements occurred (Ladd, 2017).

Linking to perceived legitimacy issues in anti-doping, stakeholders, particularly athletes, are likely to gain the impression in anti-doping education that doping can be addressed through extensive tests or stricter enforcement. However, the reality usually fails to meet their expectations. In addition, most stakeholders appear to have limited understanding

of the complexity of the doping issue. Consequently, as what the findings suggest, even if athletes from China and the UK are satisfied with their testing experiences, they show distrust when they notice limited effectiveness, regardless of whether the reasons for this limited effectiveness are complex. This means that the legitimacy of the WADA regime can be easily undermined, as it can be affected not only by stakeholders' perceptions of implementation issues but also by their limited understanding of the complex nature of doping.

Unlike perceived limitations and distrust of effectiveness, when expressing concerns about fairness, participants were aware of the complexities in relation to fairness issues. The findings suggest that participants perceived fairness in anti-doping as a complex and procedurally contested issue. For example, participants believed that retesting cannot provide sufficient compensation to athletes merely by re-awarding medals, and it is difficult for athletes to prove their innocence when they are suspected of doping due to food/drink contamination. In addition, participants expressed different perceptions regarding whether it is fair to strip medals from sanctioned athletes. They also reflected on certain sporting contexts (e.g. Russia) and suggested that athletes may lack the power to make decisions about doping related behaviours or be entirely unaware of having doped due to the influence or intervention of their national authorities. These perceptions reinforce the necessity of governing anti-doping through collaborative governance because they demonstrate the complexity of doping extends beyond deterrence and prevention strategies. However, they also show that the legitimacy of WADA's regime can be easily undermined.

Participants' concerns about that retesting cannot provide sufficient compensation to athletes merely by re-awarding medals reflect issues in relation to procedural justice. Legitimacy is grounded not only in outcomes but also in perceptions of fair treatment, meaning that individuals are more likely to accept decisions when they perceive decision-making as impartial, transparent and respectful (Tyler, 2006, 2024). For example, a survey on

litigants perceptions of the US court procedures shows that the satisfaction of litigants is not closely related to whether they win or lose the case but rather depends more on whether they felt their voices were heard and whether they received the due respect during the process (Tyler, 2006).

These insights provide an explanation for why participants questioned the insufficient compensation of re-awarding medals. As the findings suggest, although retesting can eventually correct results of competitions, it was perceived as unfair because athletes cannot be compensated for the loss of podium moments, sponsorships, or public recognition. From the perspective of procedural justice, when re-awarding medals occurs years after a competition without meaningful acknowledgement of lost opportunities (i.e. procedurally insufficient), the legitimacy of anti-doping regime can be undermined even if the outcome is legally correct.

Regarding proving innocence when athletes are suspected of doping due to food/drink contamination or being unaware of doping due to the influence or intervention of national authorities, participants' concerns highlighted the potential risks of WADA's strict liability principle. The findings indicate that participants perceived strict liability as unfair because the sources of contamination are diverse, or in some cases athletes do not have a choice (e.g. the Russian doping scandal), but it is difficult for athletes to prove that they are innocent.

Strict liability principle requires athletes "to take responsibility in the context of anti-doping, for what they ingest and use" (WADA, 2021b, p. 136), and "it is not necessary that intent, fault, negligence or knowing use on the athlete's part be demonstrated in order to establish anti-doping rule violation (WADA, 2021b, p. 19). Concerns about this principle are not limited to participants of this thesis. Criticisms towards strict liability have been widely discussed in existing evidence, indicating that it not only violates procedural justice and civil

rights but also produces harmful social meaning by treating inadvertent cases as intentional cheating (e.g. Grimes & Cox, 2026; Møller, 2016; Moston & Engelberg, 2018).

From the perspective of legitimacy, the potential risks of strict liability principles can significantly undermine how stakeholders perceive the anti-doping regime. Suchman (1995) argues that legitimacy can be analysed as pragmatic legitimacy, moral legitimacy, and cognitive legitimacy. Among which, pragmatic legitimacy asks whether a policy serves stakeholders' interests, moral legitimacy asks whether a policy is fair, right, and credible, and cognitive legitimacy asks whether a policy is acceptable for stakeholders (Suchman, 1995). By connecting these legitimacy concepts to the constructed patterns and existing evidence, it shows that strict liability fails to fulfill either of these aspects.

Pragmatically, despite one of the key responsibilities of WADA is to protect athletes, strict liability imposes risks on athletes' reputations and career development because they cannot afford any mistakes (Islam et al., 2021). Morally, punishing athletes who are not intentionally doping generates questions about fairness and credibility of anti-doping, particularly that as the only arbiter in anti-doping CAS does not protect athletes in the way that a court would (Amos, 2023; Moston & Engelberg, 2018). Cognitively, being held responsible regardless of intent is almost impossible to be perceived as acceptable by athletes (Moston & Engelberg, 2016; Suchman, 1995). Consequently, despite sanctioning athletes for doping regardless of the intent demonstrates regulatory consistency, such consistency can struggle to be perceived as legitimate and acceptable by stakeholders.

Taken together, it is evident that the legitimacy of anti-doping is contested despite there remains broad consensus in recognising and supporting the objectives and values of anti-doping. These insights echo the results from a body of work and contribute to the understanding of perceived legitimacy issues in anti-doping through the comparative analysis between China and the UK (e.g. Barkoukis et al., 2025; Engelberg et al., 2015; Henning &

Dimeo, 2018; Muwonge et al., 2025; Woolway et al., 2020). Nevertheless, despite the misalignment between perceived legitimacy has been extensively identified, there is little discussion on how different perceptions of legitimacy can be distinguished in order to provide a clear and consistent way of examining perceived legitimacy issues in anti-doping.

Reframing Perceived Legitimacy in Anti-Doping: A Multi-Layer Framework

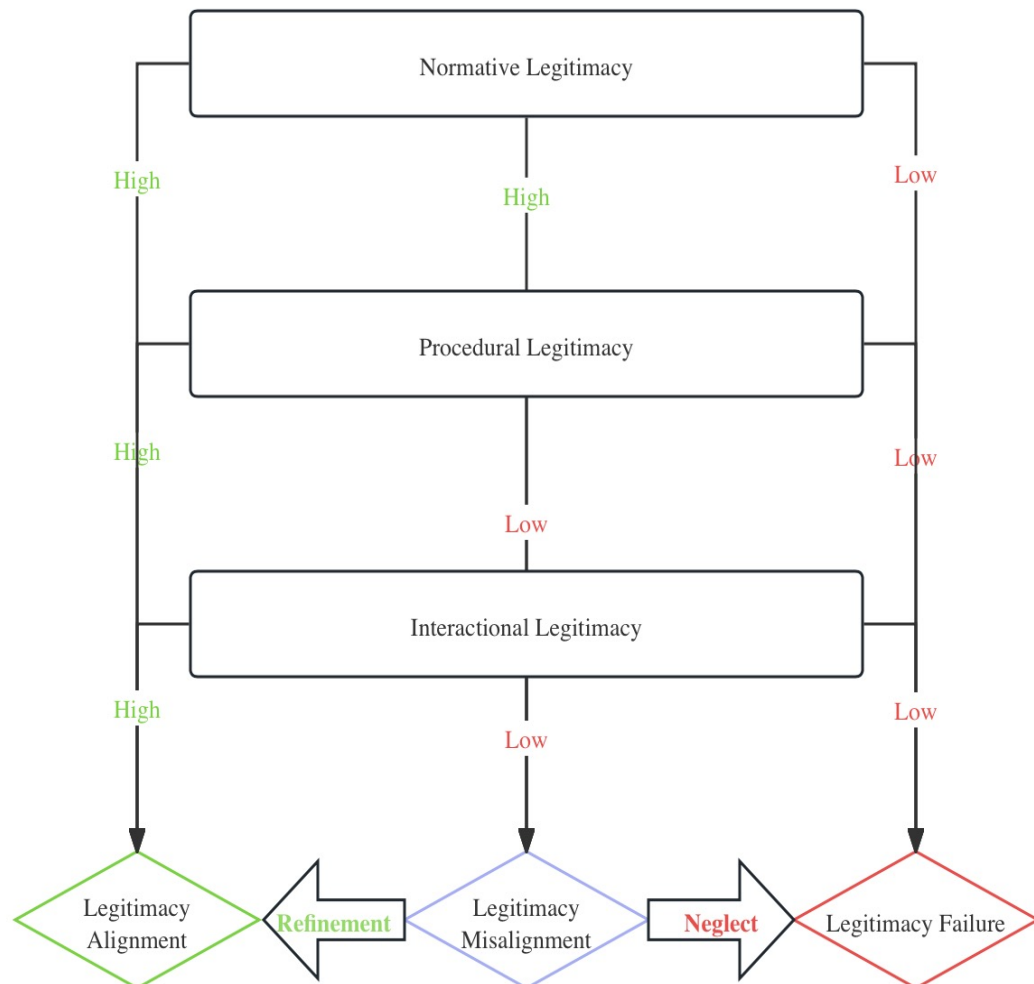
The findings of this thesis and existing evidence demonstrate that perceived legitimacy in anti-doping takes different forms, indicating that there is broad consensus among stakeholders in supporting anti-doping, yet they also expressed distrust, concerns and perceived ineffectiveness (e.g. Barkoukis et al., 2022; Cox et al., 2022; Martinelli et al., 2023; Overbye, 2016b; Qvafordt et al., 2024). However, these existing studies primarily focus on the question of whether legitimacy exists, such as whether stakeholders perceive anti-doping objectives and values as legitimate, or whether stakeholders perceive the procedure of testing as legitimate. There remains the opportunity for conceptualising the different forms of perceived legitimacy in anti-doping to help understand why a widely supported governance system encounters practical challenges and criticisms.

A framework was therefore proposed (see Figure 12) in order to clarify how legitimacy judgements can be conceptualised within the global anti-doping regime. The framework focuses on examining the dynamics across shared values and objectives, perceived limitations in practice, and lived experiences of stakeholders regarding anti-doping. In doing so, perceived legitimacy in anti-doping was treated as multi-layered and interrelated, rather than a single construct that consists of misaligned forms. More importantly, this framework provides a clearer and more consistent analytical lens for understanding perceived legitimacy in anti-doping, with insights that can be transferable to broader contexts beyond the cases examined.

To help understand the framework better, the following discussions also draw upon the doping issues in Kenya as a complementary example. Notwithstanding its success in international athletics, Kenya has demonstrated persistent doping risks in middle- and long-distance running (Ogama et al., 2019). For instance, Kenyan Athletics Federation has been identified as a high-risk federation by the Athletics Integrity Unit since 2016, indicating a heightened risk of doping and requiring more intensive testing of Kenyan athletes (Juma et al., 2022). By drawing upon the Kenya case as an illustrative example, the proposed framework demonstrates how perceived legitimacy in anti-doping can be examined by distinguishing stakeholders' legitimacy judgements across the normative, procedural, and interactional dimensions.

Figure 12

The framework of multi-layer perceived legitimacy in anti-doping



Note. This figure was proposed based on discussions of findings.

Distinguishing Values, Procedures, and Experiences and Interactions

To conceptualise perceived legitimacy in anti-doping, legitimacy concepts were adopted to analytically distinguish the shared values and objectives, perceived limitations in practice, and lived experiences of stakeholders. Normative legitimacy refers to the perceived alignment with shared values, norms and obligations, it depends on how an authority, policy, or organisation is judged based on stakeholders' evaluation of rightness and appropriateness

(Suchman, 1995). A prime example for understanding normative legitimacy is environmental regulations. When regulated actors accept environmental goals as right and appropriate (e.g. accepting that pollution reduction is important and necessary), environmental regulations are more likely to be effective through cooperation between actors (Ayres & Braithwaite, 2023; Gunningham, 2011). However, if environmental regulations are judged as inappropriate and unnecessary, adoption and compliance are less likely to happen, forcing regulators into heavier monitoring and sanctioning strategies (Braithwaite & Salvanes, 2005).

The objectives and values of anti-doping evidently rely on normative legitimacy. When anti-doping is widely seen as morally right and appropriate (e.g. protecting fairness is necessary), it produces legitimacy consensus that helps strengthen willingness to engage and comply (Read et al., 2018; Woolway et al., 2020). Based on the findings of this thesis and existing evidence, anti-doping objectives and values are widely accepted and recognised, meaning that the anti-doping regime has achieved normative legitimacy. However, recognition and acceptance of anti-doping objectives and values should not be treated as sufficient evidence of the legitimacy of the entire anti-doping regime, as there remains distrust and concerns regarding effectiveness and consistency (Efverström et al., 2016; Qvafordt et al., 2024). Therefore, normative legitimacy in anti-doping can be understood as overarching and principle-based, it is necessary and important for the anti-doping regime to sustain, yet it does not sufficiently reflect the legitimacy judgements across the anti-doping system.

Even in a context where doping violations have attracted significant international concern, the goals and values of anti-doping are not necessarily rejected in Kenya. Empirical evidence suggests that many Kenyan athletes generally support anti-doping and recognise the necessity of clean sport and protection of fairness (Juma et al., 2022; Mwangi et al., 2025). This suggests that even there is a high prevalence of doping violations, the high prevalence

does not necessarily indicate normative legitimacy failure, for the overarching and principle-based goals and values of anti-doping are regarded as appropriate and acceptable by some stakeholders in Kenya. Therefore, recognition and acceptance of shared values, norms, and obligations can be understood as high normative legitimacy, whilst rejection and non-compliance can lead to low normative legitimacy.

Implementation is where legitimacy judgements often shift as stakeholders perceive procedural legitimacy, particularly in terms of fairness and consistency. Procedural legitimacy is conceptually derived from procedural justice, it determines whether stakeholders judge an authority is rightful and deserves compliance because the authority's procedure is just (Jackson, 2018; Sunshine & Tyler, 2003; Tyler, 2006). In other words, procedural justice concerns whether the procedure itself is fair and consistent, and procedural legitimacy is the outcome of fair and consistent procedure that produces voluntary compliance and cooperation (Tyler, 2006). For example, when policing is perceived as enforcing rules consistently, neutrally, and transparently (i.e. procedural justice is achieved), procedural legitimacy can be sustained and result in citizens' voluntary compliance and cooperation (Gau, 2013; Mazerolle et al., 2013).

Procedural legitimacy in anti-doping is crucial because it not only reflects whether stakeholders perceive implementation as fair and consistent but also determines whether stakeholders have greater willingness to comply and cooperate. Empirical evidence suggests that athletes' perceptions of fairness strongly influence their support for anti-doping policies (Gleaves & Christiansen, 2019; Overbye, 2016b). Nevertheless, the reality of stakeholders' perceptions demonstrates a lack of procedural legitimacy in anti-doping. As the findings and existing literature suggest, stakeholders question whether anti-doping policies are enforced fairly and consistently, highlighting distrust, concerns and a lack of confidence in the system (Blank et al., 2023; Patterson & Backhouse, 2018). Consequently, limited procedural

legitimacy in anti-doping explains why the anti-doping regime encounters legitimacy issues in practice despite its objectives and values are widely recognised.

In the Kenyan context, concerns about the effectiveness of testing, education, and institutional capacity have raised questions about whether anti-doping policies are implemented fairly and consistently. For instance, questions are raised by Kenyan athletes about implementation issues such as the quality of anti-doping education and capacity for conducting effective enforcement (Juma et al., 2022). This indicates that even normative consensus exists among some Kenyan athletes, they questioned whether existing procedures are sufficient to address the scale and complexity of the doping issue. In other words, recognition and acceptance of anti-doping do not restrict procedural legitimacy from being questioned. Thus, perceived fairness, consistency, and effectiveness in implementation can be understood as high procedural legitimacy, whilst persistent unfairness, inconsistency, and ineffectiveness can lead to low procedural legitimacy.

Beyond values and procedures, legitimacy is also shaped by stakeholders' experiences and interactions with authorities and organisations. Interpersonal justice refers to the perceived fairness of how citizens are treated by authorities during the enforcement of procedures, particularly whether the authority communicates and behaves with respect, dignity and professionalism (Bies, 2005; Holtz & Harold, 2010). It is crucial for sustaining legitimacy because interpersonal justice can significantly contribute to satisfaction, commitment and positive evaluation (Colquitt et al., 2001). For instance, when clinicians treat patients respectfully in healthcare delivery, patients are more likely to trust healthcare providers and feel satisfied, thereby adhering to professional advice (Pérez-Arechaederra et al., 2025). When seeking to enhance experiences and interactions, interpersonal justice is closely associated with informational justice (Ellis et al., 2008).

Informational justice concerns the quality of explanations and information that authorities provide to stakeholders when conducting governance or implementing procedures, it is determined by whether communications are truthful, adequate, specific, and timely (Ellis et al., 2008; Liang & Ma, 2020; Scott et al., 2007). In environmental regulation, when regulators provide transparent and evidence-based explanations for rules and enforcement (e.g. what risk is being managed, why a threshold exists, how compliance will be judged), regulated actors are more likely to cooperate and invest in developing regulations (Cohen & Santhakumar, 2006; Vanderheiden, 2015). Therefore, informational justice and interpersonal justice are crucial components of legitimacy, as they determine how respectful stakeholders feel they are treated and how supported stakeholders feel when they comprehend decisions.

The concepts of interpersonal justice and informational justice were interpreted as interactional legitimacy, emphasising legitimacy judgements that are formed in the interactions with authorities. This interpretation is grounded in interactional justice, which highlights that stakeholders evaluate authority not only through perceptions of procedures and outcomes but also through perceptions of the quality of interpersonal treatment (e.g. respect and dignity) and the quality of explanations (e.g. adequacy and honesty) provided in interactions (Bies, 2005; Vanderheiden, 2015). Legitimacy theorists argue that these interaction-based perceptions are crucial, as they determine whether authorities are perceived as rightful in stakeholders' daily interactions with authorities (Beugre & Baron, 2001; Cropanzano et al., 2002; Tyler, 2024). Thus, by interpreting interpersonal and informational justice as interactional legitimacy, it enables the conceptualisation of how daily interactions shape broader legitimacy judgements.

Linking to the anti-doping regime, interactional legitimacy plays an important role because it determines how stakeholders, particularly athletes, form judgements about whether anti-doping authorities enforce rules and communicate information in a respectful and

adequate manner. Stakeholders experience anti-doping primarily through repeated interactions with implementation (e.g. testing, education, and reporting whereabouts information), and these interactions shape how they perceive the anti-doping regime in practice. As the findings and existing literature demonstrate, issues that undermine the perceived legitimacy of anti-doping include invasion of privacy during sample collection, complaints about reporting whereabouts information, limited understanding of how retesting should be conducted, and questions about why stored samples are analysed based on updated prohibited list (e.g. MacGregor, 2013; Valkenburg et al., 2014; Dimeo & Møller, 2018). These issues highlight how the legitimacy of the anti-doping regime can easily be undermined when interactional legitimacy is not sustained.

In the Kenyan context, interactional issues also highlight how legitimacy can be shaped through interactions between athletes and anti-doping authorities. For example, it is reported that some Kenyan athletes felt that elite athletes are treated with higher priority in resource distribution and that sport organisations in Kenya (e.g. the Kenyan Athletics Federation and the Anti-Doping Agency of Kenya) are colluding to protect athletes who dope (Juma et al., 2022). Similar to procedural legitimacy issues, this suggests that even normative consensus exists among some Kenyan athletes, the consensus does not restrict broader issues in accessibility and governance transparency from being questioned. Consequently, interactional legitimacy can be understood as high when interactions between athletes and anti-doping authorities are perceived as positive, whereas perceived negative interactions can lead to low interactional legitimacy.

Taken together, it is evident that perceived legitimacy in anti-doping primarily consists of normative legitimacy, procedural legitimacy, and interactional legitimacy. Among which, normative legitimacy operates at the overarching layer where objectives and values (i.e. why anti-doping exists) are judged by stakeholders. Procedural legitimacy operates at the

second layer where fairness, effectiveness and consistency (i.e. how anti-doping policies are supposed to work) are judged by stakeholders. The third layer lies interactional legitimacy, where interpersonal treatment and the quality of communication (i.e. how anti-doping policies are actually experienced and felt) are judged by stakeholders.

The Dynamics between Perceived Legitimacy Layers

Drawing on theoretical underpinnings of normative, procedural, and interactional legitimacy, this section enhances the legitimacy layers by conceptualising the dynamics through which perceived legitimacy is sustained, conditional, or contested across these layers. In particular, these dynamics include legitimacy alignment, legitimacy misalignment, and legitimacy failure. Developing these dynamics clarifies how perceived legitimacy in anti-doping can vary as legitimacy judgements shift at different layers, thereby demonstrating distinct characteristics. To further illustrate these dynamics, the Kenyan context is used as an example to demonstrate how the proposed framework can be applied to understand shifts in the legitimacy judgements across the normative, procedural, and interactional layers.

Legitimacy Alignment. Aligned legitimacy occurs when normative, procedural and interactional legitimacy reach to a high level, thereby reinforcing each other. At the normative layer, this means stakeholders recognise, accept and internalise anti-doping objectives and values (Suchman, 1995). At the procedural layer, anti-doping policies are perceived as being implemented in a fair, consistent and effective manner (Jackson, 2018). At the interactional layer, stakeholders experience respectful treatment and receive adequate and transparent explanations during implementation processes (Bies, 2005).

When legitimacy alignment is achieved, perceived legitimacy becomes stable and self-reinforcing. Normative commitment strengthens trust and belief in shared values, fair

and coherent procedures generate positive evaluations, and respectful and transparent interactions reinforce the credibility of the regime (Holtz & Harold, 2010; Suchman, 1995; Sunshine & Tyler, 2003). Consequently, under aligned legitimacy, compliance and cooperation are not achieved through punitive measures but grounded in shared values and confidence in governance. Legitimacy alignment therefore represents the most resilient form of perceived legitimacy in anti-doping, in which positive judgements of values, procedures and experiences harmonise.

Legitimacy Misalignment. Misaligned legitimacy, which is the most similar to existing perceived legitimacy of anti-doping, consists of high normative legitimacy but low procedural and interactional legitimacy. Normatively, stakeholders recognise and accept anti-doping objectives and values (Gunningham, 2011). However, stakeholders question procedural legitimacy due to perceived limitations, inconsistencies, and ineffectiveness in implementation (Tyler, 2006; Woolway et al., 2020). Because of the perceived inconsistencies, interactional legitimacy is also undermined owing to issues such as athletes receive respectful treatment and transparent communication in one system but being treated differently in another system (Colquitt et al., 2001; Martinelli et al., 2023)

Legitimacy misalignment demonstrates that normative consensus does not translate into multi-layer legitimacy because whilst stakeholders believe in anti-doping objectives and values, issues at the procedural and interactional layers produce risks to legitimacy. Under misaligned legitimacy, normative consensus functions as a foundation that sustains a certain degree of compliance and cooperation despite procedural and interactional dissatisfaction (Liang & Ma, 2020; Suchman, 1995; Tyler, 2024). Nevertheless, this foundation is not a panacea because if procedural and interactional issues accumulate, normative consensus can gradually weaken (Ellis et al., 2008; Jackson, 2018). Therefore, legitimacy misalignment

represents that legitimacy becomes conditional, sustaining legitimacy requires refinement of existing issues.

To address legitimacy misalignment, it requires existing issues to be refined (as Figure 12 illustrates). Drawing connection to the Kenyan context, this means refining the procedural and interactional layers in particular because normative consensus exists. For instance, by addressing the concerns regarding the uneven quality of anti-doping education (Ogama et al., 2019), athletes would perceive implementation as fair and consistent. Similarly, Kenyan athletes would no longer need to rely on coaches as their primary source of anti-doping information (Juma et al., 2022), as anti-doping authorities would provide accessible, timely, and trusted communication, thereby strengthening interactional legitimacy. When these improvements complement stakeholders' support for anti-doping, legitimacy is aligned across the normative, procedural, and interactional layers, thereby resulting in reinforced legitimacy and encouraging voluntary compliance.

Legitimacy Failure. Failed legitimacy occurs when all three layers reach a low level. Under failed legitimacy, stakeholders not only question procedures and interactions negatively but also begin to doubt whether values and objectives are acceptable and rightful (Scott et al., 2007; Suchman, 1995; Tyler, 2006). Consequently, when legitimacy fails, stakeholders may comply only to avoid sanctions, resist new policies, or disengage from communication channels. This can be understood as a possible outcome of legitimacy misalignment. As discussed above, legitimacy misalignment represents that legitimacy becomes conditional, refinement of existing issues can enhance legitimacy, whilst persistent dissatisfaction across layers risks gradually leading to legitimacy failure.

When legitimacy misalignment is persistently neglected, unresolved issues can undermine stakeholder's confidence in anti-doping over time (as Figure 12 illustrates).

Drawing connection to the Kenyan context, this means that stakeholders' concerns (e.g. uneven quality of anti-doping education, untransparent governance, and inaccurate or untimely communication; Juma et al., 2022; Yauma et al., 2024) remain unaddressed. If such concerns continue to be neglected, they may eventually undermine stakeholders' support for the values and objectives of anti-doping, causing procedural and interactional legitimacy deficits to extend into the normative layer. Consequently, negative evaluations become aligned across the normative, procedural, and interactional layers, leading to diminished trust, weakened voluntary compliance, and reduced support for anti-doping.

Rationale of the Multi-Layer Perceived Legitimacy framework

The framework enhances conceptual clarity of perceived legitimacy in anti-doping by analytically distinguishing between normative, procedural, and interactional layers of legitimacy. Existing anti-doping literature tends to report the pattern that stakeholders support anti-doping but question implementation (e.g. Barkoukis et al., 2025; Engelberg et al., 2015; Henning & Dimeo, 2018; Muwonge et al., 2025; Woolway et al., 2020). Notwithstanding valuable, discussion of perceived legitimacy issues in anti-doping can benefit from a clearer analytical lens that is able to identify where exactly the issues lie. Particularly, it differentiates between recognition of anti-doping values, judgements about procedures, and lived experiences of governance. This distinction helps comprehend why strong normative consensus can coexist with persistent dissatisfaction in anti-doping practice.

The framework also conceptualises perceived legitimacy in anti-doping as dynamic. It recognises that misalignment across layers can produce conditional legitimacy and warns that persistent dissatisfaction in procedural and interactional layers can ultimately lead to legitimacy failure. By framing perceived legitimacy as layered and dynamic, the framework shifts the analytical lens from examining which forms of perceived legitimacy exist in anti-

doping to identifying which layer needs policymakers' attention and how tensions shift across layers.

The novelty of the proposed framework does not lie in introducing entirely new dimensions of legitimacy. Conversely, it lies in synthesising relevant theoretical underpinnings of legitimacy (i.e. normative, procedural, and interactional legitimacy; Bies, 2005; Colquitt et al., 2001; Suchman, 1995; Tyler, 2006) into a coherent analytical framework for examining perceived legitimacy issues in anti-doping. Building on these foundations, the framework adapts and applies these concepts to the anti-doping context by demonstrating how stakeholders' legitimacy judgements across the normative, procedural and interactional layers interact to produce the dynamics of perceived legitimacy. Consequently, it provides not only a clearer conceptual lens for analysing where legitimacy challenges arise and how they may be addressed but also a portable analytical lens that can be applied beyond China and the UK.

Critical Reflection: The Power of the WADA Regime and the Reasons for Convergence among China and the UK

Patterns from the findings reflect critical issues in a policy regime like global anti-doping. The findings suggest that CHINADA and UKAD are perceived as using similar strategies for implementing testing and retesting and stakeholders from China (officials, coaches, and athletes) and the UK (coaches and athletes) support anti-doping in general. These patterns can be anticipated given that CHINADA and UKAD adopt standardised anti-doping rules and participants are unlikely to choose to risk their careers by speaking against anti-doping (Houlihan, 2014; Petróczi & Nepusz, 2011). However, these patterns should not be treated as insignificant. On the contrary, they reflect the extent of power of the WADA regime that has enabled the regime to exceed political and cultural boundaries and reach to

convergence. Therefore, this section critically discusses the extent of power of the anti-doping regime and analyses the reasons for the convergence among China and the UK.

Institutional Isomorphism

To better understand these patterns, analysing why convergence appears in policy regimes can be helpful. Institutional isomorphism is a sociological concept that refers to the process by which actors gradually become similar in terms of structure, practice and behavioural patterns under the constraints of a similar institutional environment (DiMaggio & Powell, 1983). In other words, actors that operate under the same set of rules will eventually become increasingly similar to one another (Beckert, 2010). For instance, higher education institutions across the globe have shown a significant trend of structural convergence, meaning that institutions in different countries are gradually adopting similar organisational structures, curriculum settings and evaluation systems (Fay & Zavattaro, 2016).

It is important to understand different types of isomorphism because they have significant influence on shaping the convergence of institutions. Coercive isomorphism is when institutions are compelled to adopt certain arrangements or behavioural patterns due to external pressure such as authoritative forces, regulations, resource dependencies, or social expectations (DiMaggio & Powell, 1983). For instance, higher education institutions in Sweden and Finland have become increasingly similar in terms of structure and management due to the influence of national policies and financial arrangements (Holmén & Ringarp, 2022).

Normative isomorphism is when institutions become similar due to the influence of professional requirements, expert networks and common professional standards (Teodoro, 2014). For instance, the reason why higher education institutions adopt certain structures and procedures is not merely due to external pressure, but because these structures and procedures

have been defined by professional consensus as appropriate or scientific (Kezar & Bernstein-Sierra, 2019). Mimetic isomorphism is when an institution operates in an uncertain environment that it chooses to imitate those institutions that are regarded as successful or legitimate, in order to reduce decision-making risks (Dua, 2022; Haveman, 1993). For instance, countries tend to draw on what are considered as successful policies when formulating emission reduction policies due to the uncertainty and complexity of climate issues (e.g. whether technologies are effective or whether outcomes are desired; Masocha & Fatoki, 2018; Zampone et al., 2023).

These types of isomorphism can therefore provide an explanation for the convergence in the global anti-doping regime. Drawing upon coercive isomorphism, NADOs (e.g. CHINADA and UKAD) must comply with policy documents such as the WADC and International Standards due to the sanctions for non-compliance (DiMaggio & Powell, 1983). From the perspective of normative isomorphism, International Standards and associated Guidelines provide professional requirements (e.g. testing standards) for NADOs to follow (Teodoro, 2014). With regard to mimetic isomorphism, the governance best practices (e.g. transparency, athlete representation and accountability) introduced by WADA and bilateral collaboration between NADOs (e.g. between China and Norway) enable NADOs to adopt well-established procedures to reduce decision-making risks (Dua, 2022; Vidar Hanstad & Houlihan, 2015). Consequently, anti-doping organisations become increasingly similar (like the findings of this thesis suggested), which indicates that the power of global anti-doping regime has exceeded political and cultural boundaries. However, such power might be much stronger than it appears.

Hegemony

The attitudes of participants when expressing their perceptions are important because these attitudes can help enhance the understanding of the power of the anti-doping regime. The difference in the attitudes of Chinese and British participants when expressing support for anti-doping and raising scepticism is interesting. Participants responded almost without hesitation when expressing support, yet articulating scepticism required additional time. Moreover, even when voicing critical views, participants tended to be cautious about their expression, which means that they tended to merely point out the widely recognised issues rather than criticising other issues (e.g. anti-doping itself).

The difference in the attitudes of participants adds evidence to the extent of power of global anti-doping regime. As discussed previously, social expectations are a part of coercive isomorphism, which makes supporting anti-doping a sense of correctness, while not supporting (or openly questioning) can be considered as inappropriate (DiMaggio & Powell, 1983; Gucciardi et al., 2016; Johnson & Johnson, 2024). This has provided an explanation for why participants tended to adopt a cautious approach when articulating their perceptions, particularly those related to criticism. Consequently, it is evident that the power of global anti-doping regime has become significant that it has shaped institutional isomorphism that exceeded the divergence between national contexts, yet it has also restricted the space for stakeholders to criticise or challenge its correctness.

Understanding the significant power of global anti-doping regime is important, as it helps identify the issues that pose challenges to anti-doping but are constrained by such power. This significant power can be explained by the concept of hegemony, which is a form of power that operates through norms and discourse, shaping the understanding of what is reasonable and just, thereby enabling specific institutional arrangements or international regimes to gain acceptance and compliance (Cox, 1983; Keohane, 1984). The anti-doping

regime can be considered as hegemonic. Clean sport is regarded as the only morally acceptable sport culture, any behaviour related to (or suspected to be related to) doping is considered immoral (or potentially immoral), and it is almost impossible for stakeholders to question any part of the system or ideology, particularly athletes, as doing so could cause damage to their reputation and career (Dimeo & Møller, 2018; Fincoeur et al., 2020; Jedlicka, 2012).

This hegemonic character of global anti-doping regime therefore poses several risks on anti-doping. As suggested by the findings of this thesis, the emphasis on the correctness and moral value of anti-doping has, to a large extent, restricted stakeholders from discussing existing issues within the anti-doping system. Scepticism regarding the procedural legitimacy (e.g. strict liability), consistency of implementation (e.g. testing frequency), effectiveness, and the rights and protection of athletes were hidden under the consensus in support of anti-doping and were expressed in a cautious and careful manner. Even in the UK where stakeholders have freedom of speech, they adopted this cautious and careful manner instead of openly speaking against anti-doping. Moreover, this hegemonic character can restrict the discussion of alternative governance approaches (Jedlicka, 2012). For instance, how retesting can be refined, how athletes can have greater involvement in decision-making, and how athletes can be protected from inadvertent mistakes.

Convergence among China and the UK

The influence shaping convergence in implementation and perceived legitimacy between China and the UK is not merely limited to institutional isomorphism and hegemony but also lies in the different political and cultural contexts between the two countries. Regarding political contexts, the findings suggest that sport governance in China is centralised, whereas that of the UK is decentralised. Regarding anti-doping culture, the UK

has demonstrated significant commitment to anti-doping, yet China has encountered persistent scepticism about its credibility due to high-profile doping scandals (Batt, 2014; Hong & Zhouxiang, 2012; Houlihan & Lindsey, 2012). Understanding the influence of their political and cultural contexts helps explain the reasons for convergent implementation and perceptions across divergent national contexts.

Political factors are usually linked to the doping culture in China. In the late 20th century, Chinese government's target of becoming a sport powerhouse put officials, coaches and athletes under significant pressure (Hong & Zhouxiang, 2012). Such pressure created a culture of worshipping gold medal and athletes were willing to win gold medals so that they can be hailed as national heroes for bringing honour to the country, be awarded with money and sponsorships, or be appointed as officials, even if it means using prohibited drugs (Hong & Zhouxiang, 2012; Tan et al., 2018). Consequently, the credibility of Chinese sport was severely undermined due to prevalent doping cases between 1988 and 1998, during which a total of 52 elite athletes were tested positive for anabolic steroids in multiple international events such as the World Aquatics Championships (Hong & Zhouxiang, 2012; Yang et al., 2021).

What the interpretation of findings indicates is therefore China's political and cultural shift in doping issues. The findings reflected Chinese government's effort in amending its credibility in sport, demonstrating a significant improvement in its commitment to anti-doping. Owing to the strong power of the central government of China, the ideology related to anti-doping can effectively be echoed and adopted throughout its top-down system without opposition, facilitating a political shift in doping issues across governance levels (Hutchcroft, 2001; Yang et al., 2021). Moreover, in Chinese politics, CCP holds the utmost authority (i.e. the party leads all aspects), central officials (particularly the president who serves as the leader of CCP) have a significant influence on policies (Heilmann, 2007; Minzner, 2018).

Consequently, the current president Xi's attitude towards anti-doping (e.g. firmly advancing the anti-doping campaign and implementing a zero-tolerance policy towards doping issues) also influenced the political shift.

The political shift in doping issues was followed by a cultural shift among stakeholders due to the traditional cultural norms in China. Confucianism is a dominant philosophical concept in Chinese culture that emphasises norms of family responsibility, hierarchical order, respect for authority, and harmony in ideology (Meng et al., 2024). Failing to adhere to the Confucianism norms can result in moral criticism or even punishment (Hu, 2007). Therefore, the cultural shift in doping issues was facilitated because opposing the political shift (i.e. disrespecting authority and undermining ideological harmony) can lead to punishment on individuals. However, this cultural shift only applies to the stakeholder groups of anti-doping (e.g. athletes), as anti-doping does not attract as much public attention as other civic issues (e.g. education and welfare; Yang et al., 2021). In other words, notwithstanding the influence of central authority and dominant cultural norms, anti-doping in China is limited to the stakeholder groups and has not facilitated moral criticism of doping across the Chinese society.

Unlike the Chinese context, the compliance with implementation standards and stakeholders' support for anti-doping in the UK have different origins. High-profile doping scandals as occurred in China at the end of the 20th century have not appeared in the UK, and the UK was one of the pioneering countries that established well-developed anti-doping system and received endorsement from WADA (Batt, 2014; Houlihan & Lindsey, 2012). This means that the UK's political commitment to anti-doping is consistent, whilst the findings suggested that China demonstrated a political shift (i.e. from non-compliant to compliant). Consequently, although the two countries have undergone different processes of establishing their anti-doping system, the impact of political commitment on the convergence of

implementation and perceived legitimacy in China and the UK is evident, indicating the importance of political commitment for enhancing compliance and harmonisation.

The difference in establishing political commitment to anti-doping between China and the UK is embedded in the cultural factors. Anti-doping was largely proposed by Western countries (e.g. European and North America countries) and the legal, cultural, and ethical influence of Western sport on shaping anti-doping was significant (Callery & McArdle, 2011; Christiansen, 2010). This cultural origin facilitated moral criticism of doping (e.g. cheating and gaining unfair advantage) in Western societies such as the UK (Exner, 2018; Henning & Dimeo, 2022; Hoberman, 2005). Moreover, public and media scrutiny of doping issues (e.g. criticism, investigation, and scandal exposure) is persistent and strict in Western countries, which strengthens surveillance and accountability (Dimeo & Møller, 2018; Rowe, 2008).

It is therefore evident that although China and the UK demonstrate convergence in implementation strategies and stakeholders' support for anti-doping, the processes by which they achieved such convergence were different. These processes were embedded within the political and cultural factors that influence the establishment of anti-doping system in both countries. An encouraging finding was that, in the context of institutional isomorphism, China's commitment to anti-doping has largely improved through the political and cultural shift, and the UK has maintained its consistent commitment to anti-doping. Nevertheless, several risks require careful consideration by CHINADA and UKAD.

These risks are in relation to the characteristics of anti-doping governance in China and the UK. For instance, in China's highly centralised system, it is difficult to determine whether Chinese stakeholders' support for anti-doping is due to institutional pressure (i.e. doing what is required) or voluntary compliance (i.e. doing what is right). Similarly, although the UK has an environment for openly discussing doping issues, it is difficult to determine whether British stakeholders' support for anti-doping is due to voluntary compliance (i.e.

doping what is right) or merely meeting social desirability (i.e. doping what is expected). Moreover, the surveillance on doping issues in China mainly relies on authorities, the relatively low public and media attention (compared to that in the UK) may constrain the Chinese society from establishing a moral consensus against doping.

Based on the discussions above, the risks that are embedded in the hegemonic character of anti-doping regime and the characteristics of anti-doping governance in China and the UK require careful consideration by WADA, CHINADA, and UKAD. For WADA, as the proposed multi-layer perceived legitimacy framework suggests, even though the consensus in support of anti-doping exists at the normative layer, failing to address (or even neglect) perceived legitimacy issues at the procedural and interactional layers can eventually lead to legitimacy failure. For CHINADA, the emphasis on central authority and hierarchical order can further restrict feedback from the bottom-level of governance (e.g. street-level officials and athletes), as such feedback has been largely constrained by the hegemonic character of anti-doping regime. For UKAD, the pressure on British stakeholders that is imposed by social desirability can limit constructive criticism of the issues in anti-doping policies.

Implications

The discussions have critically examined issues related to implementation and perceived legitimacy in anti-doping by actively engaging with primary data, existing evidence, and theoretical underpinnings of policy implementation and legitimacy. Building on this discussion, the section shifts the constructed insights into practical and theoretical implications. By doing so, it clarifies what the interpretations suggest can provide insights for the anti-doping regime and explains how theoretical reframing can help study anti-doping.

Theoretical Implications

Implications are offered for theoretical debates on harmonisation in transnational governance. Existing literature in anti-doping often attributes inconsistent implementation to differences in national political systems, resources, and governance traditions (e.g. Hanstad et al., 2010; Houlihan et al., 2019; Read et al., 2024; Star, 2022). Such explanations tend to assume that contextual divergence constrains harmonisation. Yet the constructed patterns in this thesis demonstrate that harmonisation can occur despite significant divergence.

Drawing upon policy implementation literature, the implication is that harmonisation in anti-doping can be better explained by the extent to which policy design structures interpretation and supports resource constraints (e.g. Hill & Hupe, 2002; Pressman & Wildavsky, 1984; Sabatier & Mazmanian, 1980). In this sense, harmonisation is more likely to be facilitated by reducing interpretive ambiguity and creating a supportive environment for implementation, rather than attempting to address contextual divergence. Theoretically, this reframes harmonisation as a result derived from well-established policy design, rather than a contextual condition. The reframing means that harmonisation and variations across contexts should not be treated as conflicting factors because whilst contextual differences can persist, clear and transparent policy design can mitigate the variations in implementation.

The findings also suggest that existing discussions of perceived legitimacy issues in anti-doping can be insufficient to capture how legitimacy operates and shifts across governance levels. Much of existing evidence identified that consensus in support coexists with distrust and concerns without clearly distinguishing and conceptualising these forms of perceived legitimacy (e.g. Martinelli et al., 2023; Petróczi et al., 2024; Weber et al., 2022; Whitaker et al., 2014). The coexistence of consensus and dissatisfaction implies that legitimacy is not necessarily coherent across governance levels. Consequently, this

necessitates developing a clearer and more consistent lens to discuss perceived legitimacy issues in anti-doping.

The identification of legitimacy alignment, legitimacy misalignment and legitimacy failure implies that legitimacy should be understood as conditional. Misalignment does not necessarily undermine recognition and acceptance of objectives and values if issues at other layers are clearly noticed and addressed. Conversely, neglecting or failing to address these issues can ultimately affect the existence of authority. This suggests that theoretical accounts of legitimacy can benefit from greater attention to differentiate the legitimacy issues within the same regime and propose targeted solutions. More broadly, the findings imply that legitimacy should be examined as a layered and interrelated issue that is continuously shaped by policy design, implementation, and everyday interactions.

Practical Implications

Greater clarity for the design of retesting is required in order to enhance NADOs understanding of this anti-doping measure. Despite being considered as an extension of deterrence, the procedural basis of retesting is insufficiently explained. The WADA regime could therefore support NADOs by developing implementation guidelines that standardise how retesting should be conducted, such as which samples should be stored, at what time, in which circumstances, for how long, and when to conduct re-analysis.

Strict liability principle and sanctioning should place greater emphasis on procedural justice. If strict liability must be enforced to maintain regulatory consistency, WADA could promote a more evidence-based procedure to respond to contamination cases and involuntary doping. For example, WADA could develop guidelines for types of evidence in contamination cases, enhance investigation to ensure inadvertent doping is not treated as intentional, and encourage transparent communication in anti-doping education regarding

how contamination risks can be mitigated. Moreover, if investigations shows involuntary doping did happen (e.g. athletes being forced by national authorities), WADA could proportionally reduce the sanctions on athletes.

The findings also suggest that variations across national contexts did not hinder harmonisation. Therefore, discussion on harmonisation issues could shift from resistance or contextual incompatibility to decision-making and feasibility constraints embedded in policy design. WADA could promote more bilateral collaborations between well-established systems and less-developed systems, the collaboration between Norway and China was proven to be efficient in enhancing compliance (Vidar Hanstad & Houlihan, 2015). Additionally, when introducing or updating policies, WADA could offer practical guidance regarding how these policies are supposed to work in order to enhance communication and reduce ambiguity.

With regard to legitimacy issues in anti-doping, the findings suggest a recurring pattern that despite normative consensus coexists with dissatisfaction of procedure and interaction. As conceptualised by the multi-layer framework, failing to address procedural and interactional issues can ultimately result in legitimacy failure. Therefore, to mitigate procedural issues, the anti-doping authorities could benefit from developing regular feedback reporting in order to capture procedural issues. Moreover, raising awareness among stakeholders and even a broader audience (e.g. public) of the issue complexity could be considered, as this enables stakeholders to build their expectations based on an understanding of the reality of anti-doping. For example, the complexity of doping as a policy issue could be clearly communicated to athletes regarding the scientific and technological limitations that constrain testing and the difficulty of ensuring consistent commitment across countries.

In terms of interactional issues, the findings suggest that legitimacy can be undermined if athletes feel disrespected during testing, investigation and education experiences, or feel disconnected when important information (e.g. updated prohibited list) is

not communicated. To mitigate interactional issues, the anti-doping regime could strengthen the training of DCOs to enhance their professionalism and familiarisation of sample collection procedures, thereby enhancing athletes' satisfaction. Moreover, the regime could benefit from timely communication regarding key information updates. For example, CHINADA has developed an account called Win Clean Golds on Chinese social media platforms, in which it communicates directly with athletes and a broader range of audience regarding anti-doping (e.g. CHINADA published an article that explains the 2026 prohibited list in January 2026).

Given that the findings suggested that stakeholders' articulation of critical views is constrained, the WADA regime should provide stakeholders with more channels for sharing their perceptions. For instance, governing bodies in anti-doping could encourage a more open and inclusive environment for communication, give athletes greater involvement in the decision-making processes, and enable stakeholders to offer constructive criticism without excessive constraints, thereby avoiding critical issues being overlooked. In doing so, the regime could be refined through sufficient feedback and the trust and recognition of stakeholders in the regime could be enhanced.

Taken together, these practical implications suggest that the sustainability of the anti-doping regime can be enhanced through robust implementation improvements and active legitimacy management. By emphasising procedural fairness in implementation, strengthening supportive tools for stakeholders, and strategically addressing existing legitimacy misalignment between normative consensus and dissatisfaction, the anti-doping regime can enhance both governance coherence and stakeholder trust.

Contributions

Theoretical Contributions

Theoretical contributions to policy implementation and perceived legitimacy in anti-doping governance are made. Existing literature mainly focused on challenges in compliance, regulatory design and harmonisation (e.g. Houlihan, 2014; Mazanov, 2016; Read et al., 2024), emphasising the difficulty of harmonising the implementation of global standards in different national contexts. By comparing evidence from China and the UK, the understanding of harmonisation was reframed, highlighting that policy regimes are more likely to achieve harmonisation when policy frameworks reduce ambiguity, clarify procedural expectations, and are supported by adequate resources. Consequently, harmonisation should not be understood as achieving consistency regardless of national variations, but as structured alignment of policy design and implementation support with respect to particular national contexts. By integrating theoretical underpinnings of policy implementation, insights into how harmonisation within the WADA regime can be enhanced were offered.

In anti-doping governance, emphasis can be placed on developing a more sophisticated hybrid model. Policy implementation literature has long been dominated by the dichotomy of top-down and bottom-up models (Lipsky, 2010; Pressman & Wildavsky, 1984), and has influenced sports policy analysis (Houlihan, 2005). However, the WADA regime has a hybrid nature which consists of public and private sectors, and it demonstrates the characteristics of centralisation and decentralisation (Casini, 2009; Van Bottenburg et al., 2020; Wagner, 2009). Consequently, interrelated factors such as central authority, adaption to national context and autonomy need to be taken into account when understanding anti-doping governance.

The findings of this thesis showed that the top-down and bottom-up dichotomy can only partially explain the implementation of anti-doping policies at the national level. China

reflects a stronger central authority, while the UK allows greater autonomy and collaborative communication. Yet both systems exhibit a hybrid characteristic where central authority, context adaption and autonomous judgement coexist. This characteristic challenges the linear process of top-down or bottom-up and is closer to the hybrid model in policy implementation literature (e.g. Matland, 1995). In the hybrid model, the central authority in the top-down model and autonomy in the bottom-up model coexist and interact with each other, rather than operating as mutually exclusive models.

The analytical lens for discussing perceived legitimacy issues was refined by conceptualising perceived legitimacy in policy regime as a dynamic and multi-layered construction. Emphasising that perceived legitimacy not only depends on whether a policy performs well but also on how the policy is interpreted, understood and expected. Existing anti-doping literature often captures that consensus coexists with dissatisfaction without examining their relationships (e.g. Barkoukis et al., 2025; Engelberg et al., 2015; Henning & Dimeo, 2018; Muwonge et al., 2025; Woolway et al., 2020). The multi-layer perceived legitimacy framework was proposed to clearly distinguish normative, procedural, and interactional legitimacy in anti-doping and identify how perceived legitimacy changes when different layers of legitimacy shifts.

The analysis of findings further contributes to the field of anti-doping by demonstrating that perceived legitimacy issues are interrelated and attention should be paid to identify where exactly the issues lie. It shows that the legitimacy of the anti-doping regime is not determined solely by acceptance of values or perceived implementation success, but by how values, procedures and interactions align. In this respect, debates surrounding strict liability, sanctions, and implementation process of testing (e.g. sample collection) are not merely technical or policy design issues but legitimacy concerns regarding fairness, justice and respect. Consequently, the theoretical refinement in this thesis shifts the focus from

which forms of legitimacy exist to ask under what legitimacy dynamics anti-doping regime sustain its legitimacy. This repositioning helps expand the analytical lens in the field of anti-doping.

Empirical Contributions

Significant contributions were made through the unique comparative lens. It helped understand how testing and retesting are implemented and perceived in both China and the UK. By interviewing participants who take different roles in the Chinese and British anti-doping systems, interpretations were constructed to reflect how testing and retesting are interpreted, designed, implemented and perceived in both countries' contexts. Such evidence is missing in the current field of anti-doping, particularly in the case of China. The comparative lens adopted in this thesis allowed for comparisons among different systems, thereby enabling the analysis of patterns that cannot be observed in case studies of a single country. Consequently, the findings not only provided new context-bound empirical evidence but also offered a new analytical perspective for examining anti-doping at the national level within the global anti-doping framework, with insights that can be transferable to broader contexts. The contribution of this thesis is also reflected in extending the empirical evidence of policy implementation and perceived legitimacy in China and the UK.

Before this thesis, empirical evidence for the implementation testing and retesting in China was anecdotal. The findings of this thesis revealed that CHINADA adopts a centralised system to carry out anti-doping governance across its large jurisdiction. Its large human resources and unique management culture (e.g. collective training) made it possible to manage its vast athlete population. Compared with the UK, China has demonstrated a high degree of harmonisation in the implementation of testing and retesting as a country that has long been criticised and suspected of doping issues, reflecting the enhancement of its

compliance. The perceptions of participants from both countries on legitimacy of anti-doping were similar, indicating that the perception of the limitations of current anti-doping policies is not confined to individual countries but is widespread. Due to the inherent limitations of centralisation, China's anti-doping has also demonstrated constraints related to flexibility and athlete autonomy, which is contrary to the strengths of the UK's decentralised system.

Together, by comparing China and the UK, the findings showed that different national contexts do not necessarily lead to different degrees of harmonisation. Despite China's centralised system and the UK's decentralised system have potential limitations, they have utilised the strengths of both systems to adapt to their domestic contexts, enabling CHINADA and UKAD to rank among the top globally in terms of anti-doping statistics (e.g. annual testing number). This pattern of moving from different paths to similar implementation strategies and performance revealed the significance of commitment level.

Regarding perceived legitimacy, the findings indicated that what causes distrust and concern is not policy implementation in both countries, but the inherent limitations of anti-doping policies. Although it cannot be excluded that in other national contexts athletes may be dissatisfied with policy implementation in their own country, the evidence of this thesis suggests that the key to enhancing legitimacy lies in the continuous improvement of policies and a clearer and more transparent communication. Consequently, the comparative lens offered insights into considering how to enhance commitment level based on the characteristics of different countries and how to enable stakeholders to have a better understanding of the complexity of doping.

To summarise this chapter, it provided an interesting and important comparative analysis of policy implementation and perceived legitimacy in China and the UK based on critical discussions of the findings. This chapter showed how the findings of this thesis answered the research questions. By combining existing literature and theoretical

underpinnings of policy implementation and perceived legitimacy, it not only extended empirical evidence in the current field of anti-doping but also suggested theoretical reconsiderations. Moreover, it shed lights on the challenges encountered by the anti-doping regime and highlighted the need to improve the effectiveness and consistency of anti-doping strategies while enhancing stakeholders' understanding of the complexity of doping. Overall, the critical discussion in this chapter set the stage for the conclusions, reflection on limitations, and future research directions in the next chapter.

Chapter 6 Conclusion

The overarching aim of this thesis is to extend empirical evidence by building a better understanding of policy implementation and stakeholders' perceived legitimacy of testing and retesting in China and the UK and providing implications for global harmonisation of anti-doping policies by comparing the Chinese and British contexts. Within the global framework, despite the WADC has established standards and guidelines, the power of implementation is delegated to anti-doping organisations of different countries, which are required to achieve compliance and harmonisation. However, due to insufficient effectiveness, commitment, and implementation consistency, compliance and harmonisation have been persistently challenged, thereby undermining the legitimacy of anti-doping policies. In this context, China and the UK, as two powerful sports countries that are different in their political systems, governance traditions, resource capacities and management cultures, offered an intriguing and valuable case for comparative analysis.

Summary of Key Findings

The understanding of harmonisation in anti-doping was reframed through critical analysis. Existing literature in the field of anti-doping often links harmonisation challenges to inconsistencies in resources constraints, capacity inconsistencies, and contextual variations (e.g. Anagnostopoulos & Begović, 2025; Gray, 2019; Houlihan, 2002). Yet the findings suggest that although CHINADA and UKAD encounter a certain degree of resource constraint (mainly in retesting budget), adopt divergent governance logics, and demonstrate significant gap in their organisational capacity, CHINADA and UKAD are perceived as showing a high degree of compliance and harmonisation. This finding therefore challenged the common discussion of harmonisation challenges in existing literature because it shows

that resource constraints, capacity inconsistencies and contextual variations do not inherently undermine harmonisation.

To reframe the understanding of harmonisation in anti-doping, the findings highlighted that harmonisation not only depends on how clear and transparent anti-doping rules are formulated but also on the operability of anti-doping rules in practice. By integrating theoretical underpinnings of policy implementation and comparing implementation in China and the UK based on the accounts of different stakeholder groups, the analysis shows that in the implementation of testing and retesting, the ambiguity in policy documents and insufficient implementation guidance and resource support have a significant impact on compliance and harmonisation. Therefore, it was proposed that harmonisation should be understood as a dynamic interaction between policy design, instrument specification, and implementation capability, rather than merely asking how variations between national contexts undermine harmonisation.

Despite demonstrating a high degree of compliance and harmonisation, a number of risks that can undermine the anti-doping efforts of CHINADA and UKAD were identified. A common issue in their governance was the frequency gap in testing. Participants' accounts suggested that some sports are tested more frequently than others (e.g. weightlifting over badminton), and out-of-competition testing is less frequent than in-competition testing. Although participants linked the gap to risk-based considerations and budget allocation, the frequency gap can generate scepticism about implementation consistency. Moreover, critical discussion of findings suggested that the tradition of collective training in Chinese sports can undermine the credibility of Chinese anti-doping, highlighting the significance of enhancing transparency and strengthening external understanding (e.g. media, scholar, and stakeholders from other countries). Regarding the UK, it was found that British athletes received much

less education in contamination related contents, indicating the necessity of enhancing athletes' awareness to protect them from inadvertent mistakes.

Several issues regarding WADA's policy design of testing and retesting were also identified. Participants highlighted the inherent limitations of testing, such as being unable to detect new substances or methods in time. This means that even NADOs can conduct sufficient number of tests that aligns with WADA's standards, the testing volume is unable to translate into effectiveness. As the findings of this thesis suggested, although participants recognised the good performance of their NADOs in terms of the testing volume, they questioned the effectiveness of testing.

With regard to retesting, interpretation of findings suggested that it is an important anti-doping measure that forms the deterrence pillar, yet Chinese and British athletes have almost no knowledge of retesting due to the rare implementation. The rare implementation was linked to unclear description of retesting in the WADC and high cost of conducting retesting. This highlights a missed opportunity for enhancing deterrence and assessing the effectiveness of retesting in practice. Moreover, retesting was questioned by participants from a legal perspective, suggesting that retesting violates the principle that laws do not act retroactively because it is unfair to hold athletes accountable for substances that were not included in the prohibited list when their samples were taken. These issues indicate that the policy design of testing and retesting requires further improvement.

For perceived legitimacy issues, the constructed patterns suggested misalignment among stakeholders' perceptions of anti-doping. Participants' accounts clearly indicated that there is a consensus in support of anti-doping and athletes were satisfied with their past testing experiences, but stakeholders held distrust and concerns about the limitations, effectiveness and fairness. This pattern resonates with existing evidence, showing that acceptance of anti-doping values coexists with scepticism about implementation and

effectiveness (e.g. Barkoukis et al., 2022, 2025; Cox et al., 2022; Overbye, 2016b, 2018). For example, notwithstanding deterrence was considered necessary, stakeholders did not trust that testing and retesting are effective or consistently implemented. They also pointed out that when athletes are involved in doping due to food and drink contamination (i.e. unintentional doping) or the intervention of state power (i.e. involuntary doping), it is difficult for athletes to be fairly treated by the system or to prove innocence.

By recognising the misalignment among stakeholders' perceptions, the complex nature of perceived legitimacy in anti-doping was highlighted. The findings suggested that stakeholders' perceptions of legitimacy are often based on legitimacy judgements across different layers in anti-doping governance. In order to better understand these variations, different layers of perceived legitimacy in anti-doping were distinguished and conceptualised, including normative legitimacy, procedural legitimacy, and interactional legitimacy (Colquitt et al., 2001; Jackson, 2018; Scott et al., 2007). By developing the multi-layer framework, it contributes to systematically explain the differences in perceived legitimacy issues in anti-doping.

A critical reflection was conducted on the extent of power of global anti-doping regime and the reasons for convergence among China and the UK. From the perspective of institutional isomorphism, the power of anti-doping has exceeded political and cultural boundaries, leading to an increasingly strong convergence among anti-doping organisations that operate in divergent national contexts. By comparing China and the UK, it was identified that the convergence in implementation strategies and stakeholders' support for anti-doping was achieved through different processes that were embedded within the political and cultural factors of both countries. However, these political and cultural factors can pose risks on anti-doping governance of CHINADA and UKAD (e.g. receiving feedback from stakeholders). In a broader scope, the hegemonic character of the WADA regime has also limited the regime

from receiving valuable constructive criticism from stakeholders, particularly athletes, posing a challenge to the legitimacy of the regime. The discussions in the previous chapter highlighted the importance of addressing these issues and offered practical recommendations.

Limitations

Doping is a sensitive topic, collecting data through semi-structured interviews has several limitations. Because of institutional pressure or social desirability, participants may choose to express opinions that are socially acceptable, rather than what they actually experienced or perceived (DiMaggio & Powell, 1983; Munir & Baird, 2016). Despite participants were informed that their confidentiality would be protected, they might still have concerns because the interviews would be recorded. Moreover, access to participants was limited because only participants who were willing to participate could be recruited. Despite attempting to get access to a broader range of participants, it was unable to interview individuals who could also provide valuable information (e.g. sanctioned athletes).

Another limitation that should be acknowledged is the absence of interviews with UKAD officials. Such absence means that discussions regarding policy design and implementation in the UK were not articulated based on the perspective of officials. Instead, findings regarding the British context were derived from the perceptions and experiences of coaches and athletes, complemented by publicly available data through triangulation. Consequently, findings regarding the British context did not reflect the same depth of analysis of organisational decision-making and implementation processes as was possible for the Chinese context.

Because RTA was adopted for data analysis, the analytical process was inevitably influenced by the researcher's interpretation and positionality. RTA emphasises the active role of the researcher in constructing themes through the researcher's interpretive engagement

with qualitative data in the analytical process, in which the researcher's positionality can affect how codes and themes are constructed (Braun & Clarke, 2019, 2020). Given that the researcher's influence on analysis is inevitable, reflexive approaches were adopted to enhance transparency, such as taking reflexive notes throughout the analytical process. However, the interpretive nature of RTA also means that different researchers (e.g. scholars who are more experienced) can potentially construct codes and themes in different ways.

Given that the comparative analysis focused on comparing China and the UK as national cases, there remains the opportunity for conducting comparative analysis between stakeholder groups (e.g. athletes, officials, journalists). Conducting comparative analysis between stakeholder groups can enhance analytical depth because different stakeholders have different understandings of anti-doping policies based on their roles and associated practical experiences (Bryman & Bell, 2019; Freeman, 1999). While this analytical lens can be valuable, the prime focus of this thesis was to compare China and the UK as national cases. Consequently, comparative analysis between stakeholder groups was beyond the scope of this thesis.

The scope of this thesis was based on policy implementation and perceived legitimacy, which somewhat limited the exploration of other important aspects of studying anti-doping policy. In particular, factors such as athlete culture, commercial pressure in sport, legal framework and technological innovation may profoundly affect the enforcement and outcome of anti-doping policies through different theoretical paths yet analysing them often requires the introduction of additional theoretical frameworks. Introducing more theoretical frameworks would significantly increase the time required to complete this thesis, exceeding the feasible boundaries of the researcher's time and resources. In order to maintain scope consistency, analysis depth and research feasibility, the above factors were not discussed in depth in this thesis.

While the analysis primarily drew upon top-down and bottom-up perspectives to examine the implementation of testing and retesting, the policy implementation literature extends beyond these two perspectives. For instance, hybrid and integrated approaches seek to reconcile the strengths of top-down and bottom-up perspectives by recognising that implementation outcomes are shaped through the interaction between policy design, institutional contexts, and the autonomy of implementors (Pülzl & Treib, 2006). Although elements of these approaches informed the interpretation of findings, they were not adopted as a separate analytical framework because the conceptual framework developed in this thesis integrated top-down and bottom-up insights with perceived legitimacy to examine the complexities in translating globally standardised anti-doping policies into practice. Consequently, the findings and discussions provided less explicit insights into how interactions between WADA, NADOs, and other implementation actors shape anti-doping policy implementation as these are what the hybrid and integrated approaches seek to capture.

Because follow-up questions were not used, the depth of some responses might be limited. Follow-up questions (or probing) in qualitative research enable researchers to clarify, elaborate, and deepen participants' responses, thereby facilitating richer and more nuanced interpretations of their experiences and meanings (Adams, 2015; Robinson, 2023). Due to the absence of follow-up questions, some responses could be rehearsed or socially acceptable accounts rather than critical reflections, limiting opportunities to explore participants' underlying reasoning and experiences in greater depth (DiMaggio & Powell, 1983). Nevertheless, participants generally provided responses that directly addressed the research questions, enabling the thesis to identify consistent patterns across stakeholder groups and generate credible interpretations.

The over-representation of weightlifting demonstrates the uneven distribution of sports represented in the sample, particularly within the Chinese context. As different sports

vary in their anti-doping regulations, testing frequency, organisational cultures, and perceived doping risks, stakeholders' experiences and perceptions of testing and retesting may differ accordingly. Consequently, the findings might be influenced by the patterns of the sports that were strongly represented in the sample. The findings should therefore be interpreted as representing a range of stakeholder perspectives rather than the experiences of all sports equally.

Directions for Future Research

Future research can seek to expand the empirical scope of studies on anti-doping to address the limitations related to sample representativeness. Although copious qualitative data was obtained, the samples inevitably only reflected a small part of the different stakeholder groups in the anti-doping regime. Future research can consider involving a broader range of participants from different sports, organisational roles, and national contexts, thereby enhancing the transferability of research findings and gaining a more comprehensive understanding of empirical evidence across anti-doping systems. Moreover, future research can consider conducting comparative analysis between stakeholder groups.

To encourage participants to express what they actually experience or perceive, future study can adopt research approaches that make participants perceive a higher level of anonymity than semi-structured interview. Approaches that have higher anonymity include anonymous surveys and randomised response technique, which can encourage participants to provide reliable response by reducing the impact of social desirability (Tourangeau & Yan, 2007; Warner, 1965). However, the importance of semi-structured interview in obtaining in-depth and complex answers should not be overlooked. Although anonymous approaches can make participants perceive a higher level of anonymity, semi-structured interview has strengths in exploring why participants provide certain responses and building a better

understanding of how contexts and backgrounds influence participants' responses (Bryman & Bell, 2019; Brinkmann & Kvale, 2018).

Future research can also benefit from direct observation of the policy implementation of NADOs and RADOs through field work. Observational methods (e.g. field work) enables the researcher to examine everyday practices and interactions directly (Hammersley & Atkinson, 2019). This means that researchers can directly observe what anti-doping organisations actually do in the implementation of anti-doping policies or notice what stakeholders did not notice in anti-doping practices (Okely, 2020). Future research can consider adopting ethnographic or anthropological observation approaches to provide valuable insights into the daily interactions, autonomous judgements, and compliance degrees in anti-doping organisations (Blommaert & Jie, 2020; Okely, 2020). By doing so, it can supplement the interpretations based on interviews and enhance the understanding of policy implementation.

Future research can be built beyond the analytical framework of policy implementation and perceived legitimacy. These two lenses provided valuable insights into the analysis of how anti-doping policies are implemented and perceived in different national contexts. Yet the factors influencing policy outcomes could be more comprehensively assessed by adopting other theoretical underpinnings, such as cultural, legal or managerial approaches. This broadening could complement the current research and contribute to a better understanding of the complex and evolving field of studying anti-doping policy.

Lastly, future research could strengthen the depth of qualitative enquiry by making greater use of follow-up questions (or probing) to explore participants' accounts in more detail and clarify issues requiring further explanation. Such approaches may facilitate richer insights into how stakeholders construct and communicate their perceptions of anti-doping

implementation and legitimacy, particularly when reaching politically or institutionally sensitive topics.

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Appendices

Appendix A

Participant Information Sheet

1. Research Project Title

Opportunities and Challenges of Anti-Doping Policy Harmonisation: Comparative Analysis of the Implementation and Perceived Legitimacy of Testing and Retesting between China and the United Kingdom.

2. Background, aims of project

We would like to build a better understanding of the implementation of testing and retesting, and identify the challenges for harmonisation and compliance at the national level from your valuable experiences and opinions. There are different types of interview questions including your background, anti-doping education, and experiences and perceptions of testing and retesting in order to gain a comprehensive knowledge.

3. Why have I been invited to take part?

You have been invited because you are either implementors of anti-doping policies (officials) or you have direct connection with testing and investigation (athletes), or you have direct connection with athletes (coaches).

4. Do I have to take part?

No. You do not have to take part. If you do decide to take part, you can withdraw your participation at any time without needing to explain and without penalty by advising the researcher of this decision.

You can also withdraw your data within one month after you complete your interview. To withdraw your data please email the Principal Investigator, Ziheng Deng

ziheng.deng@stir.ac.uk . You will be given this information sheet to keep and be asked to sign a consent form.

5. What will happen if I take part?

In the semi-structured interviews, you will be asked to share your individual experiences and perceptions of anti-doping policies. The interview will take approximately 20-40 minutes.

6. Are there any potential risks in taking part?

The nature of this research is relatively sensitive, and thus some sensitive questions may be asked, which may cause discomfort (e.g., violation of athletes' privacy caused by doping control). If you find this topic too sensitive to you, you do not need to answer the questions at all. In addition, your participation is entirely voluntary. Please do not feel obligated to participate.

7. Are there any benefits in taking part?

There will be no direct benefit to you from taking part in this research. However, you may find talking about your experience is itself helpful. Your participation will also help the researcher to better understand anti-doping policy and testing regimes.

- 8.** As part of the project, the research team will be recording personal data (e.g., your name and gender) relating to you. This will be processed in accordance with the General Data Protection Regulation (GDPR). Under GDPR the legal basis for processing your personal data will be public interest/the official authority of the University.

9. What happens to the data I provide?

The data will only be kept by the researcher (Ziheng Deng). Your answers will be completely anonymous, and the research team will use all reasonable endeavours to keep them confidential. Your data will be stored in a password-protected file, and your IP address will not be stored.

10. Recorded media

Your interview will be audio/video recorded for the purpose of data analysis. The research team will ask all participants who participate in interviews for their permission to use direct quotes. Any personal information that identifies an individual will be deleted in a journal article/official report.

11. Will the research be published?

The research is firstly for researcher's PhD thesis; it will also be published in a peer-reviewed academic journal. You will not be identifiable in any report/publication. The University of Stirling is committed to making the outputs of research publicly accessible and supports this commitment through our online open access repository STORRE.

Unless funder/publisher requirements prevent us, this research will be publicly disseminated through our open access repository. Please note that the current project has no funder.

12. Who has reviewed this research project?

The ethical approaches of this project have been approved via The University of Stirling General University Ethics Panel.

13. You have the right to request to see a copy of the information we hold about you and to request corrections or deletions of the information that is no longer required. You have the right to withdraw from this project within one month after you complete your interview without giving reasons and without consequences to you. You also have the right to object to us processing relevant personal data, however, please note that once the data are being analysed and/or results published it may not be possible to remove your data from the study.

14. Who do I contact if I have concerns about this study or I wish to complain?

If you would like to discuss the research further, please contact the principal investigator, Ziheng Deng via ziheng.deng@stir.ac.uk, or the Head of Sport, Professor Paul Dimeo paul.dimeo@stir.ac.uk

You have the right to lodge a complaint against the University regarding data protection issues with the Information Commissioner's Office (<https://ico.org.uk/concerns/>).

The University's Data Protection Officer is Joanna Morrow, Deputy Secretary. If you have any questions relating to data protection these can be addressed to data.protection@stir.ac.uk in the first instance.

You will be given a copy of this information sheet to keep.

Thank you for your participation.

Appendix B

Participant Recruitment Material – Email

Template 1:

Dear [a name of a potential participant]

I hope this email finds you well.

I am writing to cordially invite you to participate as a participant in a research study focused on anti-doping policy. This study aims to extend the empirical evidence by building a better understanding of policy implementation and stakeholders' perceived legitimacy of testing and retesting in China and the UK and providing implications for global harmonisation of anti-doping policies by comparing the Chinese and British contexts.

As a highly respected individual with an extensive background in [relevant expertise or experience], your participation in this study would greatly contribute to our research objectives and provide valuable insights into the current landscape of anti-doping policies. We believe that your knowledge and perspective would be instrumental in shaping the findings of this study and potentially influencing future policy development in this critical area.

To accomplish the objective of this study, we have designed semi-structured interviews that will delve into various aspects of testing and retrospective testing. Your participation will involve participating a secure online meeting with the investigator and answering the questions, which should take approximately 20-40 minutes to complete. All responses will remain anonymous and strictly confidential, and the data collected will be used solely for research purposes.

Please see attached document where you can find more details about this study. If you have any questions or require further information regarding this study, please do not hesitate to reach out to us at ziheng.deng@stir.ac.uk. We are more than happy to address any concerns or provide any clarifications you may require.

Yours sincerely,

Ziheng

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Template 2:

Greetings! I am Ziheng Deng, a PhD candidate in Sports Studies at the University of Stirling.

I am conducting a research project: “Opportunities and Challenges of Anti-Doping Policy Harmonisation: Comparative Analysis of the Implementation and Perceived Legitimacy of Testing and Retesting between China and the United Kingdom”. I would like to invite you to participate the research. Please see attached information sheet where you can find more details about the research project.

If you need more information, please let me know. I am happy to provide more.

I look forward to hearing from you.

Kind regards,

Ziheng

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Appendix C

Interview Questions for Officials

Background

1. What is your position in the anti-doping organisation?
2. How long have you been in this position?
3. What are your main duties in this position?
4. How is anti-doping governed in your country?

Education

1. How does your carry out anti-doping education?
2. How does your organisation inform athletes about testing/retesting?
2. What do you think of the current outcomes of the education of anti-doping?

Implementation and perception of testing/retesting

1. How is testing implemented in your country?
2. How much emphasis does testing receive in your implementation and what does the organisation do?
3. How does the organisation manage the athletes to cooperate with testing?
4. What do you think of the complaints from athletes about the violation of their privacy such as when reporting whereabouts information?
5. How is retesting implemented in your country?
6. How much emphasis does retesting receive in your implementation and what does the organisation do?
7. How does the organisation manage the athletes to cooperate with retesting?
8. What do you think of the fact that there is no limitation on the authority of a laboratory to conduct repeat or additional analysis on sample?

9. What do you think about the authority of WADA to take physical possession of body sample and related analytical data of a laboratory or ADO at any time without prior notice?
10. Has WADA ever taken physical possession of body sample and related analytical data from your organisation and what was the process?
11. What do you think of the fact that any other ADO has the authority to conduct further analysis on sample even if it initially tested negative?
12. Has your organisation ever used this authority and what was the procedure?
13. What do you think of an athlete unexpectedly receiving a medal years after a competition because the opponent who beat that athlete is punished for drug use?
14. What do you think of the effects of retesting on clean athletes, since their body samples are also taken and stored for years?
15. What do you think of the design of retesting?
16. What do you think of the role of testing/retesting in revealing the doping scandals (e.g., Russia)?
17. What do you think about the effectiveness of testing/retesting acting as a deterrence of drug use in sports?

Appendix D

Interview Questions for Coaches

Background

1. What's your coaching experience?
2. What's your experience with anti-doping as a coach?
3. What are your main duties in this position?
4. How is anti-doping governed in your country?

Education

1. How did athletes get information about testing/retesting?
2. What do you think of the current outcomes of anti-doping education?

Knowledge about and perception of testing/retesting

1. How is testing implemented in your country?
2. How did you manage or encourage athletes to cooperate with testing?
3. What do you think of the complaints from athletes about the violation of their privacy (e.g. whereabouts information, sample collection process)?
4. How is retesting implemented in your country?
5. How did you manage or encourage athletes to cooperate with retesting? IF it has ever been implemented?
6. What do you think of the fact that there is no limitation on the authority of a laboratory to conduct repeat or additional analysis on sample?
7. What do you think about the authority of WADA to take physical possession of body sample and related analytical data of a laboratory or ADO at any time without prior notice?
8. What do you think of the fact that any other ADO has the authority to conduct further analysis on sample even if it initially tested negative?

9. What do you think of an athlete unexpectedly receiving a medal years after a competition because the opponent who beat that athlete is punished for drug use?
10. What do you think of the effects of retesting on clean athletes, since their body samples are also taken and stored for years?
11. What do you think of the design of retesting?
12. What do you think of the role of testing/retesting in revealing doping scandals (e.g. Russia)?
13. What do you think of the effectiveness of testing and retesting as deterrence?

Appendix E

Interview Questions for Athletes

Background

1. What sport do you play?
2. How long have you been playing at your current level?

Education

1. Have you participated in any anti-doping education programme? (if so, what kind of information was introduced?)

Knowledge about and perception of testing/retesting

1. How much do you know about testing, which is a policy introduced by WADA aims to take body sample from athletes for detecting potential drug use? (e.g., definition, process, who is responsible etc.)
2. When was the last time you have been tested?
3. Which organisation was responsible for your last test and how did you feel about the process?
4. What do you think of the implementation of testing in your country?
5. What do you think of providing whereabouts information to ADOs?
6. How much do you know about retesting, which is a policy introduced by WADA aims to take body sample from athletes for long-term storage and re-analysis? (e.g., definition, process, who is responsible etc.)
7. What do you think of the fact that there is no limitation on the authority of a laboratory to conduct repeat or additional analysis on sample?
8. What do you think about the authority of WADA to take physical possession of body sample and related analytical data of a laboratory or ADO at any time without prior notice?

9. What do you think of the fact that any other ADO has the authority to conduct further analysis on sample even if it initially tested negative?
10. What do you think of the implementation of retesting in your country?
11. What do you think of an athlete unexpectedly receiving a medal years after a competition because the opponent who beat that athlete is punished for drug use?
12. What do you think of an athlete who used drug to get some achievement and has gained the applause, respect and income before getting caught?
13. What do you think of the effects of retesting on clean athletes, since their body samples are also taken and stored for years?
14. What do you think of the design and implementation of retesting?
15. In the Russian doping scandal, it is revealed that organised doping and sample swapping happened, what do you think of the effectiveness of testing and retesting when corruption exists?
16. What do you think of the role of testing/retesting in revealing those doping scandals?
17. What do you think about the effectiveness of testing/retesting acting as a deterrence of drug use in sports?

Appendix F

Interview Transcript – CO1**Background****1. What is your position in the anti-doping organisation?**

I work in the legal department of CHINADA.

2. How long have you been in this position?

Five years.

3. What are your main duties in this position?

I am mainly responsible for policy research, regulation and system construction, results management, managing Therapeutic Use Exemption, and overseeing the quality of CHINADA's work.

4. How is anti-doping governed in your country?

Domestically CHINADA is governed by the China General Administration of Sport. However, as a signatory of the World Anti-Doping Code, CHINADA is also responsible for being compliant with the Code and International Standards and implementing these anti-doping rules. Anti-doping in China is carried out in a cross-cutting and top-down system, this means each sport federation and province has their own anti-doping department, but all these departments are under the management of CHINADA. From the perspective of national context, China has a large number of athletes and a vast territory. From the perspective of China's sports system, each province has its own professional teams, each sport has a system of development (i.e. from junior athletes to senior athletes), and on top of this, there is also the national team. If we do not vertically transfer some power, our management will be greatly challenged, which in turn will affect the quality and frequency of implementation.

Education

1. How does your organisation carry out anti-doping education?

CHINADA is responsible for anti-doping education throughout the country. It mainly includes the formulation of implementation rules for education, the compilation of unified teaching materials, the construction of network education platform, the training of anti-doping education lecturers, and the organisation of anti-doping education activities.

2. How does your organisation inform athletes about testing/retesting?

We have set out clear regulations for testing and retesting, they are consistent with the expression in the WADC and International Standards. So in education it is a matter of making athletes aware what these regulations mean, how they are enforced, and what the possible consequences are. Apart from this, our primary goal in education is to help athletes build moral standards against doping.

3. What do you think of the current outcomes of the education of anti-doping?

I think China's anti-doping education is one of the best in the world. Our anti-doping education covers not only high-level athletes, but also amateur athletes and mass sports participants. CHINADA organises thousands of anti-doping education events each year, with hundreds of thousands of participants in total. I do not think the anti-doping education in other countries can reach the scale of China.

Implementation and perception of testing/retesting

1. How is testing implemented in your country?

The term 'Testing' refers primarily to the process of collecting samples from athletes, which we translate to 'Jiān Chá'. It is divided into the preparation of testing plan, the selection of the athletes to be tested, the collection of samples and transport to the laboratory. The most critical is to collect the samples of athletes. Testing is mainly carried out by National Anti-

Doping Organisations, such as CHINADA, UKADA, USADA, etc., but also the International Federations.

The term ‘Sample Analysis’ refers to the process of detecting prohibited substances in an athlete’s sample in a laboratory, which we translate as ‘Jiān Cè’. Testing and Sample Analysis must be carried out separately to ensure the anonymity of athletes and to avoid cheating. I think the two terms can be easily confused.

Therefore, in China, Testing is carried out by CHINADA, and there are also International Federations that collect athletes’ samples after obtaining authorisation. Sample Analysis is carried out by relevant laboratories. There is an anti-doping laboratory in Beijing and another one is under construction in Shanghai. It can also be sent to foreign laboratories for analysis.

2. How much emphasis does testing receive in your implementation and what does the organisation do?

Testing is certainly the most important in anti-doping because it is designed to be the most effective tool and it has the greatest deterrent effect.

3. How does the organisation manage the athletes to cooperate with testing?

Athletes’ samples are anonymised before they are sent to the lab, so athletes have no control over their samples after the sample analysis phase. Even if they were unwilling to cooperate, it would be impossible to identify their own samples among the anonymised samples.

Therefore, the problem of cooperation here is mainly how to let athletes cooperate with the doping control personnel to collect samples in the testing process.

First of all, the Code clearly states that anti-doping organisations have the right to collect samples at anytime and anywhere. Secondly, the regulations also impose an obligation on athletes to cooperate with anti-doping efforts. Thirdly, in anti-doping education, we will also emphasise the rights of athletes in anti-doping work and the obligation to cooperate with doping control. Let athletes know that cooperating with doping control is both their

responsibility and their contribution to clean sport. Fourth, in education, we will also let them know the consequences and penalties that they may face if they do not cooperate. Lastly, we ask the athlete management units to ensure that the places and facilities for testing are comfortable for athletes, and a special person can be arranged to accompany athletes to avoid accidents during the process.

4. What do you think of the complaints from athletes about the violation of their privacy such as when reporting whereabouts information?

Doping control is sure to take up athletes' time. Urine sample collection is relatively easy to perform whereas blood sample collection can cause a degree of pain for athletes. For high-level athletes, they need to declare their whereabouts information and may also need to be tested frequently. It is normal for athletes to complain.

However, I do not think doping control is incompatible with athletes' privacy. As we will seek athletes' support and understanding of anti-doping work and let them know that doping control is to ensure they are clean but also to catch cheats. We will also take effective privacy protection measures, including keeping the athletes' whereabouts information and sample information confidential. During the testing process, we also stipulate that the DCOs must follow the procedures and be friendly to the athletes so as to alleviate athletes' possible negative emotions. Furthermore, we can only do the work related to testing and must not disturb athletes in other ways. For example, what happened during FINA's testing of a well-known athlete would never be allowed to happen by Chinese DCOs.

5. How is retesting implemented in your country?

As you may have noticed, the implementation of retesting is vested in anti-doping organisations. At the national level, this is done by NADOs, which is CHINADA in China. At the provincial and municipal level, they only have the right to assist CHINADA in collecting and transmitting samples, but do not have the right to decide whether to conduct retesting.

All samples should be stored by CHINADA until they are sent to the laboratory and then stored in the laboratory. If the initial test results are negative and no further requests are made within three to six months, the samples are disposed of harmlessly. The reason for this is that the storage capacity of CHINADA and the laboratory is limited. For those with further requests, the samples will continue to be stored.

In general, samples from major events will be required for long-term storage, such as the Olympic Games, Asian Games and Chinese National Games. These are all in-competition samples. Samples of athletes in sports with a high risk of doping (Target Groups of Athletes), are also stored for a long time. These are out-of-competition samples.

6. How much emphasis does retesting receive in your implementation and what does the organisation do?

This is not an easy question to answer. Generally speaking, it is mainly to compensate for the shortcomings of testing and to avoid athletes getting away because of substances or methods that cannot be detected by current testing technology.

However, to be honest, retesting is not used that much. The cost of retesting is too high, particularly storage costs and re-analysis costs. Our budget is mainly for testing because testing is used frequently, and after distributing budget to the testing plan there is not much left for retesting. But I think allocating resources strategically is reasonable, NADOs definitely want to target on all sports using all possible approaches but it is unrealistic. That is why developing a robust intelligence system is important because it can give us accurate information and encourage athletes to report the signs, particularly for less tested sports.

7. How does the organisation manage the athletes to cooperate with retesting?

In general, retesting does not require the cooperation of athletes, unless in the special case of retesting athletes that had positive results in initial test, they will be informed and cooperation in this case is mandatory.

8. What do you think of the fact that there is no limitation on the authority of a laboratory to conduct repeat or additional analysis on sample?

I personally believe that this is a legitimate need for anti-doping efforts, mainly to compensate for the shortcomings of testing and to avoid athletes getting away with using substances that cannot be detected by current testing technology.

However, I also believe that the prohibited list used for retesting should be the list used at the time of sample collection or initial test, rather than the current list. I think this violates the principle of “the law does not operate retroactively” and this WADA rule is unreasonable. For example, some substances were not included back in those days, but later added to the prohibited list, using the current list to analyse samples taken back in those days is unfair to athletes.

9. What do you think about the authority of WADA to take physical possession of body sample and related analytical data of a laboratory or ADO at any time without prior notice?

This authority is clearly defined by WADA and must be complied with as a contracting party. However, the actual implementation may be restricted by different laws and regulations in different countries, which may lead to conflicts between international rules and national laws.

10. Has WADA ever taken physical possession of body sample and related analytical data from your organisation and what was the process?

This kind of conflict has not happened in China as we are actively cooperating

11. What do you think of the fact that any other ADO has the authority to conduct further analysis on sample even if it initially tested negative?

I do not think that is a problem. As mentioned earlier, the reason for this is to take into account the limitations and hysteretic nature of testing. However, I have also expressed my

opinion that the general principle of non-retroactivity of the law cannot be violated. Retesting cannot hold athletes accountable for substances that were not included in the list.

12. Has your organisation ever used this authority and what was the procedure?

Yes, we have. On the basis of intelligence information, we try to confirm that certain indicators of certain athletes are abnormal, then the Doping Control Office informs the Legal Office, which makes an assessment and informs the laboratory to re-analyse certain samples for certain substances. We do detect prohibited substances in this way.

13. What do you think of an athlete unexpectedly receiving a medal years after a competition because the opponent who beat that athlete is punished for drug use?

I do not think there is anymore that can be done at the moment. As there are indeed limitations to current testing, and technological progress takes time. Therefore, situation like this has happened a lot.

As for the stripping of medals, I think attention needs to be paid to the concept of statute of limitations. For example, the statute of limitations is five, ten or twenty years in China's Criminal Law. The statute of limitations for anti-doping is ten years, I think the timing is reasonable. In other words, as long as athletes can be caught within ten years they will be punished, if more than ten years then they cannot be punished. It is a question of legitimacy.

14. What do you think of the effects of retesting on clean athletes, since their body samples are also taken and stored for years?

In our anti-doping work, we treat all athletes equally. As long as athletes' results are clean, they should be presumed to be 'clean', then there is no problem with long-term storage of samples. As for athletes who have failed their initial test, there is no need to store the samples since they have already tested positive. As long as athletes are always clean, then it does not have any effect on them.

15. What do you think of the design of retesting?

In general, I think it is ok, and it is an effective way to improve the limitations of testing. However, I do not think the design is sophisticated enough. If you look at the Code you will notice that there are only three points for retesting, and international standards do not add much more detail to it. In particular, the regulations do not tell anti-doping organisations which samples are recommended for long-term storage and when they should be re-analysed, and WADA has not issued any guidelines on these problems. In addition, there is the problem of violating the principle of non-retroactivity of law, which I have repeatedly mentioned. In all, I think retesting is well intended, but poorly designed.

16. What do you think of the role of testing/retesting in revealing the doping scandals (e.g., Russia)?

Of course they are important. However, I think unless there is a revolutionary technological improvement of testing, it is better to rely on intelligence to improve accuracy. Simply relying on testing/retesting is like looking for a needle in the sea. In the Russian case we learned that sample substitutions were taking place in laboratories, in this case, no matter how advanced testing or retesting is, either would be effective. However, I do not think there is anymore that can be done at the moment.

17. What do you think about the effectiveness of testing/retesting acting as a deterrence of drug use in sports?

Testing is the most important tool in anti-doping work, and it has the greatest deterrent effect. Retesting is a complementary tool and will also act as a deterrent to some extent. They have some limitations of course, but they are effective to a large extent.

Appendix G

Interview Transcript – CC1

Background

1. What's your coaching experience?

I am a former professional weightlifter and now a coach

2. What's your experience with anti-doping as a coach?

As required by CHINADA, coaches must participate in anti-doping courses. Then we use relevant knowledge to keep reminding athletes of the importance of being compliant. This is also a form of protection for athletes I suppose.

3. What are your main duties in this position?

I'm responsible for training the athletes and developing the back-up talents for future.

4. How is anti-doping governed in your country?

The governance of anti-doping is hierarchical. The general administration oversees CHINADA, then down to provincial level, and to the local level. Of course it is WADA at the top level, but WADA is too far away from our daily work.

Education

1. How did athletes get information about testing/retesting?

We have many forms of education, including textbooks, organised study and online lectures.

We also introduce previous cases to our athletes.

2. What do you think of the current outcomes of anti-doping education?

I think it's very effective, through all these years our athletes have developed comprehensive knowledge about anti-doping and built up great moral value.

Knowledge about and perception of testing/retesting

1. How is testing implemented in your country?

From my observation, testing is quite frequent and unpredictable. In other words, highly randomised. Whether during competition or in the out-of-competition times, athletes can be tested at any time. As coaches, we think about how to cooperate with the implementation. For example, I would remind athletes to report their whereabouts information in time in case they forget.

2. How did you manage or encourage athletes to cooperate with testing?

I think our athletes have gained a concept of cooperating with anti-doping work from the anti-doping education programmes. We also have a good management of our athletes which makes the implementation more effective.

3. What do you think of the complaints from athletes about the violation of their privacy (e.g. whereabouts information, sample collection process)?

The spirit of sport includes fairness and equality, the ADOs and DCOs are certainly qualified by WADA so they are professional and so they can maintain fairness and equality in anti-doping work. As for the athletes, since they are under this 'system', they have the obligation to cooperate. Anti-doping is for protecting fairness and health, I do not think complaint is a common thing among athletes because I believe most athletes know that they are in this 'game' and they have to follow the rules.

4. How is retesting implemented in your country?

I do not know much about retesting, I think it is rarely implemented.

5. How did you manage or encourage athletes to cooperate with retesting? IF it has ever been implemented?

Like I said, retesting is rarely implemented. So in our daily work we would emphasise the importance of testing.

6. What do you think of the fact that there is no limitation on the authority of a laboratory to conduct repeat or additional analysis on sample?

Generally speaking, I do not think clean athletes should be worried, the rules are for protecting them. Anti-doping rules are set by WADA, we are all in this “system”, so if that is the rule then we should abide by it.

7. What do you think about the authority of WADA to take physical possession of body sample and related analytical data of a laboratory or ADO at any time without prior notice?

Again, it is the rule so we should abide by it.

8. What do you think of the fact that any other ADO has the authority to conduct further analysis on sample even if it initially tested negative?

Same as above, as long as it is conducted legitimately we should abide by it.

9. What do you think of an athlete unexpectedly receiving a medal years after a competition because the opponent who beat that athlete is punished for drug use?

I think currently there is not much that can be done. Situation like this happens because there are some limitations in testing. Only when we know about a particular substance can we design a testing method for it, as the technology to produce new substances has always been ahead of anti-doping. So at now it is still a good policy as it reveals athletes who used banned substances but passed the initial test. The true winner can be announced at the end and the medal can be returned.

10. What do you think of the effects of retesting on clean athletes, since their body samples are also taken and stored for years?

Same as what I said before, clean athletes should not be worried.

11. What do you think of the design of retesting?

Since retesting is rarely implemented I do not know how effective it can be. However, I do know that testing has limitations, so if retesting is effective it can help protect clean athletes. I have watched athletes train and compete so hard from a young age and I believe that athletes from other countries have also put in a lot of efforts, it would be unfair if those efforts were defeated by athletes who deliberately doped. That is why I think anti-doping is necessary, especially sanctions.

12. What do you think of the role of testing/retesting in revealing doping scandals (e.g. Russia)?

Fundamentally, both testing and retesting rely on samples, so if the sample itself is tampered, either of them would work. From what I learned, the Russian case was exposed because of a whistleblower, instead of testing or retesting.

13. What do you think of the effectiveness of testing and retesting as deterrence?

In China, doping is against the law. We call it a 'red line' that cannot be crossed. So I think in China testing and retesting are very effective as deterrence. We have well-developed education programme to let athletes and sports organisations know about the damage that doping can cause and there will be zero tolerance when making punishment. Overall, I think deterrence is just one aspect of anti-doping, education is also very important as it develops the knowledge about doping and builds the moral value.

Appendix H

Interview Transcript – BA4

Background

1. What sport do you play?

I do modern pentathlon.

2. How long have you been playing at your current level?

I have been doing modern pentathlon for about 12 years, and 3 years at current level

Education

1. Have you participated in any anti-doping education programme? (if so, what kind of information was introduced?)

I did the basic education courses and half a year ago I did TUE education. I think those are the only two forms that I had to do. They were both online and basically like a presentation on the computer. Each part took about 2 hours

Knowledge about and perception of testing/retesting

1. How much do you know about testing, which is a policy introduced by WADA aims to take body sample from athletes for detecting potential drug use? (e.g., definition, process, who is responsible etc.)

I have been through the whole testing process already, I know the process well.

2. When was the last time you have been tested?

I was tested on the 11th of June this year. I finished in the second place in a competition and after that a personnel came to me to notify me about testing. I think the top 3 athletes were definitely tested and another athlete was randomly selected from the top 8.

3. Which organisation was responsible for your last test and how did you feel about the process?

It was a DCO from USADA. He was well-prepared in advance, the whole process was professional and comfortable. I felt that I was in good hands because he was explaining all the steps and telling me what he will be doing before each step.

4. What do you think of the implementation of testing in your country?

I think overall it is good, but some sports are tested more often than other sports, I guess it has something to do with the risk.

5. What do you think of providing whereabouts information to ADOs?

I think it is important but to be completely honest it is a bit tough to do. At the beginning I felt it was an easy process to do, but the more I do it the more exhausting it becomes.

Fortunately I am getting used to it. Currently I am in university so I pretty much have the same schedule every week which makes it easier for me but when I was back home it brought me inconvenience. However, I do stand on the NADO's side because it is fair and understandable for them to do so.

6. How much do you know about retesting, which is a policy introduced by WADA aims to take body sample from athletes for long-term storage and re-analysis? (e.g., definition, process, who is responsible etc.)

I do not know retesting that much.

7. What do you think of the fact that there is no limitation on the authority of a laboratory to conduct repeat or additional analysis on sample?

I don't agree with it. There should be some limitations. Speaking generally, any organisation with unlimited authority would be a concern to us.

8. What do you think about the authority of WADA to take physical possession of body sample and related analytical data of a laboratory or ADO at any time without prior notice?

I am slightly opposed against it. I do not think it is fair because I feel it is too strict. I would like it to be more de-regulated.

9. What do you think of the fact that any other ADO has the authority to conduct further analysis on sample even if it initially tested negative?

I think the principle is fine. However, like I said, there should be limitations. I think only one extra attempt should be allowed. For example, initial test is negative, second attempt is also negative then that's it.

10. What do you think of the implementation of retesting in your country?

I think it is not used much, I do not know what it is like in other countries, but I think it is rare.

11. What do you think of an athlete unexpectedly receiving a medal years after a competition because the opponent who beat that athlete is punished for drug use?

It seems fair to me, but again the question is what is the limit? If it is more than 5 years later no one will remember this athlete. 10-year storage seems too long to me, if an athlete's sample is retested every year for 5 years and the results are all negative then this athlete should be the winner. Anything beyond this limit seems absurd to me. Maybe it will not take so long, but you know there are always new drugs, I do not think anyone can guarantee that technology can make a breakthrough in a short time

12. What do you think of an athlete who used drug to get some achievement and has gained the applause, respect and income before getting caught?

It depends on whether this athlete knew that he/she used banned substances. If this athlete knew, then they should be punished. The punishment should be made based on the amount of

the substance and the time of taking it. If an athlete intentionally used a banned substance 6 months before an event, then they should be punished. If it is like I said, 5 years ago, then I do not think it is right to make any punishment.

13. What do you think of the effects of retesting on clean athletes, since their body samples are also taken and stored for years?

I don't think it's fully ethical. If the sample tested negative 5 years in a row after the competition, there should not be any more retests.

14. What do you think of the design and implementation of retesting?

Again, there should be some limitations and athletes should have the right to know what will happen to their sample.

15. In the Russian doping scandal, it is revealed that organised doping and sample swapping happened, what do you think of the effectiveness of testing and retesting when corruption exists?

Unless WADA makes changes to the current policies or issues new policies for this particular problem, otherwise I think this is very likely to happen again. The effectiveness will certainly be undermined in these situations.

16. What do you think of the role of testing/retesting in revealing those doping scandals?

I think, again, there should be some limitations. The outcome is important for sure, but WADA cannot give itself unlimited authority to achieve this outcome, that is illegitimate.

17. What do you think about the effectiveness of testing/retesting acting as a deterrence of drug use in sports?

They do prevent the athletes from doping to some extent, but not completely. There will always be a certain percentage that will get away with it. Some athletes will also take the risk even they know all the consequences, because they probably just want to win so bad.

Unfortunately, there are only so much that WADA can do. It's a tough issue and I don't think

there is a correct or perfect approach. Anti-doping will always be a very debatable topic because there will always be people who are unhappy with a certain rule.