Improving the Closed-Loop System Implemented at the 2022 Beijing Winter Olympics

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Abstract

Beijing hosted the XXIV Olympic Winter Games in February 2022. The event occurred during the ongoing COVID-19 pandemic and, as such, many precautions were taken to mitigate any outbreaks. The IOC devised a plan called the "closed-loop system" that isolated the event from the outside world; though effective, there were concerns about the psychological toll this system had on those involved. Our team researched and devised a "mental release plan" that aimed to mitigate these issues with targeted recommendations.

Acknowledgements

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Authorship

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Chapter 1. Introduction

The city of Beijing, China hosted the 2022 Winter Olympics from Feb. 4th to Feb. 20th after winning the Olympic bid in 2015. The event consisted of ninety-one nations competing in events such as figure skating, ice hockey, and snowboarding. As Beijing previously hosted the 2008 Summer Olympics, it became the first city to host both types of Olympic events: Summer and Winter (IOC, 2022). This brought many opportunities for the city such as an increase in trade; additionally, the event became a sandbox for testing new technology. It also drew criticism and concerns from governments and citizens alike surrounding issues such as environmental impact and human rights issues. The largest concern came from COVID-19 and the ongoing pandemic.

Two months prior to the 2022 Beijing Winter Olympic Games, the *Omicron* variant was identified in late November 2021. This mutated strain of COVID-19 was less fatal than the previous variants such as *Delta* and *Alpha;* however, the Centers for Disease Control and Prevention (CDC) listed it as far more contagious, spreading rapidly among even individuals vaccinated against the virus (CDC, 2022). This caused many issues leading up to the Winter Olympics causing some organizations to withdraw their players over safety concerns. To mitigate these concerns, the International Olympic Committee (IOC) had a plan to keep the transmission count low: the closed-loop system.

The introduction of closed-loop structures provides an example of technological innovations of the Beijing Olympics. The closed-loop structure was a system introduced to reduce the number of COVID-19 cases. This regulation confined those involved in the Olympics into a "bubble". This environment involved daily testing protocols and restricted travel to event

sites and hotels. To enter the bubble, people would have to take specially chartered flights to Beijing Capital International Airport. Upon arrival, they are subject to a strict schedule of many tests and safety protocols (Kiernan, 2022). The plan was extremely effective in minimizing the number of cases; however, it also negatively affected the mental health of those involved. Many who attended described the protocol as highly restrictive and oppressive with some comparing it to "dystopian fiction" (Kiernan, 2022). This mental strain on competitors could lead to many side effects, some are a decrease in athletic performance or, in extreme cases, depression.

The closed-loop structure tested during the 2022 Beijing Winter Olympics had seen a previous iteration during the 2020 Tokyo Summer Olympics, held in late 2021. In Tokyo, the IOC created a similar system that required competitors to quarantine for a set amount of time. After that time, they were allowed to compete and were required to stay in their living quarters and competition venues, but were still allowed to interact with anyone not in the closed-loop system. Though this granted individuals more freedom, the event also saw a larger number of cases that hindered games and slowed down the event (Park, 2022). This issue became one of the factors causing Beijing to implement more stringent rules in their closed-loop plan.

Our team aimed to minimize issues by researching and synthesizing an improved loop plan that focused on the mental health of the participants in the system. Our deliverable is a formal document that outlines a plan to maximize an event's workflow, safety, or capabilities. The plan was built upon the already tested closed-loop structure as well as existing research and protocols for COVID-19. Additionally, we gathered experiences of those involved in implementing and following the protocols to gain new perspectives. Our goal was to create a plan that is efficient at minimizing COVID-19 cases while maximizing the enjoyment and happiness of those in the loop.

Our report is divided into five chapters, with this chapter introducing our project. Our research begins in "Chapter 2. Background", which lays out the necessary information needed to understand the political and social issues that led to Beijing's closed-loop system. The system's infrastructure is detailed in this chapter as well as its initial issues. Next, "Chapter 3. Methodology" outlines our team's process for collecting and analyzing data. This is followed by "Chapter 4. Findings and Analysis" which explains our discoveries from data collection and the conclusions that we drew from them. Finally, "Chapter 5. Recommendations" combine our findings and analysis into a set of suggestions targeted toward solving the issues we identified in Beijing's closed-loop system. The final chapter is followed by our bibliography and an appendix for documents such as interview transcripts and consent forms.

Chapter 2. Background

2.1 History of the Olympic Games

The first modern Olympic games took place in Athens, Greece in 1896. The modern Olympics was founded primarily by Pierre de Coubertin, a French aristocrat, educator, and historian. He was particularly active in developing the teaching of sports and physical education in French schools, and eventually formed the International Olympic Committee, or IOC, as an extension of his previous pursuits. The games took inspiration from the Greek Olympics which were held in Olympia, Greece, between 800 BC and 400 AD. The ancient Olympics were held as both a sporting event and a religious celebration. Since the first games in 1896, the Olympics has stood as the largest global sporting event, and is held every four years in many different nations.

Despite the positives of international cooperation on the Olympic Games, they have had several noticeable problems in both their logistical and political implications. For example, although the Games are more broadly seen as a symbol of international cooperation, many nations use the Games as a way to wield and consolidate political power and sometimes intimidate other nations. The most infamous example of this was the 1936 Olympic Games, which were held in Berlin. At the time, Adolf Hitler and the Nazis had seized complete control of Germany, and at the time of the Olympics, were simultaneously, and massively, building their military forces. The Nazis used the Games to project their power and disgusting ideology onto the rest of the world. Several nations and individuals boycotted the games as a result. The Olympic games, despite their lofty idea of international cooperation, did nothing to stop either of the World Wars. In recent times, the IOC has also been accused of corrupt and inscrutable behavior in how it chooses locations, and the Games have long stood as a way for larger nations

to project power. The benefits to communities that have hosted the Games also vary depending on the logistics, with some communities being negatively impacted by the Games.

2.2 Differences Between the Summer and Winter Olympics

The Olympics games began in Athens in 1896, as what we now refer to as the Summer Olympics. The first Winter Olympic games were held in 1924, in Chamonix, France. Prior to the Winter Olympics becoming official, the most popular "winter" sports such as figure skating and ice hockey were held during the Summer Olympics. Both the Summer and Winter Olympics are held every four years; originally, they were held in the same year. As of 1994, the Summer and Winter Olympics are alternately held every two years. Each edition of the Games still occurred every four years. The Summer Olympics are held in August 2024 and will showcase thirty-two sports. The Winter Olympics are generally held in February. The 2022 Winter Olympics held seven sports with fifteen disciplines.

2.3 The Olympic Bidding Process

Each edition of the Games goes through a bidding process to decide where it will take place. The Olympic bidding process is a multi-stage endeavor that takes months. First, the IOC sends invitational letters to all the National Olympic Committees (NOC) of different countries. The NOCs must get letters of compliance from the World Anti-Doping Agency (WADA) stating that the country is within code. From there, NOCs may submit a city from their country; only one city from each country can represent the country to the IOC. It is up to the NOC's discretion which city will be chosen.

A city that is approved by its country's NOC must submit a portfolio of documents to the IOC, including financial guarantees and letters of guarantees from stakeholders stating that the country is available at the time to hold the Olympics, and that Olympics merchandise can be imported duty-free. This portfolio will act as the city's application.

The cities' applications are viewed for three to four months, after which IOC scores all the cities and releases the data. Scores are made on the following: accommodation facilities, safety and security finance, marketing, etc. After scores are released, IOC selects a few candidates to move on to the next round, making them official candidates.

All candidates must continue by submitting a proposal for how the city plans to host the Olympics. The IOC then visits the city in person to allow the city to show off why it should host the Olympics. For official voting, each city is allowed to give a forty-five minute presentation, along with fifteen minutes of questions from the IOC. For a city to win, it must receive majority votes from the IOC. If no city reaches a majority, the city with the lost number of votes is eliminated and the IOC performs the vote again. This process happens until a city is chosen.

2.4 Public Response to Beijing as the Host

Beijing won the 128th IOC Bidding Session in 2015 to host the 2022 Winter Olympics (IOC, 2022). After winning the bid, there were reactions by citizens and governments alike. At the time of the Games, there were many concerns about the active pandemic that had been occurring since mid-2020. There were also many human rights allegations against China regarding internal conflicts such as with the Uyghur population. In response, countries began protesting the Games as a whole. At the government level, this started with a diplomatic boycott.

A diplomatic boycott refers to a country withdrawing any delegates from attending an event; these include people such as high-ranking politicians or members of a royal family that would appear at the opening and closing ceremonies (Hamilton, 2021). The boycott did not mean complete withdrawal from the tournament, as Olympians were still able to travel and compete at the Games. The goal of withdrawing delegates from the event is to create a political statement against the host country while allowing the athletes to compete freely.

The most prominent boycott occurred during the 1980 Moscow Summer Olympic Games. The movement was initiated by the United States in response to the Soviet Union's invasion of Afghanistan the previous year and was backed by 65 other countries. In 1984, the Los Angeles Olympic Games boycotts were led by the USSR, citing international security concerns (Mather, 2022).

In the case of the 2022 Beijing Olympics, ten diplomatic boycotts were officially declared against the host nation. The countries included: the United States, the United Kingdom, Canada, India, Australia, Lithuania, Kosovo, Belgium, Denmark, and Estonia (BBC, 2022). Countries such as the US and UK cited concerns over the human rights controversy occurring against Xinjiang's Muslim population (Zarpli & Zengin, 2022). Others such as India declared a diplomatic boycott due to one of the torchbearers being a Chinese army officer involved in a fatal exchange between the two countries' borders. COVID-19 was also a concern for many countries. However, the Olympians from those nations still competed with many coming home with medals.

Simultaneously, there were also outbreaks of protest against the host nation. Aligning with the reasoning of the US and UK boycotts, many of them revolved around the concerns of the Uyghur Muslim detainment in Xinjiang. Since 2017, it was reported that China engaged in

the widespread detainment of Turkic Muslim minorities in the XUAR - known as Xinjiang

Uyghur Autonomous Region. It is said that more than a million individuals were forced to go

through indoctrination and some cited sexual abuse and torture for those in the camps (Zarpli &

Zengin, 2022, p.3). With this news growing in public recognition, many were calling for a

change in China and its actions.

An example of one of the Uyghur-related protests occurred in Istanbul, Turkey. Istanbul

is known to have one of the largest Uyghur diaspora populations outside of Central Asia.

Hundreds of protesters gathered together, chanting for change. A few of these statements were:

"China stop the genocide", "Muslims don't sleep, stand up for your brothers", and

"#NoBeijing2022" (Butler, 2022). Similar protests were seen around the world demanding the

freedom of the minority population. The Chinese government responded to the matter by stating

that their actions are a part of their re-education plan. This plan is said to be aimed at minimizing

the spread of terrorism and radical religious movements (Greitens et al., 2020).

Additionally, there were other human rights concerns that were unrelated to the Muslim

situation. One of these was the situation with the Tibetans that have been living in exile in India

after Dalai Lama, a spiritual leader, fled the country after a failed uprising in 1959. The Chinese

government does not recognize the Tibetan government as independent and accuses Lama of

seeking to separate Tibet from China. In conjunction with the movements for the Winter

Olympics, hundreds of Tibetan rallied together and waved their flags and signs that read "No

Rights, No Games" and "Say No To Genocide Games" (Ganguly, 2022). Many of the protesters

believed that organizations such as IOC should have interfered due to the social turmoil that was

occurring. It is believed that the IOC focused on China's trusted capabilities to host the event

rather than the social response (Wade, 2021).

In the days leading up to the Games, the IOC did not reach out for comment on these allegations. When reached out for comment and a meeting from activist organizations regarding allegations of human rights abuses against Uyghurs, the IOC initially approved of a meeting, but later declined, citing "differences in approach, including regarding scope, process and confidentiality" (Wang, 2022). In addition, the Chinese government has denied all accusations of forced labor in particular, especially with regard to Xinjiang and the Uyghur population. Recently, on the 28th of May 2022, Michelle Bachelet, the UN High Commissioner for Human Rights, conducted an official visit to China. In her statement after the visit, she raised concerns about the Chinese government's application of counterterrorism and de-radicalization in Xingjiang and restated the importance of protecting Tibetan's linguistic, cultural, and religious identity. Ms. Bachlet also said that officials at every level that she interacted with were cooperative, and demonstrated a willingness to improve human rights (OHCHR, 2022).

2.5 Proceeding with the Games

Regardless of the controversies and debates, Beijing proceeded to prepare for hosting the event. It is common among host cities to construct event infrastructure that hurts the economy before it brings in revenue; additionally, it tends to have a negative effect on the environment. Beijing aimed to mitigate these issues by changing its course of action when it came to planning the event. The 2022 Beijing Winter Olympics had 12 competition venues in Beijing and nearby mountains. This included reusing five of the venues built for the 2008 Summer Olympic Games and equipping them with new technologies (IOC, 2022, para. 5). The Beijing games were designed to be a 'Green Olympics' and the city planted about 200 thousand acres of forest and green areas to counteract impact and achieve a carbon-neutral footprint. Residents of Beijing

"[also] highly agreed on leading the development of green industry in the city" (Yeerkenbieke & Chen & He, 2021, paras. 22-25). The Games had an impact by encouraging the public to work towards environmental sustainability.

The state of the areas surrounding the venues needed to be improved as well. Lange (2022) published that roughly 15 billion U.S. dollars were spent on Hebei's transportation system, building new roads to connect the Olympic sites and another 6 billion was spent on Zhangjiakou's infrastructure and other improvements like refurbishing the airport (Fig. 1).

2.6 Combating the Pandemic: Closed-Loop System (CLS)

Due to the concerns surrounding the pandemic, China promised to prioritize the safety and health of those participating; as such, they promised a safe Winter Olympics for all. However, just two months prior to the start of the event, the worldwide daily COVID-19 count surpassed a record of 1.44 million new cases reported (Hong, 2021, para. 2). This increase was likely to be caused by the emergence of the *Omicron* variant of COVID-19. The strand was discovered in late November in Botswana and was known to be highly contagious (CDC, 2022). With many people traveling for the holidays in December, the spread of *Omicron* was swift and unexpected. The trends of the NOC-related cases can be seen in *Figure 1*.
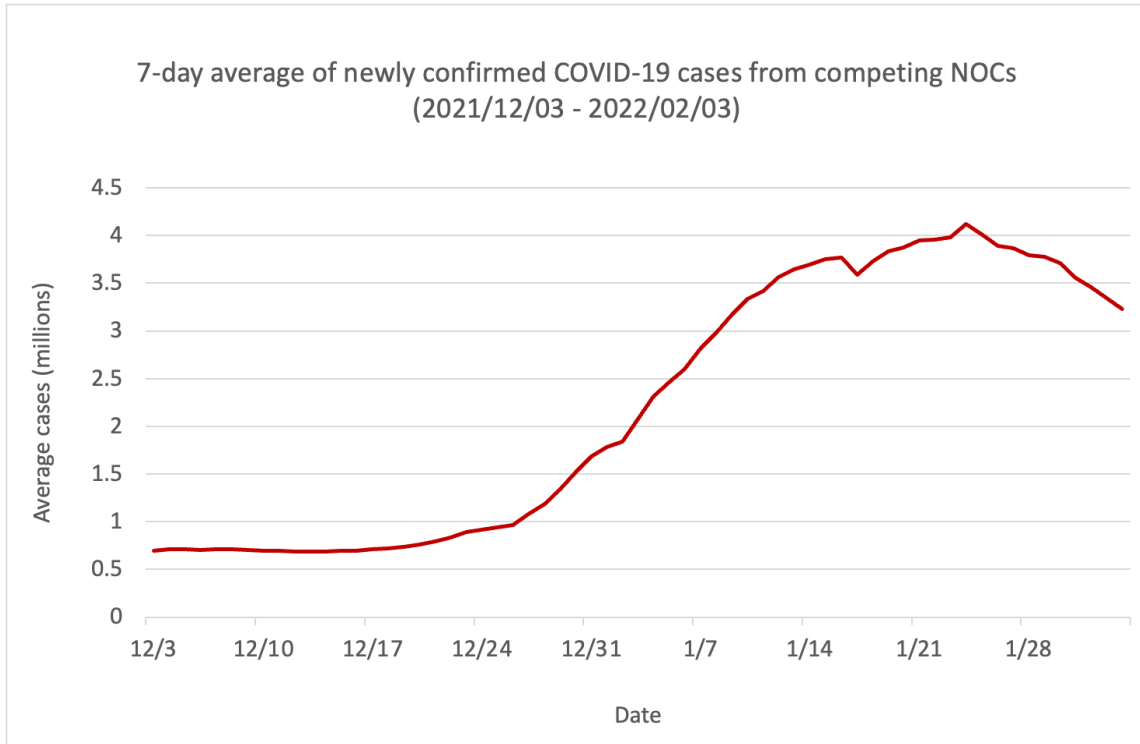
Figure 1: A graph depicting the 7-day average of newly reported COVID-19 cases two months prior to the 2022 Beijing Winter Olympics for competing nations (data: JHU, Our World in Data)

This variant eventually made its way to mainland China and local cities began to see similar trends in their case reports. Cities such as Xi'an began to reinforce their lockdown restrictions, citing the "largest community outbreak since the initial months of the pandemic" (Kwon, 2021). *Figure 2* depicts the locally reported cases in a two-month period in China.

Daily confirmed new cases of COVID-19 in China (2021/12/03 - 2022/02/03)
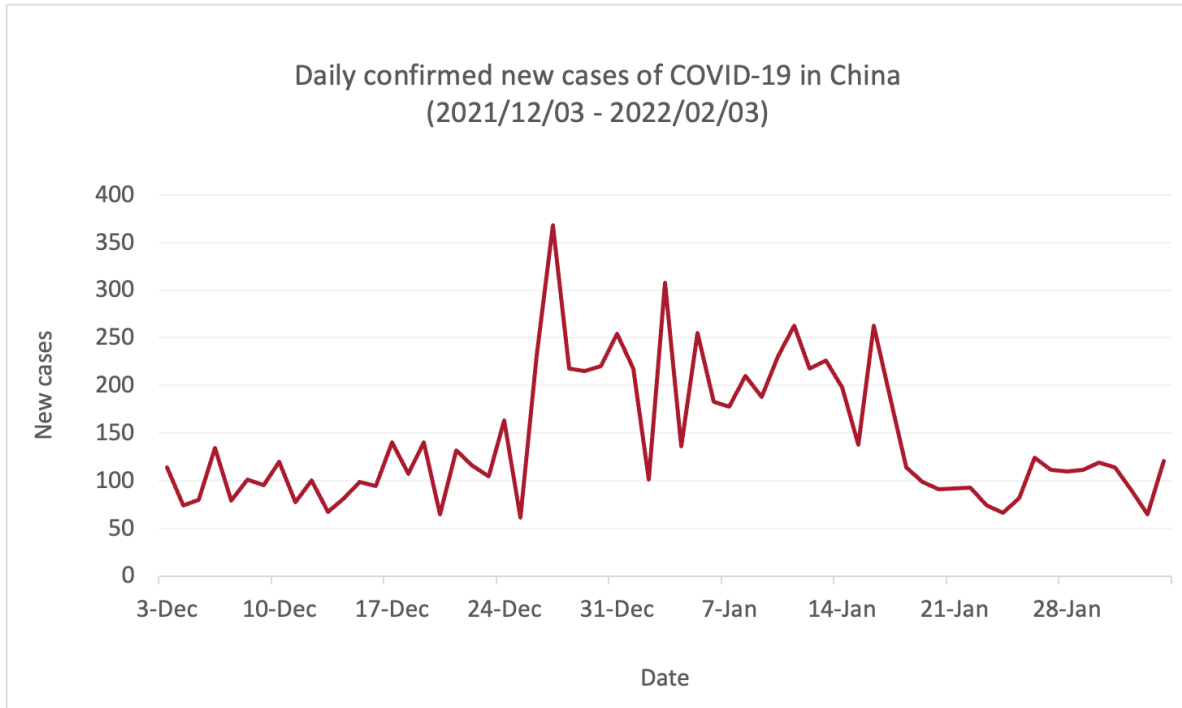
Figure 2: A graph depicting the change of newly reported China's COVID-19 cases two months prior to the 2022 Beijing Winter Olympics (data: JHU, Our World in Data)

The worldwide increase in cases prompted many to be concerned once again about the safety of the Winter Olympics as the event drew closer. The Games were faced with the threat of postponement yet again; however, the IOC had already crafted extremely comprehensive and strict guidelines to fulfill their safety promises. This plan was called the "closed-loop system" (Firstpost, 2021).

The athletes were entered into a system that isolated them from the rest of society. There were daily tests that ensured that along no step of the way, an athlete could get into the event with the virus. This was a separated environment that all the competitors agreed to. Each of them was required to remain in quarantine unless training for the Games once in the system until the event began and throughout the entire length of it. The athletes were provided this environment

in living spaces, practice areas, and places to work. "Plexiglass separates workspaces and dining tables, and robots clean the floors and serve meals" while there is absolutely no contact with anyone not necessary to the Games (CBS, 2022, paras. 8-11). This closed-loop covered the transportation, hotels, food accommodations, and work environments for the duration
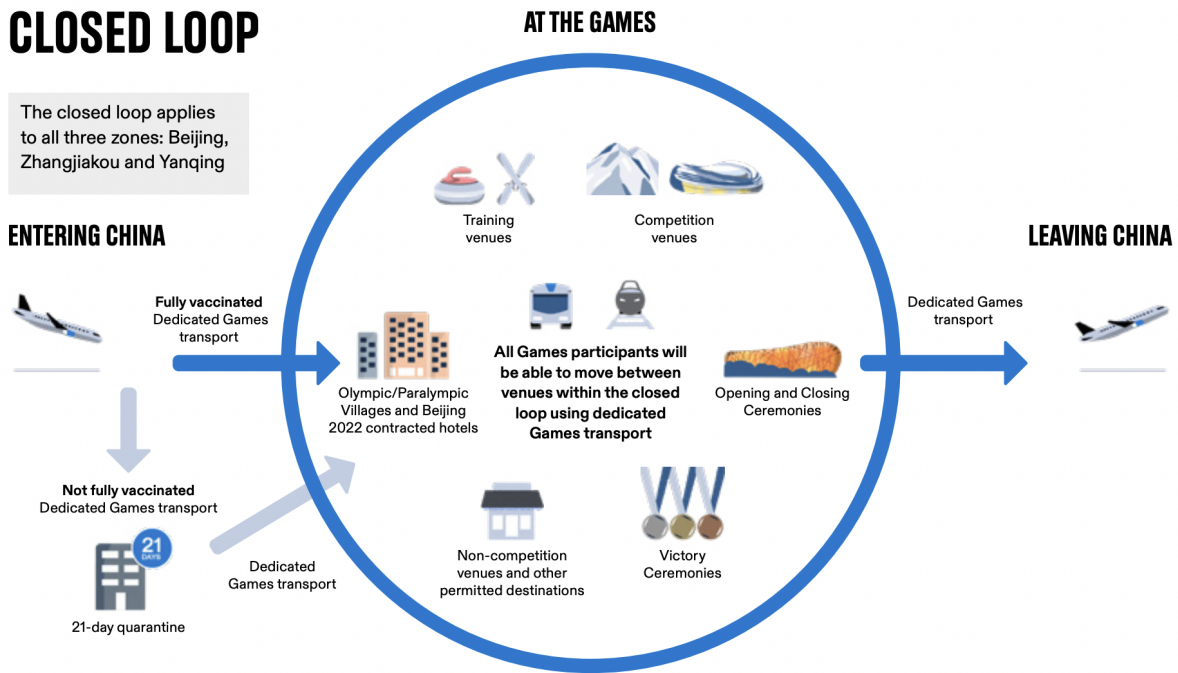
Figure 3: Official IOC infographic of the Closed-Loop System (IOC, 2022)

The strict guidelines also applied to all the staff involved. Volunteers were required to spend almost two months away from their families in this closed-loop system to prepare for the show, missing Lunar New Year celebrations. These volunteers needed to have professional psychological training to adjust to the mental state required for the ordeal (Yuqiao & Kang, 2022, paras. 14-15). The Closed-Loop System encompassed more than 1.8 million COVID-19 tests and lasted 21 days after the Games to ensure that everything went smoothly for the more than 19,000 involved (De Guzman, 2022, paras. 9-12).

The event was extremely safe because many of the positive cases were found upon arrival and few (81) cases were reported once officials were integrated into the closed-loop system during the two weeks leading up to the Games (Fenno, para. 16). The games were effective at separating anyone who was a potential risk and ultimately still successfully being one of the most-watched Olympic games because the in-person viewers were kept to a minimum. Many things went into making the event an example to guide events hosted in the future.

2.6.1 Tokyo vs. Beijing
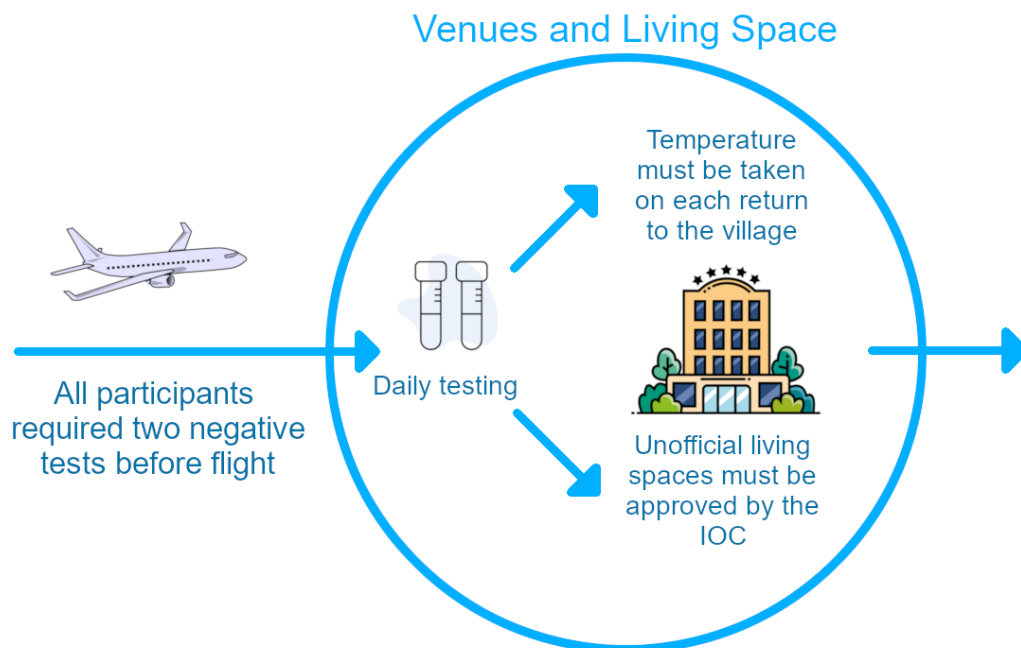
Figure 4: Infographic of 2020 Tokyo Olympic Closed-Loop System

This is not the first time that a closed-loop system has been implemented at an Olympic event. The 2020 Tokyo Olympics was planned to be hosted during the summer of that year; however, the pandemic postponed it to the summer of 2021 (IOC, 2021). Within that year, a version of a COVID-centered closed-loop system was formed for the Games.

Tokyo's system was far less strict than Beijing's in all aspects. One major difference between the two is how the IOC handled transportation for participants. In Tokyo's CLS, participants were provided with Olympic-dedicated shuttles to travel to venues; however, they were allowed to take public transportation if it was the only option. They were also allowed to travel using self-arranged vehicles (IOC, 2021). In Beijing's system, only Olympic-dedicated transportation was allowed. These vehicles were not permitted to leave the loop and could only travel to Games-related sites (IOC, 2022). Temperature checks were also not required for entering a venue at the Tokyo Olympics when they were at the Beijing Olympics. The IOC's reasoning behind this decision is that participants will be monitoring their health and getting tested daily; therefore, temperature checks were not necessary (IOC, 2021).
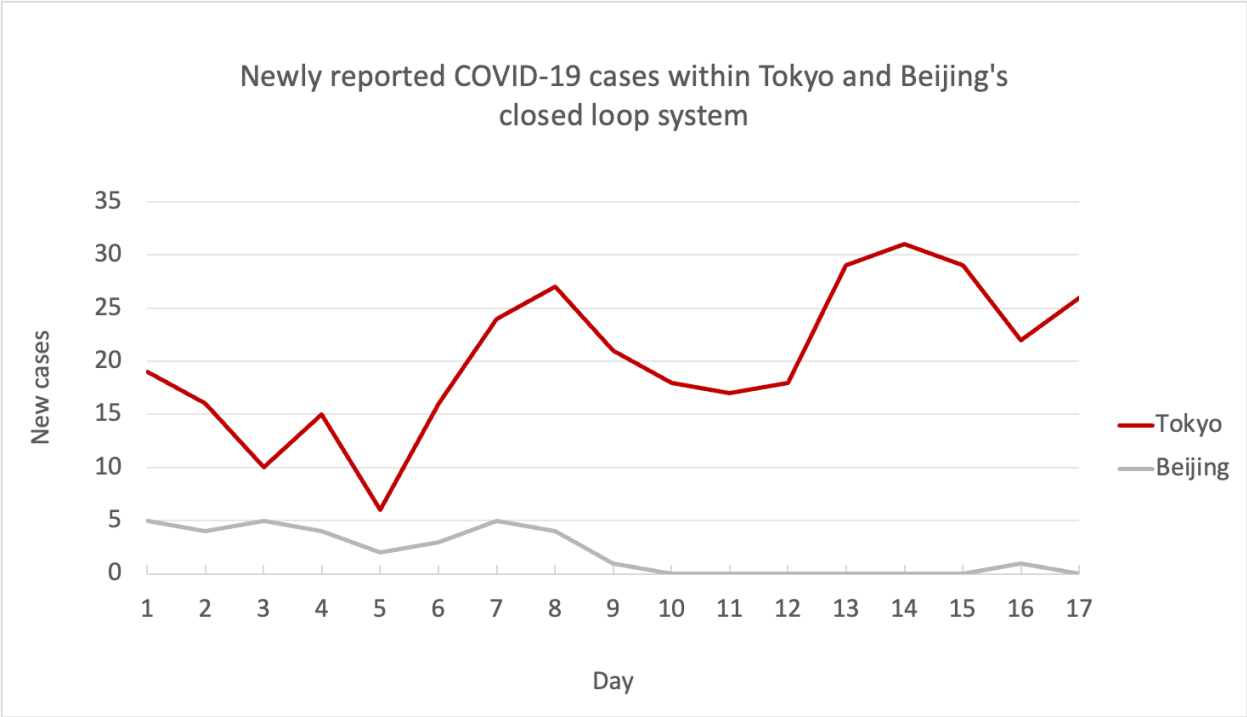
Figure 5: Daily reported COVID cases within their respective prevention systems. Beijing experienced

fewer COVID-19 cases.

2.7 Infrastructure Within the Bubble

Within Beijing's closed-loop system, automation was one way of reducing the human-to-human contact risk. An example of this is the self-driving transportation systems that were introduced. "The Beijing–Zhangjiakou high-speed railway (HSR) (…) main line is 174 km long, and its maximum design speed is 350 kph. It is the world's first HSR to be designed based on the concept of an intelligent railway" (Wang, 2021, p. 1). One of the biggest points of hosting the Olympic Games is showing off the newest and greatest technology in the infrastructure built to ensure that the city can host the Games without negatively impacting the city. The Beijing–Zhangjiakou HSR is one of the many niceties in place to attract tourism and ensure that the visitors' needs are satisfied in a way that does not interfere with city life. This railway has 10 stations and is completely autonomous. Wang (2022) states that this train decreased the travel time between Zhangjiakou and Beijing from a minimum time of 3 hours 7 minutes to only 47 minutes (p. 1). This kept the large influx of traffic in the city to a minimum, because there was transportation specific to the Games. Similarly, the cafeteria for athletes was kept COVID-19 safe with food that was prepared and served autonomously.

2.8 Underlying Issues with Beijing's Implementation

While the CLS was very effective at mitigating the spread of COVID-19, the strict system has its own side effects. Many of the Olympic athletes, as well as the employees, struggled with mental health during their time in the CLS. Currently, there is not a singular factor that caused the mental health struggle. However, isolation from family members and loved ones may be one of the leading reasons. The design of the CLS did not allow the employees to have any in-person interactions with their loved ones for months. This can cause a major strain and

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difficulties for the employees because they do not have access to their support systems. Along with this, the athletes were also unable to socialize with other athletes during their time at the Olympics. The loneliness that the employees and the athletes endured can cause a decrease in mental health.

2.9 Post-event Impact and Plans

With the event ending recently, many of its impacts are still being evaluated by experts. One that is actively being analyzed is the event's economic impacts. Analysts and industry insiders predicted days after the conclusion of the event that the Beijing Winter Olympics had a large chance to break even; additionally, there was a slight chance of profit. This was because the event was the most-watched Winter Olympic Games in history with an estimated revenue to be around 1.1 billion yuan. An additional 2.5 billion is estimated to come from Olympic-related merchandise and souvenirs themed to coincide with the Chinese Lunar New Year, a holiday that occurred days before the event (Daye & Qiaoyi, 2022). It was not uncommon for a host city to incur a net loss from the event, as hosting is generally very expensive. These costs come from ensuring international security, building infrastructure, and supplying equipment for the Games (McBride & Manno, 2021).

When viewing the long-term impacts of the event, these are already being estimated to be extremely beneficial. Thomas Bach, president of the IOC, said in an interview at the Beijing Winter Olympics that the Chinese ice and snow market could see an increase to a $150 billion market by 2025. Additionally, manufacturers such as Alibaba's AliExpress saw an increase in Chinese ski product sales by more than 60 percent with a 15-fold increase in domestically made ski helmets (Daye & Qiaoyi, 2022).

The debut and success of new equipment at the event also highlighted the potential and use of technological advancements. An example of this was the 4K high-definition camera named "Lie Bao" which was developed by China Media Group. Translating to "Cheetah" in English, this camera was able to precisely capture any foul play in the speed skating event. The camera's capabilities changed the outcome of an event by penalizing a skater for blocking near the finish line (TIMES, 2022). After this, event organizers and netizens alike began recognizing the benefits of this new equipment. These cameras also have the potential to capture the details that can be used for three-dimensional projections of the games. Projects such as these are in development.

Chapter 3. Methodology

3.1 Project Statement and Scope

Our project was aimed at researching and synthesizing suggestions for a regulation guideline that applies to events such as the Olympics Games. A regulation guideline is a formal document that outlines a "plan" that event coordinators and sponsors could follow to maximize an event's workflow. An example of one of these documents is the International Organization of Standardization - also known as the ISO.

Our recommendations focus on the closed-loop system implemented at the 2022 Beijing Winter Olympics; more specifically, we looked at improving the psychological and mental environment for those involved within the system. We conducted formal and informal interviews with individuals directly involved in the Beijing Winter Olympic Games, such as volunteers, committee officials, and workers. In addition to interviews, we utilized varying literature review methods such as media analysis, case studies, and archival research to help us understand the system from different perspectives. We considered methodologies such as surveys; however, due to the isolated nature and scale of our project, we believed that surveys would be ineffective.

3.2 Method 1: Interviews

There were two types of information that we wanted to gather throughout our interviews: technical and non-technical. The former refers to the technical aspects of the COVID-19 response at the Olympic Games; this includes technological, scientific, and logistical techniques used to institute the event's safety protocols. The latter refers to the experiences, opinions, and suggestions of the general person involved in the closed-loop system; these people could be

Olympic volunteers, workers, athletes, etc. By learning how the COVID-19 precautions and regulations affected these individuals, we were aiming to gain a perspective that was essential to creating our recommendations. Additionally, having technical information from experts helped us create a foundation for our outline.

3.2.1 Categorizing Interviewees
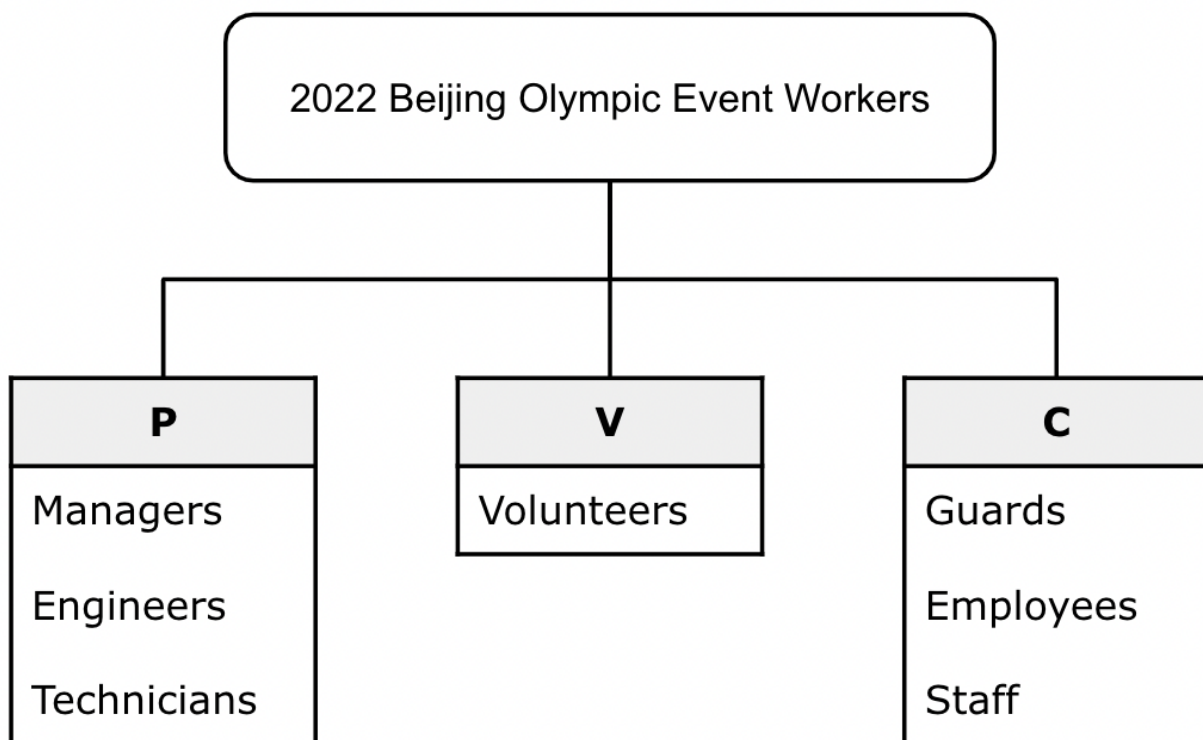
Figure 6: Diagram representing the categorization of workers

It is important to note the structure of the Closed-Loop System; inside the isolated environment, the Olympic staff can be divided into three distinct groups: professionals (P), volunteers (V), and general workers (C). Group P consisted of the event's managers, engineers, and technicians; these individuals were in charge of the leadership and design of the event's systems. Group V categorized the volunteers of the event, many of whom were students at local

universities such as Beijing University of Chemical Technology and Tsinghua University. The last group, Group C, was composed of regular employees and staff, such as sanitation and event security.

3.2.2 Finding Participants

The most efficient way to get technical information was to directly communicate with the experts in Group P, such as engineers and technicians. From there, we were able to ask them about their experiences working and implementing the regulations as well as any issues that occurred with them. This allowed us to potentially develop solutions to those problems and implement them into our own regulations. Additionally, these experts had the potential to provide us with that solution or point us in the right direction.

For non-technical information, we reached out to the individuals in Group C and V. These were Olympic staff, volunteers, and workers; through them, we were able to gain a new perspective on the social implications that these protocols had such as stress on mental health. These interviews were conducted in an informal manner and centered around their opinions on how the Olympics handled the pandemic situation.

We wanted to reach out to at least one journalist or athlete to gauge their views on the system, as most of them come from outside mainland China. Unfortunately, we were unable to get in contact with either type of individual.

Finding interviewees for both subjects was made easy through our resources at the Beijing University of Chemical Technology (BUCT) and Tsinghua University. In total, we were able to gather a pool of ten participants that were involved in the Winter Olympics: two from

Group P, seven from Group V, and one from Group C. BUCT provided two volunteers and the general worker while Tsinghua University provided the rest.

3.2.3 The Interview Process

To prepare for the interviews, we began developing two different question sets: one for Group P and one for the other two. The initial sets were shared with BUCT, where they reviewed and provided feedback on how to improve them. They recommended that we change the questions to have a stronger purpose and work towards a specific theme; our questions at the time were about the individual's experience at the Olympics and nothing more. To achieve this, one change we did was to add questions about the individual's life outside of the Games. For example, if the volunteer was a student, we asked them questions about their school life during the Olympics. We also expanded many of the questions to have follow-up responses.

We had a few concerns when we began conducting the interviews. Our biggest concern was the language barrier between us and the interviewees. To mitigate this, we conducted the interviews with at least one BUCT student present to translate for us, if needed; this is expanded more in "Chapter 5. Findings". Another concern we had was our interviewee's willingness to discuss the topic. We understood that some people may not be comfortable speaking their opinions about a system that was highly praised; therefore, we took this into account when developing our interview questions. We also provided them with the question set before we confirmed an interview time to allow them to prepare.

The majority of our data came from these interviews; therefore, it was extremely important to us that the interviews were conducted efficiently. The interviews provided us with a unique perspective on the closed-loop system in Beijing; however, they did not give us a proper

baseline to begin drawing conclusions. We decided to incorporate an additional method, literature analysis, to help us (1) understand our interview data better, and (2) improve the question sets.

3.3 Method 2: Literature Analysis

Understanding the Olympic Games' response to the ongoing pandemic required context in multiple areas. First, news reports, public research, and other media were readily available for us to use. We were aiming to gain further insight on the event as a whole that we were unable to gather through our interviews. Next, case studies offered us context about issues that arose in the closed-loop system and how they affected specific individuals. Finally, we were hoping to gain information through the use of archival research from previous Olympic events, such as Tokyo's. We looked at the effectiveness of previous closed-loop systems when viewed in the context of historical plans and their performance.
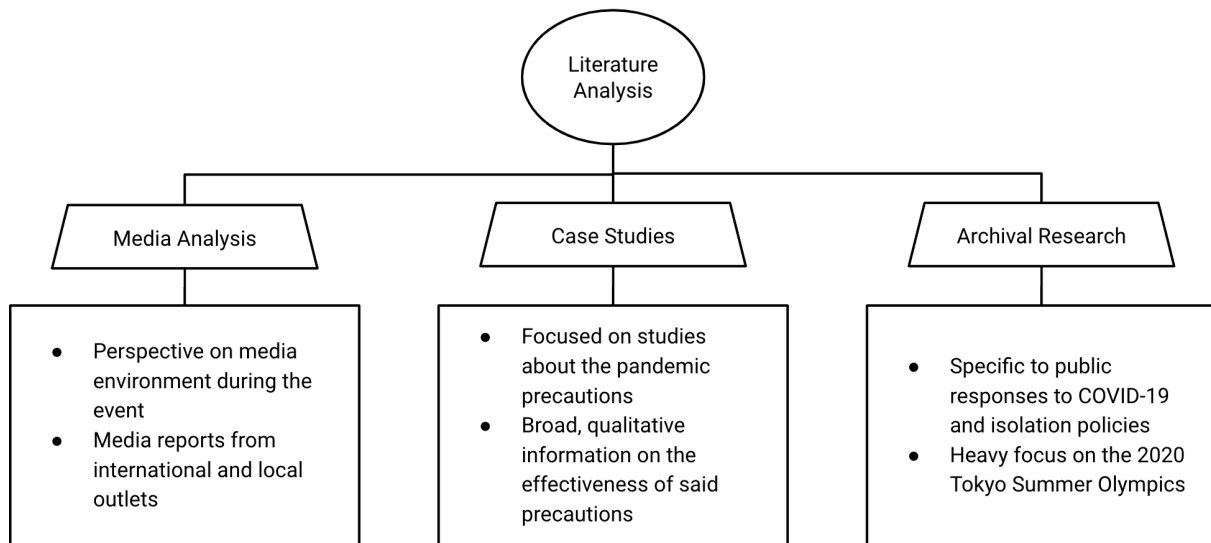
Figure 7: Breakdown diagram for literature analysis

3.3.1 Media Analysis on the Public's Perception

There was much in terms of media coverage that allowed us to gain contextual insight into the public view of the Winter Games. There were published works containing research and analysis readily based on various components of the Games; some of these components include public response, relevant COVID-19 transmission data, rule breakdowns, and more. The data we gathered was used to further inform our decisions when creating our recommendations.

Including media analysis in our methodology was important as it allowed us access to a huge library of existing knowledge and opinions about the Games. It provided context and research from varying points of view that were different from our approach.

Our media analysis approach directly focused on the media environment at the time. This gave us a broader, external view of our topic as well as the general impact caused by the Games. More importantly, we used this data to see exactly what parts of the Games received more coverage, and, subsequently, determine the impact the restrictions had on those involved. Our analysis encompassed both quantitative and qualitative analysis. Our qualitative analysis gave us insight into the views stated prior and guided our interpretation premised on the media. It took into account target audiences as well as the source to determine the quality and validity of the information. Our quantitative analysis was based on statistics that encompassed prior works of search, COVID-19 data, and the breakdown of media responses. This analysis allowed us to evaluate our own conclusions drawn from the qualitative analysis.

3.3.2 Case Study Analysis on COVID-19 Precautions

We looked to gain valuable information about the closed-loop system and the public impact of the Games. This information fitted well to the case study format as finding information

from those closely related to Beijing's COVID-19 response and travel restrictions. The data from these studies were qualitative in nature and revealed much about the effectiveness of various techniques applied by the organizers of the event.

Examining different cases related to the effectiveness of safety protocols illustrated for us the strengths and weaknesses of these arrangements when applied to future events. We focused on the outcomes caused by specific rules when applied in different contexts to determine whether they could be isolated, corrected, or avoided. The information that we gathered helped us determine themes while working on our analysis and conclusions. Specifically, we were able to identify the outcomes of specific scenarios and decide if the context of the event was important; more about this in "Chapter 5. Findings".

Case studies often can produce large amounts of data due to the vast amount of information available about a topic. To avoid any issues, we only analyzed a certain number of cases in a limited scope, as the data could have been difficult to organize into an easily demonstrable assertion. We were met with challenges when narrowing down our data due to the sheer breadth of information that is available about the Olympics and the pandemic. We strictly followed the effect of the precautions and measures used to limit the spread of the diseases when compared to events with and without restrictions.

Case studies were an excellent method to gain information when limited to fewer connections within a topic. They revealed detailed, qualitative information surrounding the scope of our project; additionally, the data helped us create a baseline for drawing conclusions that interviews would not have. It allowed us to compare the effectiveness of strategies employed at the Olympic Games and other events to prevent the spread of COVID-19. Case studies also

helped us narrow down our data into specific, manageable questions that helped guide us throughout the conclusion process.

3.3.3 Archival Analysis on the 2020 Tokyo Olympics

Archival analysis is a method that we looked into utilizing to understand previous Olympic experiences; however, the only event that shared a similar experience to Beijing's was Tokyo. We used the IOC Historical Archives to find information that centered around the public's response to the pandemic protocol and its implementation at large events. Examples of data that we found were news articles, videos, and pictures. Similar to media analysis, these archives helped us understand the social implications of the closed-loop system, such as the psychological concerns of isolation. Public responses helped us understand where these implementations failed and where they succeeded; this allowed us to formulate recommendations that are efficient as well as ethically and morally sound.

3.4 Methodology Workflow
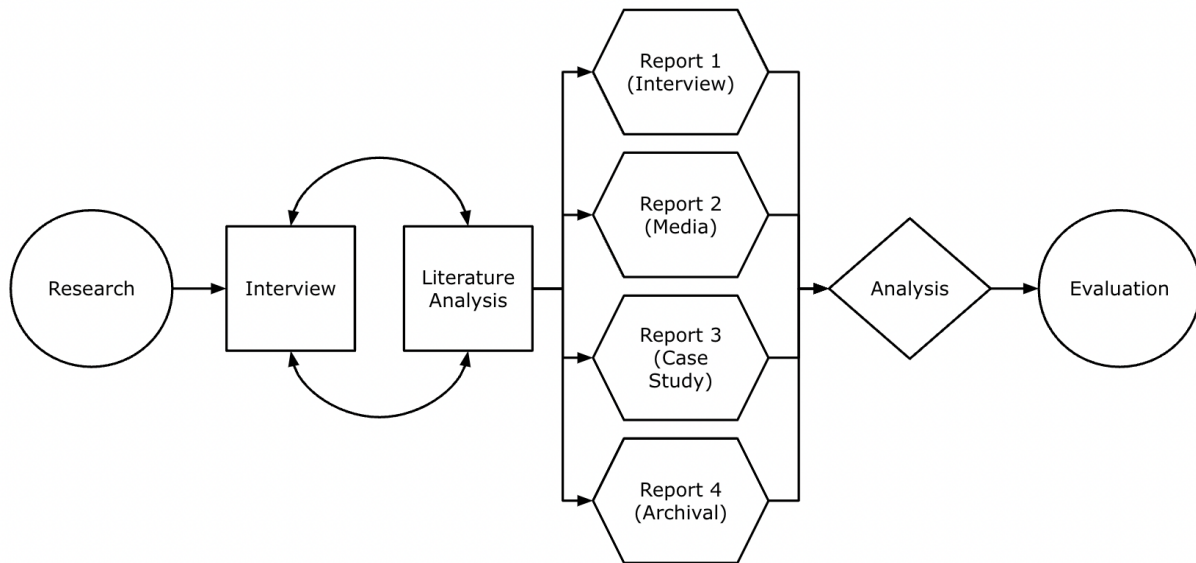
Figure 8: Flowchart of anticipated workflow and methodology for the project

Because of the many ways that we were able to gather data, we decided to create a system for organizing and managing all the information. This workflow chart can be seen in Figure 8. We first began by researching the Olympics and Beijing's closed-loop system; this can be read about in "Chapter 2. Background". Once we decided we had enough information, we began by developing the interview questions and refining our process. We held a few interviews before moving on to literature analysis. From here, we took our interview data and found relevant articles, research papers, and archives to help us better understand them. These two methods, interviews and literature analysis, are in a closed loop as they supplement each other. Once we finished collecting data, we created concise reports for each method and analyzed them individually. The reason we did this separately was to isolate the themes from the interviews from the literature analysis; more about this can be read in "Chapter 4. Findings and Analysis".

We then drew our conclusions and provided recommendations, which can be found in "Chapter 5. Recommendations*".*

3.5 Conclusion

Due to the nature of our project and our outline deliverable, we believed that semi-structured interviews and case studies would allow us to most efficiently collect our data. We focused our outline on the effects of COVID-19 regulations and how they can be implemented in situations beyond the COVID-19 pandemic.

We conducted semi-structured interviews in both a technical and non-technical sense. The semi-structured interview style created a guided dialogue between us and the interviewee. The goal was to understand both the technical and logistical information, as well the volunteers' experiences. This helped us to shape our deliverable to better suit the public's needs.

We also conducted literature research on multiple aspects of the event. Our research provided us with an abundant amount of data regarding the pandemic and the 2022 Winter Olympics. From this data, we deciphered what worked well and what didn't work well with the past Olympics, and implemented that information into our deliverable. We also analyzed athletes' social media as another form of literature research. The social media perspective allowed us to learn more about the behind-the-scenes of the Winter Olympics.

Chapter 4. Findings and Analysis

4.1 Individual Group Interview Analysis

To gain a further understanding of the closed-loop system, our team interviewed seven people who participated in the closed-loop system. The interviews were conducted in English with a minimum of two WPI students and one BUCT student unless stated otherwise. BUCT students acted as translators if there were any difficulties with the language barrier; additionally, the identities of the interviewees are anonymous unless otherwise specified. Each interviewee's transcript/notes can be found in the Appendix.

Each individual was assigned a specific set of questions depending on their categorization using the *PVC* system. All question sets focused on their personal experience at the 2022 Beijing Winter Olympics with specialized questions targeted towards their role in the system. For example, student volunteers had questions that focused on their school/work dynamic; for experts, it focused on their insight and longevity in the system.

4.1.1 Group P (Professional)

Among the interviews conducted, we were able to complete two interviews that fell within the professional category. These experts were recommended to us by the team at Tsinghua University and were conducted through Zoom and email.

We found out that some experts during the development of the loop suggested the implementation of a mental release system. The idea focused on bringing volunteer groups to the Great Wall of China on an occasional basis so they could temporarily leave the loop while

staying with their volunteer group; however, due to time and logistical constraints, this plan was ultimately rejected. Regardless, such a plan could be a good improvement to the closed loop.

1	Effectiveness	• The amount of entering and exiting personnel was closely controlled and monitored. • The system was effective and infections stopped entirely over the course of the games.
2	Psychological Risk	• Psychological effects were a concern of the planning committee. • IOC rejected a *mental release* outing plan. • Negative psychological outcomes were less common than expected.
3	Logistics	• Facilities were located in the surrounding mountains, allowing easy control of movement. • System modeled with risk analysis data based on Tokyo's closed loop system.
4	Communication	• Extensive communication was conducted between events. • Administrators communicated information to volunteers regarding instructions and future plans.
5	Future Implementations	• The system required extensive funding and policing which is not always available to local governments. • Location is important for maintaining the system.

Figure 9: Findings through professional interviews

4.1.2 Group V (Volunteers)

Among the interviews conducted, we were able to complete seven interviews that fell within the volunteer category. These volunteers were recommended to us by the teams at Tsinghua University and Beijing University of Chemical Technology. Four of the interviews were conducted through a video call using Zoom or Tencent; the remaining interviews were done through email responses.

Each volunteer that we interviewed participated through a mainland university. In one interview, it was stated that there were around five or six universities that contributed volunteers

for the Games; many of these institutions were based around the three venues, such as Tsinghua University and Beijing Forestry University (IOC, 2022).

1	Effectiveness	• Testing and symptom tracking every morning. • Volunteers from each venue in separate hotels. • Infected individuals were isolated immediately.
2	Great amenities	• People in the same hotel had common rooms and events to interact. • Gyms and other activities were available. • Most activities occurred in the pregame setup.
3	Psychological effects	• Hotline for psychological risk and on-site therapists. • The first three days in the loop were the most difficult for many people.
4	Interaction and cohesiveness	• Volunteers got to know each other in the pregame setup. • Some volunteers became friends after the games.
5	Rewarding experience	• Partaking in the Olympics is a huge honor. • Very few issues with the running of the Games. • Volunteers were enthusiastic to help.

Figure 10: Findings through volunteer interviews

The volunteer questions can be grouped into five categories as seen in figure 9. The closed-loop system (CLS) was implemented to be an effective solution in preventing the spread of COVID-19. Therefore, the first category of questions focuses on how effective the volunteers thought the CLS was. The main concern of the CLS was the mental effect it may have on the volunteers as they are required to stay in the CLS for months. The second group of questions focuses on the psychological effects the volunteers may have endured. To make up for the isolation required, it may be beneficial to include amenities that the volunteers may utilize during their time in the CLS. The third category focuses on what, if any, amenities were available. Category four focuses on the community and environment between the volunteers and the

athletes as well. A positive environment makes for a better experience. The final set of questions asks the volunteers to describe their experience and how rewarding it may have been.

Creating categories for the volunteer questions made for easier analysis due to the isolation of variables. This allowed us to make a more comprehensive recommendation.

4.1.3 Group C (General Workers)

Category *C* individuals were extremely difficult to find and interview due to the lack of networking opportunities. Regardless, we were able to conduct one international-based interview that fell into group *C*. They were recommended by our team at Beijing University of Chemical Technology. The interview was conducted on Zoom with only two (2) WPI members; this was because the worker currently resides within the United States of America.

The interviewee participated through an unnamed partner university and spent a total of thirty-two days within the CLS. During their time there, they worked as a logistics runner for the Olympic Broadcasting Station (OBS) at the "bobsled, skeleton, and luge" venue site. They handled the scheduling of many tasks, which included but were not limited to making sure the buses arrived on time, handling food orders, and more.

To prepare themselves for isolation, the interviewee stated that they "channeled [their] mind" for the closed system's rules, as they knew it would be "stricter than usual" (Appendix F). At the time, the United States had little-to-no restrictions with many places being mask-optional (Johnson and Stobbe, 2022); within the system, it was the complete opposite. They were required to wear masks and were subject to many COVID-19 tests. The interviewee stated that the nose-based swab test hurt "way more than [it did] in the US" and that some people had nosebleeds (Appendix F). There were other restrictions that they commented on, such as

single-seating bus rides and the hotel isolation system. However, everyone was willing to put up with the restrictions as everyone understood the end goal: preventing an Olympic outbreak (Appendix F). This ties back into the theme of *honor* among all the participants and is further discussed in Section 4.2.1.

1	**Preparation**	• Had to prepare a new mindset for the closed-loop system. • Not used to intense testing procedures.
2	**Isolation**	• Felt isolated due to the language barrier. • Tried their best to be involved. • Gravitated towards people they knew.
3	**Psychological effects**	• Focused on the end goal and endured the restrictions. • Mentally reset during break days.
4	**Interaction and cohesiveness**	• Befriended individuals such as the NBC crew and an US NOC official. • Some universities have a working relationship with the IOC.
5	**Rewarding experience**	• Overall great experience. • Was excited to partake in such an important event.

Figure 11: Findings through our interview with the international worker

The most significant insight that we gained from this interview was their cultural experience. This is further expanded in Section 4.2.2.

4.2 Overall Interview Coding Analysis

After conducting the interviews, we were able to see many commonalities among all of them. Each interviewee expressed a positive attitude towards the event and how it was run; they also commented on how they were able to endure the strict policies put in place by the IOC for

the sake of the Games. We were able to code these responses into five main themes: personal satisfaction, psychological concerns, possible improvements, community involvement, and cultural involvement.

The figure below shows a stacked bar chart among the interviewees of where they satisfy each theme. Please note that the distribution of PVC interviewees is as follows: two *P-level*, seven *V-level*, and one *C-level*.
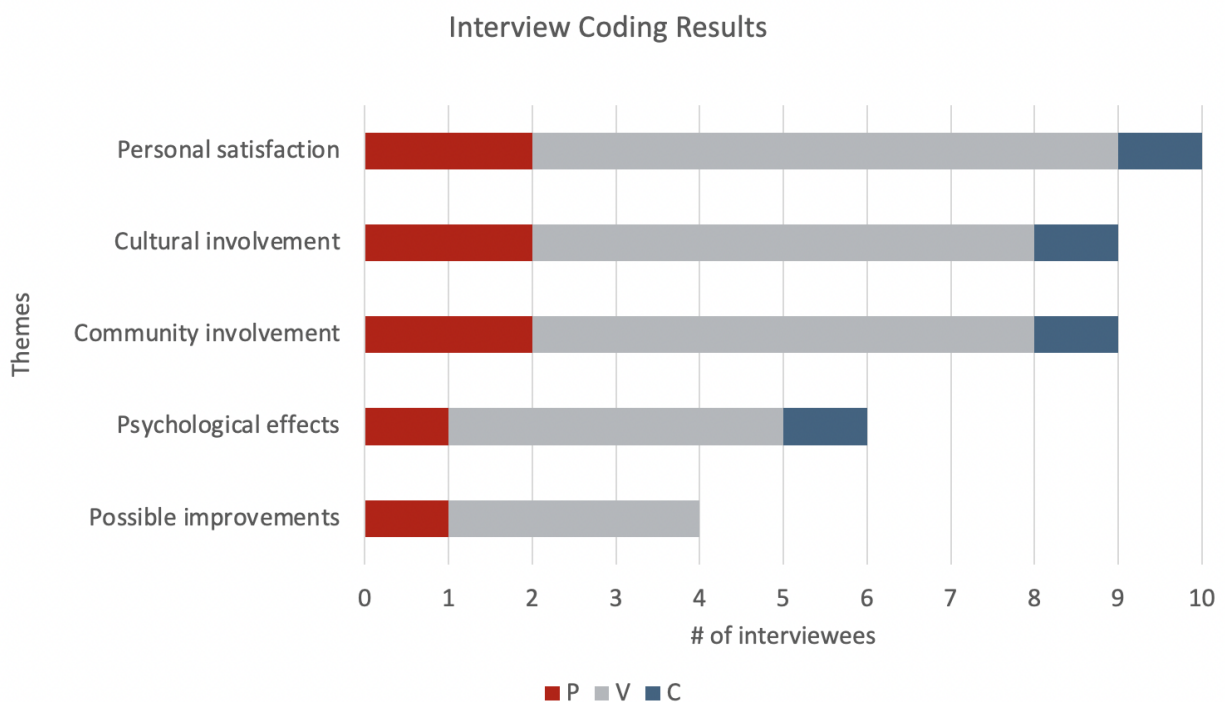
Figure 12: The interviews revealed five major themes

In order for an interviewee to satisfy a category, our team at WPI developed a simple system: the individual must have had to discuss aspects of a theme meaningfully at some point in the interview. To see this system in effect, we can use the international worker who was classified under a C-level interview. They mentioned how they had to mentally prepare for the event prior to traveling; additionally, even though they said they had no psychological issues in

the closed-loop, they discussed how others around them may have been different (Appendix F). This is enough for us to say that they satisfy the theme of psychological effects. However, the interviewee does not mention anything meaningful about any improvements to the system. The only thing they stated was that "if [they] had to change one thing then another [thing] would have to change" (Appendix F). This is not enough for us to put them under the *possible improvements theme*. This system is used among all interviewees and the specific logistics behind each theme can be read about in their respective sections.

4.2.1 Personal Satisfaction

Personal satisfaction focuses on how the volunteers felt about their experience. The hope is that volunteers enjoyed their experience and spoke fondly of it. After interviewing many volunteers, the conclusion can be made that the volunteers really enjoyed their time volunteering. Many felt that it was an honor to be able to volunteer in the Beijing Winter Olympics. They felt a sense of pride. One volunteer referred to the experience as the "Chinese dream," emphasizing the pride and honor they felt.

Many "cherished [the] experience" because they were able to meet so many wonderful people from all around the world, including other volunteers, athletes, and journalists. Through their extensive time in the CLS, they were able to bond and form a friendship with others. Many volunteers are still in touch with friends they made during the Olympics.

Some other volunteers used the experience as an opportunity to network among other volunteers. This was seen with engineers that worked with each other in the CLS.

There was one foreign volunteer that expressed a sense of loneliness and isolation from their Chinese counterparts. This is due to the fact that the volunteers did not speak Chinese and

often found themselves left out of the conversation as their volunteers would speak predominantly Chinese with each other.

4.2.2 Cultural Involvement

Cultural involvement focuses on the cultural experience of the participants. This varies based on the individual and where they traveled from. A majority of our interviewees were from universities or organizations that are located in mainland China; therefore, their cultural experiences may be completely different when compared to an international participant. For local individuals, we mainly looked at their responses to celebrating the Chinese New Year holiday that occurred during the event. For our one international volunteer, we looked at the cultural impact on their experience in the closed-loop system.

For many individuals in China, the New Year holiday is a time to be with their family and friends; however, this was not possible with the restrictions of the closed-loop system. Individuals who entered the system were not allowed to leave the bubble because of safety precautions. In one interview, they stated that "they missed the opportunity to stay with [their] family" for the holiday and had to be within the closed-loop system. This issue was not just a concern of the volunteers but also the professionals that helped organize the event. One of them stated that their committee looked at ways to provide a cultural experience for not only international travelers but also the ones that are from local communities. This meant finding ways to hold celebratory events and activities for those who want to participate.

We are able to find out through the interview data that even though there were restrictions, some groups of people were able to hold small celebratory gatherings for the holiday. One of the professionals, who worked at the Olympic Main Operation Center (MOC),

said that they helped organize events such as "watching the Spring Festival Gala" for the volunteers. One volunteer stated that they decorated their living space and ate dumplings with the volunteers in their venue (Appendix J). This allowed those in the loop to celebrate the event with others, even if it wasn't their family.

For our international interviewee, their experience was different because they did not celebrate the holiday. The interviewee discussed that upon arrival, they were able to meet and help out local students with their projects. They exchanged a conversation and were able to teach each other things in their own language (Appendix F). They were also inside the international closed-loop system which resides in the larger bubble. Here, they were able to meet and talk to athletes and international participants. They stated that one of their best experiences in the system was being able to see and meet other international participants (Appendix F). More about their local experience is expanded in Section 4.2.3.

4.2.3 Community Involvement

Community involvement focuses on the interviewee's experience with their work/venue communities. This theme is important to our drawing conclusions as community bonding and strengthening can lead to positive outcomes and an overall better experience. Both of our professional interviewees stated that while working for the Olympic Games, they were supported by various Olympic committees and their colleagues to accomplish their goals (Appendix G & H). For our volunteers, three of them stated that they felt comfortable with the people that they worked with and formed friendships with them that continued after the event. As stated earlier, many of the volunteers came from a select few universities in mainland China. One interviewee stated that many of their friends volunteered with them so they already knew people inside the

loop (Appendix J). However, from the perspective of the international worker, they did not know

anyone involved. The interviewee stated that once in the loop, people around them began to find

themselves in a group of friends. These groups were formed out of people sharing camaraderie

with one another (Appendix F). They said that it was difficult to join these groups due to the

language barrier as most of them spoke Chinese (Appendix F); regardless, they tried their best to

be a part of it and said that they "taught each other things in [their own] languages". When they

were able to meet English-speaking individuals from the American NBC Crew, they described it

as a "blessing" as they were able to talk to them in English (Appendix F). They said that this

experience did not bother them as it was normal to feel isolated and that they still had a great

time (Appendix F).

4.2.4 Psychological Effects

During the development of the Beijing closed-loop, one major aspect was the potential

psychological effects of isolation. Said effects had proven to be a recurring problem during the

pandemic for many people, so constructing countermeasures for this issue was of great

importance (Appendix H). There were a few ways that this was conducted, as evidenced by the

experience of the volunteers. First, many volunteers, although isolated from their families, were

able to directly interact with people in their hotel and venue. This allowed people to interact with

their colleagues with minimal risk of exposure. Second, there were many different professionals

inside the loop to help anyone under severe distress, and even just to talk depending on the

situation. Finally, many participants were involved in different activities with their colleagues

before the games, which allowed the volunteers to form bonds (Appendix A).

As stated by one of the expert interviewees, there were fewer negative psychological effects among the volunteers than expected by the planners (Appendix H). Many of the volunteer interviewees were not under much psychological stress; one said that people did experience some issues in the first few days but things got better once the event continued (Appendix D). The countermeasures put in place were very effective in keeping volunteers mentally and physically healthy. In addition, many participants expected hardship when entering the loop, so the experience was not a complete surprise to most people. Finally, there was enough community building and support to help people persevere. This is especially interesting, since the Games took place during the Spring Festival, so many participants were separated from their families during such an important event. Overall, the closed loop was designed in such a way to prioritize not just the physical health of the volunteers, but their mental health as well.

4.2.5 Possible Improvements

Through the many interviews conducted, there were not many improvements suggested. We are unsure if the lack of suggestions is a reflection of the quality of the CLS or if the volunteers are unable to speak about any shortcomings of the CLS.

There were two suggestions given. One of the volunteers had difficulty accessing some of the amenities offered such as the gym; this was because one group of volunteers seemed to have a monopoly on the gym reservations. The volunteer suggested more ease and access to the recreational facilities (Appendix E).

Another volunteer described the inefficient transportation system (Appendix D). They were unable to share specific details but they described the system as "weird" and "exhausting." They emphasized that there must be an improvement in the transportation system.

4.3 Literature Analysis

Using the large amount of related data available online, we were able to recognize issues and identify patterns that were useful as data to supplement our findings through our interviews.

4.3.1 A Heartfelt Moment Shared Through Social Media

It was apparent from our interview data that volunteers and workers all shared a very positive experience in the closed-loop system. When analyzing the media's response to the restrictions, we also saw that these emotions translated to some of the athletes. An example of this was when U.S. snowboarder, Tessa Maud, shared a video of the welcoming ceremony on her TikTok. It showcased a male volunteer in a pink shirt waving his hands at her excitedly while shouting, "welcome to China!" (Appendix I). The video garnered hundreds of thousands of views, with many netizens saying they were touched by the friendliess of the volunteer. The man in that video, Sun Zeyu, is an undergraduate student at Tsinghua University. When he found out about the video, he wrote a letter to Maud expressing how much that moment meant to him (Appendix I). He invited her to visit China when the COVID-19 pandemic was over and offered to be her tour guide (Appendix I). After receiving the letter, Maud shared another video expressing a heartfelt thank you to Zeyu and the other volunteers. This interaction is just one example that showcases a positive outcome that can come from being in a restricted environment; however, there are many reports that highlight the negative experiences that some encountered in the closed-loop system.

4.3.2 The Negative Experiences of Athletes

Kim Meylemans is a German skeleton racer that tested positive for COVID-19 while in the Olympic Village. She was put in multiple isolation facilities for days at a time, outside the village. She felt extremely isolated and broke down in a social media video. This case gained large amounts of coverage as being problematic. Kim Meylemans posted a follow-up video which has since been taken down, but the transcription is included in Appendix N. This follow-up demonstrated that her treatment was not intentional, and the ambulance should have returned her to the Olympic Village instead of the government isolation facility once testing negative. This did not have as much media coverage as the initial video and has since been removed, but allows us to determine that this case does not outline a valid concern as Meylemans was still able to sled, and any potential issues arose from a mistake that did not follow the proper procedure. This allows us to see that moving a person into isolation in their own facility would absolutely hurt the experience for the athletes involved, even if they are still allowed to compete in isolation.

Valeria Vasnetsova, a Russian Biathlete, was suffering the effects of malnutrition from eating the same small portions every day. She lost weight, had a pale complexion, and began to develop dark circles under her eyes. Valeria also described a loss in strength and inability to get out of bed and said that she was crying every day and "wanting this all to end" (Appendix K). This raises concerns if the quality of the food is hurting the strength and performance of athletes. Finland ice hockey coach Jukka Jalonen explained his athlete Marko Antilla is "not getting good food." German team chief Dirk Schimmelpfennig described the hotel conditions as "unreasonable" and demanded additional food deliveries for athletes (*Beijing Olympics: Athletes*, para. 8). There was also follow-up coverage explaining that this was resolved for Vasetsova. The

food situation was only affecting athletes in isolation prior to the beginning of the games, but even before the games, if the closed-loop system is restricting athletes' access to the rest of the community, then the closed-loop system should allow athletes to recover properly to maintain the full splendor of the Games then this must be addressed. The system must require adequate amenities provided to all athletes. Through our interviews, we found that this was not an outstanding issue for the volunteers, making it more of a concern for outward appearance as well. The athletes not only need to be in top physical condition, but the public hears much of the athletes' experiences.

4.3.3 The Faults of Tokyo's Closed-Loop System

Aside from the individual experiences of those in the system, we also took a deeper look into the structure of Beijing's system. The most direct point of comparison for the Beijing closed-loop system is the one devised for the 2020 Tokyo Summer Olympics. In preparation for the 2022 Winter Olympics, investigations showed the general effectiveness of the closed loop in Tokyo; in addition, there had been some investigation into the possibility of international athletes and staff going outside the closed loop. Although this was ultimately decided to be too great of a risk, there was some evidence that this could be done safely, so long as the general public was vaccinated and regularly tested. As demonstrated in Figure 5, Tokyo reported 344 and Beijing reported 34 cases found through their internal screening programs during the active days of the Olympic Games. If we take into account all Olympics-related cases for Tokyo (*COVID-19 Positive Case List*, file 1) and all positive tests for the entire duration of the Beijing closed-loop system (*Beijing Organising Committee,* art. 1-48), the difference in the number of cases increases, the IOC reported 788 positive cases for Tokyo and the Beijing Organizing Committee

reported 74 positive cases. This demonstrates the vast improvements made from the first iteration of the closed-loop to the second version.

The public saw that the Tokyo Olympics suffered a large number of cases while making what seemed to be more compromises. This public reaction to the difference between these games emphasizes that there is a need for safety while protecting the mental health of all involved (Carpenter, paras. 4-10). Most notably, Tokyo maintained the same procedure for all athletes, regardless of vaccination status, which in theory can only make unnecessary compromises for all, or not enough safety for unvaccinated individuals. Further, Tokyo did not allow any physically present spectators at all, while Beijing allowed some local residents to watch. This is not the ideal solution, but having spectators increases the excitement and energy present in the venues, and maintains tradition for those present and for those viewing virtually. This promotes athlete motivation and prevents public negative perception, as many reports demonstrated the empty viewing stands in both games. These empty stands were described as "embarrassing" and the general media response to the lack of spectators was negative (Kelso, para. 3). Further, it was considered in poor taste for Beijing to increase attendees with volunteers and still allow this lack of attendance overall (Kelso, para. 1). Allowing more spectators is a good practice, and rules must be created to ensure that these physical spectators will not increase the spread of COVID-19.

4.3.4 Media Coverage on Psychological Concerns

One of our experts explained that, during his time at the Games, one thing the organizers did not expect was that "different countries have different psychological problems." On the surface, this makes clear that being submerged in an esoteric place with a different culture and

unfamiliar territory can feel very daunting. Media outlets covered this largely, some going as far as to say that the governmental protocols "do not leave much room for joy" compared to the usual Olympics and being in this foreign place without being allowed to see what's happening in the outside world is "exhausting" (Rosenberg, paras. 2-4). Exposing attendees to all of the wonderful culture in a new place in a natural way is a solution to this that allows people to feel less trapped within the walls. This late realization that different countries would react differently sheds light on a different, related problem. The article cited above also explains that it is frustrating to be in a place where everything is already overwhelming, and you have to deal with a struggle to communicate without words due to a language barrier (Rosenberg, para. 1). This is the point of view of a reporter, and this is only compounded for everyone else in the closed-loop system. Most of our interviewees explained in some form that most of the fear of being in a new place subsided after a few days, but our international interviewee had a different experience. Many of the volunteers grew closer regardless of the language barrier when they interacted, but a majority of the volunteers stayed within their own close bubbles, whether it was friends they knew or groups that spoke their own language (Appendix F). This is clearly an issue when a person's ability to be social is limited to people who do not speak their own language. In interaction, there was still the opportunity to have fun and enjoy oneself, making clear that the closed-loop must hold more community events when possible, even allowing for casual interaction with less speaking— like video games.

Chapter 5. Recommendations

5.1 The Mental Release Plan
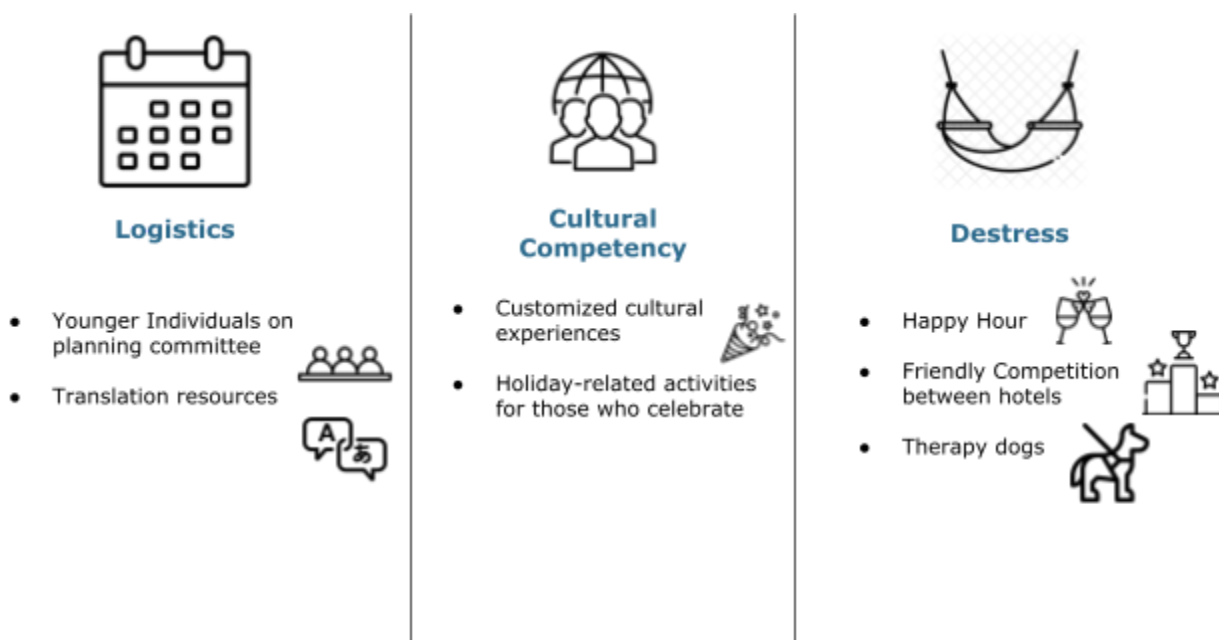
Figure 13: Infographic for breakdown of the mental release plan

The system implemented at the 2022 Beijing Winter Olympics was extremely efficient at completing its purpose: preventing the internal spread of COVID-19; however, based on our analysis in "Chapter 4. Findings and Analysis", we believe there are many areas for improvement.

The literature analysis in Section 4.3 speaks to the struggles that the athletes endured during their time in the system. These struggles ranged from nutrition to mental as well. According to the Cleveland Clinic, there is a direct correlation between increased mental health among athletes and increased athletic performance (*Athletes and Mental Health*, paras. 16-18). The same applies to vice versa. The Cleveland Clinic believes that mental health should be weighed equally with physical health in athletes (*Athletes and Mental Health*, paras. 23-30).

Stable mental health is also crucial for the well-being of the workers who are part of the system. The workers must be in a healthy state of mind to be in the system for months without their usual support network.

As described by one of our *P-level* interviewees, the Olympic planning committee looked into a "mental release" outing for the athletes and Olympic staff (Appendix H). The suggestion mainly involved individual venue groups traveling to see the Great Wall of China, as the landmark is within reasonable driving distance of the venue. Groups would be taken there during the day at different times to avoid any unnecessary contact. This plan had the potential to improve the mental resilience of the volunteers. Unfortunately, this idea was not approved due to time and logistical constraints; however, something similar could be implemented in future systems, which could be conducted as follows.

5.1.1 Logistical Recommendations

To effectively create a new mental release plan, we must first take into account the initial creation of the system. The International Olympic Committee (IOC) is in charge of developing, maintaining, and refining different ideas for the Olympic Games (Appendix H). They deploy small committees to focus on these ideas and are comprised of many diverse and unique individuals; however, through one of our *P-level* interviews, we found out that many committee members are of an older age when compared to the age of the athletes. The mindset and thought process of individuals of vastly different ages can vary greatly; therefore, the accommodations that are recommended by older members may not be as accommodating as they think. This current generation is rapidly evolving and requires a perspective from those that were born into it. We are proposing that, for the future Olympic planning committees, the IOC should seek out

athlete-age individuals to be a part of their team. This will ensure that the perspectives of the athletes and younger generation are heard and understood among other experts on the committee.

We discovered through our *C-level* interview that some felt slightly disconnected from other volunteers, mainly due to language and cultural barriers. There may be a few ways to remedy these occurrences. One way we recommend is to create surveys that should be sent out to all volunteers, international or otherwise, for preferences on food and activities, for example. Upon receiving these responses, the IOC should look into the most requested event and food and attempt to make those happen. These surveys should be sent well before the event to ensure time for the IOC to prepare.

These surveys could also include questions about accommodations for international volunteers. One recommendation that we have for accommodations is real-time translation technology. This equipment is currently being developed and marketed at the time of this project by companies such as Google. Though it may be expensive, real-time translation will allow individuals to feel more comfortable speaking to their peers and mitigate any concerns about the language barrier. Additionally, this technology may even increase the productivity of the work environment.

5.1.2 Destress Recommendations

The most important aspect of the mental release plan is the destressing of athletes and Olympic staff. The previous mental release plan suggested that the participants go visit landmarks such as the Great Wall of China. The issue we saw with this is that there was the possibility for tourists to be there. In order to ensure the safety of the ones visiting, the city would have to close off any visitors; however, this greatly disrupts city life and should be

advised against. By using the same concept, we are suggesting that our plan involve some type of outdoor activity in a more remote area. Activities inside a populated city are likely too risky and could violate the closed-loop system ideology; therefore, activities centered around surrounding wilderness areas, such as forests, may be more effective. The specific activities would depend on the venue location but local organizations are typically aware of local landmarks and natural areas.

Within the closed-loop system, we recommend that small-scale activities be implemented; more specifically, hotel-specific activities and clubs. The restrictions put in place to reduce the spread of COVID-19 require many of the participants to be isolated in their living buildings. By conducting these small clubs and activities, it would provide a stress-free environment for those that want to participate; an example of a club that could be implemented would be a book club. The book club would require athletes and participants would all take a survey to choose a book and read it before a given day; if they do not complete the book, there should be no repercussions. They would be able to hold virtual or in-person meetings in the hotel to discuss the books and meet each other. Another idea could be clubs that require no language communication, such as chess and checkers. To make this as effective as possible, the IOC would have to send out information about the potential clubs months prior to the Games.

Additional amenities could also be provided for those that may be experiencing high volumes of stress. One of our suggestions is to provide therapy animals for those that request it; however, extra caution must be taken if this is implemented. Domestic animals, such as dogs and cats, can be infected with COVID-19, along with other illnesses (IOC, 2022). As a result, each animal should be limited to one volunteer group, effectively keeping the animal within the best as possible.

Another recommendation for destress activities builds upon the hotel-specific idea and expands it to every living site. We believe that low-stake competitions between hotels would not only connect people together but help everyone relax during stressful times. Most of these activities would have to be remote; fortunately, there are a variety of games that could be played. Some examples include Mario Kart, Wii Sports, FIFA, and more. The rewards for winning these competitions must be something shareable among the hotel, such as candy or snacks; additionally, the prize must not be valuable as adding value to something can increase competition and, ultimately, stress.

Watching active games in public spaces, such as parks, could also be a good improvement, especially at future Olympic Games. Finally, improving and expanding scheduling and options for physical exercise could be very helpful for volunteers. Frequent exercise can certainly help relieve both physical and mental stress. Of course, all of these recommendations are highly dependent on the resources and logistical flexibility available to the organizers. As a result, these suggestions should be implemented within reason, especially concerning these practical constraints. Regardless, these suggestions could offer an improved experience for all parties involved, while preserving the public health benefits of a closed-loop system.

5.1.3 Cultural Competency Recommendations

The Olympic Games are not just about winning medals. The Olympics symbolize the unification of many nations as they experience a new environment, both culturally and physically. It is extremely important that those involved in the closed-loop system are able to experience this fully while abiding by the restrictions. In terms of recommendations, these are conditional.

If the event takes place during a holiday, it may be wise to schedule holiday-based activities to help relieve the separation from families that inevitably results from being in the closed-loop system. We have already seen how impactful cultural activities were for those through our interviews. We believe that the IOC should make an effort to provide individuals and nations with the resources to celebrate their holidays if it occurs during the same time as the event.

Additionally, if the host nation has a holiday occurring during the Games, we believe that the IOC should make a better effort in creating a cultural experience for everyone in the system. Providing the athletes and volunteers with "holiday-themed" foods and equipment could raise their spirits and make them feel wanted at the event.

5.1.4 Application to Isolated Individuals

The recommendations that we stated above can almost all be applied to individuals in isolation. The core idea of many of our suggestions is that they can be conducted without the need for face-to-face contact; an example of this is the low-stake competitions between hotels. If an individual is required to quarantine, they would still be able to participate in these competitions through the remote activities, such as competing in a video game. Clubs would also still be accessible to these individuals as the meetings could be held virtually.

As for food recommendations in isolation, it is imperative that the athletes receive adequate nutrients in their meals to be able to maintain their health. This can be solved with the recommendation described in Section 5.1.1 about food surveys. Those in isolation should be provided with as much support as they need to get through the quarantining period.

5.2 Final Conclusions
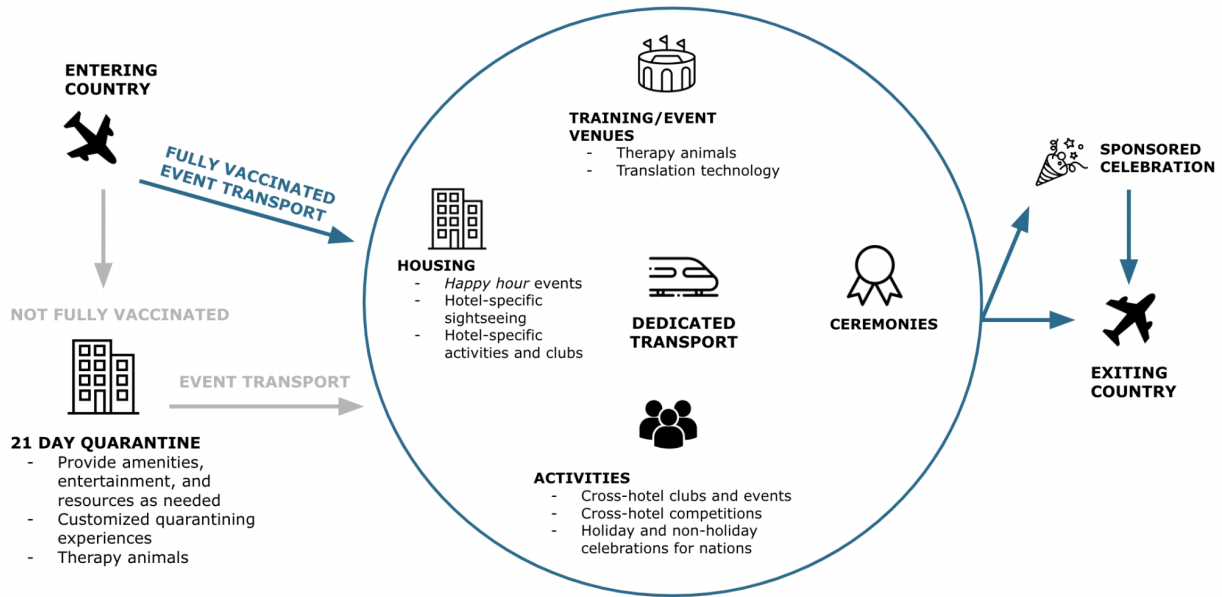
Figure 14: Draft of a closed-loop system with recommendations

The mental release plan that we have suggested looks to maintain the effectiveness of the Beijing closed-loop system while looking to improve the psychological and mental environment for those involved. Our plan target three main areas: logistical, mental (destress), and cultural. Each of these played a thematic role while we analyzed our collected data from interviews, case studies, archival research, and various media. We focused heavily on destressing recommendations for reasons stated in Section 5.1. In Figure 13, we have drafted a rough infographic of what our system would look like; like the one in Figure 3, it maintains the twenty-one day quarantine as well as the implied testing routines. We strongly believe, after conducting our research, that implementing a form of mental release at events such as the Olympics will be beneficial to the athletes, volunteers, and workers.

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Appendix A: Volunteer Interview Questions (ENG/CHI)

How were the COVID-19 protocols implemented into the 2022 Beijing Winter Olympics?

Were there any issues with the implementation? If so, what were the causes of it?

How do you think these measures were effective in countering the effects of COVID-19?

What types of tasks did you have to do as a volunteer? Was this work fun and interesting knowing that being an Olympic volunteer is a rare opportunity?

Were you very busy throughout the day?
      If yes, was it more than you expected when you signed up initially?
      If not, was the free time a good change as compared to life normally outside the bubble?

Did any of your friends/peers volunteer?
      If yes, were you able to spend time with them when you were not busy?
      If not, how were you able to meet new people and make new friends?

What was your form of communication with the other volunteers? Are you still in contact with anyone you met during your time as a volunteer?

Did you find that all of the volunteers had a sense of camaraderie as a group?

What were your initial feelings entering into a completely different community where you don't know everyone else?
Did these feelings change throughout your time here?
      If so, what do you remember most fondly?

What facilities were provided to you as a volunteer? Where did you spend the majority of your time?

What events were held as a community while inside the closed-loop?

Did you notice any mental health risk with these COVID-19 restrictions in place?

Were you ever worried about contracting COVID-19 from other members of the closed-loop?
      If yes, did this affect closeness as a community?
      If no, did you hear of any other volunteers contracting COVID-19 while inside the closed-loop?

Did you follow the same COVID-19 protocol as the Olympians? In what ways was the closed-loop experience different for them?

Were the Olympians positive in their reaction to the restrictions?
As Olympic athletes, the participants have attended large-scale events before. Did you have any experiences where these athletes had criticisms of the COVID-19 protocols used in the Beijing Winter Olympic Games?

How did the athletes react to the hospitality from the volunteers and the exposure to Chinese culture that they experienced?

Did you have any direct interactions with any athletes that stuck out to you?
        If yes, what was your experience like?

Is there anything that you wish was run differently at the event?

Were there any cases you learned about where athletes or foreign journalists were attempting to avoid following all of the rules?

Have you ever been involved in conducting an event during the COVID-19 pandemic previously?
        If yes, How did it compare:
                in scale?
                in COVID-19 restrictions?
                in effectiveness at preventing spread of the disease?

If you are a student, were you worried about assignments and projects from schooling? How did you keep track of these while isolated?

Did you have to miss any events or gatherings to participate in the closed-loop system?

北京冬奥志愿者采访稿中文版

1. 在 2022 年北京冬奥会上，新冠防控方案是如何实施的?

2. 在实施过程中是否遇到了阻碍? 如果有，产生这些阻碍的原因是什么?

3. 您认为这些措施在应对新冠肺炎疫情上的有效性如何?

4. 作为一名志愿者，您需要完成哪些类型的工作呢? 成为奥运志愿者是一个难得的机会，您认为这项工作有趣吗?

5. 在工作期间，您需要从早到晚一整天都用来工作吗?
  如果是，那么实际工作时间比您报名时所预估的工作时间要长多少?
  如果不是，那么您在冬奥期间的闲暇中的活动内容，与日常的生活相比有什么区别呢?

6. 您的朋友中有志愿者吗?
  如果有，在空闲的时候您会和他们聚在一起吗?
  如果没有，您是如何认识并结交新朋友的呢?

7. 您和其他志愿者的交流方式是什么? 您和志愿者期间所认识的朋友还保持联系吗?

8. 您是否认为所有的志愿者都拥有团队集体意识?

9. 当您进入到完全不同且没有认识的人的群体时，您最初的感受是什么? 在冬奥会期间，这种感受发生过改变吗? 如果有，您印象最深的感受是什么?

10. 作为一名志愿者，冬奥会都为您提供了哪些设施供使用? 您大部分时间是在哪里度过的呢?

11. 在冬奥会闭环内，举行过哪些群体活动吗?

12. 您是否注意到疫情防控措施所带来的心理健康风险呢?

13. 您是否曾经担心过在闭环的人员中感染上新冠病毒? 如果担心过，您认为这是否会影响人们的亲密度?
  如果没有，您是否听说有志愿者在闭环中感染上新冠的情况?

14.对于志愿者的疫情防控措施，与奥运会选手的疫情防控方案一样吗？如果不一样，那么这些区别具体体现在哪些方面呢？

15.奥运选手对这些防控措施的感受是积极正向的吗?对于那些之前就参加过大型国际活动的奥林匹克运动员，您是否听说过或见过他们对北京冬奥会的疫情防控政策提出批评？

16.运动员们对志愿者的热情接待和近距离接触中国文化的反应是什么？

17.您是否和参加比赛的运动员有过直接互动？
　　　　如果有，您的经历是怎样的?

18.您认为在这次活动中有哪些方面可以做得更好？据您的了解，有运动员或外国记者不遵守这些防疫规则的情况吗？

19.您之前是否参与过新冠疫情期间的其他活动？
　　　　如果是，与冬奥会相比较而言:
　　　　　　　　在规模大小方面?
　　　　　　　　在疫情管控措施方面?
　　　　　　　　是否有效地防止了疫情传播方面?

20.如果您是学生，您会担心学校的作业和项目吗?在隔离期间您是如何完成这些任务的?

21.由于您一直处于奥运会闭环系统中，您是否会因此错过一些活动或聚会？

Appendix B: Official/Expert Interview Questions (ENG/CHI)

Beijing Winter Olympics Officials/Experts Interview Questions
北京冬奥会官员/专家采访问题

How were the COVID-19 protocols implemented into the 2022 Beijing Winter Olympics?
2022 北京冬奥会是如何实施疫情防控措施的？

Were there any issues with the implementation? If so, what were the causes of it?
这些防控措施实施过程中是否存在值得改进的地方？如果有，存在哪些问题？

How do you think these measures were effective in countering the effects of Covid-19?
您认为这些对抗新冠疫情的防控措施效果如何？

What do you do as an occupation outside of this event?
您在冬奥会外的工作职业是什？

What exactly did you specialize in inside the Olympics?
您在冬奥会期间的专职是什？

On the average day, what did you do during the day?
通常情况下，您每天在冬奥会都有哪些工作？

Were you very busy throughout the day?
冬奥会期间您每天的工作繁重吗

      If yes, was it more than you expected when you signed up initially?
      如果是，这是否超出您最初的预期？
      If not, was the free time a good change as compared to life normally outside the bubble?
      如果不是，与平常工作生活相比，您的空闲时间有很大变化吗？

How long were you monitored for COVID-19 for this event?
您为参与冬奥会健康监测了多长时间？

Did you ever feel that the requirements of the closed-loop system were too much and you could have spent your time better elsewhere?
您有没有觉得闭环政策要求过于琐碎，消耗了很多不必要的时间精力？

Did you enjoy your work on the Olympic Games?
您享受在奥运会当中的工作吗？

Did you know anyone else going into the closed loop?
您在闭环内有认识的其他人吗？

If yes, how often did you get the chance to interact with them?
如果是，您多久有机会与他们互动？

This is a unique opportunity to host an international event that is unlikely to return to Beijing soon. Was this a good chance to make useful connections in your line of work?
本次冬奥会是北京举办国际盛会的难得机会，这对您在冬奥会外的职业工作有帮助吗？

What facilities were provided to you in your position? Where did you spend the majority of your free time?
您的岗位上有哪些娱乐便利设施？您大部分的空闲时间都在哪里做些什么？

What sort of events were held for the community isolated inside the closed-loop?
闭环内组织了哪些活动？

Did you have any direct contact with the Olympians that competed? If so, did you have any experiences where these athletes had mixed feelings?
您是否与参加比赛的奥运选手有过直接接触？如果是，您是否有察觉某些运动员出现情绪波动的时候？

How did the requirements for COVID-19 differ for you as compared to the athletes?
与运动员相比，您的防疫措施要求有何不同？

Were the Olympians positive in their reaction to the restrictions?
奥运选手对比赛中这些限制的反应如何？是积极的吗？

As Olympic athletes, the participants have attended large-scale events before. Did you have any experiences where these athletes had criticisms of the COVID-19 protocols used in the Beijing Winter Olympic Games?
作为奥运运动员，参赛选手之前也参加过大型活动。您是否听说过运动员对北京冬奥会新冠疫情防疫要求的一些批评？

How did the athletes react to the hospitality from the volunteers and the exposure to Chinese culture that they experienced?
运动员们对志愿者们的热情接待和他们所体验到的中国文化有何反应？

Did you have any direct interactions with any athletes that stuck out to you? If yes, what was your experience like?
您和那些让您印象深刻的运动员有过直接的互动吗？如果有，您的经历是怎样？

If you were involved in creating or enforcing any rules related to COVID-19, did you find any situations that did not go as planned in these rules?
如果您参与制定或执行任何与 COVID-19 防疫措施有关的规则，这些举措都正常实施了吗？您是否发现有些地方没有按照原计划进行？

Were there any mechanical or technical issues that arose while conducting the event? How were they overcome?

在执行活动过程中，是否出现了任何技术性问题?这些问题是如何克服的?

Did you notice any mental health risk for anyone inside the closed-loop system with these COVID-19 restrictions in place?

在您的观察中，在实施 COVID-19 限制措施的闭环系统内，有没有人会面临一些心理方面的问题?

Is there anything that you wish was run differently at the event?
Were there any cases you learned about where athletes or foreign journalists were attempting to avoid following all of the rules?

现在冬奥会已经结束，那么有没有一些地方是您认为可以改进的呢? 您是否了解到运动员或外国记者有试图避免遵守所有规则的情况?

Have you ever been involved in conducting an event during the Covid-19 pandemic previously?
     If yes, How did it compare:
          in scale? in COVID-19
          restrictions?
          in effectiveness at preventing spread of the disease?

您以前是否参与过新冠肺炎大流行期间的活动?
     如果有，它是如何比较的: 在规模方面? 在
          相关的防疫限制措施方面? 这些能
          否有效地防止了疾病的传播?

Were you responsible for creating any of the regulations of this prior event? Any significant changes between the two are most likely due to the difference in scale of these two events, if you believe these differences to be for another reason, please explain.

您曾经有没有为重大赛事/活动制定规定的经历?如果有，之前的赛事/活动和 2022 年北京冬奥会两者之间有没有一些大的变化（最有可能是由于这两个事件的规模差异），如果您认为是别的方面有差异，能说说看吗?

Appendix C: Interview Consent Form (ENG/CHI)

Informed Consent Agreement for Participation in a Research Study

Investigator: Winter Olympics IQP Team at Worcester Polytechnic Institute

Contact Information: qnnguyen@wpi.edu

Title of Research Study: Improving the Closed Loop System Implemented at the 2022 Beijing Winter Olympics

Sponsor: Tsinghua University

Introduction: You are being asked to participate in a research study. Before you agree, however, you must be fully informed about the purpose of the study, the procedures to be followed, and any benefits, risks or discomfort that you may experience as a result of your participation. This form presents information about the study so that you may make a fully informed decision regarding your participation.

Purpose of the study: The purpose of this study is to evaluate the effectiveness of the closed-loop COVID-19 protocols that were put in place during the Beijing Winter Olympics. This study will focus on how effective the protocols were in preventing the spread of COVID-19, as well as the effect on the mental health of those who participated in the protocols.

Procedures to be followed: This study will take the form of an interview session that will last 30-45 minutes. The participants will be asked a set of questions and will be encouraged to elaborate further if they feel it necessary.

Risks to study participants: There are no immediate risks foreseen from participating in this study. If a participant would not like to answer a question they are encouraged to share their discomfort with the interviewer at any given time to move onto the rest of the interview.

Benefits to research participants and others: Participants of this study will receive acknowledgment in the final report written about the study. If the participant wishes to remain anonymous, their name will be omitted from the report.

Record keeping and confidentiality: The subject's answers to the questions will be recorded in a document, along with their name and other preliminary information, and be referred to over the course of this study. Audio recordings will be saved for the purpose of accuracy if the subject makes the choice to allow it. Records of your participation in this study will be held confidential so far as permitted by law. However, the study investigators, the sponsor or its designee and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. Any publication or presentation of the data will not identify you.

I allow my voice to be recorded for the purpose of note taking accuracy: Yes ▢   No ▢

Compensation or treatment in the event of injury: You do not give up any of your legal rights by signing this statement.

For more information about this research or about the rights of research participants, or in case of research-related injury, contact:
Main Contact of Study: Qui Nguyen, Email: qnnguyen@wpi.edu
WPI IRB manager: Ruth McKeogh, Tel. 508 831-6699, Email: irb@wpi.edu
Human Protection Administrator: Gabriel Johnson, Tel. 508-831-4989, Email: gjohnson@wpi.edu

Your participation in this research is voluntary. Your refusal to participate will not result in any penalty to you or any loss of benefits to which you may otherwise be entitled. You may decide to stop participating in the research at any time without penalty or loss of other benefits. The project investigators retain the right to cancel or postpone the experimental procedures at any time they see fit.

By signing below, you acknowledge that you have been informed about and consent to be a participant in the study described above. Make sure that your questions are answered to your satisfaction before signing. You are entitled to retain a copy of this consent agreement.

_____ Date: _____
Study Participant Signature

_____
Study Participant Name (Please print)

_____ Date: _____
Signature of Person who explained this study

参与研究的知情同意协议

调查员： 伍斯特理工学院冬奥会IQP队

联系信息： qnnguyen@wpi.edu

研究标题：完善2022年北京冬奥会闭环系统

主办单位： 清华大学

介绍: 您被要求参加一项研究。但是，在您同意之前，您必须充分了解研究的目的、要遵循的程序以及您可能因参与而体验到的任何好处、风险或不适。此表格提供有关研究的信息，以便您可以就您的参与做出充分知情的决定。

研究目的： 本研究的目的是评估在北京冬奥会期间实施的闭环 COVID-19 协议的有效性。本研究将重点关注协议在防止 COVID-19 传播方面的有效性，以及对参与协议的人的心理健康的影响。

应遵循的程序： 本研究将采用持续 30-45 分钟的访谈形式。参与者将被问及一系列问题，如果他们认为有必要，将鼓励他们进一步阐述。

研究参与者的风险： 参与本研究没有预见到的直接风险。如果参与者不想回答问题，我们鼓励他们在任何给定时间与面试官分享他们的不适，以便继续进行其余的面试。

对研究参与者和其他人的好处： 本研究的参与者将在关于该研究的最终报告中得到确认。如果参与者希望保持匿名，他们的姓名将在报告中省略。

记录保存和保密： 受试者对问题的回答将连同他们的姓名和其他初步信息一起记录在文件中，并在本研究过程中被提及。如果受试者选择允许，将保存录音以确保准确性。您参与本研究的记录将在法律允许的范围内保密。但是，研究调查人员、申办者或其指定人员，在某些情况下，伍斯特理工学院机构审查委员会 (WPI IRB) 将能够检查和访问通过姓名识别您的机密数据。任何数据的发布或展示都不会识别您的身份。

我允许记录我的声音以便准确记录笔记：　　　　　　　　　　　是的 ▫　　不 ▫

受伤时的赔偿或治疗： 您签署本声明并不放弃您的任何合法权利。

有关本研究或研究参与者权利的更多信息，或在研究相关伤害的情况下，请联系：
学习主要**联系人：Qui Nguyen，电子邮件：** qnnguyen@wpi.edu
WPI IRB 经理：Ruth McKeogh, 电话。 508 831-6699, 电子邮件：irb@wpi.edu
人类保护管理员：Gabriel Johnson, 电话。 508-831-4989, 电子邮件：
gjohnson@wpi.edu

您参与这项研究是自愿的。您拒绝参与不会导致对您的任何**处罚**或**您**可能有**权获**得的任何福利**损**失。**您**可以**随时决**定停止**参与研究**，而不会受到**处罚**或失去其他利益。**项**目**研究**者保留在他**们认为**合适的任何**时**候取消或推**迟实验**程序的**权**利。

通过在**下面签名，您**承**认您**已被告知**并**同意成**为**上述**研究**的**参与**者。在**签名**之前，**请**确保**您**的**问题**得到了**满**意的回答。**您**有**权**保留本同意**协议**的副本。

_____ 日 期：_____
研究**参与**者**签**名

_____
研究**参与**者姓名（**请**打印）

_____日 期：_____

Appendix D: Record 1

Date: 05/23/2022
Record type: Interview transcript (transcribed by WPI)
Communication medium: Zoom
Interviewers: Mark Renzi, Qui Nguyen, Peng Zhe
Classification: Volunteer (V)

[transcript begins]

[WPI & 1]: [introductions]

[WPI]: How was the COVID-19 protocol implemented into the 2022 Beijing Winter Olympics?

[1]: First of all, I want to let you guys know what position that I served in so that you acn better know my environment and surroundings. I served in the Zhangjikou one with transportation guide assistance. My job is to provide English language and transportation guidance for skiing teams. And to entertain the Olympic family officers. When I served in the closed loop, I remember the first day that my manager told us that the first thing you should remember is to protect yourself. When we served in our area, this was the most urgent period of the pandemic. All of us were aware of the protection procedures of COVID-19. Every time we were off duty, we had to wear a mask. We were to wear the total uniform [unsure how to describe it]. Exposure suit? If we didn't put all of this one, [?]. Although it was the Winter Olympics, the temperatures were below zero. However, when you put it on your body, you felt as if your body was hot. That was the feeling. This was when we were in the working place. When we were in the dorms, you should wear a mask all the time and I remember when I ate lunch or dinner, when you sit down at the table to eat before that, you must wear a mask.

[WPI]: Any roommates?

[1]: Yes, I did. We did not have to wear masks around roommates.

[WPI]: Were there any issues with the setup?

[1]: Honestly, I don't think there was a problem with the protection stuff. Because I served the

journalists and sports teams arrived in Beijing for the first time. We were not sure if they were infected or not, so we were all kind of nervous about it. I think it was.

[WPI]: As a transportation guide, did you find your work interesting?

[1]: Yes, it was so interesting. Basically, my job is providing translation to the worldwide journalist. Sometimes we will talk a lot and I can't bear in my mind that I need to wear an exposure suit or mask.

[WPI]: Were you busy throughout the day?

[1]: Yes, very. We had two shifts. One is during the daytime and the other is during the night. We would work until midnight sometimes. It was a very exhausting job where it would make us tired.

[WPI]: Is it more than it was expected?

[1]: Definitely. It was beyond my imagination.

[WPI]: Did any of your friends volunteer?

[1]: Yes, many of my friends were in my service. I made friends with many people such as NOC assistants and journalists.

[WPI]: When you weren't busy, were you able to spend time with my friends?

[1]: I can only spend time with them at the dorms. During our shift, there was some time to take a break.

[WPI]: How did you communicate with other volunteers?

[1]: First of all, some of us lived in the same building. There were different university students living here. There were 5 or 6 different universities there. I have many assistant friends that were services for the Olympic Officials and the big person. Sometimes, I would connect with them to [?]. I can also connect with them through WeChat or... Instagram. The Olympics provided a big opportunity to get into Instagram because many friends were on Instagram and journalists.

[WPI]: Are you still in contact with them?

[1]: Not so much, just a couple.

[WPI]: Do you feel that volunteers had a sense of comradery?

[1]: In my experience, they were very friendly. We still communicate with each other on social media such as Instagram

[WPI]: What were your initial impressions of joining a place where you didn't know anyone?

[1]: It was so weird, I guess a mixed feeling. It was very exciting. On the other side, I was very nervous. When I met my teammates and the things I was going to work, it was a procedure

[WPI]: Did you think near the end, those feelings went away?

[1]: Yes! I think in the end, I totally cherished the experience and it was wonderful. Especially during the whole journey, I attended the closing ceremony which was very fabulous and the most impressive thing was the friends period. This was the most valuable thing.

[WPI]: As a volunteer, what sort of facilities were provided to you? [clarified]

[1]: We had many entertaining things such as table tennis, soccer, and many entertaining games such as cards. We went through the [?] so our dorms provided us with many small things. I also had a psychologist that helped me. Not because I have any trauma, but I wanted to be friends with them. They helped me a lot. They were very professional.

[WPI]: Did you notice, not just yourself, but any psychological or mental health issues?

[1]: Definitely. All of us had our moments. You know, because we had quarantine period and it was long. It was 21 days. I want to go back to the university when some of my friends have already gone back to school. I wanted to see them but I should stay in the dorms and can't go anywhere. It was strange and exhausting.

[WPI]: Were you worried about getting COVID-19 in the loop?

[1]: Honestly, no. As far I am concerned, it was not a big deal for me. If I did, I can get medicine

or a cure.

[WPI]: Are you vaccinated?

[1]: I am vaccinated.

[WPI]: Did you hear any other volunteers getting COVID-19?

[1]: No.

[WPI]: Did you follow the same protocols as athletes and Olympians?

[1]: No. However, some of my friends were assistants, they were under special volunteers. [?]. Yes, they accompanied the whole location. I think they had a more serious and comprehensive rules of the COVID-19.

[WPI]: Did they have different facilities?

[1]: Yes, they had special exposure suits.

[WPI]: Were the Olympians positive in their reaction to the restrictions?

[1]: They were kind of different because when I served a sports team that first arrived, they didn't wear any mask. They don't care about your concerns about their health, which is okay. At that moment, I told them about what they should do. However, some members just don't have concerns.

[WPI]: The athletes that you interacted with, how did they react to the hospitality?

[1]: Most of the athletes were friendly and showed a great attitude towards China and its culture. Some of them said thank you when we met them in their language. It was an amazing experience.

[WPI]: Did you have any direct interaction with athletes?

[1]: Yes, I remember. What impressed me most was the Olympic Sweden National Olympic President. For the alpine skiing teams and when I met him, I didn't know who he was. I talked to him about what I watched last night. He then told me that he skied with the person I was talking about. Finally, he gave me a pin. That moment will last forever.

[WPI]: In the event as a whole, do you wish there was anything run differently?

[1]: Yes. I wanted the transportation system to be changed. In the very beginning, the whole trip was the worst. I don't know why and I can't say too much, but it should be better.

[WPI]: If you don't mind, do you know what was wrong?

[1]: The problem was about the schedule. It was weird and made people feel exhausted. The athlete and journalist gave feedback to hopefully improve it in the future

[WPI]: Earlier, you talked about how some athletes didn't care about the rules. Do you remember any situations where they tried to avoid the rules?

[1]: They didn't intend to avoid anything but just didn't care.

[WPI]: Have you ever been involved in running the pandemic in an event previously?

[1]: I served as a volunteer in my hometown for COVID-19.

[WPI]: How did it compare restriction-wise to the Olympic Games? I know that it is not the same scale but what was done differently?

[1]: The restrictions in the Olympic games were more tough. Yes. It was just more tough. It is not comparable.

[WPI]: If you are a student, were you worried about assignments and projects from schooling?

[1]: Definitely, I cared so much. During the quarantine period, everyday, I feared in my mind that I would have to do a lot of work when I went back. I was worried about my schedule.

[WPI]: How did you keep track of these while isolated?

[1]: [maybe said she didn't do her work, unsure] I know that I can learn of my courses online but at that moment, no one could do anything.

[WPI]: Did you miss any events to participate in the closed-loop system?

[1]: No, I didn't miss anything.

[WPI]: [endings]

[1]: I want to say that even though there are some shortcomings in the rules and such, it was the greatest occasion that I have been a part of.]

[transcript end]

Appendix E: Record 2

Date: 05/28/2022
Record type: Notes (transcribed by BUCT)
Communication medium: Tencent
Interviewers: Mary Barsoum, Kurt Lindenthal, Peng Zhe, Zilin Chen, Hanchi Wen, Xiaoyue Zeng
Classification: V (Volunteer)

冬奥会参会人群分成几部分：

国际技术官员：ITO，国内技术官员：NTO，参赛远动员，自组织观众

这几部分人群，分成一个外环和内环，不同的人群有不同的防疫要求

The Winter Olympics crowd is divided into several groups：

International Technical Officer (ITO), Domestic Technical Officer(NTO), Race team, audience

These groups of people are divided into an outer ring and an inner ring, and different groups have different requirements for epidemic prevention

Preparation：

一年之前就已经把相关的NTO人员进行培训筛选

打了两针疫苗

半年之后又打了加强疫苗，只有疫苗打全了才能参加

入驻奥运会场馆之前是连续一周的体温监测，不仅进入内环

The relevant NTO personnel have been trained and screened over a year ago

Two shots of vaccine were given

Half a year later, the vaccine was strengthened, and only after the vaccine was fully played can participate

Before entering the Olympic stadium, temperature monitoring will be conducted for a week, not only inside the inner ring

进入赛场后：

每天早上都要进行核酸检测和体温监测

用冬**奥会**小程序每天**填写**相**关**信息

并且在工作群里做**汇报**

体**温**一旦出**现异**常**则**就地隔离

After entering the arena:

Nucleic acid tests and temperature monitoring are carried out every morning

Fill in the relevant information daily using the Winter Olympics mini program

And make presentations in work groups

In case of abnormal body temperature, quarantine in place

非常**伟**大和成功的**奥运会**

整**个**防疫做得非常**严**格，非常好

唯一一点就是**国内**技**术**官**员**的限制**过**于**严**格

Very great and successful Olympics

The whole epidemic prevention is very strict, very good

The only problem is that domestic technocrats are too restrictive

Feelings：

能**够参**加冬**奥会**是所有中**国**人的向往

老**师**作**为参**加果中**国**第一次**举办**的自由式滑雪世界杯的**运动员对**于冬**奥会**在中**国举办**感到水到渠成

举办时没有像志愿者**们**那**样兴奋**

因**为**我**们为**此已**经奋**斗了十几二十年，在**经济**和政治格方面都做好了准**备**。

所以老**师**也很**乐**意**传播**后冬**奥**文化和冬**奥遗产**，愿意和大家**沟**通和分享

老**师**所在的**赛**区，中**国远动员**也取得了**两**金一**银**的好成**绩**

To participate in the Winter Olympics is the dream of all Chinese people

The teacher, who participated in the freestyle Skiing World Cup held in China for the first time,

felt it was natural for the Winter Olympics to be held in China

It wasn't as exciting as the volunteers

Because we've been working on this for a decade or two, and we're ready economically and

politically.

Therefore, teachers are also willing to spread the culture and legacy of the Post-Winter Olympics, and are willing to communicate and share with everyone

Teachers in the competition area, China far mobilization also achieved two gold and one silver good results

赛前准备工作：

ITO和**NTO**是所有人都投入其中，一块**砖**，哪里需要**哪**里搬，**为**保**证赛**事完美**进**行，什么事情都干

志愿者工作不熟**练**，所以**ITO**和**NTO**亲**历亲为**

Preparation:

ITO and NTO are a brick that everyone is working on, a brick that needs to be moved where it needs to be, doing whatever it takes to make sure that the games run perfectly, right

Volunteer work is unskilled, so ITO and NTO do it by themselves

赛中正式比**赛**工作：

整**个竞赛团队**需要保**证**裁判房的信息**传递**，**终**点站需要有**导**流人**员**，**维护赛**道的平整性

老**师**的工作是在起点**负责运动员动**作的确**认**和出**发时间**

通**过竞赛长**配合**奥运会转**播**团队（OBS）**的**沟**通

通**过国际奥**委**会**派遣的信息**员负责**和裁判**长**的**沟**通

与技**术联络员**确**认远动员**的**动**作，再出**发**，以便于裁判打分

During the games:

The entire race team needs to ensure that the referee's room is communicated, and that the terminal station has navigators to maintain the smoothness of the track

The teacher's job is to be responsible for the athlete's confirmation and departure time at the starting point. Communicate with OBS through the Competition Director. Communication with the chief referee is through the information officer sent by the IOC. Check with the technical liaison before starting for the referee's scoring

不同的**赛**区：Park A, B, C

不**团**的**团队**之**间**不允**许队沟**通交流，只是熟**识**，最多在餐**厅**遇**见**，平**时**不**会**交流，不然**会**

被通报批评

老师对这个项目的工作人员在冬奥会之前就比较熟悉，因为老师在这个项目已经做了很多年

赛前在住所是可以走动的，赛中各团队之间是不允许交流的。

Different divisions: Park A, B, C

The teams are not allowed to communicate with each other. They are just familiar with each other. They meet each other in the restaurant at most. The teacher was familiar with the staff of this program before the Winter Olympics, because she had been working in this program for many years. People are allowed to walk around the house before the game, and teams are not allowed to communicate with each other during the game.

赛前在公寓和宾馆不能组织大规模活动，只能在人数限制下小范围庆祝

会开会分工，明确任务职责，但只是负责好工作，没有额外的娱乐活动

Prior to the game, no large-scale activities can be organized in the apartment and hotel, only a small celebration under the number of people

There will be meetings where the division of responsibilities will be clarified, but just good work, no extra entertainment

我们所有人能参与其中，都感觉非常幸运，所以接受一切要求，再苛刻也是为了比赛正常运转

比赛结束后隔离14天，确实会有些心理波动，最开始三天会有郁闷烦躁，时空颠倒的感觉

但是体育人会自己找一些活动娱乐自己，比如室内运动和看电影，最开始的三四天过后就慢慢适应了，因为一切都有序起来了。

All of us feel very lucky to be a part of it, so we accept all the demands, no matter how tough, in order to keep the game running 14 days of isolation after the game, there will be some psychological fluctuations, the first three days will be depressed, irritable, time reversed feeling But sports people find their own activities to entertain themselves, such as indoor sports and movies, and after the first three or four days they get used to it because everything is organized.

可以改进的地方：

疫情防控措施已经非常好，甚至过于严苛了，比如早上每个团队有专车运转，不与其他群体沟通。

在酒店里有个小健身房或者活动室，需要提前预约。

Areas for improvement:

The epidemic prevention and control measures are already very good, even too strict, such as having buses for each team in the morning and not communicating with other groups. There is a small gym or activity room in the hotel, which needs to be booked in advance.

Appendix F: Record 3

Date: 06/04/2022
Record type: Transcript (transcribed by WPI)
Communication medium: Zoom
Interviewers: Qui Nguyen, Kurt Lindenthal (no BUCT)
Classification: C (International worker)

[transcript start]

[WPI]: What was your job at the Olympics?

[3]: I was a logistics runner for OBS.

[WPI]: So you were helping communicate with people in different departments?

[3]: So yeah. A lot of what I did was making sure that everything was in order such as stacking up food, making sure the buses are arriving on time, a lot of the logistics stuff.

[WPI]: How did OBS reach out to you for freelancing?

[3]: My advisor and my university are like the only school in the US that I know of that consistently sends kids to the Olympics because my advisor works for OBS as well. That's where a lot of us come from. I think he is a producer at OBS but I might be giving him the wrong title. I know that he works for them. Most of them since '96 have had students gone to the Olympics.

[WPI]: So there has been a history around the Olympics at your school?

[3]: Yeah.

[WPI]: That is pretty interesting actually. Speaking of the pandemic, while you were volunteering, how were the protocols for the pandemic?

[3]: Coming into it, I already channeled my mind to know that it wasn't going to be easy. I knew that it was going to be stricter than normal due to the volume of people in one place at once. I knew that if you are bringing this many people from this many places, the rules are going to be

stricter for things to be smooth. The rules were strict for being tested everyday. I have never tested in my mouth before and the nose one does hurt. When I am testing my nose in China, it hurts way more than in the US. They almost go up to the ear when swabbing; actually, I know a couple of people who nosebleed, but that's fine. They gave us the option to do mouth or nose and I decided to do mouth. Whichever one is more comfortable for you. In general, I think the rules made sense but the only ones that I could think of are like the bus. On the bus, you were not allowed to sit next to anyone. I didn't have any problems with it to be honest. They were needed.

[WPI]: How did the implementation go?

[3]: No issues. A lot of people bought in early on to the ideology of the system. First of all, it's exciting to be there and see the whole production come together. I'd say that most people bought into it.

[WPI]: Were these measures effective?

[3]: Yes, throughout my 32 days, there was only one positive while we were there in my venue/hotel. Between those two, I only knew one positive test. However, there were positive cases when they flew in, meaning they brought it in with them. But in the system, I only knew of one. A lot of the Americans did because, you know, we don't listen to rules in this country.

[WPI]: I heard that there were two bubbles, one for the international travelers and another for the volunteers?

[3]: Okay, so when you say volunteers, there were people who were hired to work for OBS. I got OBS gear and this was for Olympic Broadcasting Services. And then there were some that were hired by [unknown] to do different things. There were two sets of volunteers. We all wore different things. I would wear the OBS gear which was the brown pants and the green jacket. Some volunteers had blue and white jackets with blue pants and black shoes. Another group wore black and red outfits. People with the blue and white and black and red were mostly local. I don't think there were any international volunteers. A lot of the volunteers were local.

[WPI]: In terms of work, how busy were you throughout the day?

[3]: It wasn't horrible. At my venue, we split up into eight hour shifts like a regular day. We had a day off every week; every six days we would have a day off. It was a part of the OBS volunteer systems. At least people in the broadcasting programs like me and the students, we had this system.

[WPI]: What venue were you in, again?
[3]: Bobsled, skeleton, and luge.

[WPI]: Did you know anyone that volunteered with you?
[3]: I was the only American out of the volunteers out of all the people that I worked with closely. The other five of them that were logistics runners were Chinese as well. It was a little hard at first but they were very nice at first. We taught each other things in our languages and how to count with our hands. But it was fun to me at least. I understood that we were both of different cultures and weather the storm to get to know them better.

[WPI]: Yeah, that makes sense. So people started forming a comradery a little bit?
[3]: Yeah, for sure. It was hard to join though because when stuff like that starts happening, they just speak Chinese. It's like I was a little isolated but to me, it felt a little normal. Some of them knew each other before the bubble or may have gone to the same college. I just tried my best.

[WPI]: What do you remember most fondly out of everything?
[3]: Just hanging out with other people. Actually, it was meeting a bunch of cool people. People like the NBC crew from America that could speak English. I could speak to them 24/7 in English, that was such a blessing. Meeting people from all over the world on the bus. France, Germany, Brazil, Spain, you name it. Even Americans. This is when I traveled to the venues and I would see these people. There was a lady that I met that works for the US Olympic Committee, went to Yale, an amazing person. Another person that I met at the IBC from the US knew the athletic director at my college. Just little things like that.

[WPI]: In terms of facilities, what was provided for you in your free time?

[3]: If it wasn't at work, I was at the hotel. It was above me so I couldn't really go anywhere. My days off, uh, I mainly went to the IBC to see my professor and a few other people I knew. There were some people I met at the airport that were there and I would see them. But mainly, I would be in my room because, you know, I had my PS4 on me. My family and I would talk when I'm free and we would call and hang out. With how fast things were going outside, I took my rest days seriously. When I had downtime, I wanted to rest.

[WPI]: While you were there, was there any risk of mental health?

[3]: I don't think so. We tried to make it as much of a community as possible; allowing people to open up and share. I can only speak for myself but I don't think there was. It was hard not being able to move around and such, but knowing the end goal of not wanting the outbreak to happen, then for me I was perfectly okay with it. People knew that it was going to be tough and we were up for that. You could go around in the hotel and meet other people as well. You were not alone. And then some people naturally wanted to be alone.

[WPI]: Did you ever interact with any of the other athletes?

[3]: A couple but it was only like a passing on the street. I was working in the broadcasting compound so I didn't. I ran into them on the bus or somewhere.

[small talk cut out]

[WPI]: Is there anything that you wish were run differently?

[3]: You know, if I had to change one thing then another thing would have to change. That is kind of difficult. That is very hard to manage with such a big group so I don't think so.

[WPI]: Did you have to miss any gatherings or events?

[3]: This was already planned since the application. I already knew from this time to this time from OBS since they told us the day that I would be working and flying out. That was not a problem at all, a couple months in advance.

[WPI]: Did you have any noticeable experiences?

[3]: I remember the first week now. There were a few volunteers in my venues that I helped filmed something for their college. It was for the new year and I thought that was really cool.

[WPI & 3]: [endings]

[transcript end]

Appendix G: Record 4

Date: 06/11/2022
Record type: Email response
Communication medium: Email
Interviewers: WPI
Classification: P (Professional)

[WPI]: How were the COVID-19 protocols implemented into the 2022 Beijing Winter Olympics 2022 北京冬奥会是如何实施疫情防控措施的?

[4]: The principles include the closed loop, the space zoning and personnel classification, test, trace and isolate, minimize physical interaction, and so on. I worked at the Olympic main operation center (MOC), Shougang Park, and was not in the closed loop. I was separated from athletes and competition venues. It is required to vaccinate and have weekly screening tests for COVID-19 during the games. I can go home every day and self-driving is suggested.

[WPI]: Were there any issues with the implementation? If so, what were the causes of it? 这些防控措施实施过程中是否存在值得改进的地方?如果有，存在哪些问题?

[4]: As far as I am concerned, no problem.

[WPI]: How do you think these measures were effective in countering the effects of COVID- 19? 您认为这些对抗新冠疫情的防控措施效果如何?

[4]: Effective.

[WPI]: What do you do as an occupation outside of this event? 您在冬奥会外的工作职业是什么?

[4]: Engineer.

[WPI]: What exactly did you specialize in inside the Olympics? 您在冬奥会期间的专职是什么?

[4]: Technical supervisor of the operation command and dispatching center

[WPI]: On the average day, what did you do during the day? 通常情况下, 您每天在冬奥会都有哪些工作?

[4]: I was mainly responsible for coordinating and integrating the resources of relevant departments, entering and sorting out relevant data, developing and designing systems, daily monitoring and other related work.

[WPI]: Were you very busy throughout the day? 冬奥会期间您每天的工作繁重吗? **[4]:** I worked with my colleagues and a lot of volunteers. The task was not heavy.

[WPI]: If yes, was it more than you expected when you signed up initially? If not, was the free time a good change as compared to life normally outside the bubble? 如果是, 这是否超出您最初的预期?

[4]: More free time than usual work. I could watch games in the park through the large screen, although I could not hear the sound.

[WPI]: How long were you monitored for COVID-19 for this event? 您为参与冬奥会健康监测了多长时间?

[4]: Just during the game.

[WPI]: Did you ever feel that the requirements of the closed-loop system were too much and you could have spent your time better elsewhere?

[4]: For me, the requirements were not many and did not take up a lot time.

[WPI]: Did you enjoy your work on the Olympic Games? 您享受在奥运会当中的工作吗?

[4]: Yes, absolutely. I was invited to the opening and closing ceremonies. I felt very proud of my work. My company also supported me materially and spiritually.

[WPI]: Did you know anyone else going into the closed loop? 您在闭环内有认识的其他人吗?

[4]: Some members of the Olympic Organizing Committee, officials, and college student volunteers

[WPI]: If yes, how often did you get the chance to interact with them? 如果是，您多久有机会与他们互动?

[4]: I worked with them and communicated every day.

[WPI]: This is a unique opportunity to host an international event that is unlikely to return to Beijing soon. Was this a good chance to make useful connections in your line of work? 本次冬奥会是北京举办国际盛会的难得机会，这对您在冬奥会外的职业工作有 帮助吗?

[4]: Of course it was. It has helped us accumulate experience in large-scale event service and emergency support.

[WPI]: What facilities were provided to you in your position? Where did you spend the majority of your free time? 您的岗位上有哪些娱乐便利设施?您大部分的空闲时间都在哪里做些什么?

[4]: There are gyms, badminton courts, yoga rooms in the park, which were available for us. While in the majority of my spare time, I was watching Olympic games through the big screen or on my cellphone.

[WPI]: What sort of events were held for the community isolated inside the closed-loop?   闭环内组织了哪些活动?

[4]: The Olympics coincided with the Chinese Spring Festival. We organized celebrations such as watching the Spring Festival Gala, pasting couplets and eating dumplings.

[WPI]: Did you have any direct contact with the Olympians that competed? If so, did you have any experiences where these athletes had mixed feelings? 您是否与参加比赛的奥运选手有过直接接触?如果是，您是否有察觉某些运动 员出现情绪波动的时候?

[4]: No, I did not have direct contact with the athletes.

[WPI]: How did the requirements for COVID-19 differ for you as compared to the athletes? 与运动员相比，您的防疫措施要求有何不同?

[4]: I lived in my own home.

[WPI]: Were the Olympians positive in their reaction to the restrictions? 奥运选手对比赛中这些限制的反应如何?是积极的吗?

[4]: I think most are positive.

[WPI]: As Olympic athletes, the participants have attended large-scale events before. Did you have any experiences where these athletes had criticisms of the COVID-19 protocols used in the Beijing Winter Olympic Games? 作为奥运运动员，参赛选手之前也参加过大型活动。您是否听说过运动员对北 京冬奥会新冠疫情防疫要求的一些批评?

[4]: No.

[WPI]: How did the athletes react to the hospitality from the volunteers and the exposure to Chinese culture that they experienced? 运动员们对志愿者们的热情接待和他们所体验到的中国文化有何反应?

[4]: I don't know.

[WPI]: Did you have any direct interactions with any athletes that stuck out to you? If yes, what was your experience like?您和那些让您印象深刻的运动员有过直接的 互动吗？如果有，您的经历是怎样的？

[4]: No.

[WPI]: If you were involved in creating or enforcing any rules related to COVID-19, did you find any situations that did not go as planned in these rules? 如果您参与制定或执行任何与 COVID-19 防疫措施有关的规则，这些举措都正 常实施了吗？您是否发现有些地方没有按照原计划进行？

[4]: No.

[WPI]: Were there any mechanical or technical issues that arose while conducting the event? How were they overcome? 在执行活动过程中，是否出现了任何技术性问题？这些问题是如何克服的？

[4]: No.

[WPI]: Did you notice any mental health risk for anyone inside the closed-loop system with these COVID-19 restrictions in place? 在您的观察中，在实施 COVID-19 限制措施的闭环系统内，有没有人会面临一 些心理方面的问题？

[4]: No.

[WPI]: Is there anything that you wish was run differently at the event? Were there any cases you learned about where athletes or foreign journalists were attempting to avoid following all of the rules? 现在冬奥会已经结束，那么有没有一些地方是您认为可以改进的呢？您是否了解到运动员或外国记者有试图避免遵守所有规则的情况？

[4]: No.

[WPI]: Have you ever been involved in conducting an event during the COVID-19 pandemic previously? If yes, How did it compare: in scale? in COVID-19 restrictions? in effectiveness at preventing spread of the disease? 您以前是否**参与过**新冠肺炎大流行期**间**的活**动**?如果有，**它**是如何比**较**的: 在**规**模方面? 在相**关**的防疫限制措施方面? 这些能否有效地防止了疾病的**传播**?

[4]: No.

[WPI]: Were you responsible for creating any of the regulations of this prior event? Any significant changes between the two are most likely due to the difference in scale of these two events, if you believe these differences to be for another reason, please explain. **您**曾**经**有**没**有为重大**赛**事/活**动**制定**规**定的**经历**?如果有，之前的**赛**事/活**动**和 2022 年北京冬**奥会两**者之**间**有**没**有一些大的**变化**(最有可能是由于**这两个**事件 的**规**模差**异)**，如果**您认为**是**别**的方面有差**异**，能**说说**看**吗**?

[4]: I am participating in the consultation of the 2022 Chengdu 31st Summer Universiade. Before May this year, many measures in COVID-19 restrictions were formulated with reference to the Beijing Winter Olympics. Unfortunately, due to repeated epidemics, the Universiade was postponed to 2023.

Appendix H: Record 5

Date: 06/13/2022
Record type: Notes
Communication medium: Zoom
Interviewers: Kurt Lindenthal, Qui Nguyen
Interviewee: [redacted]
Classification: P (Professional)

[WPI]: When you were at the Winter Olympics, how were the COVID-19 protocols implemented?

[5]:

- Dealing with COVID-19 during the game. We did most of the work before the Games and we did a policy.
- All the countries were involved in the decisions for the Games
- Playbook came out 100 days before the Game
- Strategy is similar to the Japan strategy
- Civilians are people outside the bubble
    - Now called closed loop
- Risk analysis was used to see the issues in Japan
    - Place was closer to the city
- In China, it was near the mountain
- Controlling the system was easy because how far it was
- Second thing:
    - Less people were coming for the Winter Olympics
- The environment being the Winter was way easier than the Olympics
- COVID-19 transmitted faster in the Olympics
- Emergency response plan for different scenarios
    - During the game: what happens?
    - Continuation of the game?
    - How to control the disease
- Other strategies were developed during the plan

- Not allowed to go into the Game
    - Some experts that went in were not allowed to come out
- Some experts were inside and some were outside
- People were in the command center
- Some people were in the test center (controlling outside)
- People were dressed up differently to avoid contact
- Model predicts the number of cases during the games

[WPI]: Were there any issues with the implementation?

[5]:

- The strategy that was pre decided was not changed because it works
- Training for the protocol
- The first thing is that because people were working before the Games?
- People who came into China used stuff for transportation and such
- The director of the people who dealt with COVID-19 felt ill because all of the work
- During the Game, people felt relaxed
- Other people took the responsibility to do the work when people got sick
- At the beginning, they did not think too much about it
    - If a few people get sick, there are issues
    - People are quick to adapt

[WPI]: Schedule?

[5]:

- Not too busy because they were outside the loop
- They were consultants for everything
- They were given the data and were busy to give data analysis
- It went smoothly so it was not urgent

[WPI]: How will other countries implement a similar system?

[5]:

- ISO has a standard that came out for events in the city

- Focus on the Olympic Games for the cycling and such
- One of the purpose is that it will help in Japan, Beijing, LA, and Italy
  - They will have a team to work with the loop
  - International standard and then a handbook
  - Peer-release ISO standard are very experienced in the international Games
  - Given the experience in management, they can help others for the city
  - Standard: inside the area and outside the area
  - City manager: city lives as normal
  - One challenge for standardization:
    - A reporter will come out from the IOC
    - When organizing the event, the IOC will help you strategize the event as well as the NOC
    - They will have a meeting to make sure that everything goes as normal
    - IOC will adopt a lot of the previous Game
- During LA, first thing is the experience from Beijing and Japan will be looked at
- Public events always happen during the Game

[WPI]: Risk of mental health.

[5]:
- Because of the people were coming in Beijing, it was already late
- They had to prepare for the Games
- They had to leave the city after 48 hours when you finish
- People do not have a lot of time to do things during the time
- It was better than we expected
- Not a lot of problems
  - They thought it would be more serious because of isolation
- For the volunteers, they had problems
  - They were consistently working there for longer times
  - Isolated from their family
- Athletes did not have an audience
- They were accustomed to the environment

- In the strategy side, there is a suggestion about mental release
  - Proposed a suggestion that to provide a greater
  - This suggestion was not inplace
  - It would provide an environment for people to feel comfortable
  - They did not have time to do it

[WPI]: Prior to the work with the IOC, have you been conducting any events during the pandemic?

[5]:
- Sports events and international standard
- Participated in many Games
- At the time, there was no COVID-19 but there was other diseases going around

[WPI]: ONE VERY IMPORTANT ISSUE

[5]:
- Asian Games
- There was also a soccer game that got postponed
- They also dealt with the strategy for the two places
- How much money do you have and how much volunteers do you have?
  - Resources
  - The plan has to do with the resources for the Games
- A lot of companies that donated money
- No money = no people = no attention = difficult
  - They do not have the resources to implement
  - In the closed loop, there were a lot of testing and driving and all this stuff
- They have to choose the most important parts for the event (smaller version)
- Change the strategy to make it easier but the risk would be higher
- Make the Game in a process
  - During this, find out how many places are risk places
  - How can you make risk become less
  - People who go to custom office

- ○ Transportation
- You then have to resolve the issues
  - ○ If you did not think of it before, you must contact WHO
- You have to do testing for everyday or every other day
- Consider the entire loop from beginning to the end
- Set up the priorities of the task for everything

[WPI]: Can you expand on the mental release plan?

[5]:
- One thing that they always think is how the experience will be
- Management side does not need this
- As a Game, you need to always put yourself in the shoes that participated
- How can people be happy in the Games and leave happy?
- Think about it in their way?
- What services can be provided? They are coming to the culture change and meet people, but just the Games
- How can we utilize all these thoughts to encompass their experience
- Inside the place, there were a lot of exercise places for people
- Tried to customize their experience
- If things are in place, they will feel more relaxed
  - ○ This equals less mental problem
- They tried to organize an idea to do this
  - ○ Happy hour to do those things
- There are many other issues that are involved
- For younger people, there are people are 20 years old
  - ○ We can develop plans and create recommendations for that
- Our thinking is different from our parents
- Suggest that younger people join the team of consultants

Appendix I: Record 6

Date: 06/13/2022
Record type: Transcript (transcribed by WPI)
Communication medium: Zoom
Interviewers: Mary Barsoum, Kurt Lindenthal, Zilin Chen, Xiaoque Zeng, Hanchi Wen
Interviewee: [redacted]
Classification: V (volunteer)

[transcript starts]

[WPI]: How were the COVID-19 protocols implemented into the 2022 Beijing Winter Olympic?

[6]: The prevention and control of COVID-19 involves many aspects. For specific epidemic prevention and control policies, please refer to the epidemic prevention Manual of Beijing Winter Olympic Games.

[WPI]: Were there any issues with the implementation? If so, what were the causes of it?

[6]: As far as I know, there were no obstacles. All volunteers were able to effectively follow the epidemic prevention regulations and made important contributions to the smooth and successful implementation of the Winter Olympic Games.

[WPI]: How do you think these measures were effective in countering the effects of COVID-19?

[6]: Epidemic prevention measures were very effective. These policies have effectively protected the lives and health of athletes, referees, spectators, volunteers, and Beijing citizens. During the Winter Olympics, the normal life of Beijing citizens was not affected. People can travel normally. Go to the game in an organized way.

[WPI]: What types of tasks did you have to do as a volunteer? Was this work fun and interesting knowing that an Olympic volunteer is a rare opportunity?

[6]: I mainly work in Wukesong Sports Center, mainly responsible for spectator guidance, spectator temperature detection, etc. In my work, I mainly contact the audience, not with the athletes, so I don't enter the closed loop. This work is very interesting. Not only have we

broadened our horizons and participated in social practice, but also have been able to meet many small partners. In the process of voluntary service, I feel the value and significance of voluntary service.

[WPI]: Were you very busy throughout the day? If yes, was it more than you expected when you signed up initially? If not, was the free time a good change as compared to life normally outside the bubble?

[6]: We don't need to work all the time. We work for about two hours each time, mainly to guide the audience when they enter the site and when they leave the site. Because there are many spectators, vehicles and venues during the competition, in order to facilitate them quickly find the place they want to go, we need to be familiar with the surroundings of the venues.

[WPI]: Did any of your friends/peers volunteer? If yes, were you able to spend time with them when you were not busy? If not, how were you able to meet new people and make new friends?

[6]: My friends have volunteers. We work together and do volunteer service together. Since he is my roommate in my bedroom, we basically spend our free time together.

[WPI]: What was your form of communication with the other volunteers? Are you still in contact with anyone you met during your time as a volunteer?

[6]: Communication methods mainly include face-to-face communication and WeChat communication. Since all the friends we met during the volunteer service were Tsinghua students, we sometimes met on campus and always kept in touch.

[WPI]: Did you find that all of the volunteers had a sense of camaraderie as a group?

[6]: As far as I know, the members of my volunteer team have a strong collective consciousness. They can follow the command and successfully complete the task without any mistakes.

[WPI]: What were your initial feelings entering into a completely different community where you don't know everyone else? Did these feelings change throughout your time here? If so, what do you remember most fondly?

[6]: My initial feeling may be novel. I want to be friends with you and get to know each other as soon as possible. But at the same time, I am a little worried that I can't show my best. The feeling has not changed during the Winter Olympics. WHen I joined the volunteer team for the Winter Olympics, I quickly got to know my friends around me and became good friends with them.

[WPI]: What facilities were provided to you as a volunteer? Where did you spend the majority of your time?

[6]: Most of the time is still spent on campus, because we are required to be on campus except our time on dity. The Winter Olympics Organizing Committee and the school have provided many guarantees for volunteers. For example, N95 masks, disinfectants, warm stickers, gloves, hats, scarves and clothes. In addition, we can enjoy delicious supper after participating in volunteer activities at night.

[WPI]: What events were held as a community while inside the closed-loop?

[6]: First of all, I didn't enter the closed loop. But our group held many group activities, such as book club, running together, badminton, etc. These activities can enrich our volunteer life so that we won't feel bored. At the same time, the most important thing is that the volunteer activities coincided with the Chinese Lunar New Year. We held many New year celebrations and ate Chinese food such as dumplings.

type	time	person in charge	Work plan
Meet and communicate	1.21	YIN HU	Organize offline collective activities
Theoretical study			Training Knowledge Q & A
			Prepare ppt
Cultural Activity	1.22	Gao	Learn to sing the theme song of Winter Olympics
	1.23	Liang	Organization viewing (optional)
learning activities	1.25	Liu	Organize lectures (optional)
	1.30		Organize a Book Club (optional)
Inline activities	1.27	Zhao	Prepare and organize birthday party
Sports activities	2-3 times a week	Mao	Organize running (some optional)
	2-3 times a week	Liu	Booking badminton court (optional)
	1 time combined with birthday party	Shu	Winter Olympics experience

[WPI]: Did you notice any mental health risk with these COVID-19 restrictions in place?

[6]: Long time closure may indeed bring certain risks to people's mental health. However, we can maintain physical and mental health and prevent possible risks by organizing a variety of rich activities and actively participating in physical exercise.

[WPI]: Were you ever worried about contracting COVID-19 from other members of the closed-loop? If yes, did this affect closeness as a community? If no, did you hear of any other volunteers contracting COVID-19 while inside the closed-loop?

[6]: First of all, I didn't enter the closed loop. Secondly, the volunteers around me have not been infected with COVID-19. I think we should adopt scientific methods to prevent and control COVID-19, so as to have effective measures to prevent it. For example, wearing masks, keeping social distance, regularly participating in nucleic acid testing, etc.

[WPI]: Did you follow the same COVID-19 protocol as the Olympians? In what ways was the closed-loop experience different for them?

[6]: I am not very clear about this issue. If necessary, you can check the official documents. Check the epidemic prevention Manual of Beijing Winter Olympic Games.

[WPI]: Were the Olympians positive in their reaction to the restrictions? As Olympic athletes, the participants have attended large-scale events before. Did you have any experiences where these athletes had criticisms of the COVID-19 protocols used in the Beijing Winter Olympic Games?

[6]: I'm sorry. I haven't contacted the athletes of the Winter Olympics. I mainly contacted the audience (i.e. Beijing citizens). Therefore, I don't know much about the athletes' views on the epidemic prevention policy. This question can't be answered.

[WPI]: How did the athletes react to the hospitality from the volunteers and the exposure to Chinese culture that they experienced?

[6]: I can't answer because I haven't contacted any athletes. However, from the news reports, we can see that the athletes were very moved by the warm reception of volunteers and expressed their thanks. Here is an example. Tsinghua University volunteers welcomed the athletes at the

opening ceremony, and the athletes also responded and expressed their thanks. On Saturday, US snowboarder Tessa Maid uploaded a video on TikTok documenting her entry into the National Stadium with the US delegation on Friday night. In the video, she captured a male volunteer in a pink shirt waving his hands at her excitedly and shouting "welcome to China". Her video garnered hundreds of thousands of views and many left comments saying they were touched by the warmth and friendliness of the volunteers. "Those volunteers were on their feet jumping around a couple of hours and still had no much energy", one user said. Another said, "This is the kind of Olympics we are supposed to have, just people with Olympic spirit celebrating together." The videos also circulated widely on Chinese social media and caught the attention of the volunteer involved. Sun Zeyu, and an undergraduate student at Tsinghua University. After watching the video, he wrote a letter to Maid, saying he was "really touched " that she remembered him and the welcome. He also thanked her for recording the most unforgettable moment of his life and invited her to visit China again when the COVID-19 pandemic is over. "I can be your tour guide and tell you 'welcome to China' again without a face mask," he wrote. On Sunday, Maud released another video after receiving the letter, saying she was "so beyond thankful" for Sun and other new friends who have been so loving and welcoming. The interactions have touched the hearts of many netizens, and Sun said he received many messages of love and support over the past few days. He said that although all the volunteers had spent months training for the opening ceremony, the passion and enthusiasm that poured out when athletes from around the world entered the stadium were not rehearsed. "We were still waving to the audience and athletes when we got off the stage," he said. "That was the longest-lasting jumping we had done, but it was also the most exciting." He said that during the ceremony, Maid was filming the whole time with her smartphone and kept shouting *ni hao* - hello in Mandarin - to volunteers, so Sun thought he should say something back in English. Around 300 young volunteers welcomed the delegations that night. After the opening ceremony ended, they played back the ceremony video over and over again, trying to spot themselves in the official footage. "When I watched Tessa's video and saw myself in it, I was really excited for a quite a while," Sun said. "The most memorable moment of my life was being captured by her camera. I felt really touched, too, so I thought I had to reply to her by letter.

[WPI]: Is there anything that you wish was run differently at the event?

[6]: I didn't think of it for the time being.

[WPI]: Were there any cases you learned about where athletes or foreign journalists were attempting to avoid following all of the rules?

[6]: Since I have never contacted foreign athletes or foreign journalists, I am unable to answer this question.

[WPI]: Have you ever been involved in conducting an event during the COVID-19 pandemic previously? If yes, How did it compare: in scale, in COVID-19 restrictions, and in effectiveness at preventing spread of the disease?

[6]: No other activities.

[WPI]: If you are a student, were you worried about assignments and projects from schooling? How did you keep track of these while isolated?

[6]: As the Winter Olympics is our winter vacation, there is no pressure on the course. At the same time, the working time is about two hours each time. I can do my own things the rest of the time. Therefore, it has no impact on my study life.

[WPI]: Did you have to miss any events or gatherings to participate in the closed-loop system?

[6]: First of all, I did not enter the closed loop of the Winter Olympics. Secondly, I didn't miss other activities because I participated in the WInter Olympics volunteers. I firmly believe that volunteering for the Winter Olympics is a very meaningful thing.

Appendix J: Record 7

Date: 06/14/2022
Record type: Transcript (transcribed by WPI)
Communication medium: Zoom
Interviewers: Mary Barsoum, Qui Nguyen, Zilin Chen, Hanchi Wen
Interviewee: [redacted]
Classification: V (volunteer)

[transcript start]

[WPI & 7]: [introductions]

[WPI]: How were the COVID-19 protocols implemented into the 2022 Beijing Winter Olympics?

[7]: I think it was very successful and the [?] provided an epidemic playbook for everyone that participated in the Winter Olympics. Everyone kept doing the COVID test during the days and using N95 masks and disinfecting our hands.

[WPI]: Were there any issues with the implementation? If so, what were the causes of it?

[7]: There were some issues with it. There were a large number of people engaging the Games and everyone was arriving at different times. We should always have to be ready for them but I am unsure.

[WPI]: How do you think these measures were effective in countering the effects of COVID-19?

[7]: I think so. They were very good. I feel that I was protected. [cut out] As far as I know, 0.01% of people were COVID-19 positive in the closed loop. It was a safe environment.

[WPI]: Do you wish the restrictions were less strict?

[7]: I think they're… actually… they're the same. I am not really sure because I am not that clear about those aspects.

[WPI]: Were you in the closed loop system?

[7]: Yes.

[WPI]: What types of tasks did you have to do as a volunteer?

[7]: I worked at the IOC tent and I serviced the floor with the athletes. I introduced them to the plan and the idea for it. I also needed to chat with them everyday.

[WPI]: Did you have fun?

[7]: It was actually very fun. I met people from different countries and talked to them about their Games. Their hobbies, their food, their village. I actually made many friends with the athletes.

[WPI]: Were you in the system with the athletes?

[7]: Yes, I was with the athletes. They arrived at their place everyday.

[WPI]: Were you busy throughout the day?

[7]: Yes. I had to introduce them to the Games from the IOC and I think it was very creative and interesting.

[WPI]: Was it more than you expected when you signed up initially?

[7]: No, it was more relaxed. Before going to the village, our university trained us ready to fight and do this system. It was actually really relaxing and everyone was friendly and reliable. I think it was not as busy as I thought.

[WPI]: Did you have any friends volunteer with you?

[7]: Our university provided many volunteers for the Olympic Games. I had many friends that worked as volunteers in the village.

[WPI]: Were you able to spend time with them?

[7]: I would pass them by and chat for a minute. I met with them everyday and talked to them.

[WPI]: Was it a close community?

[7]: Yes. I feel that we were a big family. Not only the volunteers, but everyone engaged in the Olympics. No matter where you come or what language you speak, sports is just like music. People can communicate with each other across languages and enjoy everything.

[WPI]: Were there any mental health risks?

[7]: In the closed loop, everyone was happy there because the infrastructure had very nice people. There were only a few that were down but everyone was happy.

[WPI]: Were you worried about getting COVID-19?

[7]: No, the protection was very strict. The staff was considerable and if our manager met us in the village, he would come and ask us if we were comfortable or if we needed a new mask. They were very helpful.

[WPI]: Did you follow the same protocols as the athletes or were they different?

[7]: It is almost the same but there are some differences. They had to compete and our work time was very different.

[WPI]: What were the differences?

[7]: For example, they did the COVID-19 test in the morning and we did it in the evening. Everyone did the test everyday.

[WPI]: Were the Olympians positive in their reaction to the restrictions?

[7]: They told me that the beginning was uncomfortable but after several days, they understood the system and were willing to cooperate with us. They felt comfortable after that.

[WPI]: Were there fun times for the athletes at all?

[7]: We do have some entertainment facilities but we do not do it in the same place. When they are playing, they are working.

[WPI]: Do the athletes use the facilities?

[7]: We have another place for entertainment.

[WPI]: How did the athletes react to the hospitality from the volunteers and the exposure to Chinese culture that they experienced?

[7]: All of our responses were positive and they loved our hospitality and felt at home. I found that another interesting thing was that some were interested in Chinese culture. There were cultural experiences that they were always interested in. They would ask us, "what is this?" and "did you go to the Great Wall?"

[WPI]: Is there anything that you wish was run differently at the event?

[7]: No, it was perfect. I love it.

[WPI]: Were there any cases you learned about where athletes or foreign journalists were attempting to avoid following all of the rules?

[7]: I didn't and our manager, who was responsible for the airport transportation to the village, said they were all very cooperative. They were all very nice people and I love them.

[WPI]: Did you work for any events during the pandemic?

[7]: Actually no, I only worked for the Olympic Games. When the pandemic occurred, I was just a high school student. This was a unique opportunity.

[WPI]: As a student, were you worried about assignments and projects from schooling? How did you keep track of these while isolated?

[7]: No, I was in the winter holidays during that time so I just worked.

[WPI]: When was your holiday?

[7]: January to March.

[WPI]: Did you miss any events or social gatherings?

[7]: I don't think there were any other events. The most important event was the Spring Festival and I missed the opportunity to stay with my family. I think it was worth it though because it was a nique

[WPI]: Did the village celebrate the Spring Festival?

[7]: Yes, it amazed me that not just us remembered the event. Our coworker that came from the IOC was concerned about our festival and was curious. She asked me a lot of things about it and other customs and traditions. For New ear, we made paper [?] and decorated our place. We ate dumplings at that time.

[WPI]: Were there groups for certain nations?

[7]: I know that everyone who came to China did a COVID test at the airport first. They lived in the Olympic Village and there were different groups for countries to live in until they got their results. Then, they were free to do whatever they wanted.

[WPI & 7]: [endings]

[transcript end]

Appendix K: Record 8

Date: 06/14/22
Record type: Email response (translated by BUCT)
Communication medium: Email
Interviewee: [redacted]
Classification: V (volunteer)

北京冬奥志愿者采访稿中文版

1. 在 2022 年北京冬奥会上，新冠防控方案是如何实施的?

赛时公共区为非闭环场所。公共区按北京市常态化防疫要求进行管理，与各场馆闭环交界区域做重点防控。公共区内的各场馆闭环人群均采用"点对点"的交通方案，乘坐专车在指定地点落客，中途不下车。闭环落客点通道边界设置双层隔离带，使闭环内外间隔至少2m，确保闭环人群与闭环外人群隔离。

更了解的是闭环外的封闭管理措施：每两天进行一次核酸，吃饭时每个桌子的不同位置都有玻璃板隔开，去吃饭前要用酒精消毒等等；在驻地禁止外卖。

Translation: COVID-19 prevention plans differ in closed-loop and non-closed-loop areas. The public area is non-closed-loop venue where COV-19 prevention is managed according to the requirements of Beijing's normal epidemic prevention, and the border of closed-loop area are the key regions. The crowd in the public area, adopting the 'point-to-point' transportation scheme, took a special bus to drop off at the designated place without getting off on the way. A double-layer isolation strip is set at the border of the entrance of the closed-loop drop-off area, so that the distance between the closed-loop and non-closed-loop is at least 2m, in order to ensure that the closed-loop crowd is isolated from the crowd outside the closed-loop.

What I know more is the COVID-19 prevention management measures in non-closed-loop areas: We need to do nucleic acid every two days, different positions of each table are separated by glass plates during meals, do disinfection with alcohol before going to eat, No take-away food at the camps, etc.

2. 在实施过程中是否遇到了阻碍? 如果有，产生这些阻碍的原因是什么?

闭环车辆的司机和乘客不清楚行车路线，会向附近站岗的志愿者与保安请求帮助，这时可能导致闭环内外人员产生接触的风险。

Translation: Closed-loop bus drivers who do not know the driving route accurately would ask the closed-loop volunteers and security guards standing nearby for help, which may increase the risk of contact infection between people inside and outside the closed-loop.

3．您认为这些措施在应对新冠肺炎疫情上的有效性如何？

有效。闭环的存在将具有病毒感染风险的人群与闭环外的人群、社会人群分隔开。同时，冬奥闭环内赛事运行需要公共区的大量志愿者和工作人员协助，而公共区又是可以称作闭环内与外界区域的缓冲区域，更进一步减少社会人员感染风险。

Translation: Very effective. The closed loop separates the people at risk of virus infection from the people outside the closed loop and social people. And, the operation of events in the closed loop of the Winter Olympic Games needs the assistance of a large number of volunteers and staff in the public area, which can be called the buffer area between the closed-loop and non-closed-loop area, further reducing the risk of infection of social personnel.

4．作为一名志愿者，您需要完成哪些类型的工作呢? 成为奥运志愿者是一个难得的机会，您认为这项工作有趣吗?

　　交通业务领域的志愿者主要负责闭环内外车辆的引导和报备，保障闭环内人员与公共区无交叉。在安检口、交叉口、停车场等地交通领域的志愿者用红蓝色的指挥棒引导交通，如果遇到观众进场和退场时刻，可以在保障道路通常无阻的情况下，与赛事服务领域的志愿者一起迎接或者欢送观众。

Translation: I am a volunteer in the field of transportation business who are mainly responsible for the guidance and recording of vehicles inside and outside the closed loop, in order to ensure that there is no personnel contact between the closed loop and the public area. Volunteers in the traffic field at security checkpoints, intersections, parking lots and other places use red and blue batons to guide the traffic.

When it's spectators' entering and exiting time, we can greet and send off the spectators together with volunteers of the event service field under the condition that the road is usually unobstructed.

5.在工作期间，您需要从早到晚一整天都用来工作吗?

如果是，那么实际工作时间比您报名时所预估的工作时间要长多少?

如果不是，那么您在冬奥期间的闲暇中的活动内容，与日常的生活相比有什么区别呢?

冬奥会和冬残奥会赛事运行时交通领域的45名志愿者分作4班，上三休一。早班：7：30-13：00；中班：13：00-18：00；晚班：18：00-23：00由于学校的安排合理，几乎可以进行所有日常活动，可以打乒乓球、打篮球、打羽毛球等等

Translation: 45 volunteers in the field of transportation are divided into four classes during the operation of the Winter Olympic Games and the winter Paralympic Games. Three groups work in turn, and the other group has a rest everyday.

Daily working schedule:

`Morning shift: 7：30-13：00`

`middle shift:13：00-18：00`

`evening shift：18：00-23：00`

Thanks to the reasonable arrangement of our school, almost all daily activities can be carried out, such as playing table tennis, basketball, badminton, etc

6.您的朋友中有志愿者吗?

如果有，在空闲的时候您会和他们聚在一起吗?

我和其他大学的志愿者同学分别负责不同的场馆，因此没有机会见面。本校的志愿者会在驻地和志愿者之家一起活动。

Translation: My friends who are volunteer students from other universities and I were in charge of different venues, so we didn't have the opportunity to meet. But the volunteers of our own school gathered to meet along with 'the volunteer's home' in the camp.

如果没有，您是如何认识并结交新朋友的呢?

通过生日会、公共区在春节、元宵节举办的活动中认识外校的志愿者。

Translation: We make friends with volunteers from other schools through birthday parties and activities held in public areas during the Spring Festival and the Lantern Festival.

7. 您和其他志愿者的交流方式是什么? 您和志愿者期间所认识的朋友还保持联系吗？

志愿服务期间是线下交流，结束之后是线上交流。同一个志愿小组内部的朋友们在志愿服务期间玩的非常熟悉，现在还会经常一起约着打乒乓球、吃饭、拍照。

Translation: During the volunteer service period, it's off-line(face to face) communication, while after that period, we use online communication. During the volunteer service the students in the same volunteer group played very well and have been familiar. Now we still often make an appointment to play table tennis, eat and take photos together.

8. 您是否认为所有的志愿者都拥有团队集体意识?

是。大家都渴望自己所在的团队变得更好，非常热心、乐于奉献且多才多艺。

Translation: Yes. Everyone is eager to make their team to better, and all of them are very enthusiastic, devoted and versatile.

9.当您进入到完全不同且没有认识的人的群体时，您最初的感受是什么？在冬奥会期间，这种感受发生过改变吗? 如果有，您印象最深的感受是什么?

能成为志愿者的大家一定是非常优秀，相处久了发现果真如此，非常会玩搞事情！印象最深刻的是驻地的文艺晚会。在热情高涨的气氛种，大家在短短3天时间内就呈现了一场精彩的表演。还有在空闲时候大家一起打乒乓球，从社恐变成有点点主动融入一个集体，学会调动集体气氛。

Translation: Everyone who can become a volunteer must be very excellent. After a long time together, I found that is right, they are very good at playing and doing something great! What impressed me most was the performance at the camp. In an atmosphere of high enthusiasm, we presented a wonderful performance just in three days. In addition, in our spare time, we play table tennis together. I changed from social fear to more initiative to integrate into a group, and learn to activate the collective atmosphere.

10. 作为一名志愿者，冬奥会都为您提供了哪些设施供使用? 您大部分时间是在哪里度过的呢？

驻地和奥林匹克公园公共区。

奥林匹克公园公共区的志愿者之家是公共区志愿者的主要活动场所。志愿者之家里设置了学习工作区、休闲娱乐区、运动区（乒乓球桌、羽毛球）、休息区等区域，功能齐全。驻地的后勤保障也十分到位。

Translation: We stay at camp and public area of the Olympic Park. 'The volunteers' home' in the public area of the Olympic Park is the main activity place for volunteers who work in the

public area. 'The volunteers' home is equipped with learning and working area, leisure and entertainment area, sports area (including table tennis, badminton), rest area and other areas with complete functions. The logistic service of the camp is also well prepared.

11.在冬奥会闭环内，举行过哪些群体活动吗?

（闭环管理）

驻地：3次生日会、1次文艺晚会、小年夜"写春联、画福字、剪窗花"小年夜活动、冬奥影院等

志愿者之家：生日会、除夕活动、抽奖活动等

Translation: At camp: three birthday parties, one entertainment evening party, New year's Eve activities of "writing Spring Festival couplets, painting Fu characters and cutting window flowers", Winter Olympics cinema, etc.

12.您是否注意到疫情防控措施所带来的心理健康风险呢?

学校配备了心理老师，后勤处的老师们经常询问志愿者们日常的需求，如运动球类器材的购买，能够及时反馈给每一名志愿者。

Translation: The school is equipped with psychological teachers. The teachers of the logistics department often ask volunteers about their daily needs, such as the purchase of sports ball equipment, then give feedback to each volunteer in time.

13.您是否曾经担心过在闭环的人员中感染上新冠病毒? 如果担心过，您认为这是否会影响
    人们的亲密度?否；不会影响。

Translation: I don't worry about it. and it won't affect the closeness of the people.

    如果没有，您是否听说有志愿者在闭环中感染上新冠的情况？没有听说过

Translation: I never heard of any case like that.

14.对于志愿者的疫情防控措施，与奥运会选手的疫情防控方案一样吗？如果不一样，那么这些区别具体体现在哪些方面呢？

不一样；奥运会选手疫情防控更严格，不能下车进入公共区，而且在酒店隔离，而我们在学校隔离。此外的细节不是很了解。

Translation: Not the same. The epidemic prevention and control of Olympic athletes is stricter. They can't get off the bus and enter the public area. They are isolated in hotels, while we are isolated in schools. However, I didn't know a lot about anything else in detail.

15.奥运选手对这些防控措施的感受是积极正向的吗?对于那些之前就参加过大型国际活动的奥林匹克运动员，您是否听说过或见过他们对北京冬奥会的疫情防控政策提出批评？

积极正向；否

Translation: Yes, positive. I haven't heard criticism about COV-19 prevention measures.

16.运动员们对志愿者的热情接待和近距离接触中国文化的反应是什么？

会给予志愿者们积极的反馈，拍照时非常注重志愿者的肖像权。

没有接触运动员，但是运动员们应该都挺喜欢中国文化的

Translation: The athletes give positive feedback to the volunteers and pay great attention to the portraiture right of the volunteers when taking photos.

I haven't contacted the athletes directly, but I think they may like Chinese culture very much.

17. 您是否和参加比赛的运动员有过直接互动?否；

如果有，您的经历是怎样的?

站在马路上与闭环车辆内的外国小姐姐互相比心^^

Translation: I have no direct contact with athletes, but I have an experience with the cute foreign girl in the closed-loop bus that I stood on the road and we show hand-heart each other to bless!

18.您认为在这次活动中有哪些方面可以做得更好？据您的了解，有运动员或外国记者不遵守这些防疫规则的情况吗？

无

Translation: No, it's perfect.

19.您之前是否参与过新冠疫情期间的其他活动?

如果是，与冬奥会相比较而言:

在规模大小方面?

在疫情管控措施方面?

是否有效地防止了疫情传播方面?

冬奥会的规模更大、管控更严、冬奥会的措施更能防止疫情传播。

Translation: The scale of the Winter Olympics is larger, the control is stricter, and the measures of the Winter Olympics can better prevent the spread of the epidemic.

20.如果您是学生，您会担心学校的作业和项目吗?在隔离期间您是如何完成这些任务的?

不经常担心，因为是大四任务不是很重；如果有的话挤不上班的时间完成任务

Translation: Not much to worry, because I am a senior student, and my studying task is not heavy. And if I have task, I would use non-working time to complete it

21.由于您一直处于奥运会闭环系统中，您是否会因此错过一些活动或聚会？

没能与亲朋好友们吃年夜饭，但收获的是一段与志愿者难以复刻的冬奥记忆，感到非常光荣与幸运。

Translation: I couldn't have the new year's Eve dinner with my family and relatives, but what I gained was an unforgettable memory of the Winter Olympics with volunteers. I felt very honored and lucky.

Appendix L: Record 9

北京冬奥志愿者采访稿中文版

1. 在 2022 年北京冬奥会上，新冠防控方案是如何实施的?

   答：对于参赛运动员、教练员等相关方，及参与赛事服务的志愿者、工作人员等统一实行闭环管理；志愿者、工作人员等上岗前要求完成三剂次的疫苗接种；工作期间按规定频率要求参加核酸检测；此外工作中的个人防护也相当重要，要求佩戴标准的N95口罩等；另外对于 观众，也设置了严格的要求，疫苗接种、核酸检测、行程轨迹核查、个人防护用品配齐等都是必不可少的。

   Translation: The closed-loop management are implemented for the athletes, coaches, as well as the volunteers and staff participating in the event service; Volunteers and staff are required to complete three doses of vaccination before taking up their posts which means that they are fully vaccinated; Do nucleic acid test according to the specified frequency during work; In addition, personal protection at work is also very important. Everyone requires to wear standard N95 masks; Strict prevention and control measure are also set for the audience: Vaccination, nucleic acid test, travel records verification, and complete personal protective equipment are also essential.

2. 在实施过程中是否遇到了阻碍? 如果有，产生这些阻碍的原因是什么?

   答：由于管理过程完善，涉及人群也普遍从自身健康状况考虑，普遍能接受实施过程，基本没有阻碍。

Translation: Due to the complete and effective management，people's consideration about their own health, they all generally accept the implementation process. So there are almost no obstacles to implementing.

3. 您认为这些措施在应对新冠肺炎疫情上的有效性如何?

答：这些措施特别有效，一方面切实控制了病毒的传播风险，能够保证涉奥人员自身和周边环境都是不存在传染源和传播途径的；另一方面，从整个赛事筹办周期和办赛后的结果也能有所体现，零感染的实现在很大程度上反映了防疫措施的有效性。

Translation: These measures are particularly effective. On the one hand, it controls the risk of virus spreading and ensure that there are no infectious sources and routes of spreading for the personnel involved in the Olympic Games and their surrounding environment; On the other hand, it also can be seen from the whole preparation period and the results after the event, the realization of zero infection to a large extent reflects the effectiveness of epidemic prevention measures.

4. 作为一名志愿者，您需要完成哪些类型的工作呢? 成为奥运志愿者是一个难得的机会，您认为这项工作有趣吗?

答：（1）志愿者根据岗位的不同需要完成的工作也不同，我所在的岗位主要是观众的落客引导、离场疏散，以及在观众入场时检查其是否符合疫情防控的各项要求。（2）我认为服务大型国际体育赛事本身就是很难得的经历，更不要说世界三大赛事之一的奥运会，为了能够获得这个机会我其实做了很多准备，包括从2015年申冬奥成功后就开始了解冬奥的历史、尝试上冰上雪、学习专业英语等等，我也会主动关心冬奥的每一步发展，比如在2020年冰墩墩雪融容毛绒玩偶刚上市时我就购买了，所以得到这项工作对我而言可能是种意料之中的惊喜，虽然这种表达不太合理但确实是我的真实感受，如果没有这个机会我很难过的。

Translation: 1.According to different positions volunteers need to complete different tasks. My position is mainly to guide the audience to drop off, evacuate from the site, and check whether the audience conform with the demands of epidemic prevention and control when they enter the site.

2.I think it is a rare experience to serve large-scale international sports events, not to mention the Olympic Games, which is one of the three major events in the world. In order to get this opportunity, I have actually made a lot of preparations, including learning the history of the Winter Olympics since the successful application for the China Winter Olympics in 2015, trying skating and skiing, learning professional English, etc. I also take the initiative to care about every step of the development of the Winter Olympics, For example, in 2020, I bought the 'Bing Dwen

Dwen' and 'Shuey Rhon Rhon' Plush Doll just putting on sale, so it may not be a surprise for me to get this job. It is really my true feeling. If I didn't get this quota I would be very sad.

5.在工作期间，您需要从早到晚一整天都用来工作吗？

　　　　　　　如果是，那么实际工作时间比您报名时所预估的工作时间要长多少？

　　　　如果不是，那么您在冬奥期间的闲暇中的活动内容，与日常的生活相比有什么区别呢？

　　答：不是；首先志愿者会有轮班轮岗，能够保证必要的休息时间，此外由于赛程安排、工作内容等客观存在的事项，也并非每时每刻都需要用百分百的精力投入工作；闲暇时，与同组的志愿者朋友聊天是不错的休息方式，但我最喜欢的方式还是看比赛，冬奥期间几乎我工作之外所有的日程都为比赛让路了，这是最大的区别，而且这个过程中我也看懂了很多新的项目，这对我而言是新的收获和体验。

Translation: No. Volunteers work have shifts to ensure everyone's necessary rest. In addition, due to competition schedule and work content, it is not necessary to devote 100% of concentration to work all the time; In my spare time, chatting with volunteer friends in the same group is a good way to rest, but my favorite way is to watch the competition. During the Winter Olympics, almost all my schedules besides working are arranged to watch the competition, which is the biggest difference from my daily life before. In addition, I also understood many new types of sport competitions in the process, which is a new harvest and experience for me.

6.您的朋友中有志愿者吗？

　　如果有，在空闲的时候您会和他们聚在一起吗？

　　如果没有，您是如何认识并结交新朋友的呢？

　　答：有；空闲时会一起讨论工作，分享激动人心的时刻和关注的比赛等等，当然也会尝试结交新的朋友，大多数是在工作中自然而然的熟悉起来，因为大家都很热情，彼此之间互帮互助、相互依靠的环境和氛围也让我们的友情快速升温。

Translation: Yes. We discussed work together in our spare time, shared excited moments and concerned competitions, etc. Of course, I also try to make new friends. Most of new friends are familiar with each other on the period of work naturally, because everyone is very enthusiastic there. The environment and atmosphere of dependence and helping each other also make our friendship warm up rapidly.

7. 您和其他志愿者的交流方式是什么? 您和志愿者期间所认识的朋友还保持联系吗？

   答：多数是互联网上的通讯社交软件；至今与60%以上的朋友都保持着联系，偶尔也会一起用餐、聊天等。

Translation: Most of the time we use social communication software on the Internet; So far I still have been keeping in touch with more than 60% of my friends, and occasionally have dinner and chat with them.

8. 您是否认为所有的志愿者都拥有团队集体意识？

   答：我认为能够选择加入冬奥志愿者，并且通过了层层选拔的朋友们，一定自身具备这样的素养，而且更重要的是，这种素养会伴随着志愿者工作过程逐渐加深，自然而然的大家最后都会有更高的团队集体意识。

Translation: I think the people who choose to be a Winter Olympic volunteers and have passed all-level selections must have such a quality. More importantly, this quality would gradually strengthen with the volunteer work process. Everyone eventually have a higher team collective consciousness.

9.当您进入到完全不同且没有认识的人的群体时，您最初的感受是什么？ 在冬奥会期间，这种感受发生过改变吗? 如果有，您印象最深的感受是什么?

   答：因为我自身性格比较外向，所以对这种接触陌生人群的过程是有着期待和向往的，在重大活动中认识兴趣、志向等方面相通的小伙伴本身就很值得期待，所以我会主动与大家打招呼、建立交流基础，同时我会选择在团队中担任一定职务或者更多地承担一些工作分工，以此来加快认识大家的过程，这种感受基本没有改变。

Translation: Due to my extroverted personality, I am full of expectations and yearning when contacting strange people. It is worth looking forward to meeting partners with similar interests and aspirations in major activities. Therefore, I took the initiative to greet and established foundation of communicating. At the same time, I was used to take a position in the team or undertake more work division to promote the group to getting to know better, The feeling had basically not changed throughout my hole volunteer time.

10.作为一名志愿者，冬奥会都为您提供了哪些设施供使用? 您大部分时间是在哪里度过的呢？

答：必要的饮食、交通，以及工作中需要用到的沟通设备、工具等等，都是有充分保障的；我大部分时间是在工作岗位上，负责某个固定片区的引导工作。

Translation: Necessary food, drink, transportation, and communication equipment needed in work are fully guaranteed; I spent most of my time at work, responsible for the guidance of a fixed area.

11.在冬奥会闭环内，举行过哪些群体活动吗？

答：首先冬奥会和冬残奥会是在新年伊始、春节期间内举办的，那集体活动自然少不了传统佳节的集体庆祝活动，此外还包括集体生日会、共同观赛等。

Translation: As we know, the Winter Olympic Games and the winter Paralympic Games are held at the beginning of the new year and during the Spring Festival. Of course, celebration of the traditional Spring Festival is an indispensable part of these collective activities. In addition, activities also include the collective birthday party and watching the competitions together .

12.您是否注意到疫情防控措施所带来的心理健康风险呢？

答：会有关注到，所以不管是冬奥组委还是学校，都会采取一些措施缓解我们因闭环加高强度工作导致的消极情绪，同时我们志愿者之间也会有意识地去为团队创造一种诙谐、积极的氛围。

Translation: This problem exists and is concerned by principal. Therefore, both the Winter Olympic Organizing Committee and the school take some measures to alleviate our negative emotions caused by high-intensity work in closed-loop. And volunteers ourselves are consciously creating a positive and interesting atmosphere for the team.

13.您是否曾经担心过在闭环的人员中感染上新冠病毒? 如果担心过，您认为这是否会影响人们的亲密度?

如果没有，您是否听说有志愿者在闭环中感染上新冠的情况?

答：一开始会有担心，但看到严格的疫情防控措施，以及来自不同国家地区、不同岗位的涉奥人员都能够按照要求完成各项措施，就不会那么担心了，志愿者闭环中没有出现感染的情况。

Translation: At the beginning, I was a little worried about COVID-19, but I feel relax when I saw the strict epidemic prevention and control measures actually, and the Olympic personnel from different countries, regions and positions were able to complete all measures required.

There was no infection of volunteers in the closed loop.

14.对于志愿者的疫情防控措施，与奥运会选手的疫情防控方案一样吗？如果不一样，那么这些区别具体体现在哪些方面呢？

答：整体方案和要求是一致的，都很系统而且要求严格执行；由于参与事务的不同，可能会有细微的差别，比如运动员抵达赛区后的防控要求、赛前赛后有特定的核酸检测要求等，也包括一些具体个人防护措施的不同，比如本届奥运会要求运动员上台领奖时需自行完成戴奖牌等环节。

Translation: The overall plan and requirements for the two kinds of groups are consistent, and both of plans is complete and strictly implemented; However, there may be slight differences due to their involved fields. For example, athletes need to complete the prevention and control requirements after arriving at the competition area, do specific nucleic acid test before and after the competition, and athletes who win the competitions have to wear medals by themselves on stage to decrease the risk of infection.

15.奥运选手对这些防控措施的感受是积极正向的吗?对于那些之前就参加过大型国际活动的奥林匹克运动员，您是否听说过或见过他们对北京冬奥会的疫情防控政策提出批评？

答：是积极的，感觉大家普遍理解疫情防控状态下的特殊性，且动机多以比赛为主，能顺利参赛完赛是最大的追求。

Translation: Yes, it is positive. I find that everyone generally understands the particularity of epidemic period and is willing to abide by the regulations of epidemic prevention and control. For athlete and Olympics staff ,it is our common goal to ensure the process of the big event all right and successfully finish the competition.

16.运动员们对志愿者的热情接待和近距离接触中国文化的反应是什么？

答：运动员们很感谢志愿者的热情接待，他们对中国文化也处处充满着好奇，包括节日习俗、饮食起居等方方面面，在离开赛区回国之际也特别舍不得。

Translation: The athletes are very grateful to cordial hospitality volunteer accorded them. They are also full of curiosity about Chinese culture, including festival customs, dietary habit, etc. When they left the competition area in China and return, they were reluctant to leave.

17.您是否和参加比赛的运动员有过直接互动?

如果有，您的经历是怎样的?

答：没有与运动员的直接互动。

Translation: I have no direct interaction with athletes.

18.您认为在这次活动中有哪些方面可以做得更好? 据您的了解，有运动员或外国记者不遵守这些防疫规则的情况吗？

答：没有了解到不遵守规则的情况。

Translation: I haven't heard of any non-compliance with the rules.

19.您之前是否参与过新冠疫情期间的其他活动?

如果是，与冬奥会相比较而言:

在规模大小方面?

在疫情管控措施方面?

是否有效地防止了疫情传播方面?

答：参加过校内的一些主题学习活动；规模方面肯定不及冬奥会，接触人群也基本是国内、校内身边的同学；疫情管控方面以做好个人防护为主，主要包括日常消毒、口罩佩戴等，由于大家平时的活动轨迹主要在校内环境，所以基本能防止疫情传播，当然很多活动也因此改到了线上进行，就避免了感染疫情的风险。

Translation: I have participated in some learning theme activities in our school before; The scale of our school's activities is not as large as that of the Winter Olympic Games, and the involved crowd is basically the students in China and in our school; Measures for epidemic prevention and control in school is mainly based on personal protection, including daily disinfection, wearing masks, etc. Since students' daily life are usually within the campus, it can prevent the spread of the epidemic to a great extent. Furthermore, many activities had been adjusted to hold online to avoid the risk of infection as much as possible.

20.如果您是学生，您会担心学校的作业和项目吗?在隔离期间您是如何完成这些任务的?

答：我是一名博士研究生，由于入学不久，所以不会太担心志愿服务对课业的影响；同时，学校在前期调研了志愿者同学们在学业上遇到的困难，针对有需求的同学，会协调负责单位为同学的学业、生活解决实际困难，从而保证该同学能够全身心投入到志愿服务中。

Translation: As a doctoral student, I'm not worry too much that volunteer service may impact or disturb my schoolwork because this semester just started; Moreover, the school investigated the

difficulties encountered by the volunteer students in their studies in the early stage. For the students in need, the school would coordinate principal of units to solve the difficulties for their studies and life, so as to ensure that students can devote themselves to volunteer services.

21.由于您一直处于奥运会闭环系统中，您是否会因此错过一些活动或聚会？

答：会错过一些活动或聚会，但进入闭环前就已经了解到这个方面，所以不会因为参加志愿服务错过聚会等而感到遗憾，一方面赛事服务期间工作很充实，完成志愿服务工作也是必须的，这在我们成为志愿者之前就已经做好了心理准备，另一方面家人和朋友对于自己因参加志愿服务无法赴约是表示理解的，这在很大程度上也能缓解志愿者心中的焦虑情绪。

Translation: We missed some activities or gatherings, but we learned about this aspect before being a volunteer in the closed loop, so we won't regret that we missed the party due to participating in volunteer service. On the one hand, the work during the event service is very fulfilling, and it is also necessary to complete the volunteer service. But we have made enough psychological preparations before becoming volunteers. On the other hand, my family and friends understand that I can't attend the family party because of participating in volunteer service. To a large extent, family support can also alleviate the anxiety of volunteers.

Appendix M: Record 10

Date: 06/15/22
Record type: Email response (translated by BUCT)
Communication medium: Email
Interviewee: [redacted]
Classification: V (volunteer)

北京冬奥志愿者采访稿中文版

1. 在 2022 年北京冬奥会上，新冠防控方案是如何实施的?

   作为城市志愿者，学校对我们进行了封闭管理。其余在场馆服务的志愿者会直接在奥运村隔离。我们的所有出行都是大巴点对点运送。观看比赛的观众也是由大巴运送，分车次分通道进入场馆。比赛结束后直接上车，不允许逗留。当然学校也给我们配备了防疫物资，每次上下车要用消毒液洗手，防疫措施也很到位。这是我作为城市志愿者所了解的情况

Translation: As a city volunteer, our school had carried out closed-loop management Inside the school on us, while other volunteers serving in venues were isolated in the Olympic village. We commuted by bus, adopting the 'point-to-point' transportation scheme. Spectators also took buses to the venue by train number and channel. We need to get on the bus directly back after the competition. No stay in venues is allowed. What's more, the school has been equipped us with epidemic prevention materials. We should wash our hands with disinfectant every time we get on and off the bus. Other epidemic prevention measures are also prepared well. These are what I knew as a city volunteer.

2. 在实施过程中是否遇到了阻碍? 如果有，产生这些阻碍的原因是什么?

   没有，就我们城市志愿者和观众来看，大家都是很配合的

Translation: No, as far as city volunteers and audience are concerned, everyone is very cooperative with epidemic prevention measures.

3. 您认为这些措施在应对新冠肺炎疫情上的有效性如何?

   我认为是很有效的。通过尽可能减少接触来阻断新冠的传播。

Translation: I think it is very effective. These measures cut off the spread of the COVIN-19 by reducing physical contact of people.

4. 作为一名志愿者，您需要完成哪些类型的工作呢? 成为奥运志愿者是一个难得的机会，您认为这项工作有趣吗?

我们主要负责引导观众的入场和散场。我认为是十分有趣的。不管是上岗的时候还是日常和同组同学的活动都让我十分开心。尽管从事的工作看起来不大，但是参与其中我们也收获了宝贵的经历，当然还有很多纪念品。

Translation: We are mainly responsible for guiding the audience get in and get out. I think it is very interesting. No matter when I was on duty or in my daily activities with my classmates, I was very happy. Although our work seems small, we have also gained valuable experience and many souvenirs.

5.在工作期间，您需要从早到晚一整天都用来工作吗?

如果是，那么实际工作时间比您报名时所预估的工作时间要长多少?

如果不是，那么您在冬奥期间的闲暇中的活动内容，与日常的生活相比有什么区别呢?

不需要。没有什么大的区别。但在宿舍只有自己一个人还是有点无聊。

Translation: No. The actual working hours are not much different from what I expected when I signed up. But it's a bit bored when I was alone in the dormitory.

6.您的朋友中有志愿者吗?

如果有，在空闲的时候您会和他们聚在一起吗?

如果没有，您是如何认识并结交新朋友的呢?

没有。通过组内日常的活动，包括一起看比赛，分车时的座位在一起等等，通过聊天就逐渐熟悉了起来。

Translation: No, we become more familiar with each other by chatting and daily activities in the group, including watching the game together, sitting next to each other when taking a bus, etc...

7. 您和其他志愿者的交流方式是什么? 您和志愿者期间所认识的朋友还保持联系吗?

主要就是当面交流或者微信联系。没有，因为其实感情不是那么深。

Translation: Main communication is talk face-to-face and using Wechat online.

No, because other volunteers and I didn't establish a deeper connection

8. 您是否认为所有的志愿者都拥有团队集体意识?

   我认为绝大多数的志愿者都是有的。既然选择了要干就应具备集体意识

Translation: I think the majority of volunteers have. Since we decide to be a volunteer, we should have a collective consciousness in the team.

9. 当您进入到完全不同且没有认识的人的群体时，您最初的感受是什么？在冬奥会期间，这种感受发生过改变吗? 如果有，您印象最深的感受是什么?

   感觉比较拘束。有，就是大家一起看比赛的时候，一起加油，一起呐喊，随着气氛逐渐热烈，大家的关系也更加密切了，看完比赛后大家也是一起回去的。

Translation: I felt a little uneasy and cautious at first. But the feeling changed later. We cheer and shout together when watching the competition. As time goes by, the atmosphere gets higher, and our relationship becomes closer. After watching the game, we go back together with new friends.

10.   作为一名志愿者，冬奥会都为您提供了哪些设施供使用? 您大部分时间是在哪里度过的呢？

   对于城市志愿者，冬奥会组织方提供了统一的上岗的服饰，没有提供什么设施。大部分时间是在宿舍度过的。

Translation: As a city volunteer, the organizers of the Winter Olympic Games provided uniform clothing for us, but did not provide any else facilities. We spend most of the time in our own dormitory.

11.在冬奥会闭环内，举行过哪些群体活动吗?

   举办过，比如跨年晚会，大家一起玩游戏，看春晚

Translation: Yes, such as holding the New Year's Eve party. And we played games and watched the Spring Festival Gala together

12.您是否注意到疫情防控措施所带来的心理健康风险呢?

   我本人没有很注意到，但是学校应该注意到了，鼓励我们志愿者开展各种各样的活动，避免大家太过孤单

Translation: I didn't notice to mental health risk myself, but the school pay more attention to this problem and encourage volunteers to carry out various activities to avoid feeling lonely.

13.您是否曾经担心过在闭环的人员中感染上新冠病毒? 如果担心过，您认为这是否会影响人们的亲密度?

如果没有，您是否听说有志愿者在闭环中感染上新冠的情况？

没有，没有听说过

Translation: No, I never heard such things.

14. 对于志愿者的疫情防控措施，与奥运会选手的疫情防控方案一样吗？如果不一样，那么这些区别具体体现在哪些方面呢？

不一样。奥运选手来自世界各地，传染的风险大，同时他们居住在奥运村，有更严格的管理。我们城市志愿者在学校内可以自由活动，只需要两天一次核酸。

Translation: It's different. The Olympic athletes come from all over the world and it increases the risk of infection to an extent. In addition, they live in the Olympic Village, a place with stricter prevention and control measures. While city volunteers like us can move freely in our school, only need to test nucleic acid once every two days.

15. 奥运选手对这些防控措施的感受是积极正向的吗?对于那些之前就参加过大型国际活动的奥林匹克运动员，您是否听说过或见过他们对北京冬奥会的疫情防控政策提出批评？

没有，感觉大部分人是比较配合的。我看到过一些外国运动员的视频，看到他们会主动去测核酸并且和核酸检测人员也有友好的互动。也有一些直接称赞北京冬奥会防疫措施的。

Translation: No, I see that almost all people cooperate with epidemic prevention measures. I have watched some videos of foreign athletes, that they took the initiative to test nucleic acid and have friendly interaction with nucleic acid testers. Furthermore, some foreigners give a high praise of the epidemic prevention measures of the Beijing Winter Olympics.

16. 运动员们对志愿者的热情接待和近距离接触中国文化的反应是什么？

感觉他们也很开心，对于志愿者的热情也做了回应，对于奥运村里的中国元素比如中国功夫还有吉祥物，很多外国人会去尝试和合影

Translation: I felt that they were also very happy and give positive response to the enthusiasm of volunteers. For the Chinese elements in the Olympic Village, such as Chinese Kung Fu and mascots, many foreigners try to learn more about and take photos with them.

17.您是否和参加比赛的运动员有过直接互动?

　　　　如果有，您的经历是怎样的?

　　　　没有，我们城市志愿者接触不到运动员

Translation: No, I have no contact to athletes as a city volunteer.

18.您认为在这次活动中有哪些方面可以做得更好? 据您的了解，有运动员或外国记者不遵守这些防疫规则的情况吗?

我觉得我个人是十分满意的。没有

Translation: From my point of view, very satisfied.

No, I haven't heard of any non-compliance with the rules.

19.您之前是否参与过新冠疫情期间的其他活动?

　　　　如果是，与冬奥会相比较而言:

　　　　　　在规模大小方面?

　　　　　　在疫情管控措施方面?

　　　　　　是否有效地防止了疫情传播方面?

　　　　　　无

Translation: I have not participated in any other activities like Olympics during the COVID-19 period.

20.如果您是学生，您会担心学校的作业和项目吗?在隔离期间您是如何完成这些任务的?

不会，因为当时期末考试已经结束，而且我是本科生，寒假期间没有什么学习任务

Translation: No, because the final exam was over at that time, and I was an undergraduate, so I didn't have any studying tasks during the winter vacation.

21.由于您一直处于奥运会闭环系统中，您是否会因此错过一些活动或聚会?

是的，比如和高中同学的聚会，但是我并不遗憾，这样的机会还有很多，但参与冬奥会的机会恐怕就没有了

Translation: Yes, for example, I can't gather together with my high school classmates, but I don't regret it. Because in the future there will be many such gatherings with my friends, but being a volunteer of the Winter Olympics is the only chance.

Appendix N: Media Transcriptions

Kim Meylemans Isolation Video Transcript:

Hi everybody, some of you have read the good news that I was sent out of the isolation facility. We thought this meant I was allowed to return to the Olympic village and will be treated, at maximum, as a close contact. On the way to the village (we did not go to the village) but the ambulance (we were in) turned to another facility where I am now (holding back tears). I am supposed- my NOC got surprised by this decision as well. I am supposed to stay here for another 7 days with 2 PCRs a day with no contact with anyone else. I am allowed to slide alone; we are not sure if I will ever be allowed to return to the village. Obviously, this is very hard for me, so I ask for you all to give me some time to consider my next steps because I am not sure I can handle 14 more days at the Olympic competition while being in this isolation. Thank you.

Kim Meylemans Isolation Update Video Transcript:

It seems like the video and especially the efforts of my Olympic Committee have really paid off. At 11:35 pm there was a knock on my door, and I was escorted to the Olympic village. I am now in a wing that's just isolation, but at least I'm back in the village. I feel safe and I'll be able to train a little better here. Thank you all.

Translation of Russian Biathlete Valeria Vasetsova's Instagram Story on food at the Games:

I have been fed this for breakfast, lunch and dinner for 5 days now. I have lost a lot of weight and my bones are already sticking out. They don't give other food, they don't say anything about test results. I only sleep all day, because now I don't even have the strength to get out of bed, because

I eat three such handfuls of pasta a day, because it's impossible to eat the rest of the food. But today I have eaten all the fat that is given instead of meat, because I am very hungry. My stomach hurts, I'm very pale and I have huge black circles under my eyes. I want it all to end. I cry every day. I'm very tired.