

Mega Event Organizing Committees: Investment in Anti-Doping Personnel

Mega Event Organizing Committees: Investment in Anti-Doping Personnel

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## **Abstract**

Peer reviewed literature currently provides little knowledge of how to recruit and train Doping Control Officers (DCOs) for Mega Sport Events. This study adds to the existing body of literature on creating knowledge transfer and legacy for future Mega Event Organizing Committees. A phenomenological designed study was conducted through the use of a qualitative on-line survey during the 2015 Toronto Pan American Games. A survey response rate of 58% was achieved. Survey responses by DCOs were analyzed using inductive coding to identify four main themes; i) DCO motivations, ii) training program design, iii) engagement and support, and iv) barriers to participation in the results. Recommendations include using mixed methods for future studies, provide DCOs with training and evaluation opportunities prior to the Mega Sport Event, and developing mentorship opportunities during games operations. Additional research is needed to create greater understanding of DCO motivations and perceptions beyond this study.

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## **Chapter 1**

### **Introduction**

The lure of large scale sporting competitions for athletes has long been a draw to not only demonstrate athletic skill, but also to compete on the world stage against other top level athletes. No matter the location Mega Sport Events (MSEs) not only attracts the best athletes, but also the leading sport professionals to plan, implement, and execute these events. Mega Event Organizing Committees (MEOCs) play a central role in the success of these events. Many different responsibilities fall under the authority of a MEOC including budgeting, infrastructure development, sport planning, volunteer recruitment, marketing, integration with the local community, and legacy projects. Each of these different areas of responsibility that the MEOC is charged with contribute to the overall potential success of the event. Given the finite nature of a MSE in that once the closing ceremonies occur and the flame extinguished, the decommissioning of a MEOC occurs within several months. In many cases it takes years of detailed planning in order to execute a two week sporting event. It is the professionals from a variety of fields that MEOCs must recruit to ensure success.

With a large budgetary responsibility and the constant attention of media and special interest groups, MEOCs must be very strategic in their organization, communication, and overall perception by all their stakeholders including the host community, spectators, athletes, International Sport Federations (IFs) and sponsors. The success of a MEOC's organization starts at the top with its senior management and executive group. The recruitment process for this

senior management level needs to be focused on attracting those individuals with not only a specialization in their given field, but also need to possess very strong leadership and visionary skills. Given the unique operating process of a MEOC, it is most desirable when these individuals come from a sport background or have worked at a previous Games in the past. Recruiting individuals who have a demonstrated track record of working in the sports industry is desirable to MEOCs because it provides an opportunity to capitalize on their collective professional experience in order to build a workforce that can tackle challenges associated with hosting a major sporting event. It is very important to set the distinction that this leadership group will be responsible for setting the overall path of the MEOC and the subsequent staff and volunteers that are recruited to each functional department in order to carry out the operational planning and actual execution of the event.

One of the key factors to measure the success of a MSE is how the MEOC handles the recruitment, identification, training, and retention of its workers. It is evident that when MEOCs take the time to develop a clear and detailed recruitment plan to address their personnel recruitment needs, this will play a critical role in the success of a MSE. To contemplate the many different functional departments within a MEOC, for example: Sport, Workforce, Security, Venue Management, Medical, or Anti-Doping, each has its own specific personnel training requirements in order to deliver its designated services. When the recruitment, training, and engagement of functional department workers is not approached in a proper manner, it can have serious implications on the overall success of a MSE. Even though each of these functional departments within a MEOC provide pre-defined levels of service and are accountable for their own areas of specialization, ripples can be felt across the entire MEOC when one of these

functional areas experiences challenges or issues. For example, should an issue be raised regarding the security of venues and the safety of spectators and athletes, this can ultimately cause the event to be postponed or cancelled until the issue has been resolved.

Given the vast nature of and differences between the training, recruitment, and retention needs of differing functional departments within a MEOC, this study will examine the functional area of Anti-Doping (ADP). The recruitment and training of ADP personnel is very technical and detailed in nature. The international governing body for anti-doping, the World Anti-Doping Agency (WADA), has created a harmonized set of rules and standards that all nations and international sport bodies must adopt and implement should they wish their athletes to compete at Olympic level events. Due to the requirement to implement the WADA mandatory standards and rules in order to host a MSE, MEOCs must carefully plan for this as a doping scandal can quickly bring negative attention and potential risk to the successful staging of the event. The skillset for personnel in ADP is very specific and rigid in the requirements that are placed ensuring compliance with the WADA rules. ADP managers must approach the recruitment and development of their personnel in a very well thought out manner. Implementation of a full anti-doping program within a MSE context, takes years of training and evaluation of personnel to ensure that all mandatory WADA standards are adhered to. WADA has demonstrated evidence that within the MSE environment there often exists a lack of development within the MEOC as it relates to understanding how an ADP program should operate as evidence in the Independent Observer Program Reports (<https://www.wada-ama.org/en/independent-observer-program>). Many of the reported issues are consistent Games over Games and point out the lack of effectively training Sample Collection Personnel (SCP).

When looking at peer reviewed literature, there exists a gap, not only as it relates to strategies on how to train MEOC personnel in general, but also as it relates to the ADP SCP training within a MEOC. With this current gap identified in the literature, this represents an excellent opportunity for researchers to make significant contributions towards the development of training programs for ADP personnel in a MSE environment. This research is needed because there currently is a lack of peer reviewed literature in academia as it relates to qualitative based studies that engage the human element of working in the ADP realm. A significant amount of research has been published within the scientific/quantitative realm of ADP as it relates to the chemistry, physiology, and analytical techniques of detecting prohibited samples. However, there are many linkages that still need to be made between both the qualitative and quantitative research domains as it relates to ADP program development. Qualitative methods will be used in this study to further knowledge within the social sciences realm. When considering the SCP component of qualitative research, this study will connect with this population as described in chapter 3 to develop a deeper understanding of the key factors that contribute to the overall success of an ADP program in a MSE environment. Given that MSEs occur around the world in locations that have varied capacity in the ability to produce quality ADP programs, further research on this topic may contribute to improving the global approach to anti-doping.

For the purpose of this research project the MSE examined was the 2015 Pan American Games held in Toronto, Ontario, from July 10 – 26, 2015. The Pan American Games are one of the largest multi-sport Games in the world. According to the Toronto 2015 (TO2015) website the Games are “the world’s third largest international multi-sport Games; they are only surpassed in size and scope by the Olympic Summer Games and the Asian Games”

(<http://www.toronto2015.org/about-us/pan-am-games>). The geographic footprint of the 2015 Pan American Games was considerable in scope with close to 7,000 athletes competing in 36 sports throughout the Golden Horseshoe region of Ontario. According to the Toronto 2015 website approximately 20,000 volunteers were required combined with an operating budget of CAD\$1.4 billion. With this size of budget and volunteer requirement, the scope of developing suitable training programs for volunteers was critical for success.

In order to ensure the mandatory requirements were in place for the TO2015 Games ADP program, approximately 300 volunteers were needed. Within the TO2015 MEOC, the overall responsibility of the ADP program fell to the Chief Medical Officer (CMO). In order to meet the demands of developing a robust anti-doping program, TO2015 CMO, Dr. Julia Alleyne indicated that “in pursuit of excellence in anti-doping programs, TO2015 turned to the CCES, which is known as an international leader in the field of doping control and sport ethics, for leading-edge monitoring, surveillance and athlete education” (<http://cces.ca/news/canadian-centre-ethics-sport-lead-anti-doping-program-toronto-2015-games>). According to the WADA Independent Observer Program for the 2015 Pan American Games “The testing program implemented by PASO, Toronto 2015 and CCES should be considered a success with 1505 tests collected” (p.2). This ADP program represented the largest number of anti-doping controls ever collected at a Pan American Games. Both the number of required ADP volunteers and overall scope of the TO2015 Games provided an important opportunity to expand the existing body of knowledge in the area of major games ADP understanding.

As part of MEOCs development of training programs for volunteers, it is important to understand what factors motivate volunteers to participate. Misener, Doherty, and Hamm-

Kerwin (2010) concluded in their study examining the volunteer experiences of older volunteers in sport that, “community sport organizations should ensure that this group of volunteers feels they are making a contribution accruing the health and social benefits of volunteering” (p.285). In this regard, it is important to identify the factors that motivate volunteers no matter what who makes up the population. The design of training programs for DCOs needs to take into consideration what volunteer motivations are to participate.

The purpose of this study is to advance the knowledge transfer and create legacy in the area of ADP program development for future MEOCs. DCOs play a central role to the success of the ADP program as they are the volunteers that are operational and responsible for executing the planned anti-doping testing on athletes. The data collected through this study may help to better understand the conceptual role of DCOs involved with MSEs as this specific realm of research does not include peer reviewed literature. The 2015 Pan American Games offer a unique opportunity to directly further this area of research given that Canada has a rich history in developing anti-doping programs combined with the opportunity to access this DCO volunteer population during a MSE.

### ***Research Questions***

A review of literature demonstrates that while there are some emerging pockets of research looking at how MEOCs recruit, train, and retain their personnel, little to no research has been conducted in the area of ADP program development. Specifically, this research study will attempt to answer the following questions:

- 1) How can Mega Event Organizing Committees improve existing anti-doping training programs for Sample Collection Personnel?
- 2) What are the key motivators for Sample Collection Personnel to remain committed and engaged in their role until the Mega Sport Event is completed?

These research questions are important to answering the purpose of this study for a variety of reasons. The first point being that there is limited understanding of the motivations of DCOs to participate in a major games anti-doping program and how to best design ADP training programs that are engaging while also covering the required technical content. It should be noted that the ability to access this research population is significant, as the Pan American Games occur every four years and to date no data has been published on this research population.

The second significant element to note from the research questions answering the purpose of this research study is that future MEOCs will benefit from the data collected as part of this research project. Though the scope of this research project is limited to the 2015 Pan American Games, the richness of the data collected during this study may be transferable to future studies, or at a minimum provide a starting point on how future studies in this area may be designed.

### ***Importance of Study***

Games over games, MSEs are evolving in how they operate and conduct their business. However, best practices are not always included with knowledge transfer in order to capitalize on previous Games learnings. This is especially evident within the realm of anti-doping due to the lack of specific peer reviewed literature and research conducted. With the limited peer reviewed research that exists an opportunity to provide important contributions in developing knowledge

within anti-doping. Anti-doping operations within a MSE are critical to its success along with the protection of the athlete's right to creating a level playing field for competing. Given the current environment that athletes compete, doping scandals are becoming more and more commonplace, it is critical from an ADP practitioner perspective that peer reviewed research is done to assist in developing this realm of sport management. By examining potential approaches to SCP recruitment, training and retention, this research will significantly contribute to the administrative side of doping control, as related facets in chemistry and physiology of performance enhancing substances continues to be quantitatively researched.

Sport administrators may benefit from the findings of this study. As an administrator working in the specialized field of anti-doping within sport management, a need exists to have access to information that will contribute to the proper development of anti-doping programs. The MEOC may not have expertise within the field of anti-doping at its inception, and by contributing to the body of peer reviewed literature an opportunity exists to strengthen future ADP programs.

MSEs are regularly occurring events around the world that require the most up-to-date information in order to plan for their operations and budgets. This research project is important as its focus of study examines the most recent MSE of 2015, the Toronto Pan American Games. These Games also represent the first occurrence of the implementation of the 2015 World Anti-Doping Code (WADC) at an event of this size. The WADC came into force on January 1, 2015.

## Chapter 2

### Literature Review

The review of the literature included in this chapter was organized into five sections; mega events, temporary organizations, personnel motivations, anti-doping program development, and gene doping. As the existing literature on major games anti-doping program development is limited, each of these topics were identified in order to contribute towards a better understanding this area of research through comparing and contrasting similar realms relating to this research project. Given that major games anti-doping program development is an emerging area within peer reviewed literature, this chapter sought to identify gaps in the published literature knowledge base in order to recognize future opportunities for contribution.

#### ***Mega Sport Events***

Peer reviewed literature provides several definitions or modes of measurement that can be applied to the term Mega Event and Mega Sport Event. Witt (1988) indicates the variability of measurements can be the following:

They can be defined in terms of volume, eg a certain minimum number of visitors attracted over a period of time; in terms of value, eg a certain minimum amount of revenue generated in the locality over a period of time, or minimum capital cost of constructing facilities; or in psychological terms, eg the worldwide reputation of the event or attraction generates ‘must see’ feelings in potential tourists. (p. 77)

Gratton, Dobson, and Shibli (2000) further show the economic lure of Mega Events, “Cities staging major sports events have a unique opportunity to market themselves to the world. Increasing competition between broadcasters to secure broadcasting rights to major sports events has led to a massive escalation in fees for such rights” (p. 19). With the lure of such incentives, MEOCs have the opportunity to use the associated economic benefits of hosting a MSE to develop their operational planning and personnel training through enlarged budgets. These enhanced revenue generation opportunities offer the MEOC the chance to look beyond traditional personnel training requirements that are minimal in nature, and rather make a significant investment in developing enhanced training programs.

Further considering MSEs, Thi (2014) identifies the following as significant,

A mega sport event can be identified as a key catalyst for creating both positive and negative legacies for host cities and surrounding communities (destination). The potential gain from hosting events can transform cities to bustling tourism hot spots and impact the local community for many generations” (p. 118)

The ability of MSEs to affect change and transform communities is an important consideration especially given the power of sport. For a community to benefit from hosting multiple MSEs it is important that they consider the most effective approach to their planning, not only in executing the event, but also the legacy that will be realized by the many different domains that are involved with planning. For example, strong planning in anti-doping may increase the likelihood of future sporting events being hosted in the community given past history.

Comparatively, there are instances where a MEOC needs to evaluate the financial feasibility of preparing a bid for a MSE before it is even awarded. The cost to host a MSE not

only relates to that of a MEOC, but also the bid committee that precedes it. In his concluding remarks de Nooij (2014) indicates that, “the economics of organizing a mega sport event like the World Cup Soccer or the Olympic Games is not favorable, but the economics of the bidding to organize such a mega event is even worse.” (p. 415). Given the dollar amounts that are required to stage a successful MSE, it is important that the deliverables of all departmental areas of a MEOC are accurately understood and accounted for.

MSEs play an important role within the community as part of their success often relates to legacy. As a condition of being awarded a MSE, part of the decision may be based on the legacy component that has been committed to by the MEOC. Matheson (2010) indicates that,

Recently, there has been a shift to address the theoretical and methodological weaknesses underpinning legacy and, moreover, implementing legacy planning within major and mega events. Much of this has been fuelled by instrumental policy discourses and the necessity of demonstrating that public expenditure reaps a suitably positive return on investment. (p. 20)

When considering the application of legacy projects to anti-doping there is very limited peer reviewed literature in this regard. However, MSEs should take the opportunity to consider what potential opportunities exist following the completion of the event to ensure that anti-doping legacies do exist. These opportunities may include improved facilities for doping control stations, increased capacity in volunteer training to host future events, and increased anti-doping technical knowledge within the community.

Preuss (2009), in assessing the impact of whether or not to host a MSE identifies a clear argument, “the central point of the controversy is about the opportunity costs or in other words

whether the resources spent for an event should be invested in other infrastructure with a better cost–benefit ratio or within the same target system.” (p. 134). When giving consideration to whether a community should host a MSE, careful thought must be given to the amount of investment required. From an anti-doping perspective there are many associated costs including volunteer training, equipment, sample transport, and laboratory analysis that need to be evaluated. Given that costs associated with hosting a MSE may change over time, it is important that during the initial budgeting phase consideration is given to what the desired outcome of each area is. It is crucial that budgeting and planning exercises be coordinated in a fashion that allows for flexibility given external factors such as the implementation of the 2015 World Anti-Doping Code prior to its finalization and associated requirements.

### ***Temporary Organizations***

MEOCs are organizations that are temporary in nature, operating for a pre-defined period. Upon completion of the bidding phase between candidate host communities the franchise holder of a MSE makes a formal announcement awarding the Games to the winning community. It is from this point forward until the extinguishing of the Games flame that the MEOC remains in existence to plan and deliver the Games based on its Bid Book commitments. Parent (2010) surmises MEOCs as the following, “grows from a handful of employees to thousands in a matter of a few months, that has a budget in the billions of dollars, that has no direct competitors yet where failure is not an option as the whole world is watching” (p. 291). Similarly, Xing and Chalip (2009) indicate that “Temporary organizations have little history and a finite future. They bring together groups of people with the necessary skills to complete particular tasks, and then require them to work interdependently to complete the overall project”

(p. 212). As MEOCs are temporary organizations, it is critical that they establish their senior leadership group early on. Senior leadership must possess key professional traits that enable the overall leadership and development of the organization. Organizational culture has a huge impact on workplace satisfaction and employee morale – senior leadership must be aware of this when planning operational changes. Conversely, when considering traditional organizations, DiMaggio and Powell (1983) write that “Organizations may change their goals or develop new practices, and new organizations enter the field. But, in the long run, organizational actors making rational decisions construct around themselves an environment that constrains their ability to change further in later years” (p. 148). The overall delivery of the MSE to specification is the key success factor that senior leaders within a MEOC must plan for. In his writings, Hodgson (2004), outlines that “project management's 'distinctive competence' lies in its claim to deliver 'one-off' assignments 'on time, to budget, to specification', relying on careful planning and the firm control of critical resources such as resources, cost, productivity, schedule, risk and quality” (p. 85). With this in mind the senior leadership group of MEOCs must initially establish the necessary systems to attract and train and retain its lower level operational managers and personnel in a manner that promotes collaboration through the delivery of tangible results. Organizational leaders need to take a specific approach in how they operate to motivate and engage their staff. As Weese (1996) indicates, “leaders who are more visible, who personally communicate strategies to followers, who deal with subordinates and decisions on a more personal basis, and, consequently, are perceived by followers to personally impact program success” (p. 202).

Flowing from the need of a MEOC to establish its senior leadership, the concept of organizational culture quickly comes to the forefront, especially in relation to the recruitment, training, and retention of staff. Hatch and Shultz (1997) in their review between organizational culture image and identity indicate “The symbolic construction of corporate identity is communicated to organizational members by top management, but is interpreted and enacted by organizational members based on the cultural patterns of the organization, work experiences and social influence from external relations with the environment” (p. 358). When applying this construct to the recruitment of workers in a MEOC setting, it is evident that enabling a strong internal organizational culture will result in attracting individuals that are engaged and wanting to be part of a term project. Further still, Parent and Foreman (2007) in their concluding remarks around establishing the correct image for MEOC state that “part of this process, as indicated by the findings, is hiring individuals with the right reputation, as well as the right skills, to make the event successful...” (p. 34). After having the MSE taken away because of poor senior management competency, the MEOC for the 2005 FINA World Aquatics Championships was finally able to succeed by branding itself in a desirable manner when the proper senior management team was put in place. The findings of Parent and Séguin (2008) surmise how a MEOC should be branded with the following, “Our findings do in fact support this suggestion of a unique skill set for organizing committee leaders, a skill set requiring a certain degree of professionalism, and including political/networking, business/management, and sport/event skills” (p. 538).

### ***Personnel Motivations***

MSEs are typically high profile events that not only attract much media attention, but also draw interest from individuals who are either looking for paid or volunteer experiences. Though MSEs often possess a certain lure of being involved with a high profile event that workers may gravitate to, senior MEOC administrators must look past this as the sole retention factor for potential workers and volunteers. It is critical that MEOC administrators develop the proper recruitment and training programs for their managers. Kim, Kim, and Odio (2010), when considering the management of volunteers write “While event organizers place substantial effort toward recruiting volunteers for events, the event organizers overlook the importance of effective volunteer management” (p. 133). Given the responsibilities and workload requirements of MEOC personnel time management also becomes a critical skill set that managers must possess. Kim et al. continue their thought that “most event managers are overwhelmed with the workload during a short period of the event, managing short-term event volunteers may not be the first priority of the managers” (p. 133).

Volunteering at a multi-sport event can provide a great deal of commitment and personal investment for individuals who want to be included as part of a MEOC. Contributing to a major event and feeling part of a larger team can provide individuals with a great sense of accomplishment and identity. According to Stebbins (2001), “it should come as no surprise to learn that serious leisure generates uncommon rewards for its participants. Of these rewards, several are basically personal, among them filling one’s human potential, expressing one’s skills and knowledge, having cherished experiences, and developing a valued identity.” (p. 54).

MEOCs may be able to greatly benefit from identifying volunteers and workers who demonstrate a deep commitment and ability to contribute to the success of staging a major event.

Xing and Chalip (2012), follow up their 2009 research on the Beijing Organizing Committee for the 2008 Summer Olympics (BOCOG) experience of workers to build on the resounding need of ensuring a supportive work environment throughout the organization's life-cycle, "building strong work teams within an event organization can foster worker morale, but systems also need to be put into place to nurture a sense of shared purpose and responsibility across groups" (p. 394). The creation of a strong team concept, especially in the ADP functional department area of a MEOC will contribute towards both job satisfaction and retention. In contrast, from the field of event management, Carlsen, Andersson, Ali-Knight, Jaeger, and Taylor (2010) write that "imitation rather than innovation is common in festivals, with very few understanding the core values of their festival that could provide the unique selling point and basis for differentiation and competitive advantage" (p. 129). As ADP managers within a MEOC design their recruitment and training programs, it remains important to incorporate the unique selling point of being involved with a MSE to help motivate their personnel.

Comparatively when considering the design of training programs for personnel, the notion of legacy must be considered. Properly developing the skill sets required within workforce populations of a MEOC will contribute to legacy initiatives, such as hosting future sporting events, by providing job competency bases for future MSEs:

For countries to maximize the skill legacy of mega-events and to enhance the range of long-term employment prospects for local people, it is essential that skills training or apprenticeship type programs are put in place so that there is a real transfer of skills from

external experts to local workers. (Jago, Dwyer, Lipman, van Lill, and Vorster, 2010, pp. 227)

A workforce is at its very strongest when fully engaged and able to contribute to the success of a MSE. Given the time commitments of both the MEOC and its local workers from the host community, job competency is further regarded as a key to successfully contributing towards the outcomes of a MSE. Allen and Shaw in their 2009 findings regarding volunteer motivations show a key finding was in the area of fostering competence through creating a motivational climate as, “This fostered feelings of competence and developed self-confidence. Participants in this study felt good about themselves and their involvement when they had the opportunity to do something well and feel as though they were contributing” (p. 85). The need for MEOC professionals extends far beyond the host community borders. For example, when considering ADP requirements, this specialization within an existing community may not be readily available if it does not have a history of specialization in this area. International recruitment is often the solution for filling the gap when a certain professionalized field may be lacking.

Adereck, Gard-McGehee, Lee, and Clemmons (2012) identify the following motivations for tourists to travel and participate as volunteers (both personal and interpersonal) at MSEs, “including giving back to the host community, participating in community development, increased awareness of the host, self-development, altruism, cultural understanding, cultural/historical restoration, medical assistance, educational support, ecological conservation, and avoiding irreversible environmental changes” (p. 131). Conversely, Kim et al. (2010) in their research indicate that “mega-sporting events are able to attract an overabundance of volunteers using unconventional motivations such as simply 'being there'” (p. 128). Fairley,

Kellett, and Green (2007) show in their conclusions regarding international volunteering that “There is some overlap between the motives of the Olympic volunteers and those of volunteer tourists. The Olympic volunteers were motivated, at least in part, by altruistic feelings” (p. 52). Certain volunteers may choose to participate for only the operational portion of a MSE, whereas paid staff will be needed for the entire duration of the games to both plan and oversee the execution of the event.

Conversely, there is a demonstrated need to ensure that MEOCs invest the proper time and effort required to develop proper training and recruitment programs. The lack of such programs may contribute to a limited legacy for a community. Mandatory standardized training must be instituted for programming requirements, especially for ADP given the associated technical responsibilities.

This lack of mandatory training may reflect the simplicity of most volunteer project tasks, or it might also suggest avoidance of potentially costly practices by the organisations. This could have a serious implication in relation to the impact of the projects, but also the motivation of the volunteers in terms of how seriously they are taking their participation (Tomazos and Cooper, 2012, p. 416).

ADP job positions within a MEOC must be taken very seriously due to the potential consequences an athlete may face if procedures in collecting anti-doping samples are not properly followed. It is with this in mind that a detailed understanding of ADP program requirements must be understood by MEOC senior management leaders when designing the overall conceptual nature of its operational nature.

### ***Volunteer Training Programs***

The use of training programs for workforce and volunteers is a critical component of any MEOCs operational planning. The success of the event may hinge on how well workers have been trained according to their responsibilities. The existing literature in DCO training for a MSE is limited, however WADA does provide specific guidelines for DCO training. Version 3 of the 2014 WADA Sample Collection Personnel Guidelines ([https://wada-main-prod.s3.amazonaws.com/resources/files/wada\\_guidelines\\_sample\\_collection\\_personnel\\_2014\\_v1.0\\_en.pdf](https://wada-main-prod.s3.amazonaws.com/resources/files/wada_guidelines_sample_collection_personnel_2014_v1.0_en.pdf)) provides a clear understanding of the requirements are for training DCOs,

Training in comprehensive theory ensures DCOs have a complete understanding of Sample collection requirements and Sample Collection Authority organizational functions. Sample Collection Authorities deliver the theoretical training component of DCO training through in-person training sessions, or through a combination of in-person training sessions and other means, e.g. e-learning, DVDs, other multimedia or print educational materials. (p. 7)

Developing a clear understanding of the DCO role and responsibilities for MEOC workers is critical to ensure that the WADA rules are properly being followed. A deviation from the WADA rules may call into jeopardy the success of the anti-doping program regarding its quality.

The recruitment and training of DCOs requires some consideration when assessing potential candidates. Recruitment may occur from similar professions that require similar skill sets of their workers. The Canadian Centre for Ethics in Sport (CCES), Canada's national anti-doping program lists potential criteria for its DCO recruitment as "the candidate has strong

communication skills and is able to work with and provide direction in a cooperative environment. Candidates are often retired or have full-time employment in the field of physiotherapy, athletic therapy, physical education, law enforcement, healthcare and medical services and education.” (<http://cces.ca/sample-collection-personnel>). Similarly, the United Kingdom Anti-Doping Agency demonstrates its on-going commitment to developing proper training programs for DCOs, “all Doping Control Personnel are trained in accordance with the WADA International Standard for Testing and Investigations and the UK Doping Control Handbook. DCOs, BCOs and Chaperones are all required to undergo continual assessment.” (<http://www.ukad.org.uk/what-we-do/doping-control>). Training for DCOs needs to be on-going with regular assessments in order to ensure proper preparation for a MSE.

An important part to volunteer training relates to keeping individuals engaged and preventing burnout through the Games period. If this is not properly planned for, it can result in volunteer attrition. When discussing the training program for the Atlanta Olympics, Filipczak (1996) indicates that, “the courses stress team-building and managing relationships with team members, but essentially they amount to ‘Good Volunteer Management 101’” (p. 46). As with many volunteer training programs for MSEs, there are standard approaches that can be used when training volunteers that will contribute to the overall success of the Games.

### ***Anti-Doping Program Development***

Throughout time, the notion of fair and clean sport has been an Olympic ideal for many. Kamber (2011) remarks, that even at the first Olympic Games doping was present, “Even at that time, the use of performance-enhancing means breached the competition rules and was punished

with public denunciation, penalties and disqualification. The substances used were special mushrooms, alcoholic beverages, bull's blood and bull's testicles." (p. 3). At the time of the first Olympic Games, there was no formal standardized approach to fighting doping in sport. Standardization of anti-doping procedures did not become formalized until 1999 with the establishment of WADA. Kamber continues in his writing to detail the responsibility of this newly founded organization: "consideration should be given in particular to expanding out-of-competition testing, coordinating research, promoting preventive and educational actions and harmonizing scientific and technical standards and procedures for analysis and equipment" (p. 5). MEOCs now became required to establish a standardized set of procedural requirements that would be administered from Games to Games. Given the lack of capacity or detailed understanding of what these WADA rules required, a clear linkage can be made to the training programs of MEOCs from Games to Games. In Canada, a primary example of the need for standardized anti-doping protocols is detailed in the Dubin Report, following the positive doping test of Ben Johnson at the 1988 Seoul Summer Olympics ("Dubin Report Issued" 2015).

When considering the rigors of a worldwide standardization to doping control, the effects on catching cheaters must be handled in a consistent manner. As part of the process to ensuring a consistent application of WADA rules, there exists a clear linkage to how the design of ADP programs and how personnel are trained. This is especially prevalent at MSEs where multiple IFs come together under the single organizational banner of the Mega Event Organization (for example: International Olympic Committee, etc.). As an example of the training requirements put on ADP personnel, blood testing, also known as the athlete biological passport testing, where blood samples are collected and profile created of an athlete over their entire career carry very

detailed procedures. Saugy and Robinson (2011) show that this type of anti-doping testing carries significant implications, “Recently, some abnormal blood passport profiles have been accepted as constituting an anti-doping rule violation by the Court of Arbitration for Sport, representing a success paramount for the further use of this approach.” (p. 2).

Comparatively Thevis, Geyer, Sigmund, and Schänzer (2011) in their research on anti-doping testing protocols relating to sample manipulation show that the anti-doping process is not without error, “Nevertheless, manipulation has obviously occurred and doping control laboratories in particular are urged to follow-up suspicious results that might indicate attempted or successful tampering.” (p. 31). Manipulation of anti-doping samples by cheating athletes may manifest itself in numerous ways. The role of ADP personnel is to detect these instances, and ensure that any anti-doping sample that is collected from an athlete has been done in a fashion that ensures its identity, security, and integrity. As the field of anti-doping has continued to progress, traditional testing methods are now starting to be combined with newer forensic methods as noted with the following documented instance:

Other forensic areas such as fingerprints might also provide some crucial information which, combined with traditional detection methods, would enforce evidence by linking a person with an object like a prohibited drug bottle or packaging. The use of criminal analysis could also allow identification of networks of organised doping and highlight athletes who might be connected with this activity. This will necessarily go through awareness and education of the Doping Control Officer. (Jan, Marclay, Schmutz, Smith, Lacoste, Castella, and Mangin, 2011, pp. 113)

Given the importance of proper training of ADP SCP, the MEOC must establish a timeline for training in the lead up to the Games that provides for opportunity to implement new procedures as they become formalized in the anti-doping field. It is not sufficient to have ADP personnel arrive on the eve prior to a MSE and not encounter any issues with sample collection if previous training has never occurred.

As part of the global fight against doping, WADA and others are starting to partner with the pharmaceutical industry to move beyond traditional testing methods. This indicates an evolution in the role of ADP personnel to also be mindful of potential changes within the realm of anti-doping. The concluding remarks of Rabin (2011) support this notion, “The fight against doping in sport is progressively departing from the traditional adverse analytical finding-based approach into adopting more and more a forensic approach aimed at sanctioning doped athletes on the basis of cumulative elements of information and probabilistic mathematical models.” (p. 13). There currently exists a gap in the literature on how to design anti-doping programs with the application of new and more science based information than ever before. Given this emerging trend, it also demonstrates the need for SCP personnel to be trained with proficiency around anti-doping procedures. The application of these evolving training requirements demonstrate the need for MEOCs to ensure that their SCP personnel recruitment programs include a level of commitment due to the training requirements involved.

### ***Gene Doping – A Future Call***

Athletes who continue to make the choice to cheat by doping are continually searching for new methods and substances. As part of this unsettling trend, SCP must also be aggressive in their approach to training and education. For years, gene doping has been identified as the next

possible method for athletes to dope. De Rose (2008) in his concluding remarks on the future of doping calls for a needed investment, “If we invest enough grants in research, and WADA is supporting many projects now, I believe that there will be detection when this kind of doping reaches athletes.” (p. 128). Comparatively, Foschi (2006) supports this same notion, “There has been substantial research into detection methods for gene transfer, and gene doping is already listed as a prohibited method on WADA’s 2006 Prohibited List” (p. 474). Rogue doctors and scientists who chose to support cheating athletes with gene doping methodologies, WADA and others must be as aggressive on the other side of the fight to ensure that the correct training methods for SCP are integrated, especially at the elite levels of sport. MEOCs can play a vital role in this process through ensuring that their training programs account for these necessities.

The extent to which gene doping may already be present in sport is unknown. However, what is currently understood from an SCP training perspective, is that training programs must be designed to stand up to the rigor of legal proceedings. Straubel (2002), with reference to the results management handling of positive doping cases indicates that “Outcomes have often been unpredictable because of a lack of precedent, a lack of detailed procedural rules and because of the tension between the NGBs and IFs” (p. 552). Given Straubel’s conclusions, MEOCs must ensure that their training program design is robust and can withstand the challenge from athletes and their lawyers when a positive case arises. For gene doping to be considered a relatively new phenomenon in sport, MEOCs must ensure that they consult with anti-doping organizations such as WADA in order to identify how they can best develop their training programs and also ensure that they SCP who are recruited are of the right caliber.

## Chapter 3

### Methodology

#### *Phenomenology*

This research project seeks to gain the insight and perceptions of those participating at the 2015 Pan American Games as DCOs. It is with this in mind that a phenomenological methodology has been selected by the researcher to conduct this research project. Silverman (1980) indicates that, “Phenomenology for Heidegger, is a way or path which (1) like logging roads (*Holzwege*), (2) like a clearing (*Lichtung*) that provides light in otherwise dark forest, and (3) like a country path (*Feldweg*) takes thinking along a route traveled only by those who know it” (p. 709). As this research project seeks to understand the perceptions of DCOs on their training and participation at the 2015 Pan American Games, a methodology that can be used to gain the insight needed from individuals that are familiar to the role of being a DCO.

Given that there has been very little previous research published on the design of training programs for DCOs at MSEs, the primary researcher sought to look at similar professional fields that may be able to provide similar approaches to design the research project. The medical and anti-doping fields have many similarities in terms of health promotion, confidentiality, and technical training requirements. Within a MEOC, the anti-doping and medical functional areas have historically been under the responsibility of the CMO, as was the case at the 2015 Pan American Games. In his 2014 lecture on anti-doping programme and physicians, Petrou, indicates that “through their unique relation with the athletes, physicians have an important role in discouraging doping in sport. For physicians, as with athletes, it is important to closely follow

the changes on anti-doping regulations” (p. 1). It is with this in mind that as a whole the realm of medical research is much more established than that of anti-doping. However, due to their similarities both realms are closely linked within the major games field in terms of protocols and procedures.

In her concluding remarks regarding the use of phenomenology in nursing, Flood (2010) writes that “phenomenology has gained respect as a valid approach to the study of nursing as a science of caring and offers a means by which human phenomena or the lived experiences of nurses and patients can be studied and understood” (p. 13). Similarly, this research project sought to understand the lived experiences of DCOs regarding their journey of taking part in the 2015 Pan American Games. It was through the use of a phenomenological approach that the researcher hoped to develop a better understanding of those lived experiences in collecting and analyzing responses of DCOs through the use of an on-line survey. Given the limited existing body of literature on DCO perceptions of training programs for major games, this research project may also contribute towards the development of future research projects that include a methodology based on phenomenology.

### ***Survey Instrument***

There are many different benefits of conducting survey research that may be applicable to this research project. Schleyer and Forrest (2000) indicate that these advantages include “easy access, instant distribution, and reduced costs. In addition, the Internet allows questionnaires and surveys to reach a worldwide population with minimum cost and time.” (p. 416). The distribution of an on-line survey was selected as the most appropriate format to collect data relating to this research project. With research participants only together for a short period of

time during the Games, an on-line survey was thought to provide the most convenient approach to collecting data from respondents. Given the busy nature of research participants at the Games, an on-line survey provided the most convenient format to collect responses as it could be done at a time and location convenient to the respondent. It was hypothesized that research participants felt that it was worthwhile to invest their time in this project given their on-going commitment to be involved in ADP program development as demonstrated through the extensive collective experience of this group having participated at multiple major sporting competitions.

### ***Participants***

Participants were limited to those taking part in the Anti-Doping Program for the 2015 Pan American Games. The experience of this population base as it relates to ADP programming represented a wide range. Some personnel had little or no prior experience to participating as part of an ADP program within a MEOC, while other participants came with previous experience at multiple MSEs. There were approximately 72 individuals that this research study targeted. The 72 individuals came from the role of Doping Control Officer (DCO). The DCO position required the most complex training program within the TO2015 ADP program which included technical procedures, ability to deal with sensitive information and both stressful and high pressure situations. Many of the DCOs that participated at the TO2015 Games also participated at the Vancouver 2010 Games, London 2012 Games, and Sochi 2014 Games. This collective experience represented a significant dedication to being involved in ADP programs with some individuals possessing over twenty years of experience. However, due to attrition over time, approximately 15 new DCOs were recruited and trained prior to TO2015. The training program for DCOs to be certified to collect anti-doping samples at a MSE may take up to two years from

initial the initial recruitment period. During this time DCOs were exposed to a variety of training formats including, e-learning, in-person workshops, and attendance at smaller scale sporting competitions in order to build capacity and experience.

Personnel recruited to the ADP program were both male and female. All personnel had to be the age of majority, fluent in English and/or French, and have no direct conflict with the athlete (personal relationship) or sport (administrator, coach, or other) in order to meet the minimum requirements of the TO2015 ADP program. It is estimated that approximately 60% of DCOs in the TO2015 ADP program did reside in Canada. The remaining 40% of DCOs were recruited internationally from countries that have existing quality anti-doping programs in place. International recruitment was focused on Pan American countries. Research participants were tracked by a unique numbering system to ensure anonymity as part of the research project.

In the lead up to the Games, all DCOs were required to go through varying training programs dependent on their job position. Throughout the 2015 Pan American Games, all DCOs were fully operational within the ADP program and worked at a variety of different venues throughout the Games theatre. The variance of work location provided DCOs with the opportunity to work in different settings and use their anti-doping training.

As a required training component of the 2015 Pan American Games Anti-Doping Program, all DCOs were scheduled to go through 'just-in-time training'. The training courses took place in Toronto and were scheduled into four main categories. The first training session took place on July 2, 2015 and was scheduled for Canadian DCOs who would be in charge of the day to day operations on venue. The second training session was scheduled on July 3, 2015 for Canadian DCOs that would be acting in supporting roles to the more senior Canadian DCOs.

The third training session was scheduled on July 4, 2015 for international DCOs who had been recruited to volunteer at the 2015 Pan American Games in order to supplement the number of Canadian DCOs. The fourth training session took place on July 14, 2015 and was designed specifically for a group of international Peruvian DCOs that were responsible for the planning of the 2019 Pan American Games in Lima. The fourth session was specifically designed to act as a legacy for the up-coming 2019 Lima Pan American Games in order to contribute to building capacity.

At the end of each of the four training sessions, a verbal invitation was provided to all DCOs to voluntarily participate in the research project. The verbal invitation was in the form of a written script which was read to all potential participants and provided details on the research project as required by the University of Ottawa's Office of Research Ethics and Integrity. Details of the script included voluntary participation as participating in the research project was not a training requirement, anonymity, contact information the University of Ottawa, and estimated time to complete survey as detailed in Appendix C. A link to the on-line survey was projected when the verbal invitation was provided in order that potential participants could access the survey at a future time.

In addition to the verbal invitation to participate in the on-line survey an email was sent following each session to DCOs that had just participated in the just-in-time training session. The email included an electronic version of Power Point presentation version of the training materials used at the just-in-time training session. The link to the on-line survey associated with the research project was included as a slide within the Power Point presentation. The researcher had access to the TO2015 Anti-Doping Team and it was agreed that as part of the training

material provided to DCOs a link to the on-line survey would be included.

At the mid-point of the Games, the researcher sent a reminder email to all prospective research participants in order to indicate that the on-line survey would be available until Friday, July 31, 2015. This reminder email provided both an up-date to potential participants of the survey end-date and also contributed to increasing the overall response rate of the on-line survey. Of the 35 total participants that responded to the survey, 22 participants took part in the on-line survey between the dates July 18 – 31, 2015. Crawford, Couper, and Lamias (2001) indicate that in their research, “Reminders were found to immediately affect the speed of return for completed responses” (p. 153). In using an on-line survey to collect responses from participants a key advantage may be the ease of communication with all participants ensuring reminders and consistent messaging are given.

### ***Data Collection Method***

As a requirement of the University of Ottawa’s Office of Research Ethics and Integrity a letter of approval was required in order include the on-line survey link with the Power Point presentation that was distributed to potential research participants. As the CCES was responsible for creating and developing anti-doping material for the training session, the researcher made this request to the CCES Director, Canadian Anti-Doping Program and Business Development. The letter of approval was granted on May, 25, 2015. Attached as Appendix E is the letter of approval from the CCES.

Several on-line survey hosting sites were evaluated in order to determine what would be most suitable for this research project. Both SurveyMonkey.com and FluidSurveys.com were evaluated as potential service providers to host the on-line survey for this research project. After

careful consideration of a number of factors including cost, survey design, and user friendliness, the researcher decided on using SurveyMonkey.com as the service provider. A two month membership was purchased from the dates June 5 – August 4, 2015 in order to provide enough time for the development and layout of the survey and data collection from July 2 – 31, 2015. In order to ensure anonymity for all research participants no personal identifiers such as name or email contact information were collected as part of the survey.

Ten survey questions were developed in order contribute to collecting the richest data possible for answering the research questions outlined in the “Research Questions” section of this paper. All ten survey questions can be found in Appendix C.

A consideration to collect data from this research population was the requirements of participating at the 2015 Pan American Games as schedules of DCOs would often fluctuate or shift thus not creating ideal conditions for in-person interviews. As the survey was available on-line and accessible at the convenience of the research participant it could be completed at their convenience. Participants had access to Wi-Fi at their accommodations and at official TO2015 venues in order to complete the survey on-line. For those that did not bring a wireless device capable of accessing the internet, computers were made available at the TO2015 venues in order to access the survey. Additionally the survey was extended beyond the July 26, 2015 Closing Ceremonies date to July 31, 2015 in order for participants to complete the survey on their home computer if they chose.

### ***Data Collection Procedure***

Prior to finalizing the on-line survey questions for the research project, the researcher and thesis advisor met to review which TO2015 Anti-Doping Program positions would be most

appropriate to include. Three primary job positions were created for the TO2015 Anti-Doping Program: Chaperone, Doping Control Officer, and Blood Collection Officer (BCO). The Chaperone position included approximately 200 participants with a limited training program that was developed and implemented four months prior to the start of the Games. The BCO position included 25 participants and also had a limited training program that was implemented approximately four months prior to the Games. The DCO position included 72 participants and included the most intensive training program commencing approximately two years prior to the Games. In consultation between the researcher and thesis advisor it was determined that it would be most suitable to limit the on-line survey to the DCO position given the nature of the research project and research questions.

In order to support DCOs in their training to be prepared for the 2015 Pan American Games, a detailed training plan was created two years in advance. The training plan included a variety of milestones and requirements for DCOs to complete or otherwise meet in order to participate at the Games. The training program included in-person workshops, e-learning courses, and self-directed study culminating with pre-Games orientation which took place in Toronto. In order to provide context to the training requirements of DCOs Appendix A provides a detailed description of how the data collection process was implemented. It was agreed by the thesis committee and researcher that data collection should occur immediately following the final pre-Games orientation sessions in Toronto.

The data collection procedure began with the researcher creating a schedule for when potential participants could be provide the verbal invitation to take part in the on-line survey. As the researcher was able to access the TO2015 Anti-Doping Team, arrival dates of all DCOs in

Toronto were known in advance and planned to coordinate with training sessions. A total of 72 DCOs participated at the 2015 Pan American Games. Due to time commitments and availability not all DCOs could be present in Toronto for the entire Games period. In certain instances DCOs were only able to commit to a limited portion of time in Toronto which impacted their ability to attend group training sessions. In these instances alternate arrangements were made with DCOs in order to provide their required training. When examining the training schedule registration for DCOs a total of 59 DCOs were identified as participating in the training sessions scheduled for July 2, 3, 4, and 14. The researcher determined that the verbal invitation would be limited to these DCOs. Unfortunately in certain instances other DCOs arrived on different dates when the researcher was unable to meet with them which resulted in their exclusion from being invited to participate in the research project due to the requirements of the University of Ottawa's Office of Research Ethics and Integrity.

The training sessions of July 2 – 4, 2015 took place at the George Brown College campus located at 51 Dockside Drive in Toronto. Training sessions from July 2 – 4 were scheduled to take place from 19:00 – 22:00. The training session of July 14, 2015 took place at the TO2015 offices located at 50 Dockside Drive. The training session on July 14, 2015 took place from approximately 13:00 – 16:00. In all instances, the physical location and layout of the training sessions provided all technological requirements in order to deliver the training sessions in Power Point format and also provide the internet link to the on-line survey. Arrangements were made in advance with the TO2015 Anti-Doping Team for the verbal invitation to be read at the end of the training session. A written script with the verbal invitation was prepared in advance of the training sessions outlining the main elements of the research project. At the end of each

training session the same verbal script was read to all potential research participants in order to ensure the same messaging occurred in every instance. The exact wording of the verbal invitation can be found included as Appendix C.

Following the verbal invitation for perspective participants to take part in the on-line survey, the internet link was made available to all DCOs as part of the training material package. After the training sessions DCOs had an electronic record of the survey link that they could access at a time most convenient to them. DCOs were also able to choose the location where they felt most comfortable accessing the survey. Given that the survey was hosted on the internet it was felt by the researcher that this would provide the most convenience to participants while also contributing to ensuring anonymity when responding to the questions as completing the survey could be done with complete privacy.

When accessing the on-line survey, participants were first required to review a consent form prior to accessing the survey questions. It was at this point that participants either accepted or rejected their participation in the on-line survey and participating in the research project. The consent form was a requirement of the University of Ottawa's Office of Research Ethics and Integrity in order for respondents to participate in the survey. The full text of the consent form is found included in Appendix D. Depending on the detail of information provided by respondents, it was estimated that the survey should not take longer than twenty minutes to complete. Research participants were provided with the contact information for the researcher and thesis advisor. There were not any instances where either the researcher or thesis advisor were contacted by research participants with enquiries regarding to the on-line survey.

Throughout the Games period the researcher monitored the on-line response rate of the

survey. Email notifications were provided by SurveyMonkey.com every time new survey responses were received. As there was a low response rate during the first half of the Games period with only fifteen responses being received prior to July 18, 2015, the researcher and thesis advisor discussed potential ways to increase the survey response rate. On the recommendation of the thesis advisor a reminder email was sent to all invited participants on July 18, 2015 that the survey would be available until Friday, July 31, 2015. This reminder email resulted in a total of 35 DCOs participating in the research project.

### ***Data Analysis***

Following the end of the survey being posted on SurveyMonkey.com on July 31, 2015 the results were downloaded to the researcher's personal computer. The results were downloaded in Excel which provided a manageable format from which to organize. All results were stored with a password protected format on the researcher's computer which ensured that no data breaches occurred.

In consultation between the researcher and thesis advisor, several qualitative data analysis options were considered. Initially the researcher had considered using NVivo for the qualitative data analysis, but upon examining the small size of the total dataset it was decided that it would be more time efficient and cost effective for the researcher to conduct his own data analysis on the collected results.

As an initial step to conducting the data analysis, all participant responses were reviewed as an initial quality check to ensure proper downloading of the results had occurred. In one instance the researcher noticed that his initial 'test response' had been included with the results which was then removed. With the removal of the 'test response' a total of 35 responses were

received from DCOs to the on-line survey. Chapter 4 includes the detailed analysis of all results relating to the on-line survey.

Once data set had been finalized for analysis each respondent was given a unique number between 1 and 35 in order to reference direct quotations when examining the results. The primary researcher then conducted an initial review of all the responses in order to develop an initial understanding of all the data that had been collected. Once the initial review of data had been completed, the primary researcher used inductive coding to identify common themes within the raw data. As described by Thomas (2006), “the primary purpose of the inductive approach is to allow research findings to emerge from the frequent, dominant, or significant themes inherent in raw data, without the restraints imposed by structured methodologies” (p. 238). Four main themes were identified including DCO motivations for participating at the 2015 Pan American Games, DCO training program design, engagement and support of DCOs, and potential barriers to participation. Through the use of inductive coding the four themes that were identified by the primary researcher were deemed to be the most relevant to the results.

Each of the four themes were then analyzed in greater detail by the primary researcher. The responses of each participant were coded to identify common words and responses with the same meaning used for each theme. When preparing the results for each theme, quotations were selected that provided contrasting views of the participants in order to provide the most complete analysis of the data possible. In some instances when the vast participants responded to a particular survey question in the same manner, a contrasting view was still included in the results in order to provide the clearest data sampling possible.

The survey also included several questions relating to quantitative measures, for example,

the number of years that volunteers had been a DCO. Though this study was qualitative in nature, several quantitative questions were included as it was deemed important to collect additional information that provided context to the research population being studied. Once all the data was collected from the quantitative questions of the survey (question number 1 and 5), the results were put into table format and included as part of the results in chapter 4. Overall, the quantitative data collected helps to provide a greater understanding of the previous DCO experience of volunteers at the 2015 Pan American Games.

### ***Ethical Considerations***

In order to collect data relating to this research project, the researcher was first responsible to obtain approval from the University of Ottawa Office of Research Ethics and Integrity. The process to receive ethics approval was very lengthy in nature with the Office of Research Ethics and Integrity requiring several minor changes prior to approval being granted. Requested changes related primarily to the researchers relationship with potential participants and how the verbal invitation would be provided. The researcher provided additional information on the relationship with potential participants and the process for which the verbal invitation would be provided. The ethics application was submitted by the researcher on April 9, 2015 and approval was granted by the Office of Research Ethics and Integrity on June 27, 2015. A copy of the certificate of approval is attached as Appendix F.

Participants were provided the requirements for free and informed consent on two separate occasions prior to being able to access the on-line survey. The first occasion was a verbal invitation that was read to potential participants following their training session. The second occasion was a consent form at the beginning of the on-line survey that potential

participants had to either accept or reject prior to proceeding with the questionnaire. There was no compensation provided to individuals that participated in the on-line survey.

The researcher ensured confidentiality at all times for those participants that took part in the on-line survey. The on-line survey was designed in a manner where no personal information was requested or recorded as part of the data collection process. The survey included several open ended questions where participants could provide any information they wished. The researcher reviewed all open-ended responses to ensure that no identifying information was provided.

There were no personal benefits experienced by the researcher in collecting data relating to this research project other than the potential opportunity of contributing to the existing body of knowledge in this area of research. Research participants were not exposed to any potential risks as the on-line survey was completely anonymous and could be completed at a time most convenient to them. The majority of questions designed for this survey were exploratory in nature which also contributed to minimizing any potential risk to participants. All participants were given the opportunity to receive a copy of the results by contacting the researcher by email. No requests for results have been submitted by research participants to date. For the purposes of reporting results in this research paper a unique identifier was assigned by the primary researcher to each respondent.

## Chapter 4

### Results

#### *Demographics*

There were a total of 72 DCOs that participated at the 2015 Pan American Games. A total of 42 Canadian DCOs participated at the Games representing 61% of total DCOs. The remaining 28 DCOs came from the international community. The international portion represented the balance of 39% of the DCO workforce. The DCO workforce present in Toronto provided a global representation with DCOs coming from the America's region and also including the United Kingdom and Japan. The inclusion of Canadian and international DCOs as potential research participants to the on-line survey contributed to providing a global perspective of the data collected. However, as the survey was completely anonymous the researcher was unable to determine the percentage split of Canadian and international DCOs that participated in the on-line survey.

In order to protect the validity of the data collected as part of this research project and remove potential conflicts of interest several rejection criteria were included. The first rejection criteria that was used included limiting the survey to DCOs. Given the scope of the research project BCOs and Chaperones were limited from participating in the on-line survey. The second rejection criteria that was used included removing any DCOs from taking part in the on-line survey that were either full time TO2015 or CCES staff. As both organizations played an important role in developing the materials for the TO2015 ADP program it was deemed important to remove this potential conflict. The final rejection criteria that was used involved

not including any DCOs that arrived after the group training sessions on July 2 – 4, 2015. As a requirement of the University of Ottawa's Office of Research Ethics and Integrity all potential participants of the study were required to receive a verbal invitation. Due to the geographical size of the Games and daily scheduled work commitments of the primary researcher and potential research participants it was extremely difficult to arrange for individual meetings.

Both male and female DCOs were recruited for the 2015 Pan American Games. Due to the requirement of testing both male and female athletes, a total of 38 male DCOs (53%) participated while 34 female DCOs (47%) participated. The split of male DCOs included 23 Canadian (60%) and 15 international (40%). The split of female DCOs included 21 Canadian (62%) and 13 international (38%). The split of Canadian DCOs and international DCOs combined with the gender split between male and female represents a very balanced population base for the purposes of this research project which may contribute to providing balance in the demographics of this research project.

Of the 72 DCOs participating a total of 59 DCOs were invited to participate in the on-line survey. A total of 35 DCOs responded to the on-line survey with 34 DCOs consenting to participate and one DCO declining to participate as per the terms and conditions of the consent form. It is unknown to the researcher why only one respondent declined to participate in the on-line survey. In order to contribute to building a better demographic profile of research participants, the first question of the on-line survey asked how many years respondents had been a DCO. Table 1 represents a summary of all responses including 33 DCOs providing a response, 1 DCO not responding to the question, and 1 DCO declining to participate in the survey.

### ***Summary of Emerging Themes***

After an initial review of the data collected from DCOs that had taken part in the on-line survey, there appear to be four emerging areas of focus that were identified in relation to answering the research questions associated with this research project. Each of these four different areas of focus provide insight into the role of anti-doping associated within a major games setting. The responses from survey questions have been applied across the four themes to contribute in providing a complete picture of the data collected.

#### ***Theme 1: DCO Motivations for Participating at the 2015 Pan American Games***

From the responses received as to what motivates DCOs to participate at the 2015 Pan American Games, there appear to be a wide range of motivations. For many DCOs participating at the 2015 Pan American Games, they come with a wealth of experience which may demonstrate an on-going enjoyment in participating with anti-doping in a major games setting. There were some DCOs present at the Games that had limited or no previous major games experience that were seeking to develop their skills in this area. For example participant 26 indicated that the 2015 Pan American Games were “My first chance at a major event” while participant 28 indicated that “I enjoyed my experience at the 2010 Vancouver Olympics and was excited to be part of another major games event”. Similarly, participant 10 demonstrated a continuing commitment to working in a major games setting “More major games experience, the opportunity to be a part of TO2015 and play a part in a successful games for T.O., and my ongoing commitment to drug free sport.”.

DCOs also demonstrated a variety of internal and external motivations for participating at

the 2015 Pan American Games. Participant 3 validated this by indicating that “Experience major games as international DCO and exchange views and ideas. Enjoy meeting fellow DCOs” showing a sense of enjoying the exchange of different ideas and meeting other individuals. Similarly participant 19 identified several different motivations as the following, “Enjoy challenging myself in new roles. Feel that anti-doping adds value to the games and that I can contribute to that. I enjoy sport and meeting new people as well”. Being part of a large scale event was also identified as a motivator for DCOs, as respondents 16 and 34 similarly indicated the following, “to be a part of a big event” and “love to be part of sports events”.

DCO respondents also demonstrated a commitment to the values associated with anti-doping including clean sport, creating a level playing field, and contributing to the health of the athlete. Participant 11 indicated that they were motivated by “Helping to promote fair play and clean sport. Representing the CCES and a chance be a part of the PanAm games has been a great experience and it all provides me with the experience to become a better DCO”. Participant 18 also indicated that “I enjoy interacting with the athletes and believe strongly in clean sport”. Looking more broadly beyond the 2015 Pan American Games participant 2 indicated that “I love the positive energy of a major games which I want to see clean of drugs. I also love the opportunity of travelling the world and making new friends with the same mindset globally”. In terms of athlete health, participant 17 indicated the importance of contributing towards the health of the competitors, “The health of the athletes and every athlete should compete drug free to have a equal chance at success”.

DCOs also demonstrated an interest in experiencing different situations associated with working in the field of anti-doping. Participant 9 indicated that “There is a challenge to move

from sport to sport and also among venues, no matter how good or 'similar' the venues may be, doping control stations, officials, athletes and coaches, are different, also the infrastructure. There is always something new.” A similar view was also demonstrated by participant 28 indicating that “I love being able to be a part of something this big. I was never able to participate at this level as an athlete, so being involved in this way for me is awesome. I get a bit of a rush by being here. I love the ability to see all the other DCO's, meet the other volunteers, experience some of what the host city has to offer on my down time”.

In some instances DCOs appeared to give more self centered responses to their motivations for participating at the 2015 Pan American Games. Participant 4 demonstrated a desire to gain more experience for future Games by capitalizing on their experience in Toronto indicating that “I will participate in the next Olympic Games, probably as a Station Manager”. Participant 14 demonstrated an internal motivation of “to help make oneself better in life” as a primary motivator. Participant 20 demonstrated a long term commitment to sport transitioning from an athlete to DCO, “being involved with and giving back to a sport community. I was an athlete at one point too.”

### ***Theme 2: DCO Training Program Design***

When considering the development of training program for DCOs participating at the 2015 Pan American Games, the results of the on-line survey provided some emerging themes of the most effective types of training. Preferences ranged between respondents referring to the different types of training methods preferred. The main training methods developed for the 2015 Pan American Games anti-doping program were in-person workshops, self-directed study, and e-learning. Respondents also provided insight into what was viewed as an effective training

method and what could have worked better.

In terms of identifying the most preferred method for DCO training, the table 2, 3, and 4 provide a summary of the responses ranked by research participants as being the most effective training method. Of the 34 respondents that answered question #5 of the on-line survey, 23 ranked in-person workshops (table 2) as being the most preferred training method, followed by 6 respondents indicating e-learning (table 3) as their preferred method, and 5 respondents indicating self-directed study (table 4) as most preferred. Given the technical nature associated with anti-doping and the requirement to strictly follow procedures this may be an indication that DCOs prefer training in a hands-on group centered environment.

Overall, of the responses received, the vast majority (27) of DCOs who responded to the survey indicated that they felt the training program developed for the 2015 Pan American Games provided the required training material to ensure they were properly prepared for the Games (on-line survey question #3). Even though the majority of respondents indicated they received the required training several DCOs (3) provided some critiques that may be useful for future major games training programs. Participant 32 indicated that “The e learning was excellent, and kept you engaged, unfortunately the venue specific training wasn't so good, there were too many discrepancies in some of the information being given”. Similarly participant 10 indicated that:

Yes I do. However, I think the overall DCO cadre would've benefited from some "hands on" training/review of blood collection procedures, which would've made my job a little easier. In addition, I like self-directed study and took time to prepare, review and practice, but it would seem I am in the minority as most DCOs I've discussed with did nothing to prepare in advance.

Conversely, several DCOs indicated that they did not receive proper training to participate at the 2015 Pan American Games. For example participant 5 indicated that “No we did not come prepared enough”, while participant 6 indicated that “Training work Shops prior to the July 2nd arrival date would prepared us better and would lesson the amount of information to absorb in the 3 day training which was given”. In one instance participant 11 indicated that the training was sufficient, but in reality there exist a multitude of variables that need to be considered and can’t necessarily be trained ahead of time, “Yes. But the reality is that each venue and sport are different and it is not until you work at the venue are you able to really understand the flow”.

When DCOs were asked to consider the level of support they received as part of their training to resolve questions or barriers (question #7), the majority of responses received (24) indicated yes. In five instances DCOs indicated that they did not feel they were supported, and four additional responses indicated a combination of yes and no. For example participant 5 indicated that “No we had to improvise mots everything day”, while participant 6 indicated that “Yes, support was always made available”. Still conversely, participant 8 indicated that “yes & no. Simple, direct missions are easy. Understanding PASOs role & how that may affect a DCO or Station Managers interaction & guidelines would have been nice. Language barriers at times. Crazy/amazing FCC support @ the expense of staff”. As there appears to be a range of perceptions amongst DCOs in terms of the level of support provided, future Organizing Committees may wish to consider ways to most effectively support DCOs in their training.

When considering one of the research questions of this study in how Mega Event Organizing Committees better develop anti-doping training programs for Sample Collection

Personnel the results of the survey also contributed developing knowledge in the areas of both in-person and e-learning training. Specifically some DCOs provided responses that may indicate other areas for further consideration by MEOCs. Participant 26 indicated that “in most ways yes, however, in the venue category I think it would have been good to see all the venues you have me and others stationed at, we only got familiar with the venue we started at”. For the purposes of the 2015 Pan American Games, DCOs were initially provided with venue training at the venue to which they were primarily scheduled. If the same DCO was scheduled at another venue then they would only receive training once they arrived for their first shift at the new venue.

Comparatively, participant 24 indicated that “No. The TO2015volunter portal was not DCO specific. More training from CCES would have helped. A print-out with a small job description was not enough”. This may raise a larger question for MEOCs to consider with their overall design of training program requirements that each functional department of the organization is required to develop. The consideration of developing additional role specific training resources may be something that MEOCs wish to consider for future Games.

### ***Theme 3: Engagement and Support of DCOs***

The training process for an individual to become a DCO for the 2015 Pan American Games required a large amount of dedication and time in order to receive full certification. The TO2015 Anti-Doping team also invested a large amount of time and financial resources in training individuals that had been recruited to participate at the Games. It is important for MEOCs to consider the best possible way of engaging and supporting DCOs in the lead up to the start of a major games in order to ensure that the investment in the individual is realized through their participation at Games time. If a MEOC were to lose the DCOs it had recruited in the lead

up to the Games, this may pose a significant impact on the quality of the anti-doping program due to the amount of time that it takes to properly train and provide certification of DCOs in a major games setting.

When considering the responses collected from the on-line survey, communication emerged as a central theme to question #4 regarding motivation and engagement of DCOs. For example participant 11 indicated that “Training and communication has been excellent. The conference in Toronto was a great start to kicking off the Pan Am games”. Similarly, participant 19 indicated that “The mix of on line, face to face and telecom/web conference was good. It was timely. The manuals were prepped in good time”. However, participant 24 indicated that at Games time “we created our own motivation as I have not seen or heard from my West Zone Rep since we set up 10 days ago”. Given the time required during Games to deliver a strong anti-doping program, future MEOCs may want to consider a communication plan that goes through the entire Games period to ensure that workers remain engaged and are provided with a strong sense of team building. It may also be important for MEOCs to consider their international volunteers and the most effective manner in which to engage with them prior to arriving at the Games. For example, participant 32 indicated that “being from overseas the regular emails and the training site has been done very well”.

An additional theme from the data collected referring to question #4 emerged as DCOs appreciated being engaged in the logistical planning relating to the operations of the anti-doping program. Participant 8 responded by saying that “Specific assignment/mission related information in advance. Knowing the team for each day in advance”. Similarly, participant 17 indicated that “Delegates more responsibilities and includes us in decision making” as being

motivators to being included in operational aspects of the anti-doping program. However, some DCOs may not require a lot of motivation from the MEOC as participant 23 indicated that “nothing i was already motivated”.

The responses provided by DCOs to question #8 relating to their perceptions of what motivated other DCOs to maintain their certification provided a range themes. Comradery appeared to be one theme that several DCOs indicated as being important to them. Participant 19 indicated that “I think we feel we add value and enjoy and are proud to be representing our country. The comradeship is also valued. It is really nice to work with other Canadian DCOs as well and get to know them better as well”. Similarly, another response of “Comraderaire. Certainly not the accommodations or food” was identified by participant 8. It is important to note that for the 2015 Pan American Games, DCOs spent much of their working and leisure time together as they were geographically assigned to venues and accommodations. Future MEOCs may want to consider strategies for developing a strong sense of teamwork with DCOs teams at future major games due to the anticipated amount of time that DCOs may be required to spend with each other.

The internal motivation of contributing to clean sport was another theme that DCOs responded to as something they believed was a motivator for their fellow DCOs to participate at the 2015 Pan American Games. Participant 25 indicated that “helping to keep sports clean and fair and help athletes compete healthy”, while participant 35 indicated that “a desire to contribute to sport in an ongoing way. I see this role as something I can do for many years, into my retirement”. Conversely, some DCOs perceived the motivation of their colleagues to be external and associated with remuneration. Participant 20 indicated that “some like to give back to sport,

others it is about money and/or power”. Conversely participant 21 indicated that “If you don't believe in the program, you won't be motivate. We aren't in it for the money”. It should be noted that for the 2015 Pan American Games all DCOs received a per diem to cover meals and incidental expenses. In addition, Canadian DCOs received a daily wage, whereas international DCOs were not paid a daily wage from the MEOC, but may have received remuneration from their home organization.

In some instances DCOs were not able to indicate what they thought the motivations of other DCOs were or did not provide a response to question #8. For example, participant 28 wrote that “I think they are too many and varied. I don't know if I can pick one”, while participant 31 said that they “do not know”.

#### ***Theme 4: Potential Barriers to Participation***

The forth theme that emerged from responses collected as part of the on-line survey related to potential barriers that may exist to participating at the 2015 Pan American Games as a DCO. This theme emerged with a variety of responses from DCOs. Out of 33 DCOs that responded to question #6, 19 responses indicated that there were no barriers encountered. The remaining 14 responses to question #6 provided a variety of barriers that DCOs indicated that were encountered as part of participating at the 2015 Pan American Games.

It appears that obtaining time away from work was indicated by several DCOs as a barrier to participating at the Games. For example, participant 11 indicated that “the only real issue is my own personal job and getting the time off to commit to the Pan Am games”.

Similarly, participant 28 indicated that:

not related to anything the anti-doping team could have assisted with, but getting the time

away from work, while I was assured at the time of application to the games would not be a problem, turned out to be a bit of an issue - entirely my employers lack of preparation in spite of ample notice - rather than anything under the organizing committees prevue

For future major games, MEOCs may want to establish minimum time commitments as early as possible in order for DCOs to be able to commit to the event. For the purposes of the 2015 Pan American Games, the TO2015 Anti-Doping required DCOs to be available from July 2 – 26, 2015. However, there was also some flexibility built into the minimum amount of time required for DCOs to be accepted as part of the TO2015 Ant-Doping program in order to meet operational requirements relating to headcount.

Some DCOs also indicated management skills of others could be perceived as a challenge. Participant 20 wrote that “People who are challenging being put in positions of responsibility or leadership. They often lack the skills or ability needed in order to be put in a role of responsibility over other DCOs”. Similarly, participant 16 indicated that “the none experience of certain person that take in a power trip”. Participant 6 indicated that “lack of knowledge of the sports assigned. In the future a tutorial on how each sport runs and how finishing positions are awarded”. To this end, MEOCs may wish to consider ways of ensuring that they not only have properly identified the most appropriate personnel in manager positions that possess good people skills, but also come with the required technical knowledge relating to anti-doping in order to be most effective.

When considering potential barriers to participating at the 2015 Pan American Games, compared to whether DCOs viewed themselves as retaining their certification for two years following the Games (question #10), DCOs responded in a very positive manner. Of the 33

responses received to question #10, only participant 17 responded that they would not maintain their certification as a DCO, “I feel I gave a number of years to the cause of drug free sports but I think it's time to move on. This is most likely my last major games”. All other respondents affirmed that they would continue on as a DCO for at least two years. Such as participant 19 who indicated that, “Absolutely. It fits perfectly with retirement plans when those come in to play with my full time job”. Similarly, participant 2 demonstrated a high level of commitment to being a DCO by indicating that “yes I intend to pursue my DCO career and attend as many major games as possible”. It appears that even though there may be perceived barriers by DCOs in certain instances, DCOs as a whole are very committed to this type of work. In order to engage this portion of the major games workforce, MEOCs may want to consider strategies for recruiting DCOs with multiple games experience as opposed to attempting to train and recruit an entire new group of DCOs.

### ***Synthesis of Results***

The responses from DCOs that participated in the on-line survey provide a contribution to developing greater knowledge relating to the purpose of this study to create knowledge and legacy in the area of ADP program development for future MEOCs. Four main themes emerged as the results of the on-line survey were analyzed. Theme one provided indication that volunteers want to participate as DCOs during a MSE for a variety of intrinsic reasons, including wanting to give back to sport, being involved in a major event, and the chance to meet others. Theme two provided additional context that most DCOs viewed workshops as the most effective training method. When considering from theme one the intrinsic motivations of being involved in a major event and wanting to meet others, it appears that DCOs derive much pleasure from

volunteering in a social context and find it rewarding. Theme three provides context that DCOs are a social group of volunteers and appreciate on-going communication throughout the training and operational phases of the TO2015 ADP program. DCOs are a very engaged group of volunteers that are willing to contribute large amounts of time dedicated to training, preparation, and execution of the TO2015 ADP program. Theme four extends this notion that for the most part DCOs did not perceive any personal barriers to being part of the TO2015 ADP program. The barriers that were reported by DCOs related primarily to the time commitment required which can be viewed as an external barrier beyond their control, such as being able to obtain enough vacation time in order to volunteer for a month during the 2015 Pan American Games.

## Chapter 5

### Discussion

#### *Summary of Results*

The intention of this research project was to be exploratory in nature and provide a contribution to the growing body of peer reviewed literature in the realm of major games anti-doping program design. This research project was also designed to obtain perceptions of DCOs relating to the 2015 Pan American Games. Though the results are limited to these Games, they may be useful to future MEOCs. The following bullet points do not represent an exhaustive summary of the data collected through this research project, but rather provide a summary of the most relevant and major findings.

The findings associated with this research project are solely related to the 2015 Pan American Games. Participants of this research project provided an acceptable demographic of the DCO population that participated at the 2015 Pan American Games. Participants were both male and female, including both Canadian and international representation. A total of 59 DCOs were invited to participate in the on-line survey with a total of 34 DCOs consenting to participate representing a response rate of 58%. The data collected as part of this research project is considered to be very rich given the timing in which it was collected during the TO2015 Games period. Collecting data at the moment of the Games provided the best possible opportunity for participants to give an immediate impressions to the on-line survey. Further, the primary researcher was unable to find any previously published data on DCOs relating to major games training programs which adds to the uniqueness of the data set that was collected. Table 1 demonstrates that 42% of participants indicated having 10 years or greater of DCO experience.

This high level of DCO experience may contribute to providing additional perspective to the other questions included in the on-line survey.

There was a varied quality of responses to the on-line survey that was completed by DCOs. Responses provided by DCOs to participate and be part of the 2015 Pan American Games represented a range of motivations including wanting to be part of a major event, giving back to sport, meeting others, and being challenged. The varied range of responses provided by DCOs indicate that there seems to be a wide range of motivations to participate at the TO2015 Games.

The majority of DCO participants indicated that their preferred method of training was in-person workshops, followed by on-line learning, and then self-directed study. In most instances DCOs felt they received adequate training for their role, however, some respondents indicated that training provided for the 2015 Pan American Games did not meet their expectations. Some unique situations were identified by participants that training could not be provided for in advance of the Games occurring. Overall, DCOs indicated that elements of each method of training provided a contribution to their training for the TO2015 ADP program.

DCOs that participated in the on-line survey indicated a very high level of engagement with participating at the 2015 Pan American Games. Communication and involvement in ADP program design were central to the DCO experience in contributing to feelings of motivation and engagement with the 2015 Pan American Games. DCOs that participated at the 2015 Pan American Games appear to be highly motivated and engaged with participating at the Games.

According to the results, 19 out of 33 (58%) DCOs indicated that there were not any perceived barriers to attending the Games. DCOs acknowledged in some instances that the time

commitment to participate at the Games was a barrier. In some instances the time commitment related to not being able to get enough time off from the DCO's employer.

DCO participants appear to be very dedicated to working in anti-doping. 97% of respondents indicated that they planned to remain certified as a DCO for at least two years following the 2015 Pan American Games. This commitment to remaining certified as a DCO beyond the Games represents an important piece for legacy. Not only will DCOs be available to support future anti-doping initiatives within the Greater Toronto Area, but they may also be a volunteer pool that future MEOCs can use in volunteer recruitment.

### ***Discussion***

The results of this research project seem to provide an indication that within the realm of anti-doping involvement of volunteers is important and should be considered by the MEOC when designing training programs. As DCOs have not been previously interviewed in a major games setting, the findings of this study are significant and should be considered by future MEOCs. The conclusions of Chanavat and Ferrand (2010) support the results of this study by indicating that, "event organisers should ensure volunteers are aware of the role they have to play in the event system and that they realise their importance to the success of the event" (p. 263). Communication was identified by DCO participants of this research project as central to contributing to their sense of involvement with being part of the Games. Future MEOCs should consider different approaches to engage their volunteers in order to contribute to creating a sense of their importance to the event. The results of this research project clearly indicate that DCOs value on-going communication with the MEOC in the development and execution of the ADP program. This should not be lost with future MEOCs as communication with volunteers makes a

significant contribution to the overall quality of the ADP program.

The results of the paper written by Skirstad and Hanstad (2013) support the findings of this study regarding the need for retaining competent DCOs that have previous experience at sport events. As many DCOs respondents to this survey indicated their extensive experience through number of years volunteering in anti-doping it remains important to ensure that future MEOCs recruit and train volunteers, but that they can also expect new volunteers to anti-doping show interest. Specifically, Skirstad and Hanstad conclude that

Sport events are attractive to modern reflexive volunteers, but the organizer cannot work with 'one-off volunteers' alone; they are also dependent on a core group of people who have participated in similar events before, and/or who are familiar with sport through sport team affiliations. We argue that sporting events must be viewed as a meeting place between a traditional and a late modern volunteer culture. (p. 328)

These findings demonstrate that there is benefit for both the new and experienced volunteer. However, the researcher of this study wishes to stress the importance that MEOCs should consider with the use of experienced volunteers. It is in part through the engagement of these volunteers on an on-going basis that may contribute to a volunteer workforce that is both engaged and proactive in ensuring the delivery of quality anti-doping programs at future sporting events.

As demonstrated in the results section of this study, DCO respondents in general, had dedicated a significant number of years to volunteering in anti-doping. Given that in general DCOs who participated at the 2015 Pan American Games wanted to be involved and play an active role in the delivery of the anti-doping program, future MEOCs should also consider the

legacy potential of the DCO volunteer group and the potential to support future sport events in the same geographic area. As part of the legacy for DCOs who participated at the 2015 Pan American Games, a great deal of experience was gained in the delivery of anti-doping programs that may be used in the future at other events. In their concluding remarks regarding future volunteer motivations, Aisbett, Randle, and Kappelides (2015) are quoted as saying that “the majority of studies that examine the outcomes of sport events are either focused on mega-events, or concentrate on the economic and tourism impacts of said events, rather than the sustained benefits and legacies specific to the volunteer” (p. 15). Further to this call by Aisbett et al. for more peer reviewed literature focusing on legacies specific to the volunteer, the results of this research project provide a starting point for more studies to be conducted on DCO engagement and the potential created to enhance anti-doping efforts at future sporting events.

Conversely, Benson, Dickson, Terwiel, and Blackman (2014) argue in their concluding remarks that

there is a ‘legacy gap’ between the rhetoric and the reality in achieving a volunteering legacy, and that a key aspect of this is the planning, design and execution of training in terms of a best practice model for delivering both the Games and development (legacy) opportunities (p. 224)

The results from this research paper indicate 97% of DCOs that participated at the 2015 Pan American Games intended to maintain their certification for at least two years following the end of the games. Though the responses to this research project are limited to the 2015 Pan American Games, in this instance, it seems that DCOs are very deliberate in continuing to participate in anti-doping at future events. The majority of DCOs who responded to the on-line

survey indicated that when a barrier existed to participate at the 2015 Pan American Games, it was primarily related to time, such as the ability to commit for a one month period to the Games or being able to get enough time off work. This may be attributed to the amount of time, training, and commitment to certification process relating to being certified as a DCO.

Allen and Bartle (2014) conclude that,

Understanding volunteer motivation provides valuable insight for volunteer managers that can inform their work with volunteers. For example, providing volunteers with tasks that they find interesting and enjoyable is likely to lead to greater intrinsic motivation and engagement which are desirable outcomes for managers (p. 45)

The results of this research project further support the findings of Allen and Bartle relating to engaging DCOs in the planning of the MEOCs anti-doping program development. Managers within a MEOC that are responsible the anti-doping program should attempt to identify the appropriate position and tasks within the DCO hierarchy to provide an opportunity for volunteers to remain motivated and engaged. The results of this study may indicate that the more time spent on engaging with volunteers and understanding their motivations, the greater the potential for volunteers that will be retained through to the end of the sporting event. Considering the amount of both time and financial resources required to train DCOs, anti-doping managers should attempt to protect their investment in volunteer recruitment, training, and engagement as central to the success of the anti-doping program.

When considering intrinsic motivations for DCOs wanting to volunteer at the 2015 Pan American Games, the results of the on-line survey indicated that many seemed to value being part of sport either by wanting to give back or to contribute to keeping sport clean from doping.

Hallmann and Harms (2012) examined motivations of volunteers that participated at equestrian and handball events and concluded that

The study showed that intrinsic factors were more important for volunteer motivation than extrinsic motivation. Expression of values seemed to be the most important motivator for both events tested while extrinsic rewards failed to have an impact in both models (p. 286)

It appears that from the work of Hallmann and Harms and the results of this study that there may exist a high level of intrinsic motivation for volunteers that participate in sport events. From an anti-doping perspective, MEOCs may benefit from attempting to understand as best as possible the intrinsic motivations of DCOs. It should be noted that both the equestrian and handball events were part of the 2015 Pan American Games in Toronto. Additional future research in anti-doping in this area will help to equip MEOCs of up-coming events on the primary internal drivers and motivations of DCOs.

This research project was designed to be exploratory in nature, as the literature review demonstrated that the anti-doping field has an emerging body of peer reviewed literature when considering the knowledge of athletes and athlete support personnel (ASP) regarding the WADC rules. Mazanov, Backhouse, Connor, Hemphill, and Quirk (2014) examine the requirement of ASP to understand the WADC in order to protect athletes from potential anti-doping rule violations (ADRV). Mazanov et al. conclude that

A core finding is that the lack of content knowledge around WADC rules among sports physicians and coaches also occurs across other ASP roles, leaving them vulnerable to

committing unintentional ADRV. Without a better knowledge of the WADC, this also leaves athletes relying upon their advice vulnerable to ADRV (p. 854)

The findings of Mazanov et al. support the results of this research project by demonstrating that a need exists to ensure that anti-doping information is properly understood in order prevent potential ADRVs. The results of this study show that through their responses DCOs want to make a difference in sport and support the rights of the athlete and fair play. These objectives may be achieved through the design of anti-doping training programs designed for major games that are consistent with the most up-to-date version of the WADC.

For the purposes of this study a single data collection method was used in the form of an on-line survey and was singular in the disciplinary approach. Given the reality of participating as a volunteer or worker at the 2015 Pan American Games, the daily work schedules made it very difficult to implement more than a single data collection method. Shift lengths often ended up being longer than originally anticipated, and the ability to travel between competition venues and accommodations was logistically challenging due to transport constraints. However, it was felt that using an on-line survey in this instance was the most appropriate method as participants could access the survey at their convenience. The peer reviewed literature in major sport events, however, provides some indication of the benefits of using an interdisciplinary approach to conduct research. Weed (2011) in his remarks indicates,

A comprehensive and holistic approach to assessing the impacts of major sports events requires a move towards interdisciplinarity and, as such, these methodological challenges should be embraced and welcomed as part of a move to an approach that can be integrative rather than simply comparative. In short, an approach focusing on human

impact should seek to reach an integrated assessment of the impact of the full range of outcomes from major sports events on people's lives, rather than merely comparing the impacts across different dimensions (p. 2)

The use of an interdisciplinary team to design future research studies on DCOs in a major games setting may provide additional context and richer data. Future research in these areas may contribute to a greater body of peer reviewed literature in this area and provide richer data for future MEOCs to consider when designing their DCO training programs combined with engaging volunteers.

It is critical to note the importance of the data collection timing relating to this DCO population. The data was collected during the only period of time when most DCOs were together during the Games period. The richness of the data collected was significant as it was collected during the operational phase of the Games, when DCOs were active in their roles. This provided the opportunity for DCOs to respond to the on-line survey in a way to collecting their responses at a time when they were living the experience and fully immersed in the operational aspect of executing the ADP program for the 2015 Pan American Games.

Houlihan's 2002 call for anti-doping to be both cost effective while achieving compliance with the World Anti-Doping Code supports the findings of this study. Houlihan remarks that, "the Code needs to achieve compliance, but it also needs to be cost-effective and above all else reduce the use of doping in sport. Compliance is never perfect: even the treaties that have strong support are never fully effective" (p. 206). When considering the design of anti-doping programs for a major games, the training of all DCOs must be done in a manner that is compliant with WADC protocols. All training resources for the TO2015 Games were developed consistent

with WADC protocols thus helping to ensure that all DCOs participating at the Games received a consistent level of training. Houlihan's comments regarding budget are also consistent with this study as MEOCs operate with a finite budget, and the managers of the anti-doping program need to ensure that financial resources are used in the most appropriate manner to meet training program requirements.

### ***Limitations***

The limitations identified by the researcher in this section are meant to provide additional context to the various challenges that were encountered during this research project. The limitations discussed in this section provide additional context to how the research study was designed and possible opportunities for future research in this area. Each limitation should be considered on an individual basis along with the associated benefits and challenges for future research studies.

One important limitation of this study included a single data collection point with the use of an on-line survey following the final training session for DCOs. Having a singular data collection point may have limited the ability to track DCO perceptions through the entire training phase that lasted for a period of two years. Had there been additional data collection points identified, additional information could have been collected on the various training formats that were used including in-person workshops, e-learning, and self-directed study. Collecting DCO perceptions at different stages in the future may contribute to richer data collection in the future.

Another limitation to this study related to the method in which data was collected. The single instrument for collected data relating to this study was an on-line survey. Though the on-line survey provided the benefit to DCOs of ensuring anonymity and ease of completing the

survey at a time most convenient to them, the use of additional data collection methods may have further benefited this study. For example, had the researcher kept field notes, or incorporated in-person interviews this type of data would have contributed to a richer data set for interpretation at the time of analysis. In some instances DCO participants did not answer all of the on-line survey questions. It may have been beneficial for answers to be provided to all survey questions, however at the same time this may have limited the number of responses received if respondents became discouraged with answering questions and then deciding not to complete the survey.

Further to the limitations mentioned above, the on-line survey for this study was designed with a total of ten questions. Of the ten questions included eight were open ended response questions. It was noted by the researcher that in some instances respondents only responded with a 'yes' while other respondents provided much more detail and context in their responses. In some cases this limited the quality of data that was collected relating to the on-line survey questions. Had the on-line survey questions been written in a different manner this may have prompted participants to provide additional information when responding.

Timelines represented an additional limitation to this study. Due to the design of the training program for the TO2015 Games, multiple training sessions were required in Toronto in order to provide DCOs with their final training and evaluations. From a data collection perspective these multiple training sessions required that the researcher meet with each group DCOs on separate occasions in order to provide the verbal invitation that was required by the University of Ottawa's Office of Research Ethics and Integrity in order to be a research participant. Had only one verbal invitation to all participants been conducted, this would have ensured that all potential participants received the exact same messaging from the researcher.

Access to the research population also represented a limitation to this study at times. In some instances, it was not possible to provide a verbal invitation to all DCOs participating at the 2015 Pan American Games. Some of these reasons included, DCO travel dates, potential conflict of interest with certain DCO participants that were full time employees of the CCES, scheduling conflicts with the researcher not being able to access all DCOs present at the 2015 Pan American Games. Had all DCOs been invited to participate in the study this may have resulted in enriching the data with additional responses and a higher response rate. However, the researcher and thesis advisor were still very satisfied with the response rate that was received through the number of DCOs that were invited to participate in this study.

The schedule of the Games acted as a limitation in certain instances to this research project. Due to the demands of the anti-doping program for the 2015 Pan American Games, DCOs were required to work very long hours, with few days scheduled off. Even though the on-line survey was available for the entire Games period, there may have been competing factors that prevented DCOs from participating. It was noted that after a reminder email was sent to all DCOs that had been given the verbal invitation, the response rate did increase. Additionally, at the recommendation of the thesis advisor, the on-line survey was extended past the end of the Games in order for those who were travelling home an opportunity to respond following the Games.

Another limitation was the lack of peer reviewed literature. When exploring the peer reviewed literature for examples of how to design a study related to DCOs in a major games setting, it became apparent of the gap in this realm. As there were not any previous peer reviewed studies identified that had been conducted on DCO perceptions and training programs,

the researcher and thesis advisor were required to develop the study from scratch. As such, this study was designed to be exploratory in nature, in order to help develop the body of peer reviewed literature. Had there been studies that had previously been conducted, this may have resulted in less time required by the researcher on study design and evaluation. However, as this study was exploratory in nature the researcher was satisfied with its design and the results that were obtained through the on-line survey.

An additional limitation of the research study may have been limiting the on-line survey questions to English. For the purposes of the 2015 Pan American Games anti-doping program English was used as the operational language for the DCO training workshops. All DCOs that participated at the Games were required to have a strong command and ability to communicate in English. As such, the on-line survey was only made available in English. It was noted through the period of the 2015 Pan American Games that in some instances the level of English capacity was lower than originally anticipated. Some DCOs communicated in French, Spanish, or Portuguese as their first language. Since the survey was completely anonymous, it is not known if publishing the on-line survey limited the response rate of participants. It should be noted that in several instances, DCOs responded to the on-line survey in French. As the researcher is able to comprehend French, all results were taken into consideration when data analysis took place.

Finally a limitation to this research study involves collecting data at a singular event. For the purposes of this study, data collection was limited to the 2015 Pan American Games. Had this study been expanded to include other major games, a broader cross section of the DCO population may have been accessible in order to generate a greater understanding of DCO motivations and perceptions to training program design. However, due to the timing and

feasibility requirements of accessing DCOs from other major games and incorporating them into this study, it was agreed by the researcher and thesis advisor that data collection would be limited to the 2015 Pan American Games.

### ***Recommendations***

The recommendations outlined in this section have been identified so that they may be used in future research studies. Each recommendation should be evaluated by future researchers on an individual basis in order to assess their applicability to future research studies. The following recommendations also provide insight to what the researcher discovered during the course of this research project. These recommendations should each be evaluated individually as possible solutions for future research studies.

As a first recommendation, future research has been identified as a primary consideration. As this study was designed to be exploratory in nature, the literature review found in chapter 2 and results of the on-line survey provide an indication that there exists an opportunity for future research studies in this realm. There does not appear to be an abundance of peer reviewed literature that has been written on DCO training programs and engagement at MSEs. Similar calls for more peer reviewed literature also exist within the anti-doping realm. For instance, Hanstad, Skille, and Loland (2010) conclude that “the analysis here suggests that the ability and willingness of representatives of national anti-doping organizations and their relationship with WADA are main topics to be followed up with new research and perspectives” (p. 426). The results of this study are limited to the 2015 Pan American Games. Additional research conducted at future MSEs will provide additional opportunity to develop a greater understanding of the design of DCO training programs and strategies for engagement. As this study is limited

to the 2015 Pan American Games, its findings should be compared with those of future events in order to develop a broader understanding of how MEOCs should operate. It is anticipated that this study will make a contribution to the existing body of peer reviewed literature and provide researchers with a basis on which to design future studies.

It is recommended for future research studies that both qualitative and quantitative research methods be used to collect data on DCO perceptions and motivations related to major games training programs. As this study was designed to be exploratory in nature, the data collected was not meant to be exhaustive in its evaluation of DCO training programs and motivations for engagement. It is recommended that for future research projects, additional data collection methods be considered including in-depth interviews. One such proposed method would be for the researcher to collect field notes at DCO training sessions that would include observations of the DCOs experiencing the phenomenon associated with the training.

It is recommended for future research studies that multiple data collection points be considered. A MEOC is staffed for a number of years in advance of the major games occurring. Depending on the staffing plan that is created for anti-doping managers within a MEOC, there exists the opportunity to engage DCOs at multiple points leading up to the execution of the major games. Having multiple data points may provide MEOCs with the additional benefit of engaging with DCOs and developing stronger relationships in the lead up to the event in order to minimize potential volunteer attrition.

Though the response rate of 58% for this study was deemed to be satisfactory by the primary researcher and thesis advisor, it is recommended that future researchers explore possible ways to maximize response rates when using an on-line survey to collect data. Some potential

strategies include developing a plan where the entire DCO population of a major games would be accessed without requiring a verbal invitation, or possibly providing a small honorarium to research participants to acknowledge their time and contribution to the research project.

It is recommended that future researchers target large MSEs as potential opportunities to collect data on DCOs. As the 2015 Pan American Games were regional in nature (limited to the 41 countries of the America's), future research studies should be conducted on events with a global scale, such as the Olympics. Through the potential inclusion of DCOs from around the world, this may provide future research with a richer data set for researchers to analyze. Providing a truly representative global DCO population will contribute to expanding the existing limited body of peer reviewed literature.

In order to best prepare new DCOs for participating at a MSE, it is recommended that prior to the MSE, DCOs be provided with the opportunity to train at other lower level events such as a national championship or test event that the MEOC hosts. A major challenge with the TO2015 Games was no advance opportunity to provide DCOs with job specific training. In most instances with international DCOs that volunteered for the TO2015 Games, the MEOC was never able to assess and evaluate DCOs in advance of the Games. This lack of prior DCO evaluation by the MEOC required adjusting training programs during the operational phase of the Games which provided an additional level of complexity. An improvement for future MSEs would be to have the opportunity for the MEOC to evaluate all DCOs prior to the event and plan in advance for any additional training that may be required at Games time.

It is recommended that future MEOCs consider developing a mentoring program whereby more experienced DCOs can work with those less experienced. Given that the results

from the on-line survey suggest that DCOs prefer training in a group setting and also appreciate on-going communication, a mentorship program during the Games period may provide additional training opportunities that will contribute to the overall improvement of the DCO volunteer workforce. MEOCs could create a system whereby after an initial training and assessment training session, DCOs could be paired up based on need to contribute to on-going training throughout the Games period.

Finally, it is recommended that future researchers give consideration to designing data collection tools in multiple languages. Future studies that examine international DCOs may want to consider making available their survey instrument in multiple languages in order to increase the potential for increased response rates. This may provide a contribution towards an increased response rate with DCOs and also ensure that the comprehension of survey questions is the same for those that may not speak English as their first language.

## ***Conclusion***

It is evident from the limited amount of peer reviewed literature in the area of MSEs that an opportunity exists to researchers to make significant contributions to understanding DCO motivations and perceptions for the development of future major games anti-doping programs. Anti-doping remains a very technical field and carries a requirement for DCO training that is very technical in nature. Anti-doping procedures continue to evolve as WADA and other experts continue to make contributions in order to catch doping athletes and create a level playing field for those athletes that demand fair play. It is also evident that training programs for DCOs at a major games need to be well thought out and designed in a manner that provides the best possible opportunity for learning.

The results from this study provide an indication that DCOs appreciate the variety of training methods that were developed for the 2015 Pan American Games. In-person workshop training was identified as the most desired form of training by DCOs who participated in this study. As such, it is important for future MEOCs to note this and identify both budget and opportunities for training in advance of the MSE. The preparation of DCOs in advance of the Games may contribute to a greater overall success of the anti-doping program.

DCOs indicated through this study that they appreciated being engaged by the MEOC in the lead up to the Games. Engagement strategies were primarily through on-going communication and providing DCOs with the opportunity to give input into the design of the anti-doping program for the 2015 Pan American Games. It is believed that this on-going communication by the MEOC contributed to the reduction of volunteer attrition, as the vast majority of DCOs that had been recruited for the 2015 Pan American Games were retained through its duration.

DCOs have demonstrated a very strong commitment to the field of anti-doping. This was demonstrated through the experience levels that were identified by DCOs in their responses to this study. Targeting and recruiting experienced DCOs by the Toronto 2015 Organizing Committee resulted in an anti-doping program that was of very high quality and should be modelled in the future. As noted by WADA in their Independent Observer Report for the 2015 Pan American Games ([https://wada-main-prod.s3.amazonaws.com/resources/files/wada\\_io\\_report\\_2015\\_pan\\_am\\_games\\_en.pdf](https://wada-main-prod.s3.amazonaws.com/resources/files/wada_io_report_2015_pan_am_games_en.pdf)) regarding the use of National Anti-Doping Agencies (NADO) to provide DCOs,

CCES with their experience of Major Events (e.g. Vancouver 2010) were able to provide

dedicated resources, including; experienced anti-doping staff, experienced sample collection personnel and access to the anti-doping network in the region in light of CCES's existing contracts with a number of International Federations participating in the Games. It is recommended that PASO continue to utilize the expertise and local knowledge of NADOs for future editions of the Games.

Future MEOC anti-doping programs should be encouraged to recruit experienced DCOs from NADOs in order to support the efforts of anti-doping program design that brings with it a wealth of experienced DCOs and managers.

It is evident that the main barriers relating to DCOs participating at the TO2015 Pan American Games related to time commitments. The amount of time required to participate at the 2015 Pan American Games was substantial commitment for DCOs to agree to. This time commitment did show itself as a factor to DCO performance at the Games. MEOCs may want to consider approaches where the time commitment required to implement an effective anti-doping program be managed in a manner that limits the potential barrier to DCOs in participating at future MSEs. With the results of this study also indicating that DCO participants at the 2015 Pan American Games wanted to maintain their certification for at least two years, other MEOCs, most immediately, Rio 2016 Olympics and Paralympics may benefit from the use of experienced DCOs that were present at the 2015 Pan American Games in Toronto.

Given the current lack of research conducted in ADP program development for MSEs, this research will help to fill the current gap that exists within peer reviewed literature. With most MSEs occurring on a four year cycle, there is plenty of opportunity to implement the findings from this research project into future MEOCs as they begin to plan. It is also important

to consider future changes in the field of anti-doping as new testing methods, such as gene doping become identified and understood as threats to clean sport. MEOCs have a great opportunity to contribute to the legacies of future Games by building upon the advancements and successes in SCP training as identified in this research project.

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**Tables**

Table 1

*Number of Years as a DCO*

Measure	Number of Respondents
1 Year or Less	5
2 – 5 Years	7
6 – 10 Years	7
10 – 15 Years	6
15+ Years	8
No Response	1
Total	34

Table 2

*In-Person Workshops*

Ranking	Number of Respondents
1 <sup>st</sup> Preferred Training Method	23
2 <sup>nd</sup> Preferred Training Method	6
3 <sup>rd</sup> Preferred Training Method	4
No Response	1
Total	34

Table 3

*E-Learning*

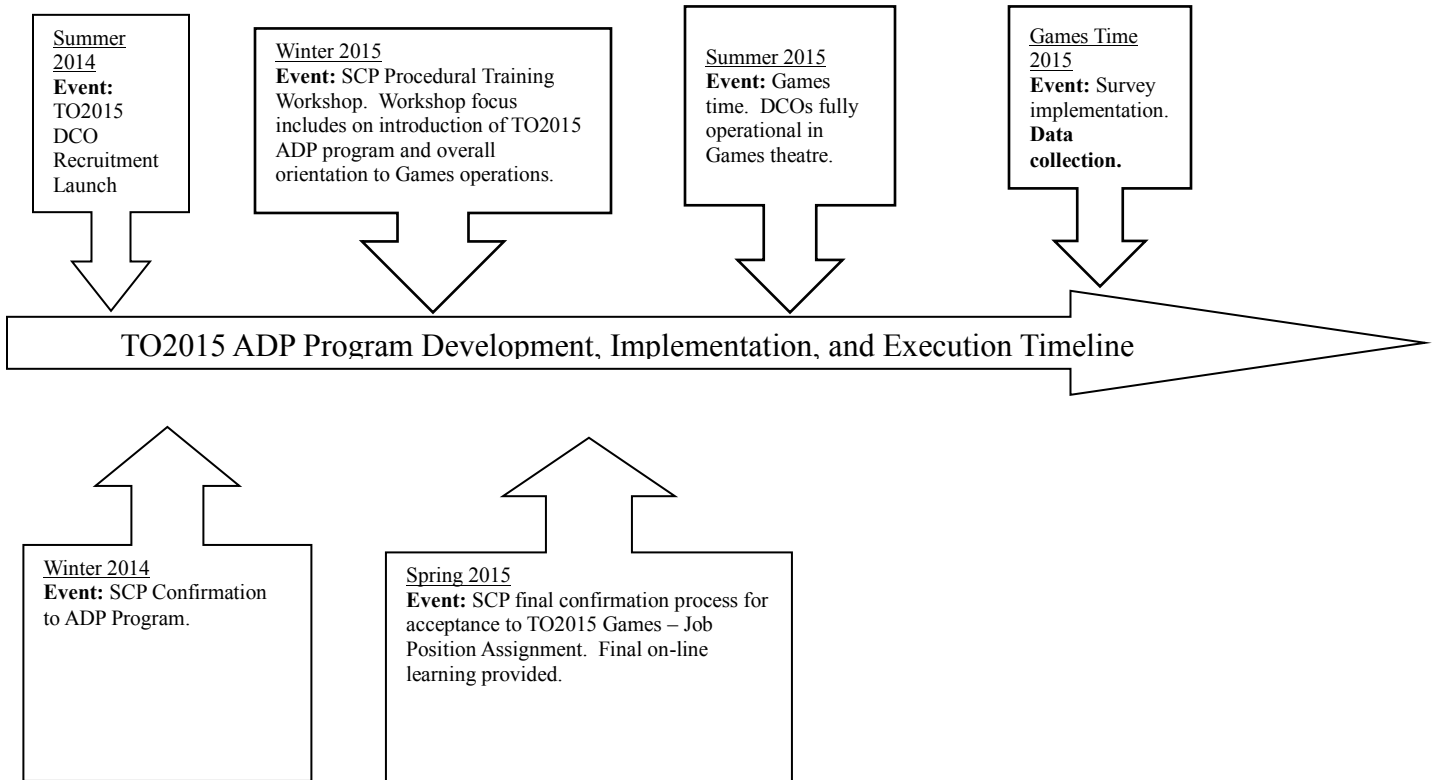
Ranking	Number of Respondents
1 <sup>st</sup> Preferred Training Method	6
2 <sup>nd</sup> Preferred Training Method	17
3 <sup>rd</sup> Preferred Training Method	11
Total	34

Table 4

*Self Directed Study*

Ranking	Number of Respondents
1 <sup>st</sup> Preferred Training Method	5
2 <sup>nd</sup> Preferred Training Method	10
3 <sup>rd</sup> Preferred Training Method	18
No Response	1
Total	34

### Appendix A: Major milestones of the TO2015 ADP Program



## Appendix B: Survey Questions

1. How long have you been certified as a Doping Control Officer?

a. 1 year or less b. 2 – 5 years c. 6 – 10 years d. 10 – 15 years e. 15+ years

2. Participating at a major games event requires a significant amount of time and dedication. What is the primary reason for your involvement at the TO2015 Games?

Open ended response.

3. Do you feel that the training program that has been designed for the TO2015 Games, including workshops, e-learning and venue specific training has provided you with the necessary tools and information to be successful in your role?

Open ended response.

4. What has been done well in order to keep you motivated and engaged as a member of the TO2015 anti-doping team?

Open ended response.

5. Thinking back to your training for the TO2015 Games, please rank in order of preference the training methods you felt were the most effective.

workshops, e-learning, or self-directed study

6. Are there any challenges or barriers that you have encountered as part of your DCO experience in the lead up to the Games that may have caused you to reconsider being part of the TO2015 Games?

Open ended response.

7. Do you feel that you have received the necessary support in your DCO training to resolve any potential challenges or barriers?

Open ended response.

8. What do you perceive as the primary motivator for other DCOs to maintain their certification and be involved in major sport competitions?

Open ended response.

9. What do you use as your primary motivation for being involved at a major games?

Open ended response.

10. Do you foresee yourself remaining as a DCO in two years following the TO2015 Games?

Open ended response.

## **Appendix C: Survey Invitation Script**

Research Project Title: Mega Event Organizing Committees: Investment in Anti-Doping Personnel

Researcher: Matthew Koop, MA Human Kinetics Candidate

Script:

As a participant of the Toronto 2015 Pan American Games Anti-Doping Program you have been identified as a potential candidate to participate in a research project being conducted by a student in the School of Human Kinetics at the University of Ottawa. The purpose of this research project will examine how Mega Event Organizing Committees can better develop training programs for sample collection personnel. Participation in this research project is completely voluntary and will not affect your role with the TO2015 Anti-Doping Program in any way.

Research participants will be provided with access to an on-line survey that includes questions relating to the training you have just completed in order to be part of the TO2015 Anti-Doping Program. The completion of the on-line survey will take approximately twenty minutes. The survey questions can be answered at a time most convenient to you, either on your personal computer or the one provided at the competition venue. Responses will be kept completely anonymous and all data will be securely stored and then permanently destroyed following University of Ottawa guidelines.

By participating in this research project, you will be contributing to the development of knowledge in the area anti-doping program development. One of the main benefits of this research will be the contribution that it may make to future organizing committees. Participating

in this research project will also provide the opportunity for the collection of your feedback as it relates to the TO2015 Anti-Doping Program training. Results from this research project will be provided to participants upon request.

This research project is being conducted independently from the organizations from which participants may be recruited and that their decision to participate (or not) will not impact their involvement/role with the Pan Am Games.

If you have any questions or concerns relating to this research project, please do not hesitate to contact myself directly on my mobile phone at or by email at.

If you are interested in participating, please use the following link to access the survey:

<https://www.surveymonkey.com/r/TO2015AntiDopingSurvey>

## **Appendix D: Survey Consent Form**

**Title of the study:** Mega Event Organizing Committees: Investment in Anti-Doping Personnel

**Name of researcher:**

Matthew Koop

Human Kinetics MA Student, University of Ottawa

Email:

Phone:

**Thesis Supervisor:**

Dr. George Karlis

Full Professor

Faculty of Health Sciences, School of Human Kinetics, University of Ottawa

Room: MNT 343

Telephone: (613) 562-5800 ext. 2452

Fax: (613) 562-5497

E-Mail: [gkarlis@uottawa.ca](mailto:gkarlis@uottawa.ca)

**Invitation to Participate:** I am invited to participate in the abovementioned research study conducted by Matthew Koop and Dr. George Karlis. The project is being conducted as part of Mr. Koop's Master's thesis, under the supervision of Professor Karlis.

**Purpose of the Study:** The purpose of the study is to contribute to the body of knowledge associated with the development of training programs for doping control officers participating at

the Toronto 2015 Pan American Games.

The objectives of this study are the following 1) to contribute to a better understanding of the most effective way to develop recruitment and training programs for a major games and 2) develop a better understanding of what motivates doping control officers to participate at a major games.

**Participation:** My participation will consist essentially of completing an on-line survey during which a series of questions will be provided to through an on-line survey. The on-line survey has been scheduled for to take place in Toronto during the 2015 Pan American Games. The survey will take approximately 20 minutes to complete.

**Risks:** My participation in this study will entail that I provide personal responses to questions regarding my experiences in being part of the TO2015 anti-doping program. I have received assurance from the researcher that my responses will be kept anonymous.

**Benefits:** My participation in this study will help to contribute to building the knowledge base of designing training programs for doping control officers at future major games. My participation as part of this research project will also provide the opportunity for me to give feedback on how the TO2015 anti-doping training program for doping control officers was created.

**Confidentiality and anonymity:** I have received assurance from the researcher that the information I will share will remain strictly confidential. I understand that the contents will be used only for research purposes and that my confidentiality will be protected. In order to minimize the risk of security breaches and to help ensure your confidentiality we recommend that you use standard safety measures such as signing out of your account, closing your browser

and locking your screen or device when you are no longer using them / when you have completed the study.

Given that the survey is hosted on an American server, the data collected from this survey is subject to the Patriot Act of the United States of America, which allows American authorities access to it.

**Anonymity** will be protected in the following manner:

1. No names will be collected as part of this survey. All responses will be anonymous and that participants will not be asked to identify themselves.
2. All participants will be provided a unique identifier that will protect their identity.
3. All data collected through this research project will be securely stored both electronically and in paper format with the required protocols put in place prior to any data collection occurring.

**Conservation of data:** The data collected through the on-line survey will be kept in a secure manner. All electronic data will be stored on the researchers computer which is password protected and kept in the thesis supervisor's lockable office at the University of Ottawa. Any data collected in paper format will be stored in the thesis supervisor's office in a lockable filing cabinet at the University of Ottawa. All data collected will be stored for five years and then securely destroyed through the deletion of electronic files and shredding of any paper copy format. Only the researcher and thesis supervisor will have access to the collected data during the retention period.

**Compensation:** No compensation will be provided for participating in this research project.

**Voluntary Participation:** I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. Given the anonymous nature of the study, should I choose to withdraw after submitting my responses, the researchers will be unable to retrace individual datasets. If participants wish to have a copy of their responses, it is suggested that a copy be printed at the time of completion.

If I have any questions about the study, I may contact the researcher or his supervisor.

This research project is being conducted independently from the organizations from which participants may be recruited and that their decision to participate (or not) will not impact their involvement/role with the Pan Am Games.

If I have any questions regarding the ethical conduct of this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON K1N 6N5

Tel.: (613) 562-5387

Email: [ethics@uottawa.ca](mailto:ethics@uottawa.ca)

Participants should print a copy of the consent form to keep for their personal records.

**Acceptance:** I  agree /  disagree to participate in the above research study conducted by Matthew Koop of the Faculty of Health Sciences, School of Human Kinetics, University of Ottawa.

## Appendix E: Letter from Canadian Centre for Ethics in Sport



380-950 rue Green Valley Cr  
Ottawa ON Canada K2C 3V4  
Tel: +1 613 921 8549  
+1 800 878 2270  
Fax: +1 613 921 3104  
Info@cces.ca www.cces.ca

May 25, 2015

Office of Research Ethics and Integrity  
University of Ottawa  
Tabaret Hall  
550 Cumberland St  
Room 154  
Ottawa, ON, Canada  
K1N 6N5

Dear Sirs,

This letter is to confirm that the CCES will permit Matthew Koop to include the survey link relating to his research project titled "Sport Event Organizing Committees: Investment in Anti-Doping Personnel" in the training session PowerPoint presentation.

Kind regards,



Jeremy Luke

Director, Canadian Anti-Doping Program & Business Operations

CCES



## Appendix F: Ethics Approval from Office of Research Ethics and Integrity

File Number: h04-15-02

Date (mm/dd/yyyy): 05/27/2015



**Université d'Ottawa**  
Bureau d'éthique et d'intégrité de la recherche

**University of Ottawa**  
Office of Research Ethics and Integrity

### Ethics Approval Notice Health Sciences and Science REB

#### Principal Investigator / Supervisor / Co-investigator(s) / Student(s)

<u>First Name</u>	<u>Last Name</u>	<u>Affiliation</u>	<u>Role</u>
George	Karlis	Social Sciences / Human Kinetics	Supervisor
Matthew	Koop	Health Sciences / Human Kinetics	Student Researcher

File Number: H04-15-02

Type of Project: Master's Thesis

Title: Mega Sport Event Organizing Committees: Investment in Anti Doping Personnel

<u>Approval Date (mm/dd/yyyy)</u>	<u>Expiry Date (mm/dd/yyyy)</u>	<u>Approval Type</u>
05/27/2015	05/26/2016	Ia

(Ia: Approval, Ib: Approval for initial stage only)

Special Conditions / Comments:

N/A

### Appendix G: Acronyms

<b>Term</b>	<b>Acronym</b>
Anti-Doping	ADP
Anti-Doping Rule Violation	ADRV
Beijing Organizing Committee for the 2008 Summer Olympics	BOCOG
Blood Collection Officer	BCO
Canadian Centre for Ethics in Sport	CCES
Chief Medical Officer	CMO
Doping Control Officer	DCO
Function Command Centre	FCC
International Sport Federations	IF
Mega Event Organizing Committee	MEOC
Mega Sport Event	MSE
National Anti-Doping Agency	NADO
National Governing Body	NGB
Pan American Sports Organization	PASO
Sample Collection Personnel	SCP
Toronto 2015	TO2015
World Anti-Doping Agency	WADA
World Anti-Doping Code	WADC