Relevance of an Existing Knowledge-to-Action Model to Research involving Urban Indigenous Youth

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Abstract

Our research examined the potential of the Graham et al. (2006) knowledge-to-action (KTA) model in guiding knowledge translation in the context of urban indigenous youth and sport/physical activity. Community nights were held in Kamloops, BC, and Winnipeg, MB to disseminate results from conversations examining the sport/physical activity experiences of youth in these two locations. We analyzed our knowledge translation approach relative to the KTA model. We elucidated five recommendations: (a) clarification that the knowledge creation and action cycles are interwoven, (b) include a rapport-building phase, (c) customizing the research process to participants and research assistants, (d) ensuring participation is consistent, regular, and will not conflict with other commitments participants have, and (e) dedicating a phase to identifying, locating, and recruiting resources needed to conduct projects in ways directed by participants. These five considerations will help make the KTA model more culturally relevant to urban indigenous youth.

Keywords: Urban Indigenous youth; physical activity; knowledge-to-action; knowledge translation.

Résumé

Notre recherche examine le potentiel du modèle de « knowledge-to-action - KTA» de Graham et al. (2006) (« du savoir à l'action ») pour orienter une traduction / adaptation du savoir dans le contexte de la pratique sportive et d'activité physique de jeunes autochtones en milieu urbain. Des soirées ont été tenues dans des communautés à Kamloops Colombie Britannique et à Winnipeg au Manitoba pour disséminer les résultats de conversations sur le thème des expériences sportives et d'activités physique de jeunes de ces villes. Nous avons analysé notre approche de traduction / adaptation du savoir en relation avec le modèle KTA. À partir de cette analyse, nous mettons de l'avant cinq recommandations : (a) l'intégration des cycles création de savoir-action doit être clarifiée; (b) l'importance d'établir une relation avec les participants; (c) l'adaptation de la présentation du processus de recherche aux participants et aux assistants de recherche; (d) la sollicitation d'une participation régulière, pertinente qui considère les autres engagements des participants; (e) la mise en en place d'une phase d'identification-repérage- récupération des ressources nécessaires pour des projets orientés par les participants. Le respect de ces recommandations aidera à rendre le modèle KTA plus pertinent compte tenu de la culture des jeunes autochtones du milieu urbain.

Mots-clés : jeunes autochtones de milieu urbain; sport / activité physique; du savoir à l'action; traduction / adaptation du savoir.

Introduction

Knowledge translation is important to informing policies upon which programs and services rely (Castellano & Reading, 2010). With reconciliation in Canada a primary concern, researchers must prioritize knowledge translation efforts, finding new ways to put knowledge into action to bring Indigenous voices to the forefront of policy and programming. The Truth and Reconciliation Commission of Canada (TRC) published a number of calls to action guiding reconciliation efforts (TRC, 2015); sport is the focus of five of these calls (TRC, 2015). The need to improve sport and physical activity programming for urban Indigenous youth was the underlying motive for the work upon which this current research is based, as scholars have identified a lack of cultural relevance in sport and physical activity programs, particularly in physical education settings (Douglas & Halas, 2013; Halas, 2011; Halas, McRae, & Carpenter, 2013). Efforts to increase cultural relevance in the areas of sport and physical activity may help make sport programs more meaningful to Indigenous participants, possibly enhancing experiences (Halas et al., 2013).

In this research, the term *cultural relevance* is consistent with the definition provided by Johansen, Henhawk, Kosmenko, Rice, and Halas (2019) for culturally relevant sport:

> Culturally relevant sport refers to physical activities that are meaningful and relevant particular to individuals, groups and communities across different geographic regions and cultural groups. The meaning and relevance of an activity is related to the interests of an individual or group and how well the activity is undertaken in ways that respect, connect with and affirm an individual or group's gender, culture and practices (p. 12)

The purpose of our research was to examine the potential of a popular knowledge-to-action (KTA) model to guide knowledge translation in the context of urban Indigenous youth participation in sport and physical activity. We believe a more culturally relevant KTA process will aid researchers working toward the sport-related calls to action. Specifically, the Graham et al. (2006) KTA model was considered in the context of a recent study by Strachan, McHugh, and Mason (2018) that used a community-based participatory research (CBPR) approach (Fletcher, 2003) to gather the sport and physical activity experiences of over 40 urban Indigenous youth in two locations in western Canada (Winnipeg, MB, and Kamloops, BC).

Although benefits of sport and physical activity participation are many, the primary outcome upon which Strachan et al. (2018) were focused was positive youth development (PYD). Sport has potential to help strengthen important life skills (Danish, 2002; Danish, Forneris, Hodge, & Heke, 2004; Petitpas, Cornelius, Van Raalte, & Jones, 2005). With respect to Indigenous youth in particular, a recent review found that along with promoting health and wellness, sport and physical activity programs may encourage feelings of empowerment, including promoting the development of leadership qualities (Bruner et al., 2016). In addition, Bruner et al. (2016) suggested sport and physical activity programs may provide Indigenous youth with avenues through which they can learn about and experience aspects of Indigenous cultures, strengthen cultural pride, and improve resiliency. Further, Halas et al. (2013) contested that culturally relevant sport and physical activity can promote physical literacy (see Whitehead, 2001) while helping affirm cultural identities among Indigenous youth. Western literature has more generally suggested that sport can help youth garner the 5C's of PYD: competence, confidence, character, connection, and compassion/caring (Fraser-Thomas, Côté, & Deakin, 2005; Lerner, Fisher, & Weinberg,

2000).   Yet prior to the research by Strachan et al. (2018), cultural relevance with respect to the specifics of PYD (i.e., the 5C's) remained a concern needing to be addressed in sport programs (Fraser-Thomas et al., 2005).

With PYD as its guiding theory, our research procedure built from the talking circles analysed by Strachan et al. (2018) by hosting follow-up community nights to disseminate results. Assessment of the community night processes, including barriers and supports, helped elucidate modifications that could be made to the KTA model to increase its applicability to research involving urban Indigenous youth.   Prior to describing the pre-modified KTA model, it must be recognized that although all components of the KTA model are critical with respect to knowledge translation, we focused our research primarily on critiquing the first part of the model: knowledge creation. This focus was due to the disengagement of the first author from the project after completion of the study, as necessitated by graduate thesis obligations. However, to encourage action, findings arising from work associated with the broader study (Strachan et al., 2018) were disseminated to practitioners and researchers at two national conferences.

Graham et al. (2006) highlighted how practice lags behind research in health professions, describing a KTA gap that has important consequences for those involved with, or receiving, healthcare. In response to this gap, Graham et al. (2006) presented a model to guide the KTA process. The model is general and, as such, may have broad application. For instance, Holt et al. (2018) recently used the KTA model to guide their study identifying research priorities of Canadian provincial sport organizations. Although our research project involving urban Indigenous youth was also situated in the context of sport and physical activity, the dissimilarity between Western and Indigenous worldviews pertaining to what constitutes knowledge (Smith, 1999; Smylie, Martin, Kaplan-Myrth, Steele, Tait, & Hogg, 2004; Wilson, 2001) suggests the Graham et al. (2006) KTA model may not be an ideal guide for research projects involving Indigenous participants. More specifically, Smylie et al. (2004) concluded that due to differences between Western and Indigenous worldviews, any knowledge translation strategies to be used in Indigenous communities must first be tailored to the context in which they will be applied. As such, Smylie et al. (2004) called for modification of current knowledge translation frameworks. We believe that in instances in which modifications occur, it is reasonable to ask non-Indigenous stakeholders to make attempts to understand Indigenous worldviews and, thus, the tailored knowledge translation strategies. A lack of understanding between groups is a hindrance to Canada's goal of reconciliation.

Review of the Graham et al. (2006) KTA model
The phases of the Graham et al. (2006) KTA model are divided into two categories: knowledge creation, and the action cycle. Knowledge creation comprises filtering knowledge obtained through research or experience through a series of phases aimed at refining and making it more useful to practitioners. The phases in the filtering process include knowledge inquiry, knowledge synthesis, and knowledge tools/products. The knowledge inquiry phase consists of compiling what Graham et al. (2006) denoted as first-generation knowledge, which often takes the form of primary studies. Knowledge synthesis occurs when first generation knowledge is refined to second-generation knowledge, which often takes the form of reviews.   Finally, knowledge tools/products, or third-generation knowledge, is created for use by practitioners.

In the context of PYD through sport, an example of first-generation knowledge is the Fraser-Thomas and Côté (2009) study examining adolescent swimmers' positive and negative developmental experiences. These researchers engaged in knowledge inquiry through conducting and analysing semi-structured interviews. In this same context, an example of second-generation knowledge is the Holt et al. (2017) meta-study on PYD through sport. These researchers engaged in knowledge synthesis by synthesizing first-generation knowledge, including the study by Fraser-Thomas and Côté (2009). Lastly, an example of third-generation knowledge, or of a knowledge tool/product, is the model of PYD through sport that Holt et al. (2017) created from the results of their meta-study. The model depicts how PYD outcomes may be achieved either implicitly or explicitly, guiding future research while also providing practitioners with a framework to keep in mind when developing and implementing programs.

The phases in knowledge creation all precede the action cycle. Since our research focused primarily on knowledge creation, we have chosen to omit a review of the action cycle, other than reiterating that the phases in the action cycle "are dynamic, can influence each other, and can be influenced by the knowledge creation phases" (Graham et al., 2006, p. 20). At any point in the action cycle, new knowledge from local and/or external sources may warrant backtracking to previous phases to make changes. Refer to Graham et al. (2006) for more information.

Methods

Although our research involved First Nations youth, the study areas were situated in urban environments as opposed to First Nations communities. Thus, the spirit of Ownership, Control, Access, and Possession (First Nations Information Governance Centre, 2014), as opposed to the guidelines themselves, were of concern to researchers. Wilson's (2001) emphasis on relational accountability was considered in this research, with researchers incorporating principles of a community-based participatory research (CBPR) approach to shift much of the decision-making from researchers to participants.

The Graham et al. (2006) KTA model aligns well with CBPR due to the emphasis the model places on adapting knowledge to local contexts. According to Fletcher (2003), CBPR encourages consideration of participants' perspectives, acknowledging that knowledge is value-laden and, thus, can reproduce the status quo if unilaterally informed. CBPR entails a negotiation between researchers and participants in meaning-making, with participants included in all parts of the research process (Fletcher, 2003). A community-driven approach is particularly important when working in Indigenous communities (Blodgett et al., 2010) because it helps ensure relevance of research projects via the sharing of knowledge by people who are affected by policies and programs the research serves to inform.

The questions guiding our work were developed by the research team, and the community nights were an idea prior to engaging the youth, resulting in a more community-informed than community-driven approach. However, we still ensured the youth had input into ensuing aspects of the project. The youth had the opportunity to select which information would be most important to disseminate, the means of dissemination, and the specifics of the community nights, such as invitees and food. With the previous considerations regarding our CBPR approach in mind, the following sections describe the community nights, one of which occurred in Winnipeg, MB, and one in Kamloops, BC.

Location 1 Community Night

The community night at Location 1 was held at the same high school from which youth had been recruited, and at which talking circles had been conducted in the Strachan et al. (2018) research; this helped ensure convenience and comfort for the youth. To begin the community night planning process at this location, a researcher met with participants, some of whom had been talking circle participants and some of whom were new to the project, to discuss ways in which talking circle results could be disseminated. The dissemination was to be geared toward a general audience consisting of community members including the youth themselves, their peers, their families, and the peers of the researchers involved. Disseminating to practitioners and policy makers was beyond the scope of the project at this point in the process. As noted previously, this study was primarily focused on knowledge creation as opposed to the action cycle of the Graham et al. (2006) KTA model.

The youth favoured disseminating results via film, so a discussion was had regarding what themes pertaining to urban Indigenous youth and sport/physical activity were particularly relevant to the youth. These themes were to serve as the basis of the film. Prior to concluding the meeting, the researcher collected Facebook and/or email addresses of participants to facilitate ease of follow-up communications and allow the youth to easily share ideas with the rest of the group.

In the weeks that followed, one-on-one discussions were held in person between the researcher and the youth who had agreed to participate in the film-making process. The discussions were conversational in nature, following no strict guidelines save for reliance on the themes identified earlier in the research process (financial concerns, availability and quality of equipment, availability and quality of facilities, non-Indigenous coaches, Indigenous coaches, Indigenous role models, racism, medical concerns, sense of community and friendship, connection between sport and school, suggestions for change). A conversational interview style allows participants to take control, providing opportunities for them to convey issues they believe are important, thereby ensuring researchers remain accountable to participants (Bessarab & Ng'andu 2010; Wilson, 2008). In this case, the researcher asked participants their thoughts regarding each of the themes. A detailed description of questions asked has not been included here, as it is beyond the scope of the current analysis. Following the one-on-one interviews, and as an act of reciprocity to demonstrate gratitude and further meet relational accountability obligations (Wilson, 2001), youth were acknowledged for their time with gift cards to local stores, with the option of selecting one $10 gift card from a collection decided upon by the researchers.

Film editing was accomplished by the researcher and an assistant with a degree in Film Studies as well as practical film-editing experience. A preliminary version of the film was posted on YouTube, although settings were set such that access to the film could only be had by those with the appropriate uniform resource locator (URL). The URL was shared to the Facebook group, allowing youth participants to view the film and provide feedback. The film was approximately 16 minutes in length upon completion.

While food was served, the researcher gave a brief (5 to 10 minute) introduction at the community night to contextualize the study for the audience. This introduction included aspects describing the purpose of the research, its scope, the geographic area the research spanned, the methods employed, and how/where the film fit within the scope of the research. The film was then shown and audience members had a chance to ask questions and/or provide feedback after viewing. The community night concluded

after the question/comment period was finished. The entirety of the event was roughly one hour.

Location 2 Community Night

Similar to Location 1, the community night at Location 2 was held at an Indigenous health society and service organization with which youth participants were already familiar. In fall of 2015, researchers began building rapport with potential research participants by volunteering with programs the society already had in place. Specifically, members of the research team worked in conjunction with a staff member to help deliver a fitness program spanning two schools (one with all female students, and one co-ed). One-hour fitness workshops were held each week at both schools and involved guest speakers (e.g., local Elders and Indigenous community members) who discussed the importance of health and wellness. Discussions preceded fitness activities such as boot camps, short runs, walks, and hula-hooping. Healthy snacks were provided following the fitness activities. In total, the fitness program ran for eight weeks. The students became familiar with members of the research team as relationships were established, facilitating comfort during the interview process later on. In addition, researchers were able to connect with community leaders through the fitness program.

The community night at Location 2 was planned in cooperation with the Indigenous Health Society staff member who helped facilitate the fitness program. Students who had participated in the talking circles associated with the research of Strachan et al. (2018), along with counsellors and staff who assisted with the fitness program, were contacted via email to be invited to the event. Students were encouraged to invite parents or guardians to the event as well. School faculty was also encouraged to attend, along with other staff from the society.

The Location 2 community night involved a presentation discussing themes that arose from the talking circle activities. To make the presentation more meaningful to participants, researchers displayed photos that were taken at various fitness workshops held leading up to the community night. Healthy food and beverages were offered to those in attendance, and the presentation preceded an interactive discussion involving three large poster boards entitled: "Suggestions for Future Programs", "Reaffirmations of Barriers They Face", and "Other Barriers Affecting Their Ability to Participate". By writing on the poster boards, or by oral conveyance, the youth had the opportunity to share ideas that were not included, or that were misunderstood, during the preceding presentation. Along with helping ensure their voices were being heard, the poster board activity also facilitated reflection on the data that was collected. Through these opportunities, the poster board activity allowed for further investigation and participation in the creation of knowledge that may help shape future health and wellness programs.

Analysis

We generated recommendations for modifications to the Graham et al. (2006) KTA model by retrospectively analysing our knowledge translation approaches from Locations 1 and 2 relative to the approach depicted by the model. This process entailed noting what went well, and which areas could be improved upon for future work.

Results and Discussion

The following sections summarize the recommendations we believe would be helpful in making the Graham et al. (2006) KTA model more culturally relevant in research involving urban Indigenous youth as participants.

Within the Model, Clarify that the Knowledge Creation and Action Cycles are Interwoven

We made a number of observations during the community night process that provide insight into how the Graham et al. (2006) KTA model may be modified to help guide research involving urban indigenous youth. Perhaps the simplest modification to address stems from our observation of the tendency we had to consistently be cognisant of the context under which knowledge created was to be applied, which is not consistent with the separation of the knowledge creation and action cycles that is depicted in the Graham et al. (2006) schematic of the KTA model. Researchers in our study agreed that although Graham et al. (2006) were clear these two components (i.e., knowledge creation and the action cycle) may interweave, the diagrammatic representation presented in their paper is not as clear, thus not offering an ideal depiction of the KTA process. Although an in-depth critique of the action cycle is beyond the scope of this research, its connection to knowledge creation was nevertheless evident and, as such, is deserving of comment. As Smylie et al. (2004) emphasized, any knowledge translation strategies to be used in Indigenous communities must first be tailored specifically to the context in which they will be applied (for an example of research that does this, see Blodgett et al., 2008); therefore, it is important the KTA model illustrate this need.

Include a Rapport-building Phase Prior to the First Phase of Knowledge Creation to Ensure Participants are Comfortable with Researchers

A second observation made was with respect to the important role of "insiders", by which we mean people who had pre-existing roles in the youths' day-to-day lives. For instance, instrumental in the community night process at Location 1 was a teacher from the high school (i.e., the location of the community night) who had substantial rapport with the youth prior to commencement of the knowledge creation process. Although rapport between researchers and gatekeepers at the high school helped facilitate our research, little rapport had been developed between the researcher leading community night efforts at this location and the youth prior to the first community night planning meeting, aside from the researcher's contribution in one of the talking circles. We believe that without the teacher to facilitate meetings and encourage the youth to participant in the research project, simply scheduling and completing interviews would have been a significant challenge.

With the importance of "insiders" recognised, it must be noted that the researcher at Location 1 felt too much reliance was placed on the teacher who helped facilitate the research process. The researcher felt as though he was exclusively a recipient of the teacher's and participants' generosity (in the forms of time and knowledge sharing), as the primary motivation for doing the research stemmed from the interests of researchers, policy makers, and the TRC in increasing inclusivity of sport and physical activity programs for Indigenous participants (i.e., the primary motivation did not come from the participants themselves). In short, the researcher felt he was not sufficiently fulfilling his reciprocal obligations during the research process. The material gifts of gift cards and food at the community night seemed more like strategies of persuasion than acts of reciprocity. Similarly, an imbalance in reciprocity was also

felt at Location 2, as there was a feeling of reliance on teachers and Indigenous society staff members to help recruit students. Long-term relationships could facilitate greater opportunities to give back to participants through increased numbers of interactions as well as through greater rapport. However, researchers, especially graduate student research assistants who have their own projects to prioritize, are often under strict timelines and heavy workloads that are not conducive to relationship-building with potential study participants.

Researchers at Location 2 felt that staff members at the Indigenous society were instrumental in the success of the community night, the fitness program, and in facilitating student interaction with researchers. It should be noted, however, that stronger relationships were established between researchers and youth participants at Location 2 than at Location 1 due to the 8 weeks spent working together during fitness workshops at the former location. A sense of sincerity was conveyed by many of the youth in conversations leading up to and during the community night at Location 2, and they seemed comfortable around the researcher who conducted interviews at this location. Yet there were still some students who remained reserved.

At Location 1, despite members of the participant group being mainly recruited from the same, pre-established, extra-curricular group at the school, and with the exception of the one-on-one interviews at this location, the researcher noted what seemed to be significant discretion among youth when it came to sharing opinions. This reluctance was especially apparent with respect to posting/responding to posts on the group Facebook page. However, considering the apparent transparency youth displayed during one-on-one interviews, what appeared as shyness at other times during the research process may have simply been reluctance to be candid in group settings.

The issues encountered with respect to participant reluctance and the importance of insiders highlight the significance of having a solid rapport-building phase prior to beginning research in order to establish trust with participants. It is important to keep in mind past interactions between Indigenous and non-Indigenous people that may constrain research collaborations today (Blodgett et al*.,* 2010). Research is often viewed with disdain in Indigenous communities, and rightly so. As Smith (1999) emphasized,

> The word itself, 'research', is probably one of the dirtiest words in the [I]ndigenous world's vocabulary. When mentioned in many [I]ndigenous contexts, it stirs up silence, it conjures up bad memories, it raises a smile that is knowing and distrustful (p. 1).

Indigenous communities have often been viewed as being in deficit positions compared to non-Indigenous communities, although what constitutes a deficit position has been based on Western values (Walter & Andersen 2013) such as household income and level of formal education. Similarly, Western ways of knowing have been privileged while Indigenous worldviews have been marginalized (Smith, 1999), including within research academies (Kovach, 2010). It is important researchers understand and overcome the Eurocentrism that contributes to colonization (Blaut 1993) in larger society as well as within Western research processes. One of the most important ways to address this obligation is to respect Indigenous approaches to sharing knowledge, including prioritizing relational accountability (Wilson, 2001, 2008), which requires relationships be established prior to commencement of research. Rapport cultivates relationships in which participants feel comfortable suggesting avenues for research direction, resulting in researchers truly "giving back" (i.e., doing research for participants, as opposed to simply getting information from them). As well, maintaining relational accountability helps ensure researchers are not appropriating

Indigenous knowledges (Wilson, 2001). The axiology of the Indigenous research paradigm discussed by Wilson (2001) is to give back to the community with which one is working.

   We suggest researchers conducting similar work consider seeking a liaison who has pre-existing rapport with youth participants. Nevertheless, the importance of building rapport between researcher(s) and participant(s), whether or not a liaison is involved, must not be overlooked and should be a process started long before the actual research component of the work takes place. In our research, however, time constraints and other obligations among researchers were a hindrance to building optimal levels of rapport, leaving the researcher at Location 1 to rely heavily on the teacher who helped move the process along.

   It should be recognized that building sufficient rapport with participants can be a very lengthy process. For instance, Eskicioglu et al. (2014) noted they spent years building relationships with community members prior to conducting their study examining the effectiveness of a peer mentoring program in reducing type 2 diabetes risk among First Nations youth. This research serves to highlight the importance of granting community-engaged researchers time strictly devoted to relationship-building – a need that should be conveyed in the KTA model.

Customize the Research Process to Participants (and Research Assistants, such as Teachers, Coaches), Making it Meaningful for Them
   Researchers noted an apparent lack of interest in community night attendance at Location 1, as some youth who had participated in film creation were not present at the community night. A similar challenge also existed at Location 2. At this location, re-engaging youth after a significant time lapse between the talking circles and community night proved challenging. It was difficult to persuade the youth to attend an event that was not mandatory, and that was outside their regular school hours. In addition, during the community night, there was some initial challenge in engaging the youth in discussions pertaining to the topic while they were in the presence of other community members. Fortunately, the poster board activity gave the youth an avenue by which to share ideas in a more relaxed, informal way while still maintaining sincerity. Similarly, the film at Location 1 worked well at disseminating results without requiring youth to go too far outside their comfort zones.

   There is a need to know the interests of research participants in order to appropriately define the overall purpose of projects. Community-driven approaches have been suggested when working with Indigenous people (Blodgett et al., 2010), as they make for more meaningful research. As previously stated, our research incorporated principles of CBPR, making for a community-informed (as opposed to community-driven) approach. If youth had greater control over the direction of the research, it is likely more interest would have been realized due to the link between autonomy and intrinsic motivation (Deci & Ryan, 2011; Mack, Sabiston, McDonough, Wilson, & Paskevich, 2015). Thus, the importance of relationship-building is again highlighted.

   In their research examining acculturation among elite Indigenous athletes pursuing mainstream sport, Blodgett et al. (2014) demonstrated how meaningful approaches can be a way of ensuring participants' concerns are conveyed. These researchers employed mandala drawings, which they explained are drawings participants create within a circular structure. Blodgett et al. (2014) argued the circular structure and story-telling aspects of mandala drawings resonate with Indigenous worldviews; they also suggested this method encourages participants to make their own

choices about what they would like to be conveyed through the research. In these ways, mandala drawings were a study approach that resonated with participants.

In customizing research to participants, researchers should start early and ensure this process is ongoing throughout. For instance, the means of result dissemination at Locations 1 and 2 (film and poster-boards, respectively) worked well with respect to the youth participants involved, as they did not require the youth to venture too far from their comfort zones. This suggestion, that is, to customize the KTA process to participants, builds on the suggestion of Graham et al. (2006) to customize the means of research dissemination to knowledge-users. Indeed, the instruction provided by Graham et al. (2006) to proceed through a series of phases, from knowledge inquiry, to knowledge synthesis, to knowledge tools/products, was helpful, in our research, in increasing relevancy and accessibility of the knowledge created to knowledge users, yet we recognize this research could have had more input specifically into this aspect from the participants themselves.

Ensure Participant Engagement is Consistent and Regular, and that Research-related Events do not Overlap with Other Important Commitments Participants may Have

As noted, it was difficult, at Location 2, to re-engage youth in the project for the community night, as much time had passed since initial knowledge sharing. While the community night was still successful in providing more insight and allowing for deeper knowledge creation, we feel there would have been more engagement if it was scheduled soon after completion of the knowledge sharing phase, as such scheduling would have better accommodated the often highly dynamic lives of youth. Youth may change peer groups, advance to institutes of higher education that may be located some distance from their former schools, or join or quit sports teams or extracurricular groups. In fact, Indigenous students who are from reserve communities but are attending school elsewhere may wish to change schools partway through their education as they seek more appealing educational atmospheres and community environments. Therefore, in some instances, it may be that youth are motivated and want to participate in research over the long-term, but are unable to do so.

Prolonged engagement of research assistants until the day of the community night was another challenge encountered at Location 2, as commitments changed during the long research process. In addition, scheduling of the community night conflicted with that of another youth group event the main researcher at Location 2 was not privy to beforehand. Finally, the event itself was rushed because the main contact at the Indigenous society was leaving and it was imperative that she be included in the community night to help assemble the youth and facilitate the event.

Similarly, the community night at Location 1 was held, by necessity, at a busy time of year, when some students were in the midst of final exams and preparations for graduation. The timing of the event may have had an impact on attendance by others as well, as researchers noted few attendees at the community night at Location 1 other than the youth. This community night was also rushed, as the end of the school year was approaching, and invitations were not disseminated until the week of the event due to logistical issues associated with facility booking. Some invitees had prior obligations that prevented attendance, and the location of the community night at the far north end of the city may have presented a transportation barrier to attendance for some individuals.

Knowledge of commitments in which youth may become involved during the research process is important, and this knowledge can be gained through the rapport-

building phase we recommended earlier. In response to the often dynamic lives youth lead, however, we also recommend avoiding prolonged gaps between events requiring youth participation. The possible implications of the less-than-ideal timing of the community night at Location 1 (i.e., near the end of the school year when students are busy with other priorities) further remind us that timing of events in the KTA process must be geared toward the lives of youth. With these notions in mind, we suggest a KTA model for research involving Indigenous youth as participants be arranged in such a way as to facilitate consistent and regular engagement of youth, and that research-related events do not overlap with other important obligations youth may have.

One way to help ensure consistent participation is to incorporate research into activities in which youth already regularly engage. For instance, the Eskicioglu et al. (2014) examination of the effects of a peer mentoring program on type 2 diabetes risk in First Nations youth was conducted in conjunction with the Aboriginal Youth Mentorship Program (Halas, Carpenter, McRae, McGavock, & Eskicioglu, 2017; Halas, McRae, McGavok, & Carpenter, 2017), which is an education, physical activity, and nutrition program for which youth were already meeting on a weekly basis. Working research into this program likely helped ensure prolonged participant engagement.

As noted at Location 2, ability to participate from start to finish may be an issue for other people involved in the research process as well, such as teachers, staff members, and even the researchers themselves. Vocations may change, funding sources may disappear, or other projects may arise and take precedent (as in the case of graduate students working on their own thesis projects). Consequently, phases of the KTA model that require prolonged engagement, particularly in the action cycle (i.e., monitoring knowledge use, evaluating outcomes, and sustaining knowledge use), may be compromised. In this instance, we see that the KTA process need not only be customized to the youth involved, but to others involved in the research as well.

Ensure a Phase is Dedicated to Identifying, Locating, and Recruiting Resources Needed to Conduct the Project (Including Result Dissemination) in ways Directed by Participants

A final challenge to the community night at Location 1 was the accessibility of a talented director and camera person to fully lead film creation. Despite the assistance of a Film Studies graduate for a portion of the filming process, the researcher facilitating the community night had to assume director and film person duties due to overseas commitments outside this research to which the assistant had to attend. Partly as a result of the researcher's ineptitude in the areas of directing and camera operation, the film was met with some scrutiny regarding sound quality. Many of the one-on-one interviews held with youth participants, which comprised a significant portion of the film, were conducted in the hallway of the high school. As a result, much background noise was captured on film. The film editing talents of the assistant, as great as they were, were not able to compensate for the lack of experience on the part of the researcher in addition to the inaccessibility of proper interview facilities (i.e., a room with appropriate acoustics) and equipment (i.e., a microphone into which participants could speak). These issues are of particular importance because knowledge translation may be affected by the quality of the product by which results are conveyed.

The lack of resources at Location 1 with respect to film creation draws attention to the need to make time for resource-seeking. The rushed facility-booking process at this location, which may have compromised attendance at the community night due to invitations being distributed too close to the event date, further emphasizes this need. Since research is to be customized to youth participants, researchers may be unaware of

the means and location of result dissemination until well into the rapport-building phase, or possibly not even until after this phase. Thus, the KTA model should leave room for identifying, locating, and obtaining the resources necessary to conduct the project, including result dissemination, in ways directed by participants.

How can this be done? As has been the theme of this research, time must be devoted to building relationships with participants. Along with increasing participation rate and extent, as well as facilitating transparency among participants that leads to research being more meaningful for those involved, rapport can also help when it comes to locating resources. This can be especially true when the researcher is working within the participants' own communities (e.g., their schools or places of business). In this case, the participants are the experts of the research setting, and they may have knowledge of where to find resources, or who to ask for further assistance with this task.

Conclusion

We have identified a number of suggestions to tailor the Graham et al. (2006) KTA model toward research involving urban indigenous youth, as the Smylie et al. (2004) suggestion for knowledge translation strategies to be fundamentally Indigenous is applicable to sport/physical activity programming. The TRC (2015) published five calls to action related directly to sport/physical activity, highlighting the importance of improving aspects such as cultural relevance, athlete development, racism awareness, and others. The voices of Indigenous people are vital as we strive to improve these areas. Thus, research addressing the calls to action depend on the establishment of good working relationships between researchers and Indigenous participants, as well as on knowledge translation strategies that are effective in putting the knowledge shared by participants into action, hence the need for our research. The recommendations we have provided are a step toward achieving these goals. By incorporating these recommendations into the Graham et al. (2006) KTA model, researchers undertaking work to address the various calls to action will be guided by a more culturally relevant KTA process.

Acknowledgements

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