KNOWLEDGE USE AMONG PTCC’S LEARN COMMUNITIES OF PRACTICE: TOBACCO USE REDUCTION FOR YOUNG ADULTS AND TOBACCO-FREE SPORTS AND RECREATION

DEVELOPMENTAL EVALUATION OF LEARN COMMUNITIES OF PRACTICE

SUMMARY OF RESULTS

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EXECUTIVE SUMMARY

0.1 INTRODUCTION
The Learning through Evidence, Action, and Reflection Networks (LEARN) project was created in 2008 to foster knowledge exchange in tobacco control, through a partnership between the Program Training and Consultation Centre (PTCC) and the Ontario Tobacco Research Unit. Currently, there are two provincial communities of practice (CoPs): (1) Tobacco Use Reduction for Young Adults (YA CoP) (fall 2008–present), and (2) Tobacco-Free Sports and Recreation (TFSR CoP) (spring 2009–present).
LEARN CoPs create a ‘platform’ for Ontario tobacco control practitioners, policy-makers and researchers to learn together, share information, ideas and know-how, support each other’s work, problem solve, and enhance the use of evidence. The developmental evaluation of LEARN CoPs has as its main goal to build research-based evidence which the LEARN team can draw on to enhance the knowledge use among the LEARN Communities of Practice. The guiding conceptual framework of the evaluation aims to further explore the relationship between other related concepts, such as: shared identity, psychological safety, social capital, and sense of belonging. The purpose of this report is to present findings and recommendations from Phase II of the quantitative evaluation, and to suggest areas for further exploration in Phase III using a qualitative approach of structured interviews.

0.2 Methodology
Phase II of the evaluation encompasses the period from December, 2009 to July, 2010. The evaluation design was informed by the following:

0.2.1 Evaluation Design
1. Literature review: A comprehensive literature review was conducted to identify the broader conceptual context of Communities of Practice and their effective functioning. The following theoretical concepts were identified and incorporated later into the guiding conceptual framework and the online questionnaire: (1) organizational identity, (2) satisfaction, (3) benefits and drawbacks, (4) construed external image, (5) organizational identification, (6) organizational commitment, (7) social capital, (8) psychological safety, (9) knowledge use, and (10) relevance of knowledge use.
2. Consultations with CoP members: Members of the Tobacco Use Reduction for Young Adults CoP and Tobacco-Free Sports and Recreation CoP were consulted on evaluation content during their regularly-scheduled online/teleconference meetings. They were provided with an overview of the project, and were engaged in discussion to consider remaining areas of interest for inclusion in the evaluation of their CoP.
3. Consultations with the LEARN team: Members of the LEARN team were involved in regular consultation and provided feedback on the main documents guiding the evaluation: (1) content of the evaluation plan, (2) the conceptual framework identifying related concepts, and (3) the online questionnaire.
0.2.2 Evaluation Data

**Survey results:** This report includes findings from the online survey of members of the Tobacco Use Reduction for Young Adults CoP (YA) and the Tobacco-Free Sports and Recreation CoP (TFSR). Those who participated in at least one meeting (n=35, 63% response rate) were invited to participate. Several analyses (descriptive, comparative, reliability, and mediation analysis) were conducted using SPSS (version 18.0), leading to a reduced number of concepts related to knowledge use (from 10 to 5).

0.3 Findings and Implications

Phase II of the LEARN developmental evaluation examined the satisfaction levels of members regarding their respective CoPs, benefits and drawbacks of participation, and where these communities are at in terms of achieving the short-term outcomes. Of particular interest was to examine how LEARN CoPs are cohering into a unified collective and how this influences their use of CoP-related evidence. Findings from the evaluation are intended to help the LEARN project and CoP members to learn about how they are developing as a community, and suggest areas where efforts might be directed in the future. See Table 0.1 for a summary of key results and areas for improvement.

Overall, members from the TFSR CoP were consistently more uniform in their responses and in higher agreement (i.e., more positive) with factors that influence how groups cohere into a unified collective and how they use knowledge than YA CoP members.

The following section revisits the research questions guiding the evaluation and key findings.

0.4 How satisfied are members with their CoP and what barriers and benefits do they experience?

Overall, members of both CoPs were predominantly satisfied with all aspects of their communities of practice. See Table in Appendix 1.2.a. However, members of the TFSR were consistently more satisfied with all aspects of their CoP (Mean>4.00) than were members of YA (Mean>3.00). Members were satisfied with the content that is addressed in their CoP, the importance of co-leaders’ roles, knowledge exchange opportunities including guest speakers, resources available to them, opportunities to share their work and learn about innovative initiatives, WebEx, level of support from their employing organizations to participate, and length of meetings.

Both CoPs indicated that they would like to have more researchers, decision-makers and youth represented on their CoP while YA CoP also indicated more health professionals.

Although respondents from both CoPs experienced greater benefits than drawbacks as a result of their participation, with the acquisition of useful knowledge representing the main benefit, there are some areas of possible improvement. These include members’ feelings of ownership of their CoPs, networking opportunities in the CoPs (a common theme throughout survey findings), time conflicts between CoPs and other obligations, level of influence in CoP activities and the value added experienced as a result of participation.
0.5 How are CoPs cohering into a collective?

To what extent has a shared identity developed in each CoP?

Overall, members felt there is a widely-shared and deeply-held CoP identity within their respective communities. This finding was significantly higher in the TFSR CoP and may be, in part, due to members’ activities as early as the year 2000, prior to the community being officially established (see Appendix 5). A widely-shared and deeply-held organizational identity is positive for facilitating group cohesion because it provides an anchor point for members’ identification which, in turn, helps to overcome group tensions or conflicts that may impede knowledge sharing and use. Additionally, a strong organizational identity can serve to maintain a unique position in the broader tobacco control system.

0.6 To what extent do CoP members identify with their CoP?

To what extent do CoP members experience commitment to their CoP and in what ways?

Members from both CoPs feel glad to be part of their respective communities, but on average, TFSR CoP respondents identify more with their CoP compared to YA CoP respondents. Therefore, identification could be strengthened (particularly in the YA CoP).

In terms of commitment, members exhibited normative commitment to their CoPs with members indicating feeling like they ought to stay rather than want to stay (affective commitment). Members who want to stay may be more motivated to actively and enthusiastically participate in the CoP. Greater member identification with the CoP may increase feelings of affective commitment.

To reinforce a shared identity and strengthen member identification (which may in turn enhance members’ commitment to their CoP), LEARN and the CoP leadership teams could consider the following strategies:

- Focus efforts on developing perceptions of widely-shared and deeply-held organizational identity by engaging CoP members to identify salient identity attributes that reflect their sense of ‘who we are’ as a community. These identity attributes could be summarized into clear statements and reinforced via continued communication, branding and behaviour (e.g., co-leaders actively demonstrating the values of the CoP).
- Ensure that there is compatibility in the identity, culture (values), and strategic orientation between the CoPs, their respective organizations and other key stakeholders in the Ontario public health tobacco control system; and
- Create an open communication climate where all members are informed and involved in CoP activities and its progress and offer social activities that encourage member interactions (see social capital below for ideas); and
- Promote a positive construed external image (see construed external image below for ideas).
0.7 To what extent do CoP members perceive a positive construed external image?

Construed external image reflects organizational members’ perceptions (in this case, CoP members’ perceptions) of how external stakeholders think or feel about them. In the survey, members were asked how they felt their own organization (e.g., local public health agency, university, etc.) and the Ministry of Health Promotion and Sport viewed their CoP.

While members felt that both sets of stakeholders are aware of the CoP’s existence, they also perceived their organization as slightly more aware than the Ministry of Health Promotion and Sport of what their CoP does, interested in their work and seeing them as an important mechanism for knowledge exchange. However, both CoPs expressed that these stakeholders did not engage their CoP to the extent that they would expect.

Additionally, respondents neither agreed nor disagreed that their CoP is viewed as reputable by these stakeholders and did not feel that their CoP has established its legitimacy (e.g., its value or having found its niche) in the Ontario public health tobacco control community.

Literature suggests that when members perceive that the organization they belong to is positively viewed by others, it strengthens current shared understandings of ‘who we are’ as an organization and members’ identification to their organization. It also has been found to enhance members’ sense of pride in, and perceived legitimacy of, their organization and makes them feel good about themselves. Fostering a positive CoP image may further contribute to strengthening members’ sense of shared CoP identity and identification to their CoP (and resulting commitment). A positive CoP image may also enhance members’ self-concept which may contribute to member identification and their commitment to continue their membership.

To enhance stakeholders’ views that the CoPs are valuable and reputable and increase members’ sense that their CoP is legitimate and of value to the public health tobacco control community, LEARN and the CoP leadership teams may consider the following strategies:

• Disseminate clear statements of purpose and consistent branding that reflect the CoP identities with LEARN and CoP co-leaders playing a key role in its communication;
• Increase the visibility of the CoPs and their activity through periodic newsletters to key stakeholders, conferences and other venues; and
• Find ways to engage the stakeholders of importance to the CoPs (e.g., members’ respective organizations and funding agency):
  o Have CoP members lead webinars or presentations to key stakeholders to showcase their CoP’s learning and activities (e.g., ideas or projects being considered or implemented, lessons learned). This may help increase feelings of ownership over the CoPs while engaging important players.

0.8 To what extent do members experience psychological safety in their CoP?

Psychological safety reflects the perception that members of a group are safe to take interpersonal risks such as speaking up, admitting lack of knowledge or errors that they have made without excessive fear of being rejected or embarrassed by other members. Overall, both CoPs are doing very well in terms of creating a climate of psychological safety although it is
significantly more established among TFSR members. The finding is encouraging given that psychological safety is important to facilitating behaviours associated with learning (Edmondson, 1999). Exploring what factors contribute to the development of such a climate in the LEARN CoPs is recommended via qualitative methods.

**0.9 To what extent does structural social capital (e.g., provincial-level networking) and cognitive social capital (e.g., mutual trust and reciprocity) exist in each CoP?**

Social capital encompasses the features of social organization that enable participants to act together more effectively to pursue shared objectives and facilitate coordinated actions. Features include the nature of network ties (i.e., structural social capital) and the quality of relationships (i.e., cognitive social capital) that exist between CoP members.

Overall, social capital is significantly more developed among members in the TFSR CoP compared to YA CoP. TFSR CoP respondents felt there was a participative spirit in their CoP. They interact with significantly more CoP members within their community, and experience greater positive relationships, trust and reciprocity with those members compared to the YA CoP respondents. Interestingly, TFSR CoP members also experienced greater positive relationships, trust and reciprocity with the LEARN team than they did with CoP members; whether these differences are statistically significant is not known.

Areas for possible improvement for both CoPs include the limited new connections made with fellow CoP members despite a low level of pre-established relationships before joining and the lack of strong ties reported among members. Additionally, members indicated a need to improve their awareness and use of other members’ knowledge, skills and talents, as well as the need to work through members’ conflicting schedules and different agendas. Creating brainstorming sessions with CoP members may help LEARN and the CoP leadership teams better understand how to improve upon these challenges and enhance member interactions and knowledge exchange.

Enhancing cognitive social capital in the YA CoP may also be an area of targeted effort. Increasing interactions among CoP members may be critical to this end given that members who interacted with a greater number of members experienced a greater sense of shared CoP identity, psychological safety and satisfaction with their CoP. Moreover, members of the YA CoP said that greater member interactions would make them feel safer to share their ideas. Creating opportunities for members to interact with a broader range of CoP members may also improve members’ sense that they can exert influence within their CoP and its activities.

To encourage greater member interactions LEARN and the CoP leadership teams might consider the following:

- Develop activities that encourage greater member interactions during meetings (e.g., rotating break-out sessions where members can interact and brainstorm with a greater range of members during face-to-face meetings).
- Encourage round robins whereby members reflect on what they learned at the end of each meeting. This strategy would allow everyone an opportunity to speak up and may also help to engage members, stimulate ideas and increase ownership of their CoP by identifying directions that may be worthwhile to pursue.
Entice members to engage through the online space (WebEx) since members reported high satisfaction with this mode of communication. Continue to send live updates via email to notify of new postings or WebEx activity.

0.10 What types of knowledge use are occurring in each LEARN CoP?
Knowledge use refers to members’ use of CoP-related evidence. Ideal types of knowledge use include conceptual (using knowledge to change awareness and understanding) and instrumental (using knowledge to inform discussions, decisions and action). Other types of knowledge use include symbolic (using knowledge to justify decisions already made) and non-use (not using any form of knowledge).

Members across both CoPs said they do use CoP-related evidence mostly in ways that increase their awareness and understanding of the material (conceptual). Instrumental and symbolic uses of CoP-related evidence occurred some of the time. However, members of the TFSR CoP were significantly more likely to use evidence to justify decisions already made (symbolic use) than YA CoP members and to use evidence that they deemed relevant in this way. See Figure 0.1 below.

Findings also confirmed the theoretical framework guiding the LEARN evaluation (see Figure 2). Specifically, a widely-shared and deeply-held CoP identity predicted knowledge use. This relationship was explained by a shared CoP identity providing an anchor point that members can identify with (organizational identification) and the development of psychological safety. Social capital was also found to partially explain the relationship however this relationship is less clear.

Phase II of the evaluation only assessed use of CoP evidence more generally. LEARN may consider examining what types of evidence members: find most relevant, use and in what ways to ensure members’ knowledge needs are being met. Additionally, qualitative exploration of what factors influence the different types of knowledge use may be worthwhile particularly for informing how to enhance instrumental types of knowledge use.

Figure 0.1: Knowledge Use among Members
0.11 Next Steps

Building upon the findings from Phase II of this evaluation, a qualitative study is recommended to explore the following:

1. Explore why the TFSR CoP seems to be experiencing greater satisfaction and development with respect to the short-term outcomes explored (in addition to the contextual factors described in Appendix 5).
2. Examine the inter-relationships in the confirmed theoretical framework and ascertain what contributes to and detracts from the development of a shared identity, member identification, psychological safety, social capital (e.g., networking, effective interactions, trust), knowledge exchange and use of evidence (particularly instrumental types).
3. Ascertain what degree of CoP unification is optimal for knowledge exchange and use.
4. Ascertain what value added members experience as a result of their CoP participation and whether any unexpected outcomes have resulted as a result of CoP participation.

Findings from a qualitative study will further inform how the LEARN project can support the development of factors that enhance the development of CoPs, knowledge exchange and the use of evidence. Through the quantitative component of this study we identified how CoPs are developing with respect to the short-term outcomes and elucidated CoP members’ impressions of different aspects of CoP functioning. Additionally, we confirmed statistically the theoretical framework guiding the evaluation and the relationships between the theoretical concepts (short-term outcomes) identified in the literature to be important to the development of social organizations and knowledge use. From a practical perspective, developing partnerships to enhance the use of evidence is important to how public health operates. Results from this phase point to factors that are simultaneously important to both developing partnerships and enhancing evidence-informed practice, and also point to areas that LEARN can focus upon to improve the functioning of the CoPs.
Table 0.1: Summary of Key Results and Areas for Improvement

<table>
<thead>
<tr>
<th>Variables &amp; Attributes</th>
<th>What we do well</th>
<th>Where we can grow</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Satisfaction</strong></td>
<td>CoP members are satisfied with the following aspects of their CoP and the LEARN team:</td>
<td>• Increase/facilitate networking opportunities among YA members</td>
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<td></td>
<td>• leadership, resources, guest speakers, content of documents, management of knowledge, shared online space, meetings, added value, and support from employing organization</td>
<td>• Foster sense of ownership through encouraging TFSR member contributions</td>
</tr>
<tr>
<td><strong>Benefits and Drawbacks</strong></td>
<td>Members derive the following top benefits from participating in their CoP:</td>
<td>• Secure needed time and resources to be devoted to CoP-related activities, e.g., by giving members extra time from their professional obligations</td>
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<td></td>
<td>• the acquisition of useful knowledge, the ability to make a contribution to the general community, and the ability to have a greater impact as a group</td>
<td>• Offer members more opportunities to contribute and/or influence CoP-related activities</td>
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<td></td>
<td></td>
<td>• Improve opportunities for the acquisition of additional financial support</td>
</tr>
<tr>
<td><strong>Organizational Identity</strong></td>
<td>• Members of both communities of practice share the identity of their CoPs</td>
<td>• Improve the sense of origin and purpose among members of the TFSR CoP</td>
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<td></td>
<td>• The CoPs create a unique place in the tobacco control community</td>
<td>• Increase YA CoP members’ sense of pride in the CoP’s goals and mission</td>
</tr>
<tr>
<td></td>
<td>• The CoPs have well-defined goals and objectives</td>
<td></td>
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<tr>
<td><strong>Construed External Image</strong></td>
<td>• The CoPs are recognised by the members’ organizations, as well as by the Ministry of Health Promotion and Sport</td>
<td>• Make opportunities for members’ organizations and for the Ministry of Health Promotion and Sport to engage the CoPs</td>
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<td></td>
<td></td>
<td>• Find ways to increase the CoPs’ value and establish a niche within the local-level public health tobacco control community</td>
</tr>
<tr>
<td>Variables &amp; Attributes</td>
<td>What we do well</td>
<td>Where we can grow</td>
</tr>
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<tr>
<td><strong>Organizational Identification</strong></td>
<td>• Members are glad to be part of the CoPs</td>
<td>• Address members’ disconnect with their CoPs when/if the CoPs are being criticized, e.g., by making them more involved personally and directly contributing to all activities and decisions</td>
</tr>
<tr>
<td><strong>Organizational Commitment</strong></td>
<td>• Members feel they ought to stay with their CoP</td>
<td>• Help change members’ perspective from feeling they need or ought to stay with their CoP to wanting to stay</td>
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<td></td>
<td>• Help facilitate emotional attachment between members and their CoP</td>
<td>• Help facilitate emotional attachment between members and their CoP</td>
</tr>
<tr>
<td><strong>Social Capital</strong></td>
<td>• Members understand the purpose and objectives of their CoP</td>
<td>• Increase members’ participation in their CoPs by allowing them more time and flexibility to meet other professional and personal needs</td>
</tr>
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<td></td>
<td>• CoP members successfully interact in spite of belonging to different sectors (e.g., public health, research, policy, community)</td>
<td>• Improve members’ interaction with others in the CoP by encouraging more equal levels of contribution to discussions and meetings</td>
</tr>
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<td></td>
<td>• CoP members generally trust one another</td>
<td>• Improve members’ interaction with others in the CoP by discouraging individual agendas that may not benefit the group as a whole</td>
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<td></td>
<td>• Members experience positive relationships with the LEARN team</td>
<td>• Engage CoP members in regular interactions outside of organized meetings</td>
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<td></td>
<td>• Members feel supported by the LEARN team</td>
<td>• Improve networking opportunities between members who did not know and/or work with each other prior to joining the CoP</td>
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<td></td>
<td>• CoP members feel accepted by the LEARN team</td>
<td></td>
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<tr>
<td></td>
<td>• Members are willing to work with and help the LEARN team</td>
<td></td>
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<tr>
<td></td>
<td>• CoP members look out for the interests of their CoP and the LEARN team as a whole rather than their own interests</td>
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<td></td>
<td>• Members are comfortable with the way decisions are made, and feel included in the process</td>
<td></td>
</tr>
<tr>
<td>Variables &amp; Attributes</td>
<td>What we do well</td>
<td>Where we can grow</td>
</tr>
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</tbody>
</table>
| **Psychological Safety** | - CoP members are accepting of others, even if they are much different in some regard  
- Members find it easy to ask others for help  
- Members feel safe to make mistakes, without this being held against them | - Look for new ways to utilize members’ skills and talents, and acknowledge their value |
| **Knowledge Use** | - Members generally use the evidence they receive in their CoP  
- Members are aware of the knowledge shared within their CoP (e.g., research, evaluation findings, lessons learned)  
- CoP members read and understand the evidence they receive | - Encourage more exchange of ideas and problem-solving with other members  
- Improve members’ access to information about how evidence has been used, in order to facilitate concrete changes in the programs or services delivered by their workplace  
- Encourage members to use provided evidence to inform new decisions in their organizations, as opposed to supporting decisions already made |
| **Relevance of Knowledge** | - The knowledge developed or shared within the CoP is pertinent to members’ professional practice  
- The knowledge meets members’ needs and expectations | - Better understand the needs and expectations of the YA CoP to make the knowledge more relevant to its members |
| **Interaction with Members** | - Majority of CoP members interact with up to 10 others in their CoP | - Encourage interactions between members who do not typically work together, e.g., by facilitating networking activities |
| **Additional Members to Join the CoP** | - Members represent a good mix of organizations on their CoPs (when non-respondents are taken into consideration) | - Recruit new members into the CoP, as deemed appropriate, such as youth, researchers, and government representatives |
| **Overall** | - TFSR CoP respondents generally more satisfied and in higher agreement than YA CoP respondents about the existence of factors that influence the coalescing of a group into a collective and knowledge use | - Investigate reasons for differences between the two CoPs and facilitate positive changes in YA |
1.0 INTRODUCTION

1.1 Background on LEARN Communities of Practice

To foster knowledge exchange in tobacco control, the Program Training and Consultation Centre (PTCC) and the Ontario Tobacco Research Unit developed the Learning through Evidence, Action and Reflection Networks (LEARN) project in 2008. The project aims to build capacity among public health practitioners, their community partners and researchers to integrate research and practice-based evidence in their work, through:

- Facilitating knowledge exchange and innovation
- Supporting the development and enhancement of relationships among public health practitioners, their community partners and researchers
- Documenting practice-based evidence and knowledge to support the implementation of effective practice
- Strengthening the link between research and practice by supporting the use of research-based evidence in practice, and championing practice-based research, thereby generating knowledge based on practice

A key activity of the project has been to establish communities of practice (CoPs) that focus on tobacco-specific issues of interest to Ontario public health practitioners and their stakeholders, thereby providing a structure and focus for the work described above. CoPs are groups of people who come together around common interests to create, share and apply knowledge in order to advance their practice area (Wenger, 1998; Wenger, McDermott & Snyder, 2002).

LEARN CoPs intend to create a ‘platform’ for Ontario tobacco control practitioners, policy-makers and researchers to learn together, share information, ideas and know-how, support each other’s work and problem solve, and enhance the use of evidence. Findings from consultations with Ontario practitioners across the seven Tobacco Control Area Networks (TCANs) were used to guide the development of the CoPs\(^1\). Three provincial CoPs have been established by the LEARN project since Fall 2008:

1. Learning Organizations in Tobacco Control (LO CoP) (fall 2008 – fall 2009),
2. Tobacco Use Reduction for Young Adults (YA CoP) (fall 2008 – present), and

1.2 **Purpose of Evaluation in Phase II**

As a member of the PTCC partnership, the Propel Centre for Population Health Impact™ at the University of Waterloo conducted an evaluation of the LEARN CoPs. Two phases have been completed as part of the broader developmental evaluation of the LEARN CoPs. Phase I was conducted in March 2009 and focused on levels of satisfaction among CoP members regarding the structure of CoPs, content addressed and knowledge exchange opportunities offered.

This report focuses on Phase II of the evaluation. It aims to understand how LEARN CoPs are developing with respect to the following short-term outcomes:

1. How CoPs cohere into a collective (e.g., shared identity, identification, construed external image, commitment, social capital, psychological safety);
2. How the CoPs use CoP-related evidence, with evidence encompassing both scientific and practice knowledge around tobacco-specific interests;
3. How the factors important to a CoP cohering into a collective influence knowledge use;
4. Members’ satisfaction with their CoP; and,
5. Benefits and drawbacks of participation.

Phase II findings contribute to understanding how the two currently functioning LEARN CoPs are developing with respect to fostering provincial-level networking, relationship building and the use of CoP-related evidence, and pointing to areas of possible improvement.

Phase III of the evaluation, scheduled to begin in Fall 2010, will use Phase II findings to inform a qualitative examination that aims to better understand what about LEARN CoPs facilitate or impede networking, relationship building, knowledge exchange and use of evidence so that the LEARN Project can better meet members’ needs.

1.3 **Theoretical Concepts Explored**

This section presents the theoretical framework guiding the developmental evaluation (see Figure 1). The framework was developed based on factors suggested in the literature to be important to communities cohering into a collective and also having an influence on knowledge exchange and use. This section provides an overview of each factor in the framework, their theorized relationships, as well as additional factors that were explored in Phase II of the evaluation, but not included in the framework.
A shared CoP identity is theorized to have an effect on the use of CoP-related evidence (i.e., knowledge use). Members’ identification with their CoP identity, social capital and psychological safety are posited to explain the relationship between a shared CoP identity and use of evidence. The following sections (1.3.1 – 1.3.6) explain these relationships further.

### 1.3.1 Knowledge Use

The far right box in the framework in Figure 1 is entitled *knowledge use* and represents the outcome variable. Knowledge use (i.e., use of CoP-related evidence) takes different forms. Types of knowledge use of interest to the evaluation include: (1) conceptual use, (2) instrumental use, (3) symbolic use, and (4) non-use (Weiss, 1979; Lavis et al., 2003; Manske, 2001; Skinner, 2007; Bonin, 2007).

*Conceptual* knowledge use involves increased learning which affects understanding but does not necessarily result in an immediate effect on one’s behaviour (Manske, 2001; Kramer et al., 2005; Beyer & Trice, 1997). As conceptual knowledge accumulates, it can lead to instrumental use but it is difficult to trace what pieces of learning lead to instrumental use.

*Instrumental* knowledge use involves acting on knowledge in ways that apply it in practice. Instrumental use encompasses engaging in discussions to explore how knowledge might be applied, creating procedures that facilitate use of evidence or using evidence to inform decisions as well as implementing and adapting knowledge to a relevant context (Manske, 2001).
Symbolic use reflects the use of evidence to support decisions that were made for other reasons (Lavis et al., 2003). Non-use occurs when a person or organization deliberately chooses not to use certain knowledge (Manske, 2001).

Several factors influence knowledge use: (1) characteristics of the information (e.g., relevance, timeliness, content) and its source (e.g., credibility), (2) external context (e.g., partnerships, incentives, trends relating to practice area, etc.), (3) internal context (e.g., group or organizational commitment and receptiveness, mandate and priorities, leadership, etc.), and (4) interactive processes (e.g., CoPs which encompass the development of mutual engagement, negotiated enterprise, and a shared repertoire for optimal functioning).

Literature from organizational identity theory, social identity theory, and social capital theory suggest additional factors that are simultaneously important to how members of an entity come together into a unified collective and the creation, exchange and use of knowledge. These factors include: organizational identity, organizational identification, social capital and psychological safety and appear in Figure 1. These factors and their inter-relationships have received limited research attention in the context of CoPs or public health but may add value to better understand how CoPs develop optimally for purposes of relationship building, knowledge exchange and enhancing evidence-informed practice.

1.3.2 Organizational Identity

The framework focuses on shared identity (far left box in Figure 1) and positions it as the independent variable that influences knowledge use (use of CoP-related evidence). Wenger, McDermott and Snyder (2002) assert that building a CoP requires members to interact regularly on issues important to their knowledge domain, or in other words a problem area around which members interact. As members interact, they "develop and maintain a shared sense of identity that is rooted in their shared understanding of the CoP knowledge domain" (Wenger et al., 2002: 31). A shared identity combined with individual perspectives on problems being worked on creates a social learning system that is greater than the sum of its parts (Wenger et al., 2002).

In the organizational identity literature, organizational identity represents the self-reflective questions, “who are we as an organization?” and “what do we want to become?” It is defined as members’ shared understandings of what is central and distinctive about their organization (Albert & Whetten, 1985). A widely shared and deeply held identity has been found to guide consistent sense-making and action among members of a social organization by orienting them to what information or events to pay attention to and act upon. Thus a shared organizational identity is said to “shape the learning process” (Lesser & Storck, 2001: 832).

A widely shared and deeply held identity also provides an anchor point that members can identify with which in turn enhances commitment to the organization and motivation to act favourably on its behalf (see organizational identification) (Dutton, Dukerich & Harquail, 1994; Elsbach, 1999). This concept has been found to: resolve tensions or conflicts across diverse groups more easily (Haddow et al., 2007), retain membership (Cole et al., 2006; Alvesson et al., 2008), and attract other members (if the identity is perceived as valuable or prestigious) (Alvesson et al., 2008).
Additionally, a shared identity has been found to enhance the transfer and adoption of better practices between different groups (Kane et al., 2005; Hong et al., 2009). Lack of shared identity, on the other hand, has been found to create identity-based conflicts that hampered knowledge sharing and mutual learning in the context of CoPs and organizations (Hong et al., 2009; Willem et al., 2008). As a result, a shared identity is posited to play a central role in facilitating both how members cohere into a collective and knowledge use.

Organizational identification, psychological safety and social capital (see three middle boxes in Figure 1) are proposed mechanisms that explain the theorized relationship between a shared identity and knowledge use.

1.3.3 Organizational Identification

Wenger et al. (2002) assert that as members of a CoP interact, they learn together, build relationships, and in the process develop a sense of belonging and mutual commitment. Becoming a member of a CoP and developing a sense of belonging is said to involve a psychological identification process (Wenger, 1998). Social Identity Theory describes the social identification process. Social identity theory posits that people self-categorize themselves into a group(s) and identify with the group(s) when its attributes overlap with aspects of member’s self-concept (Tajfel & Turner, 1986).

Organizational identification is a type of social identification and, as stated earlier, a shared organizational identity serves as an anchor point of comparison between an individual’s self-concept and that of the organization’s self-definition. The perceived overlap is said to lead to member identification (Cornelissen et al., 2007), which creates a sense of oneness with or belonging to the group (Ashforth & Mael, 1989). This means the individual perceives him or herself as psychologically intertwined with the fate of the group, sharing a common destiny and experiencing its successes and failures, and as such is inclined to behave in ways that benefit the group (e.g., engaging in pro-social behaviours such as cooperation and reciprocity) to enhance their personal self-concept (Mael & Ashforth, 1992; Ashforth & Mael, 1989; Phua, 2004).

Consequently, identification with a group is said to increase opportunities for the development of social capital (Nahapiet et al., 1998) since an individual will want to maintain positive experiences as a result of their membership. Additionally, Nonaka and Konno (1998) assert that knowledge creation processes (namely converting tacit knowledge to explicit knowledge through interpersonal interaction) hinge on group integration, and this necessitates members’ experiencing a sense of “oneness” with their group (Nonaka et al., 1998) (see social capital for elaboration). However, people who identify with their own group have been found to view members of other groups less favourably on the basis of stereotypes about group membership rather than the individuals themselves (Bartunek, Trullen, Bonet & Sauquet, 2003). Such “in-group”/“out-group” comparisons may create serious barriers to information sharing, learning, knowledge creation and knowledge integration (Nahapiet et al., 1998; Child & Rodrigues, 1996; Hong et al., 2009; Bartunek, Trullen, Bonet & Sauquet, 2003; Willem, Scarbrough & Buelens, 2008). LEARN CoPs bring together different groups of people (practitioners, researchers, policymakers, community organizations) to work on negotiated goals, which highlight the theorized importance of evaluating whether members are identifying with their CoP.
1.3.4 Social Capital

Knowledge creation is a social process that depends on interactions between people in order to share and exchange their beliefs, ideas, information and knowledge (Nonaka 1994). However, revealing and having to justify one’s thoughts, beliefs and knowledge makes an individual vulnerable to the reactions and critiques of others, which can render the creation and exchange of knowledge a “fragile process” (Nonaka et al., 1998). Continuous interaction and dialogue, shared understanding, mutual trust and reciprocity among members of a group are posited to bind people as members of human networks and communities (Cohen & Prusak, 2001; Wenger, 1999; Wenger et al., 2002) and help to overcome this fragility (Nonaka, 1994; Nonaka et al., 1998).

CoPs are said to be important for the development of social capital (Lesser & Storck, 2001), which encompasses the features of social organization that enable participants to act together more effectively to pursue shared objectives and facilitate coordinated actions (e.g., interaction, trust, etc.) (Putnam, 1993; 1995). Social capital is composed of two dimensions: structural and cognitive. Structural social capital reflects the nature of networks and interactions that develop among members of a social organization (e.g., frequency and importance of interactions). Cognitive social capital includes trust, reciprocity, shared understanding, or the “soft” factors that hold people together (Derose et al., 2009; Daniel et al., 2003). Both types are important to intellectual capital (Nahapiet et al., 1998), knowledge creation, sharing and use (Lesser & Prusak, 1999; 2000).

Granovetter’s (1973) seminal work on the extent of weak and strong ties asserts that people who share a common identity tend to develop strong relationship ties and this concept has been associated with the development of cognitive social capital (Granovetter, 1985). Specifically, a shared identity provides a point of identification that enhances feelings of solidarity and motivates prosocial behaviours such as mutual reciprocity and trusting and cooperative relationships (Putnam, 2000; Derose et al., 2009). Putnam (2000) characterizes such intra-group relationships as bonding social capital and studies reveal that more complex information/knowledge gets shared in groups that exhibit high levels of this kind of social capital (Granovetter, 1973; Nahapiet & Ghoshal, 1998).

Stronger relationships are needed when the meaning of information/knowledge is uncertain and people do not share a common knowledge-base or point of commonality (Cohen & Levinthal, 1990; Nonaka, 1994; Nahapiet et al., 1998). Weak ties exist among people who do not share a common identity, but who are equivalent in terms of status or power (Granovetter, 1973; Derose, 2009). Putnam (2000) characterizes this as bridging social capital and reflects weak inter-group relations that bridge diverse social identities and has been found to promote the exchange of less complex information/knowledge.

Overall, it is suggested that higher levels of social capital are likely to develop in groups or communities with a strong sense of shared identity (Coleman, 1988; Onyx et al., 2000) and enhance the exchange of complex knowledge (Granovetter, 1973). Weak ties are exhibited in groups or communities that do not have a shared identity resulting in the exchange of less complex knowledge (Granovetter, 1973; Putnam, 2000; Derose et al., 2009).
1.3.5 Psychological Safety

In the organizational learning literature, Lipshitz et al. (2002) offer a multi-faceted model of organizational learning. One facet is psychological safety. Psychological safety is a “shared belief in which the group (e.g., team) is safe for interpersonal risk taking” (Edmondson, 1991). Members of a group have confidence that others will not embarrass, reject or punish individuals for speaking up. A team or an organization that experiences psychological safety has been found to enhance knowledge exchange and learning behaviours. In comparison, a lack of psychological safety results in members being less likely to take risks required for learning (Lipshitz et al., 2002; Edmondson 1999).

Members of a social organization who share a common identity may feel safer to partake in interpersonal risk-taking, and as such, shared identity may be a prerequisite for trust building. Creating a climate conducive to psychological safety in CoPs, then, may help CoP members coalesce into a unified collective and help to overcome the fragile nature of knowledge creation and exchange processes (Nonaka et al., 1998).

1.3.6 Organizational Commitment and Construed External Image

Organizational commitment and construed external image are additional factors examined in Phase II of the evaluation but do not appear in the framework because literature suggests they have a more direct effect on how groups coalesce into a unified collective rather than on knowledge use.

**Organizational Commitment**

Wenger et al. (2002) assert that as members of a CoP interact, they learn together, build relationships, and in the process develop a sense of belonging and mutual commitment. When members identify with a group to which they belong, this process gives rise to functional necessities such as solidarity and commitment that help communities cohere (Wenger, 1998). Organizational commitment may be one such functional necessity.

According to Wenger et al., (2002), commitment to a shared knowledge domain (which leads to development of a shared identity) generates a sense of accountability to the development of practice. Without this commitment a community is just a group of friends. In the organizational identity literature member identification with an organization’s identity has been found to give rise to member commitment to the organization (Foreman & Whetten, 2002).

Commitment is said to be a psychological state that characterizes the individuals’ relationship with their organization and has implications for the decision to stay with or leave the organization (Meyer, Allen, Smith, 1993; Cole et al., 2006). Different forms of organizational commitment have been identified, including: (1) affective commitment (members who want to stay with the organization), (2) continuance commitment (members who need to stay), and (3) normative commitment (members who feel they ought to stay). Understanding whether and how members commit to their CoP has implications for whether and why they will continue their participation in the CoPs.
Construed External Image

Construed external image reflects how members of an organization perceive that external stakeholders view their organization. This concept stems from the “looking-glass self” theory (Cooley, 1902, cited in Hatch & Schultz, 2004). This theory, extrapolated to the organization-level, posits that members’ shared understandings of organizational identity are, in part, based on how external others view them.

The premise of the theory is that “when we selectively draw upon the theme of how others see us, it serves as a key element in answering the question ‘Who are we?’ and ‘Who am I?’” (Alvesson et al., 2008: 6).

Discrepancies between members’ perceived organizational identity and the image they see reflected back to them (construed external image) has been found to prompt action to balance the scales and reclaim a positive sense of the organizational self, particularly if they feel pride in their understandings of ‘who we are’ as an organization (Gioia et al. 2000; Hatch et al., 2004; Albert et al., 1985). Specifically, when members perceive that external others view their organizational identity positively this enhances their self-esteem and reinforces their identification with their organization. In turn, this motivates them to take favourable action on behalf of the organization (Dutton et al., 1991; Alvesson et al., 2008; Kärreman et al., 2008). In contrast, a negative construed external image has been found to either cause feelings of low self-esteem, powerlessness, or misidentification when members do not strongly identify with their organization and its identity (Humphreys et al., 2002).

LEARN CoPs involve representatives from organizations important to the Ontario public health tobacco control system (e.g., public health practitioners, researchers, decision-makers). Understanding whether positive construed external image exists is important to members’ feelings that their CoP is a legitimate entity within the tobacco control system. Such feelings may reinforce their identification with their CoP and ensure their continued participation.

2.0 METHODOLOGY

2.1 Sampling and Design

At the time of the survey, the two LEARN Communities of Practice (Tobacco Use Reduction for Young Adults and Tobacco-Free Sports and Recreation) had a total membership of 64 participants. Those who attended at least one meeting (n=56) were invited to participate in the web survey. Four members declined participation, and 23 members in the YA CoP and 12 members in the TFSR CoP responded. A total of 35 members across both CoPs completed the survey, representing a 63% response rate.

To ensure uptake of the developmental evaluation findings by key stakeholders, a utilization-focused approach was employed. The LEARN team and members of the respective CoPs are the primary stakeholders. These stakeholders were engaged during the evaluation development process to discuss the evaluation plan and get their feedback on what they wanted to evaluate.
2.2 Research Questions
This report provides the results of Phase II of the developmental evaluation, which seeks to examine the following evaluation questions:

1. How satisfied are members with their CoP and what barriers and benefits do they experience?
2. To what extent do select factors that are important for CoPs cohering into a unified collective exist in each CoP?
   a. To what extent has a shared identity (i.e., shared understanding of who we are as a community) developed in each CoP?
   b. To what extent do members identify with their CoP?
   c. To what extent do members experience commitment to their CoP and in what ways?
   d. To what extent do members experience a positive construed external image?
   e. To what extent does structural social capital (e.g., provincial-level networking) and cognitive social capital (e.g., mutual trust and reciprocity) exist in each CoP?
   f. To what extent do members experience psychological safety?
3. What types of knowledge use are occurring in each LEARN CoP?
4. How does a shared identity, identification, commitment, construed external image and social capital influence knowledge use?

2.3 Data Analysis
Please contact the authors of this report for details on the measures used in the analysis. The following sections describe the statistical analyses conducted on the survey data.

2.3.1 Internal Consistency of Measures
Each set of items was assessed for internal consistency (i.e., reliability) by calculating Cronbach’s coefficient alpha (α) in order to identify a parsimonious number of items defining the category that maximized its reliability. The minimum acceptable criterion of 0.70 was used as recommended by Nunnally and Bernstein (1994). Although some of the measures were not designed to act as a multi-dimensional scale instruments and/or had too small a sample to conduct reliability analyses (i.e., need a minimum of 5 respondents per response category), the alpha calculations were used as a test and a reference point.

2.3.2 Descriptive Statistics for Demographic and Theoretical Concept Variables
Frequency distributions and descriptive statistics were computed for all demographic characteristics of the sample (and within each CoP). Descriptive statistics were also computed for each theoretical concept variable (e.g., shared identity, identification, organizational commitment, construed external image, psychological safety, social capital, and knowledge use) in each CoP. Due to a small sample size (n=35), each theoretical concept variable was computed into a composite measure for further analyses. These variables were examined within each community of practice as a point of reference in understanding possible group dynamics between
members. Each theoretical concept variable was first examined separately, while the satisfaction variable was given additional attention and level of detail due to past evaluation of members’ satisfaction with aspects of their community of practice, which was conducted by the LEARN team.

2.3.3 Differences between LEARN CoPs

We examined descriptive statistics (i.e., Means) that pointed to possible differences between the two CoPs. T-test analyses were computed to determine whether the two CoPs differ statistically on any of the theoretical concepts. For instance, does one CoP more than the other demonstrate higher levels of satisfaction or shared identity among their members? Finally, based on statistically significant differences between the two CoPs on six concept variables, we examined via t-test and ANOVA analyses whether demographic variables play a role. We considered the following variables: (1) the organization represented on the CoP (whether TCAN, LPHA, or other), (2) the length of membership in the CoP (4 to 11 months, 1 year, 1.1 to 2 years), (3) the length of experience in tobacco control (4 months to 1.99 years, 2 to 4.99 years, 5 to 20 years), (4) the length of time in the current position (4 months to 1.5 year, 1.6 to 4.7 years, 4.8 to 30 years), and (5) the amount of interaction with other members in the CoP (1 to 5 members, 6 to 15 members).

2.3.4 Testing of Theoretical Framework

Finally, we used Baron and Kenny’s (1986) four-step approach to mediation analysis via multiple linear regression to test the relationships portrayed in the theoretical framework. Specifically, the mediation analysis was set out to test whether shared identity leads to knowledge use, and if so, what mechanisms or mediating variables explain that relationship. In other words, the framework helped us test if an independent variable leads to an outcome variable through the hypothesized mediators derived from the literature.

3.0 SAMPLE CHARACTERISTICS

Overall, the sample consisted of a majority of women (76.9%) and almost half of the participants were between 31 and 40 years of age (42.3%), followed by young adults between the ages of 20 and 30 years (26.9%). See Table in Appendix 1.1.a for a demographic profile of each LEARN CoP.

All participants possessed a high level of education, holding at least an undergraduate degree (42.3%), while most possessed graduate education (57.5%). The majority of respondents were public health practitioners from an Ontario Local Public Health Agency (53.8%) or working for an Ontario Tobacco Control Area Network (TCAN) (23.1%). Fewer respondents worked for university/research institutions (7.7%) and non-governmental agencies (3.8%). TFSR CoP respondents represented five different TCANs and YA CoP respondents represented four TCANs. Overall, six out of seven TCANs were represented in the survey with no respondents from the Toronto TCAN.

The YA CoP which was established earlier (September 2008) had a higher response rate (53.8%) than the TFSR (34.6%), which was created in May 2009. Three respondents (11.5%) were “boundary spanners” who participated in both communities of practice. The majority of
respondents had been members of their CoP for up to 1.5 years (52%), followed by 4 to 10 months (36%), and a minority were members for up to two years (12%).

Generally, respondents did not have lengthy experience in tobacco control (TC), specifically. A majority reported between four months and two years TC experience (44%), with most individuals falling in the 2-year category (YA 40%, TFSR 50%). The second highest category of respondents’ experience in tobacco control was between four and six years (20%) and only two members had a lengthy experience between 15 and 20 years (8%).

Similar to their length of experience in tobacco control, a majority of respondents report having spent 4 months to 2 years in their current position (58.3%), again with most members falling in the 2-year category (12.5%). The second highest category of respondents’ time in their current position was between two and six years (20.8%), which again resembles their length of experience in tobacco control. Only two members had worked in their current position for an extended period of time, that is, between 10 and 30 years (8.4%). When asked how many CoP members respondents regularly interacted with, most indicated interacting with one to five members (58.8%), and 35.3% interacted with 6 to 10 members. Another 23.5% of respondents interacted with 2 members only.

### 3.1 Demographic Differences between the two CoPs

When examining each of the two CoPs separately, they reveal some unique aspects. While members of the YA CoP were predominantly women (93.8%) of all ages, members of the TFSR were equally divided between men and women (50%) but most fell in the age category of 31 to 40 years (60%) and no one was in the 50+ category.

Both CoPs had members with a high level of education; however, the majority of YA members possessed graduate education (62.5%) compared to 50% of those of the TFSR CoP. The CoPs were similar in their members predominantly representing the Local Public Health Agency/TCAN, as well as a minority also representing provincial government agencies and university/research institutions. Nevertheless, the YA had more variety with 6.3% from non-governmental agencies and 6.3% from other organizations.

Two respondents from YA and one from TFSR were “boundary spanners” who participated in both communities of practice. The YA CoP respondents reported being participants between 11 months and 1.5 years (53.3%), while the length of TFSR membership was equally split between 4 to 10 months (50%) and the 11 months that the CoP had been operating (50%).

Similar to the length of CoP membership, the older YA CoP’s members had a wide range of years of experience in tobacco control, with some having as much as 10 to 20 years (26.6%). This is in comparison to the TFSR members’ length of experience which stopped at 10 years (100%). Nonetheless, most respondents in both CoPs had between four months and two years of experience in tobacco control (40% YA and 50% TFSR).

Very similar patterns were observed in members’ length of time in their current position. While some members of the YA CoP had worked in their current position for as long as 30 years,
members of the TFSR CoP spent up to 10 years only, again with most members spending 4 months to 2 years in their current position (57.1% YA and 60% TFSR).

Respondents in the TFSR CoP reported interacting with more members (11 to 15 members, 11.1%) than the YA CoP respondents (6 to 10 members, 25%). Whereas the majority in the YA CoP reported interacting with 1 to 5 members (75%), the majority of those in the TFSR CoP interacted with up to 10 members (88.8%).

3.2 Differences between Respondents and Non-Respondents

In view of our response rate (63%), we wanted to determine whether members’ representation may be biased between those who participated in our survey (n=35) and those who did not (n=22). Consequently, we examined non-respondents looking at some of their characteristic attributes, both organizational and demographic (i.e., their organization, region, and gender), which would alert us of possible sample bias. See Table in Appendix 1.1.b.

Whereas the majority of respondents represented a Local Public Health Agency (53.8%), many non-respondents were members of other organizations (approximately 50%) such as: university and research institutions, community-based service organizations, non-governmental agencies, provincial agencies and others. However, a t-test analysis revealed there is no statistically significant difference between these two groups (t=-1.765, p=.085).

Both groups of respondents (76.9%) and non-respondents (77.3%) consisted of a majority of women, and not surprisingly the t-test revealed no difference between these groups (t=-.028, p=.978). With respect to TCANs that CoP members represent, the low number of respondents in categories of this variable (one in three cases) made it difficult to examine statistically significant differences. However, both respondents and non-respondents represent six out of the seven TCANs.

4.0 EXAMINATION OF THEORETICAL CONCEPTS

We examined each theoretical concept in the framework guiding the evaluation (Figure 1) as well as additional aspects, including organizational commitment, construed external image, satisfaction and benefits and drawbacks of participation. Analyses were conducted overall for both CoPs, as well as separately for each CoP. We looked at frequency distributions and descriptive statistics of individual items within each measure. We then correlated the items and determined their reliability to see whether they are consistent in measuring the intended concept, and then computed the items of each theoretical concept variable into a composite measure to allow for further analyses. See Table in Appendix 1.2.a for a summary of comparisons between the two CoPs on these computed variables.

4.1 Satisfaction

Looking at the satisfaction measure, members of both CoPs were predominantly satisfied with all aspects of their communities of practice. See Table in Appendix 1.2.a. However, members of the TFSR were consistently more satisfied with all aspects of their CoP (Mean>4.00) than were members of YA (Mean>3.00). The small sample size in the TFSR may be creating some bias
reflected by these results. The following summarizes the findings of each component of the satisfaction survey.

4.1.1 Content Addressed in CoPs

Overall, members of TFSR were more satisfied (M=4.04) with all aspects of their CoP (t=-2.680, p=.024) than were members of the YA CoP (M=3.52). On average, members of both CoPs were most satisfied with the content addressed in their CoP (M=4.13), (TFSR M=4.33, YA M=4.03). The content of documents provided by the LEARN team also received high satisfaction ratings in both CoPs (M=4.13).

4.1.2 Member Roles and Ownership

Within the member roles category, members’ from both CoPs were more satisfied with the clarity of their co-leaders’ role (M=3.82 in YA; M=4.22 in TFSR) and the importance of the co-leaders’ roles (M=3.82 in YA; M=4.22 in TFSR) than they were about the clarity of their own role (M=3.24 in YA; M=3.56 in TFSR) or the importance of their role in their CoP (M=3.35 in YA; M=3.78 in TFSR). However, members from TFSR reported greater satisfaction on these items than (M=3.94) than did YA CoP members (M=3.56). When asked how satisfied they were with their feelings of ownership of their CoP, members from both CoPs were neutral (M=3.38).

4.1.3 Knowledge Exchange and Membership Recruitment

In terms of knowledge exchange, members were most satisfied with guest speakers (M=4.00) and the range of resources (M=4.12) available to them. As already stated, the content of documents provided by the LEARN team also received high satisfaction (M=4.13). Opportunities to learn about innovative projects or initiatives (M=3.85) or to share their work (M=3.77) with others in the CoP approached ‘satisfied’ ratings, with members from TFSR CoP reporting greater satisfaction. When asked how satisfied they were with the decision to keep the number of CoP members relatively low to enable high quality CoP meetings and knowledge exchange, members from TFSR CoP were satisfied (M=4.11) while YA CoP members were more neutral (M=3.47).

4.1.4 Networking

On average, members across both CoPs were neither satisfied nor dissatisfied with the networking opportunities in their CoP (M=3.41). Within TFSR CoP specifically, members reported being satisfied with opportunities to network with practitioners and researchers but were neutral about decision makers. YA CoP members were neutral or unsatisfied with these opportunities. When members were asked if they would like to see additional people join their CoP, the majority selected researchers (11.4%) and government representatives (11.4%), and a few suggested youth in general (8.6%). Whereas members of the YA also wanted to see international professionals (4.3%) and others outside of public health (4.3%) participate in their CoP, members of TFSR wished for health professionals (16.7%) to join their CoP.

4.1.5 Support

On average, members were satisfied with the support they received, particularly with the management of knowledge generated by their CoP (M=4.23) and the shared online space
provided by their CoP (i.e., WebEx) (M=4.28). Again, members from the TFSR CoP reported feeling satisfied compared to YA who were neutral with respect to the way CoP meetings are scheduled, the operation of face to face meetings and teleconferences, the facilitation of CoP meetings and diversity of expertise available to them. However, members from both YA (M=3.69) and TFSR CoPs (M=3.67) were neutral about the financial resources available to facilitate the functioning of their CoP (M=3.68).

4.1.6 Organization of Meetings

In terms of organization of meetings, members were most satisfied with the length of meetings (M=3.84); however, members from both CoPs were more neutral about the balance between face to face and teleconference meetings, (M=3.38 for YA and M=3.56 for TFSR).

4.1.7 Organizational Support

On average, members were satisfied with the level of organizational support provided by their employing organization (M=3.88) and less so regarding support from the Ministry of Health Promotion and Sport (M=3.20).

4.1.8 Value Add

Overall, members were neutral about the value they are gaining by being a part of their CoP (M=3.64). TFSR CoP members report being more satisfied (M=4.11) compared to YA (M=3.38).

4.1.9 Areas of Dissatisfaction

Whereas most members were generally satisfied with all aspects of their communities of practice, it is important to examine any areas of dissatisfaction so that changes can be made towards improvement. Table 1 examines this issue. Overall, TFSR members were generally very satisfied with all areas of their CoP whereas those in the YA reported being very satisfied with just five out of ten areas assessed. Additionally, compared to one member in the TFSR being unsatisfied with the ownership of his/her CoP, a total of seven members of the YA were unsatisfied with member recruitment, networking, ownership, organization of meetings, and added value of their participation. Due to the small sample size, this number is significant and warrants further investigation (e.g., through interviews).

Table 1: Highest and Lowest Satisfaction among the two Communities of Practice, YA (n=23) and TFSR (n=12)

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2 Additional analyses were run by Kirsten Sears for a poster presentation at the Canadian Public Health Association 2010 Conference. Her poster compared member satisfaction over time for the YA CoP. CoP members satisfaction was assessed in March 2009 and compared with findings from the current 2010 survey. Findings revealed a reduction in satisfaction from Time 1 to Time 2.
### Developmental Evaluation of LEARN Communities of Practice

#### July 2010

<table>
<thead>
<tr>
<th>Satisfaction Characteristics</th>
<th>YA Community of Practice</th>
<th>TFSR Community of Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very satisfied</td>
<td>Very or unsatisfied</td>
</tr>
<tr>
<td>Member Roles</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Member Recruitment</td>
<td>✓</td>
<td>2 ✓</td>
</tr>
<tr>
<td>Knowledge Exchange</td>
<td>✓</td>
<td></td>
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<tr>
<td>Addressed Content</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Networking</td>
<td>1 ✓</td>
<td></td>
</tr>
<tr>
<td>Ownership</td>
<td>2 ✓</td>
<td>✓</td>
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<tr>
<td>Support</td>
<td>✓</td>
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<td>Organization of Meetings</td>
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<td></td>
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<tr>
<td>Value Added</td>
<td>✓</td>
<td>1 ✓</td>
</tr>
<tr>
<td>Organizational Support</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** A check mark refers to the highest and lowest category from “very satisfied” to “very unsatisfied” selected by the respondents; numbers “1” and “2” refer to the options of the Likert-type scale: “very unsatisfied” and “unsatisfied”.

To understand the relationship between categories of the satisfaction measure, a Correlation test was employed. See Table in Appendix 1.2.b. Inter-item correlations between the ten categories of satisfaction revealed all positive relationships, only half of which were significant (p<.05). Examples of interest include the relationship found between added value and networking (r=.708, p<.001) and between added value and ownership (r=.399, p=.048).

The relationship between added value and networking is not surprising due to members’ expressed interest in networking and its importance to individual careers. The relationship between added value and members’ ownership of the CoP suggests that members may take fuller ownership of their CoP (and therefore may wish to contribute more to its success) only as far as they see added value in their efforts.

Consistent with the intent to measure aspects of satisfaction, the reliability analyses revealed high internal consistency of the items within each of the categories of satisfaction and of the overall measure of satisfaction. See Table in Appendix 1.2.c for results and interpretation.

#### 4.1.10 Benefits and Drawbacks

Overall, members across both CoPs reported greater benefits than drawbacks about their CoP participation. TFSR CoP members consistently reported higher agreement with all benefits for participating in their CoP compared to YA CoP, with the exception of the acquisition of financial support. See Table in Appendix 1.3.a. This evaluation did not attempt to capture responses from
individuals who attended one meeting of the CoP, and then did not continue. While they would not have the opportunity to experience the full range of benefits of the CoP, their choice not to continue likely indicates that drawbacks outweighed benefits for them.

On average, members of TFSR (M=4.67) and YA (M=3.88) see the acquisition of useful knowledge as the main benefit of their participation in the CoP. Members from both communities disagreed that the acquisition of additional financial support was a benefit of CoP participation (YA M=2.94, and TFSR M=2.89), and so this area might be explored if members feel that this is important to advancing their practice.

Members reported few drawbacks. Drawbacks highest on the list for both CoPs included: CoP participation creating a diversion of time and resources from other obligations (M=3.53 for YA; M=2.89 for TFSR) and having insufficient influence in the CoP activities (M=2.65 for YA; M=3.11 for TFSR).

To examine the relationship between items within the measures of benefits and drawbacks, a separate Correlation test was employed in each case. Inter-item correlations between the 11 benefit items and the 6 drawback items revealed all positive relationships, the majority of which were significant (p<.05).

Reliability analyses within benefits and drawbacks revealed high internal consistency of the items in each measure and of the overall measures. See Table in Appendix 1.3.b for results and interpretation.

4.2 Shared Organizational Identity

Within the measure of strength of organizational identity, members from each CoP approached agreement that there is a widely shared and deeply held CoP identity (M=3.73 YA; M=3.94 TFSR). See Table in Appendix 2.1.a for details. Looking at each CoP, the TFSR CoP consistently demonstrated significantly higher agreement with all identity-related items compared to the YA CoP.

Both YA (M=3.94) and TFSR CoP respondents (M=4.10) agreed that their respective CoPs have well-defined goals and objectives. However, members from the TFSR CoP approached agreement (M=3.89) while YA members (M=3.11) were neutral when asked if there is a sense of pride in CoP goals and mission among members. A similar trend emerged when asked whether members talk about the CoP to outsiders with great enthusiasm.

To examine the relationship between items of the organizational identity measure, a Correlation test was employed. Inter-item correlations between the six items of organizational identity revealed all positive relationships, the majority of which were significant (10 out of 15 relationships, p<.05). All correlations that were not statistically significant were among items addressing the CoP’s well-defined goals and objectives, which may suggest more work needs to be done in this area to identify a stronger conceptual basis of items making up this concept.
Consistent with the intent to measure aspects of organizational identity, the reliability analyses revealed high internal consistency of the items and of the overall measure. See Table in Appendix 2.1.b.

### 4.3 Organizational Identification

On average, members neither agreed nor disagreed that they identify with their respective CoP ($M=3.29$). See Table in Appendix 2.2.a. Looking at each CoP, members of the TFSR consistently demonstrated higher agreement with all aspects of their identification with the CoP ($M=3.75$) compared to the YA CoP ($M=3.05$). However, members from both CoPs felt glad to be a member of their community.

While TFSR members agreed that they feel proud to be a member of their CoP ($M=4.33$), are sufficiently acknowledged in their CoP ($M=4.20$), and experience their CoP’s successes as their own ($M=3.80$), YA members generally neither agreed nor disagreed with these statements.

In comparison to TFSR CoP member’s neutral averages, YA CoP members disagreed (although approached neutral ratings) when asked if they experience feeling: (a) a sense of personal accomplishment when someone praises their CoP ($M=2.78$), (b) strong ties with their CoP ($M=2.72$), and, (c) a strong sense of belonging to their CoP ($M=2.78$). These findings suggest areas of challenge within the YA CoP.

Consistent with the intent to measure aspects of identification, the reliability analyses revealed very high internal consistency of the items and of the overall measure. See Table in Appendix 2.2.b.

### 4.4 Organizational Commitment

Overall, a neutral level of agreement with statements pertaining to organizational commitment was found within each CoP ($M=3.28$ YA; $M=3.53$ TFSR). Among the three types of organizational commitment, normative commitment was the highest among both CoPs ($M=2.84$) (YA ($M=2.76$) and TFSR ($M=2.96$)). See Tables in Appendix 1.1.c for overall comparisons and Appendix 2.3.a for details on each item. This finding demonstrates most members feel they ought to stay with their CoP. However, this is not a uniform finding since some members strongly disagree with these statements and no one expressed strong agreement.

Continuance commitment, which reflects the feeling that members need to stay with the CoP because of the time and effort they have already invested, received the lowest support within YA ($M=1.75$) and TFSR ($M=1.60$). This is a positive finding since we would like members to want to stay with their community (i.e., affective commitment), as opposed to feeling that it is more costly to them if they leave given investments made through their participation.

However, members within YA ($M=2.34$) or TFSR ($M=2.63$) did not feel affective commitment whereby members continue to participate because they want to stay.

The reliability analyses revealed low internal consistency of most items and of the overall measure. See Table in Appendix 2.3.b. The low levels of reliability are due to these items measuring different types of commitment as opposed to the same conceptual construct.
4.5 Construed External Image

On average, members across both CoPs were neutral about how positively they feel external stakeholders, specifically their organization (M=3.56) and the Ministry of Health Promotion and Sport (M=3.30), view their CoP. See Table in Appendix 2.4.a.

However, members across both communities did feel that their organization (M=4.20) and the Ministry of Health Promotion and Sport (M=3.92) are aware of the existence of their CoP. Both CoPs also felt that their organization is aware of what their CoP does (M=3.72), has an interest in their CoP’s projects and activities (M=3.84), and values their CoP as an important source of knowledge exchange among practitioners (M=3.96). In comparison, members’ perceptions of how the Ministry of Health Promotion and Sport views their CoP with respect to these three items fell in the neutral range. Additionally, members from both CoPs did not disagree nor agree (neutral) that their organization (M=3.44) and the Ministry of Health Promotion and Sport (M=3.28) viewed their CoP as highly reputable.

Members indicated that both their organization (M=2.20) and the Ministry of Health Promotion and Sport (M=2.40) did not engage their CoP to the extent that they expect. Members across both CoPs also felt that their own CoPs were struggling to find their niche in the Ontario public health tobacco control community and provide value to it (M<2.0). These findings indicate that members do not see their CoP as legitimate.

Reliability analyses revealed high internal consistency of the items and of the overall measure. See Table in Appendix 2.4.b.

4.6 Structural and Cognitive Social Capital

Two types of social capital were assessed: structural and cognitive. Structural social capital reflects network ties that have evolved as a result of CoP participation while cognitive social capital reflects feelings of trust, reciprocity and shared understanding among CoP members. See Table in Appendix 2.5.a for findings.

4.6.1 Structural Social Capital

With respect to structural social capital, members from both YA (M=3.83) and TFSR CoPs (M=4.33) understand the purpose and objectives of their CoP. While YA CoP respondents neither agreed nor disagreed that there was a clearly defined process for identifying common needs and priorities of its members (M=3.52), the TFSR CoP respondents felt such processes are in place (M=4.08). This difference may be reflective of the fact that the TFSR CoP met in early April 2010 (during the time of the survey) to identify learning needs through the development of a learning agenda, whereas the YA CoP had not yet had such a meeting.

When asked whether there is a participative spirit in their CoP, YA members neither agreed nor disagreed (M=3.39) while TFSR approached agreement (M=3.92). Members from the YA CoP reported interacting with a few CoP members compared to TFSR who said quite a few. Members from both CoPs also indicated that they had few pre-established connections with members prior to joining and that they had made few new connections as a result of CoP participation. However, connections that members do have are important to them for the purposes of their
work and knowledge exchange but improvements could be made to increase their awareness of the knowledge and skills that most members bring to their community.

In terms of quality of relationships, YA members experienced positive relationships with quite a few CoP members (M=2.90) and the LEARN team (M=2.85). In comparison, TFSR members experienced positive relationships with many LEARN team members (M=4.09), and quite a few members in their CoP (M=3.36). When asked what it would take to inspire greater member interactions, half of members from both CoPs said less conflicting schedules. With respect to sharing information, members from the YA CoP indicated that differences in agendas and levels of experience challenge such processes but that greater interactions between members would make them feel safer to share what they know.

### 4.6.2 Cognitive Social Capital

With respect to cognitive social capital, members from the YA CoP experienced feelings of support, acceptance, high levels of trust, and shared understanding with quite a few members of their CoP and the LEARN team. They also were willing to work with or help members of these groups. In comparison, TFSR members experienced these feelings with many of the LEARN team members, and with quite a few members of their CoP.

Overall, areas of concern among both CoPs include: a limited number of new connections made with CoP members, limited interaction with members and the LEARN team, insufficient awareness of fellow members’ knowledge and skill base, varying levels of contribution to discussions and meetings, and different agendas held by individual members.

Looking at correlations between the two types of social capital (structural and cognitive), as well as the overall composite measure of social capital, all variables are positively and significantly related (p<.001). See Table in Appendix 2.5.b. This finding indicates that both types are related conceptually and contribute overall to social capital among members. Consequently, aspects of both types are desirable for members to successfully build their trust and shared understanding, and to encourage their personal interactions and strengthen ties.

Reliability analyses revealed very high internal consistency of most items and of the overall measure. See Table in Appendix 2.5.c.

### 4.7 Psychological Safety

Members of both CoPs (M=4.02), as well as within each CoP (YA M=3.88, TFSR M=4.27), demonstrated high psychological safety compared to the other theoretical concepts examined in the survey. See Table in Appendix 2.6.a. Moreover, all responses to statements within psychological safety ranged from neutral to strong agreement, which further portrays members’ uniform feelings in this regard.

On average, members felt that fellow CoP members are accepting of others, even if they are much different in some regard (YA M=4.24, TFSR M=4.70), find it easy to ask others for help (YA M=4.19, TFSR M=4.50), and feel safe to make mistakes without this being held against them (YA M=4.12, TFSR M=4.44). Looking at each CoP, TFSR members consistently
demonstrated higher agreement with all aspects of psychological safety related to their CoP, compared to the YA CoP.

Areas of possible improvement within the YA CoP include members feeling safe to take risks (M=3.41) (e.g., speaking up, sharing thoughts and ideas, admitting lack of knowledge or errors) as well as utilizing members’ skills and acknowledging their value (M=3.25). The latter reflects previous findings which suggest needed improvements in terms of increasing awareness of CoP members’ knowledge and skills (see social capital), and members’ feeling sufficiently acknowledged (see organizational identification).

The reliability analyses revealed high internal consistency of the items and of the overall measure. See Table in Appendix 2.6.b.

4.8 Knowledge Use

On average, members more often engaged in conceptual knowledge use across both CoPs (M=3.87) and within each CoP (YA, M=3.68; TFSR M=4.20). See Tables in Appendix 1.1.c and Appendix 2.7.a. This means that members often receive, share, are aware of how to access, and read and understand CoP-related evidence. Although members of both CoPs expressed strong agreement with conceptual knowledge statements, response patterns within the TFSR were much more uniform (often to always) than the YA CoP (seldom to always).

CoP-related evidence was used instrumentally some of the time within each CoP (YA M=2.99; TFSR M=3.39). This means that members sometimes make effort to: cite CoP-related evidence to colleagues, promote the adoption of evidence and adapt evidence, make evidence-informed decisions and changes to programs and services. Symbolic knowledge use, or using CoP-related knowledge to justify decisions already made, occurred some of the time in both CoPs (YA M=2.76; TFSR M=3.67). Non-use received the least agreement across members from both CoPs (M=1.58), which is a positive finding indicating members do use the evidence they receive.

In regards to relevance of CoP-related knowledge, members of the YA CoP see this knowledge as being pertinent to their professional practice some of the time (M=3.65), and that it sometimes meets their needs and expectations (M=3.24). In comparison, TFSR CoP felt that CoP-related knowledge was often relevant (M=4.15).

Correlations between the types of knowledge use (conceptual, instrumental, symbolic, non-use), and relevance of this knowledge were computed. The only significant relationship found was between relevance of knowledge and symbolic knowledge use (r=.522, p=.006). This means that CoP-related evidence that is deemed relevant is used to support decisions that have already been made. See Table in Appendix 2.7.b. It would be more desirable to demonstrate relevance of conceptual or instrumental knowledge.

To compute reliability, items within symbolic knowledge use (i.e., support for decisions already made) and non-use were not included as these categories are opposite to the more desirable conceptual and instrumental types of use. Reliability analyses revealed very high internal consistency of the items and of the overall measure. See Table in Appendix 2.7.c.
5.0 DIFFERENCES BETWEEN YA AND TFSR COMMUNITIES OF PRACTICE

Differences between the two CoPs with respect to each concept assessed in the survey were computed. We conducted t-tests on each concept and found seven statistically significant (p<.05) differences between the YA and TFSR CoPs. See Table in Appendix 3.1.a for summary of results.

TFSR CoP members had a significantly stronger sense that their CoP’s identity is widely shared and deeply held by members of their community compared to YA members (t=-2.345, p=.032). This finding may be a result of the many years of collaborative activity in TFSR, before a community of practice was officially established.

Members of TFSR CoP were also significantly more satisfied overall with their CoP and the LEARN team than YA members (t=-2.680, p=.024). Looking at the characteristics of satisfaction, YA members are very satisfied with: member roles and recruitment, addressed content, received support, and added value, whereas TFSR members are very satisfied with all areas. This finding is also surprising because one would expect that the older CoP would have had more time to work out any problems since it was established in September 2008.

Overall social capital, or in other words the social connections between CoP networks are significantly more developed among members of the TFSR CoP compared to the YA (t=-2.110, p=.047). This is not surprising given the high percentage of TFSR members interacting with 6 to 15 members (55.5%), compared to only 25% of YA respondents in this category. More specifically, structural social capital is more established within the TFSR CoP (t=-2.190, p=.040).

Psychological safety is the highest-ranking concept among both CoPs, however, members from the TFSR CoP were significantly more likely to feel safe to take interpersonal risks in their community than YA CoP members (t=-3.948, p=.001). This finding further supports the high number of interactions by TFSR members who must have established some trust and confidence, and share a high level of acceptance even in view of occasional mistakes.

With respect to knowledge use, members of the TFSR CoP were significantly more likely to use CoP-related evidence symbolically than the YA CoP (t=-2.172, p=.045). This means that TFSR members more often used CoP-related evidence to justify decisions that had already been made compared to those in the YA CoP. Additionally, TFSR CoP respondents found CoP-related knowledge to be more relevant than YA respondents (t=-2.556, p=.019), although this may be in relation to symbolic knowledge use being the only significant finding among all types of knowledge use and non-use.

6.0 INFLUENCE OF SELECT DEMOGRAPHIC CHARACTERISTICS ON THEORETICAL CONCEPTS AND CATEGORIES

Additional analyses were conducted using t-tests and ANOVA tests to examine whether demographic differences account for the statistically significant findings found between the two
CoPs (see Appendix 3.1.a). The demographics examined include: (1) organizational identity, (2) satisfaction, and (3) social capital (overall).

Looking at possible organizational factors: (1) organizations represented on members’ CoP (see Appendix 3.1.b), (2) length of membership in the CoP (see Appendix 3.1.c), (3) length of experience in tobacco control (see Appendix 3.1.d), and (4) length of time in members’ current position (see Appendix 3.1.e), we found only one significant difference (p<.05) between members within the satisfaction measure. Members with 2 to 4.1 years of experience in tobacco control were more satisfied overall with aspects of their CoP and the LEARN team compared to those with 5 to 20 years of experience (F=4.008, p=.034). Earlier analyses (see satisfaction variable, Table in Appendix 3.1.a, and length of experience in tobacco control in Appendix 1.1.a) indicate these members belong to the TFSR CoP.

Looking at demographic characteristics of CoP members: (1) amount of interaction (see Appendix 3.1.f), and (2) gender (see Appendix 3.1.g), we found four significant differences (p<.05) among members. Members who interact with 6 to 15 people perceived a stronger sense of shared identity within their CoP (t=-2.402, p=.035), were more satisfied (t=-3.493, p=.007), and felt more safe to take inter-personal risks within their CoP (i.e., experienced greater psychological safety) (t=-2.759, p=.015) compared to members who interact with 1 to 5 members only. Moreover, males experienced greater psychological safety than women (t=2.273, p=.032).

7.0 RELATIONSHIP BETWEEN THEORETICAL CONCEPTS

This section explores the relationships between the concepts theorized to simultaneously influence how CoPs cohere into a unified collective and the use of evidence (knowledge use) via correlation analyses and mediation analysis using Baron & Kenny’s (1986) four-step approach (described below).

Correlations were computed for all variables examined in the survey (including satisfaction, benefits, drawbacks, organizational commitment and construed external image which are not in the theoretical framework). See Table in Appendix 4.1a

Overall, a shared identity is strongly and positively associated with identification, social capital, and psychological safety. We also see that these variables are strongly and positively associated with overall knowledge use. Conceptual and instrumental types of use were computed into a composite measure of overall knowledge use because these represent ideal types of use. These correlations provide initial support for our theoretical framework.

7.1 4-step Process in Multiple Linear Regression Analyses of Mediating Variables

Figure 2 presents the theoretical framework with the standardized beta coefficients and their significance levels from mediation analyses. Following Baron and Kenny’s (1986) four steps for conducting mediation analysis, we found support for the theoretical framework guiding the evaluation. The first step requires determining the effect of the independent variable on the dependent variable, or in this case, the effect of shared CoP identity on knowledge use. Results
from this analysis indicate that shared identity among CoP members predicts knowledge use (b=.429, p=.023). This establishes there is an effect that may be mediated by another variable, such as psychological safety, social capital, or CoP identification (sense of belonging).

The second step requires determining the effect of the independent variable on each of the mediating variables mentioned above. We found that shared identity predicts each of the mediating variables: psychological safety (b=.546, p=.003), social capital (b=.733, p=.000), and identification (b=.664, p=.000). The third step involves establishing whether each of the mediator variables has a statistically significant effect on the dependent variable, knowledge use. We found that identification (b=.540, p=.003), psychological safety (b=.573, p=.002), and social capital (b=.514, p=.005), each have an effect on knowledge use. These findings further strengthen results from the correlation analyses presented in Appendix 3.1.a. Step four requires establishing that the variables: identification, psychological safety, and social capital, fully mediate or explain the relationship between shared identity and knowledge use. When shared identity and psychological safety were added to the regression model to predict knowledge use, shared identity was no longer significant (b=.237, p=.234). This means that psychological safety fully mediates the relationship between shared identity and knowledge use (b=.444, p=.031). Identification was also found to explain the relationship between shared identity and knowledge use (b=.457, p=.052).

However, social capital emerged as a partial mediator, which means that it can only explain part of the relationship between shared identity and knowledge use (b=.430, p=.099). The finding could be due to the high correlation between shared identity and social capital (r=.733, p=.000), which may suggest multicollinearity, a statistical anomaly resulting from too few cases. Conceptually, it may be that shared identity develops through social interactions, which is a necessary ingredient for developing social capital, and as such, shared identity and social capital evolve together.
**Figure 2: Results from Mediation Analysis between Theoretical Concepts in the Guiding Conceptual Framework**

- Psychological Safety
  - SI on KU when PS present, b=.237 > .05
  - SI on KU when PS present, b=.378 > .05

- Organizational Identity (Shared Identity)
  - .732*

- Social Capital
  - SI on KU when SC present, b=.114 > .05
  - But SC b=.430 p=.099 (partial mediator)

- Knowledge Use
  - Conceptual Instrumental Symbolic Non Use
  - 514*

- Organizational Identification (Sense of Belonging)
  - .540*

*Note: Variables computed into composite measures

### 8.0 SUMMARY OF FINDINGS AND RECOMMENDATIONS FOR LEARN AND CoP LEADERSHIP TEAMS

The purpose of the LEARN CoPs is to bring together Ontario local public health tobacco control practitioners and their stakeholders so they can create, exchange, and use evidence to further their practice areas. Phase II of the LEARN developmental evaluation examined the satisfaction levels of members regarding their respective CoPs, benefits and drawbacks of participation and looked at progress of these communities in terms of achieving the short-term outcomes. Of particular interest was to examine how LEARN CoPs are cohering into a unified collective and how this influences their use of CoP-related evidence. Findings from the evaluation are intended to help the LEARN Project and CoP members learn about how they are developing as a community and suggest areas where efforts might be directed in the future.

Overall, members from the TFSR CoP were consistently more uniform in their responses and in higher agreement (i.e., more positive) than YA CoP members in terms of the factors that influence how groups coalesce into a unified collective as well as knowledge use. Some exceptions include drawbacks of participation and symbolic knowledge use.

The following section revisits the research questions guiding the evaluation and key findings.
8.1 How satisfied are members with their CoP and what barriers and benefits do they experience?

Overall, members of both CoPs were predominantly satisfied with all aspects of their communities of practice. See Table in Appendix 1.2.a. However, members of TFSR were consistently more satisfied with all aspects of their CoP (Mean>4.00) than were members of YA (Mean>3.00). Members were satisfied with the content that is addressed in their CoP, the importance of co-leaders’ roles, knowledge exchange opportunities including guest speakers, resources available to them, opportunities to share their work and learn about innovative initiatives, WebEx, level of support from their employing organizations to participate, and length of meetings.

Both CoPs indicated that they would like to have more researchers, decision-makers and youth represented on their CoP while the YA CoP also indicated more health professionals.

Areas for possible improvement include members’ feelings of ownership of their CoP, networking opportunities in their CoP (a common theme throughout survey findings), level of support from the funding agency, conflicts between CoP and other obligations, level of influence in CoP activities and the value added experienced as a result of participation. The least experienced benefit of participating in both CoPs was the acquisition of financial support. To date, this has not been defined as a purpose of the CoPs. It could be that in the future, CoP members may choose to make this a priority and explore potential funding opportunities. However, both CoPs experienced greater benefits than drawbacks as a result of their participation with the acquisition of useful knowledge representing the main benefit.

8.2 How CoPs are doing with respect to cohering into a unified collective

Six theoretical concepts were explored that the literature suggests are important to how groups gel and their influence on members’ knowledge use. Key findings and discussion are presented below.

8.2.1 To what extent has a shared identity developed in each CoP?

A widely-shared and deeply-held organizational identity reflects members’ shared understandings of ‘who we are’ as an organization and provides a framework that guides consistent sense-making and action (Albert & Whetten, 1985).

Overall, members felt there is a widely-shared and deeply-held CoP identity within their respective communities. This finding was significantly higher in the TFSR CoP. A widely-shared and deeply-held organizational identity facilitates group cohesion because it provides an anchor point for members’ identification (Dutton et al., 1994) and helps to overcome group tensions or conflicts that may impede knowledge sharing and use (Haddow et al., 2007; Kane et al., 2005). Additionally, a strong organizational identity can serve to maintain a unique position (Martins, 2005) in the broader tobacco control system.
8.2.2 To what extent do CoP members identify with their CoP?

To what extent do CoP members experience commitment to their CoP and in what ways?

On average, members of the TFSR CoP identify more with their CoP compared to the YA CoP. While members from both CoPs feel glad to be part of their respective communities, identification could be strengthened (particularly in the YA CoP).

Identifying with one’s organization is said to create a sense of belonging among members, which, in turn, helps to overcome differences within and between groups that may impede knowledge creation and exchange and mutual learning (Nonaka et al., 1998; Hong et al., 2009; Kane et al., 2005). Additionally, member identification with a group has also been found to enhance members’ self-concepts and their commitment to stay and work on its behalf (Cole et al., 2006; Foreman & Whetten, 2002).

However, members from both CoPs were not committed to their CoP and the type of commitment exhibited was normative where members felt they ought to stay rather than want to stay (affective commitment). Members who want to stay may be more motivated to actively and enthusiastically participate in the CoP.

To reinforce a shared identity and strengthen member identification and commitment to the CoP, LEARN and the CoP leadership teams could consider the following strategies:

- Focus efforts on developing perceptions of widely-shared and deeply-held organizational identity by engaging CoP members to identify salient identity attributes that reflect their sense of ‘who we are’ as a community. These identity attributes could be summarized into clear statements and reinforced via continued communication, branding and behaviour (e.g., co-leaders actively demonstrating the values of the CoP);
- Look for opportunities to create compatibility in identity, culture (values, ideology), and strategic orientation between the CoPs, their respective organizations and other key stakeholders in the Ontario public health tobacco control system; and
- Create an open communication climate where all members are informed and involved in CoP activities and its progress and offer social activities that encourage member interactions (see social capital below for ideas); and
- Promote a positive construed external image (see construed external image below for ideas).

8.2.3 To what extent do CoP members perceive a positive construed external image?

Construed external image reflects organizational members’ perceptions of how external stakeholders think or feel about them (Dutton & Dukerich, 1991). In the survey, members were asked how they felt their organization and the Ministry of Health Promotion and Sport viewed their CoP.

While members felt that both stakeholders are aware of the CoP’s existence, they also perceived their organization as slightly more aware of what their CoP does, have interest in their work and see them as important mechanism for knowledge exchange compared to the Ministry of Health.
Promotion and Sport. However, both CoPs expressed that these stakeholders did not engage their CoP to the extent that they would expect.

Additionally, members neither agreed nor disagreed that their CoP is viewed as reputable by these stakeholders and did not feel that their CoP has yet established its legitimacy (e.g., its value or having found its niche) in the Ontario public health tobacco control community.

Literature suggests that when members perceive that the organization they belong to is positively viewed by others, it strengthens current shared understandings of ‘who we are’ as an organization and their identification to their organization. It also has been found to enhance members’ sense of pride in, and perceived legitimacy of, their organization and makes them feel good about themselves (Dutton et al., 1991; Alvesson et al., 2008; Kärreman et al., 2008).

Fostering a positive CoP image may further contribute to strengthening members’ sense of shared CoP identity and identification to their CoP (and resulting commitment).

To enhance a positive CoP image, LEARN and the CoP leadership teams may consider the following strategies:

- Disseminate clear statements and consistent branding that reflects the CoP identity with LEARN and CoP co-leaders playing a key role in its communication;
- Increase the visibility of the CoPs through periodic newsletters to key stakeholders, conferences and other venues that showcase CoP work; and
- Find ways to engage the stakeholders of importance to the CoPs (e.g., members’ respective organizations and funding agency):
  - Have CoP members lead webinars or presentations to key stakeholders to showcase their CoP’s works (e.g., ideas or projects being considered or implemented, lessons learned). This may help increase members’ feelings of ownership over their CoP while engaging important players.

8.2.4 To what extent do members experience psychological safety in their CoP?

Psychological safety reflects the perception that members of a group are safe to take interpersonal risks such as speaking up, revealing they don’t know something and making errors (Edmondson, 1999). Overall, both CoPs are doing very well in terms of creating a climate of psychological safety although it is significantly more established among TFSR members. The finding is encouraging given that psychological safety is important to facilitating behaviours associated with learning (Edmondson, 1999). Exploring what factors contribute to the development of such a climate in the LEARN CoPs is recommended via qualitative methods.

8.2.5 To what extent does structural social capital (e.g., provincial-level networking) and cognitive social capital (e.g., mutual trust and reciprocity) exist in each CoP?

Social capital encompasses the features of social organization that enable participants to act together more effectively to pursue shared objectives and facilitate coordinated actions (Putnam, 1993; 1995). Features include the nature of network ties (i.e., structural social capital) and the quality of relationships (i.e., cognitive social capital) that exist between CoP members.
Overall, social capital is significantly more developed among members in the TFSR CoP compared to the YA CoP. This finding may be due to some collaborative work occurring around TFSR for a few years before this CoP was created. TFSR CoP members felt there was a participative spirit in their CoP, they interact with significantly more CoP members within their community, and experience greater positive relationships, trust and reciprocity with their co-members than the YA CoP. Interestingly, TFSR CoP members also experienced greater positive relationships, trust and reciprocity with the LEARN team than they did with fellow CoP members although whether these differences are significant is not known.

Areas for possible improvement for both CoPs include the limited new connections made with fellow CoP members despite a low level of pre-established relationships before joining and the lack of strong ties reported among members. Additionally, creating brainstorming sessions with CoP members to better understand how LEARN can help to improve their awareness and utilization (as found in psychological safety) of members’ knowledge, skills and talents and resolve their concerns with conflicting schedules and the different agendas held by members may be useful for improving challenges with interaction and knowledge sharing.

Enhancing cognitive social capital in the YA CoP may also be an area of targeted effort. Increasing interactions among CoP members may be critical to this end given that members who interacted with a greater number of members experienced a greater sense of shared CoP identity, psychological safety and satisfaction with their CoP. Moreover, members of the YA CoP said that greater member interactions would make them feel safer to share their ideas. Creating opportunities for members to interact with a broader range of CoP members may also enhance members’ sense that they can exert influence within their CoP and its activities.

To encourage greater member interactions LEARN and the CoP leadership teams might consider the following:

- Develop activities that encourage greater member interactions during meetings (e.g., rotating break-out sessions where members can interact and brainstorm with a greater range of members during face-to-face meetings).
- Encourage round robins whereby members reflect on what they learned at the end of each meeting. This strategy would allow everyone an opportunity to speak up and may also help to engage members, stimulate ideas and increase ownership of their CoP by identifying directions that may be worthwhile to pursue.
- Entice members to engage through the online space (WebEx) since members’ reported high satisfaction with this mode of communication. Continue to send live updates via email to notify of new postings or WebEx activity.

8.2.6 What types of knowledge use are occurring in each LEARN CoP?

Knowledge use refers to members’ use of CoP-related evidence. Ideal types of knowledge use include conceptual (using knowledge to inform changes in awareness and understanding) and instrumental (using knowledge to inform discussions, decisions and action). Other types of knowledge use include symbolic (using knowledge to justify decisions already made) and non-use (not using any form of knowledge).
Members across both CoPs said they do use CoP-related evidence mostly in ways that increase their awareness and understanding of the material (conceptual). Instrumental and symbolic uses of CoP-related evidence occurred some of the time. YA CoP members found CoP-related knowledge to be relevant to their needs and work some of the time. TFSR CoP members were significantly more likely to use evidence to support decisions already made (symbolic use) than the YA CoP and to use evidence that they deemed relevant in this way.

Findings also confirmed the theoretical framework guiding the LEARN evaluation (see Figure 2). Specifically, a widely-shared and deeply-held CoP identity predicted knowledge use. This relationship was explained by a shared CoP identity providing an anchor point that members can identify with (organizational identification) and the development of psychological safety. Social capital was also found to partially explain the relationship however this relationship is less clear.

Phase II of the evaluation only assessed use of CoP evidence more generally. LEARN may consider examining what types of evidence members find most relevant, use and in what ways to ensure members’ knowledge needs are being met. Additionally, qualitative exploration of what factors influence the different types of knowledge use may be worthwhile particularly for informing how to enhance instrumental types of knowledge use.

9.0 CONCLUSIONS AND NEXT STEPS

The directions identified in this Phase II evaluation suggest the value a follow-up qualitative study may play in providing detail on the relationships and outcomes uncovered. We recommend that the qualitative study focus on the following:

- Explore why the TFSR CoP members report greater satisfaction and development with respect to the short-term outcomes explored
- Examine the inter-relationships in the confirmed theoretical framework and ascertain what contributes to and detracts from the development of a shared identity, member identification, psychological safety, social capital (e.g., networking, effective interactions, and trust), knowledge exchange and use of evidence (particularly instrumental types).
- Ascertain what degree of CoP unification is optimal for knowledge exchange and use.
- Ascertain what value added members’ experience as a result of their CoP participation and whether any unexpected outcomes have resulted as a result of CoP participation.

Findings from a qualitative study will further inform how the LEARN project can support the development of factors that enhance the development of CoPs, knowledge exchange and the use of evidence.

Through the quantitative component of this study we identified how CoPs are developing with respect to the short-term outcomes and members’ impressions of different aspects of CoP functioning. Additionally, we confirmed statistically the theoretical framework guiding the evaluation and the relationships between the theoretical concepts (short-term outcomes) identified in the literature to be important to the development of social organizations and knowledge use. From a practical perspective, developing partnerships to enhance the use of evidence is important to how public health operates. Results from this phase point to factors that
are simultaneously important to both developing partnerships and enhancing evidence-informed practice, and also point to areas that LEARN can focus upon to improve the functioning of the CoPs.
10.0 References


