Rural Recreation for Resilience: Youth Development and Life Skill Outcomes in 4-H Ontario Horse Clubs

Application of a resilience and rural lens to physical activity for psycho-social wellbeing

by

Heather R. Sansom

A Thesis
presented to
The University of Guelph

In partial fulfillment of requirements
for the degree of
Doctor of Philosophy
In
Rural Studies

Guelph, Ontario, Canada

© Heather R. Sansom, July, 2018
ABSTRACT

RURAL RECREATION FOR RESILIENCE: YOUTH DEVELOPMENT AND THERAPEUTIC OUTCOMES IN 4-H ONTARIO HORSE CLUB

Heather Ruth Sansom
University of Guelph, 2018

Advisors:
Dr. Harry Cummings
Dr. John Fitzgibbon

Committee:
Dr. Leah Levac
Dr. Linda Liebenberg

Canada has widely acknowledged deficits in population physical and mental health, especially for marginalised populations such as those in rural areas. Low scores on youth wellbeing create a need for new options to promote physical activity and psycho-social skill development. While there are lower health indicators for rural areas, they are rich in assets for contextually relevant physical recreation and youth development activities. Equine activity, that is an Olympic sport, leisure activity, and physical and mental health therapy, is one such option.

This study examined resilience and other life skills through participation in 4-H horse clubs. 4-H is an international youth development organization that has been in Canada for over 100 years. Arising at the same time as Scouts and other established youth development organizations, 4-H was uniquely dedicated to the needs of rural communities. Today clubs are in urban and rural areas, with a variety of topics. They are community-based, low-cost, and often inclusive of persons with different abilities. Horse clubs were targeted because of the wealth of literature available on therapeutic equine activity, and because of 4-H’s unique use of this form of physical recreation within a positive youth development framework.
The study used a three-phase, mixed-method approach within a resilience lens: 1) an online survey to all horse club members (536, \( n = 56 \)) and leaders (105, \( n = 4 \)) across Ontario incorporating the Child and Youth Resilience Measure (CYRM-28) and Schwarzer and Jerusalem Self-Efficacy Scales; 2) key informant interviews (\( n = 10 \)); and 3) group youth interviews with image elicitation (5 clubs, \( n = 30 \)). Youth with different needs due to disability, cognitive ability, family situation, social status or other risk factors were included. Findings indicated high levels of resilience resources.

Participants described resilience, together with other outcomes such as confidence and transferrable social and workforce skills. They also discussed processes that they felt facilitated these benefits. Findings are relevant to sport for positive youth development, therapeutic recreation, animal and nature-based programming, equine programming specifically, and to rural community development.
ACKNOWLEDGEMENTS

I am grateful to a very wide network of people who have supported me through the process.

To Dr.s John Fitzgibbon and Al Lauzon who were instrumental in my acceptance and receipt of funds and scholarships term after term at SEDRD. I appreciate your commitment to a formative teaching process, patience and practical help.

To Dr. Linda Liebenberg who was co-director of the Resilience Research Centre at Dalhousie University, and a very busy person at the time I emailed her about her book that I had just read, and asked if she would consider joining my advisory committee. Your kindness and generosity with a student several thousand kilometres away opened a whole new world for me. I am particularly grateful for the opportunities to attend two resilience research conferences and workshops in Halifax that you helped to facilitate, and for timely and practical writing suggestions as needed.

To my advisor Dr. Harry Cummings, I am not sure I can adequately express my gratitude for your straight up and sometimes tough coaching style and willingness to take on a new doctoral student at the eve of your retirement. Thank you for coaching my development as a social scientist.

To Dr. Leah Levac, who, despite your full advising and teaching load in a completely different department, found time to coach writing and research details, provide examples, encourage me over coffee, and bring important perspectives from your experience in feminist and participatory action research, and youth outdoor leadership to the conversation.

To Debra Brown of 4-H Ontario, and the entire 4-H team of staff, volunteer leaders and study participants (including the team in Stockholm): thank you for believing in this project and in me, inviting me into your world, rolling up your sleeves, and learning to do by doing. Without your belief in the value of the research and collaboration, there would have been no 4-H Resilience Study. Also to Mitacs: the research wouldn’t have been possible without your timely decision to include non-profit organizations in your model, and guidance through the application process.

To my academic peers- students in SEDRD, students and professors in other schools and countries, who exchanged ideas, encouraged and challenged by phone, email, in meetings and at conferences: you created a community and helped me stay on track. I am especially grateful to equine therapy and Green Care practitioners and researchers in Scandinavia and the UK who opened their lives, took me on site visits, shared ideas and generally believed in my project, youth who need help, and me.

To family for giving me freedom and believing that a person has to follow their heart, even though you didn’t understand, and to dear friends who lent me their couches travelling for the research and academic work, crowd-funded donations to 4-H so they could partner with Mitacs, and generally supported my spiritual, physical and mental health as I took on the adventure: God bless you forever. I’m there for you, and I promise to pay it forward.

This project was conducted on un-ceded Algonquin land. Miigwetch.
# Table of Contents

Abstract ........................................................................................................................................... ii
Acknowledgements ............................................................................................................................... iv

CHAPTER 1: Introduction ................................................................................................................... 1
1.1 Introduction .................................................................................................................................... 1
1.2 Study Overview ............................................................................................................................. 5
1.3 Purpose of the Study – Rural Recreation for Resilience ............................................................. 7
1.4 Relevance ...................................................................................................................................... 7
1.4.1 Rural studies ............................................................................................................................... 7
1.4.2 Health promotion ....................................................................................................................... 7
1.4.3 Youth intervention ..................................................................................................................... 8
1.4.4 Equine activity ........................................................................................................................... 8

CHAPTER 2: Literature Review ......................................................................................................... 9
2.1 Introduction .................................................................................................................................... 9
2.2 Rurality, Wellbeing, and Youth Resilience ................................................................................ 9
2.2.1 Foundational definitions ........................................................................................................ 9
   Rurality: economy, people, place. ..................................................................................................... 9
   Economy: ........................................................................................................................................ 9
   People: .......................................................................................................................................... 10
   Place: .......................................................................................................................................... 11
   Youth. .......................................................................................................................................... 13
   Wellbeing. .................................................................................................................................... 14
   Resilience. ..................................................................................................................................... 15
   Self-efficacy. ................................................................................................................................... 16
2.2.2 Canadian youth and wellbeing. .............................................................................................. 17
2.2.3 Rurality and wellbeing profile. ............................................................................................... 19
2.2.4 Rural barriers to wellbeing. .................................................................................................... 20
   Housing. ...................................................................................................................................... 20
   Training. ....................................................................................................................................... 20
   Adult support. ............................................................................................................................... 21
   Transportation. ............................................................................................................................. 21
   Services. ..................................................................................................................................... 22
2.2.5 Call for rural resilience ............................................................................................................ 22
   Physical activity and resilience. ....................................................................................................... 23
   People assets. .................................................................................................................................. 24
   Green assets. ................................................................................................................................. 24
   The history of 4-H and rural youth wellbeing. ............................................................................... 25
2.3 Sport, Recreation and Wellbeing ................................................................................................. 26
2.3.1 History of sport and recreation in Canada. ............................................................................. 27
   P1: pre-20th Century: green activity for health and character. .................................................... 30
   P2: first half 20th Century: recreation for war and citizenship. .................................................. 31
   P3: third quarter of the 20th Century: sport for national pride. ................................................. 31
   P4: 21st Century: failure of sport and commodified recreation. .................................................. 32
   Current trends, recreation and wellbeing. .................................................................................... 33
2.3.2 Rural change and physical recreation ...................................................................................... 35
2.3.3 Contemporary forms of recreation for wellbeing ................................................................. 37
   Activity-assisted therapy: individual, deficit focus. .................................................................... 40
   Research issues ........................................................................................................................... 40
CHAPTER 4: Findings: Mapping Outcomes

4.1 Participant Description Information

4.1.1 Commonality: culture, spirituality, civic engagement
- Culture
- Spirituality
- Civic engagement

4.1.2 Diversity: challenges, location, education, and age
- Socio-economic differences and other challenges
- Location
- Education and age

4.2 Resilience and Self-Efficacy Scores

4.3 Resilience Meanings in the 4-H Horse Context

4.3.1 Material resources

4.3.2 Power and control

4.3.3 Identity

4.3.4 Cohesion and belonging: team, community, country

4.3.5 Cultural adherence: ‘my people’

4.3.6 Social justice

4.3.7 Self-efficacy

4.4 Other Youth Development Outcomes

4.4.1 Psycho-emotional competencies

3.7.3 Qualitative data analysis

3.7.4 Summary
CHAPTER 5: Findings: Facilitating Processes and Elements

5.1 Factors that Matter and Do Not Matter

5.1.1 What does not appear to matter
- Other activities
- Place of residence
- Domestic situation

5.1.2 What appears to matter: length of time
- Being over-booked
- Duration of time in years
- Horse time

5.1.3 Summary

5.2 Categories of Facilitating Features

5.2.1 Where: facilitating environment
- Green-space
- Farm space with animals

5.2.2 Who: facilitating relationships
- Adult club leaders
- Horses

5.2.3 What: facilitating structure
- Overt pledge and values
- Parliamentary procedure
- Competitions and demonstration
- Judging
- Public speaking
- Mentoring structure

5.2.4 How: facilitating approaches
- Hands-on learning
- Learner-centred learning
- Ok to fail/learn at own pace
- Free time to try/be with an animal
- Learning in groups/teamwork
- Encounters with difference
- Leader freedom
- Debriefing

5.3 Summary

CHAPTER 6: Conclusion and General Discussion

6.1 Summary of the Research

6.1.1 Resilience and life skill evidence

6.1.2 How the outcomes are facilitated

6.1.3 Youth outcome impact

6.2 Theoretical Links

6.2.1 Outdoor learning

6.2.2 Recreation with developmental and mental health promotion goals

6.2.3 Flow and intrinsic motivation

6.2.4 Green-spaces

6.2.5 Interspecies healing relationship
6.3 Significance and Generalisability ................................................................. 204
  6.3.1 Rural development, wellbeing promotion and youth intervention .......... 205
  6.3.2 Effective green, animal and equine activity ........................................... 205
  6.3.3 Equine industry ..................................................................................... 206
  6.3.4 Therapeutic recreation and developmental sport ............................... 207
  6.3.5 Practical recommendations for youth programme developers and leaders
      interested in fostering resilience ................................................................. 208
      Supporting programme leaders ................................................................. 208
      Developing club values and activities ....................................................... 209
      Enhancing participation and inclusion ..................................................... 211
      Creating community connection .............................................................. 212
  6.4 Research Strengths, Limitations and Recommendations ......................... 213
  6.4.1 Strengths ................................................................................................ 213
  6.4.2 Limitations ............................................................................................ 214
      Larger sample ............................................................................................ 214
      More visual data ....................................................................................... 214
      More key informant data .......................................................................... 214
      Longitudinal information .......................................................................... 215
      Greater participant diversity ..................................................................... 215
  6.4.3 Research and policy recommendations ............................................... 215
      More research in partnership with existing community programmes ....... 215
      Better inter-jurisdictional collaboration .................................................... 217
      Promote healthy development and resilience as social investment ......... 218
  6.5 Concluding Remarks .................................................................................. 219

References ........................................................................................................ 221

Appendix A: Table of Key Dates & Policy in Canada’s Recreation History ....... 242
Appendix B: Cycle of Physical Recreation and Wellbeing in Canada ............. 245
Appendix C: Phase One Survey & Recruitment ................................................ 246
Appendix D: Club Leader Interviews & Permissions ........................................ 249
Appendix E: Youth Group Interviews & Permissions ........................................ 256
Appendix F: Visual Map of Process and Outcome Connection ....................... 264
Appendix G: Inclusion of Members with Diverse Therapeutic and Developmental Support Needs .............................................................. 265
Appendix H: Coding of Qualitative Survey Responses ..................................... 268
List of Tables and Figures

Tables
Table 2.1 Definition of the Seven Protective Factors for Resilience ................................................. 16
Table 3.1 Summary of Club Features .................................................................................................. 86
Table 3.2 Summary of Participant Involvement and data ...................................................................... 93
Table 4.1 Age and Education of Survey Participants and 4-H Leaders .............................................. 105
Table 4.2 Self-Efficacy and Resilience Scores Compared ...................................................................... 106
Table 4.3 CYRM and Self-Efficacy Distribution .................................................................................. 106
Table 4.4 CYRM sub-clusters, Self-Efficacy and the 7 resilience ‘Tensions’ ...................................... 109
Table 4.5 Relationship of Self-Efficacy with Resilience Sub-scales .................................................... 110
Table 4.6 Correlation of Self-Efficacy to CYRM Individual Sub-clusters ............................................ 110
Table 4.7 Resilience Factors and Sub-Themes from the Data ............................................................... 112
Table 4.8 Outcomes by Category ....................................................................................................... 154
Table 5.1 Cross-tabulation of Resilience Scores for Farm/Non-Farm dwellers ................................... 159
Table 5.2 What participants want more of in 4-H horse club ............................................................. 160
Table 5.3 Self-Efficacy and Resilience vs. Farm and horse ownership ............................................... 163
Table 5.4 Facilitating Features and Sub-themes ................................................................................. 165

Figures
Figure 1.1. Venn Diagram of Broad Intersecting Elements .................................................................. 3
Figure 1.2. Complex Intersections- Flower Diagram ........................................................................... 4
Figure 2.1. Physical Recreation in Canada through a Rural Lens ..................................................... 30
Figure 2.2. Quadrant Model for Main Forms of Recreation for Psycho-social Development and Therapy .......................................................... 39
Figure 2.3. Relative Goals of Activity for Psycho-social Development and Therapy .......... 40
Figure 2.4. Holt model for PYD in sport .......................................................................................... 45
Figure 2.5. Kolb’s Experiential Learning Cycle ................................................................................. 49
Figure 2.6. Nature, Animal and Equine Activity Relationship ........................................................... 55
Figure 3.1. Research Approach: Mixed-Method, Three Phases ........................................................... 70
Figure 3.2. Geographic Distribution of Study Participants ............................................................... 84
Figure 3.3. Club 1 participants writing comments on submitted photos ........................................... 87
Figure 3.4. Barn Visit at Club 1 ........................................................................................................ 88
Figure 3.5. Educational props, lounge and dog at Club 2 .................................................................. 89
Figure 3.6. Farm visit at Club 3 ........................................................................................................ 90
Figure 3.7. Setting and Barn Visit at Club 4 ....................................................................................... 91
Figure 3.8. Subsequent Club 4 visit to see team performance at fair ..................................................... 91
Figure 3.9. Youth and Farm at Club 5 inter-club meeting ................................................................. 92
Figure 3.10. Later observation of heavy horse hitch and Club 5 member at fair .................................. 92
Figure 4.1. Participant Outcome Categories ......................................................................................... 99
Figure 4.2. Histogram of Self-Efficacy and CYRM Scores ................................................................. 106
Figure 4.3. 4-H Participant self-efficacy scores compared with global data ...................................... 107
Figure 4.4. Comparison of Self-Efficacy Scores with same mean age .............................................. 108
Figure 4.5. 4-H Participant CYRM scores compared with Canadian data ......................................... 108
Figure 4.6. Resilience scores compared with Canadian girls ............................................................ 109
Figure 4.7. Comparison of Member CYRM Individual Sub-cluster Score Profiles ........................... 110
Figure 4.8. Youth member boots with duct tape .............................................................................. 113
Figure 4.9. Youth member enjoying social time: sleepover .............................................................. 113
Figure 4.10. Youth members with borrowed horses .......................................................................... 114
List of Key Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT/ABT</td>
<td>Animal-based therapy</td>
</tr>
<tr>
<td>CMA</td>
<td>Canadian Medical Association</td>
</tr>
<tr>
<td>CNN</td>
<td>Child and Nature Network</td>
</tr>
<tr>
<td>CYHNEO</td>
<td>Child and Youth Health Network of Eastern Ontario</td>
</tr>
<tr>
<td>EAA</td>
<td>Equine assisted activity</td>
</tr>
<tr>
<td>EAL</td>
<td>Equine assisted learning</td>
</tr>
<tr>
<td>EEL</td>
<td>Equine experiential learning</td>
</tr>
<tr>
<td>EAT</td>
<td>Equine assisted therapy</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization</td>
</tr>
<tr>
<td>NT/NBT</td>
<td>Nature-based therapy</td>
</tr>
<tr>
<td>OEL</td>
<td>Outdoor/adventure experiential learning</td>
</tr>
<tr>
<td>PYD</td>
<td>Positive youth development</td>
</tr>
<tr>
<td>OMRA</td>
<td>Ontario Ministry of Rural Affairs</td>
</tr>
<tr>
<td>PHAC</td>
<td>Public Health Agency of Canada</td>
</tr>
<tr>
<td>RT/ TR</td>
<td>Therapeutic recreation</td>
</tr>
<tr>
<td>S4D</td>
<td>Sport-for-youth-development</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
CHAPTER 1: Introduction

1.1 Introduction

Canada is an industrialized, wealthy nation by global standards. Yet, wealthy and well-being diverge. Broad wellbeing trends for the population at large raise flags of concern, not only about happiness and human thriving, but also about the economy, through health-care costs and loss of productivity impacting all socio-economic brackets (Senate Canada (SC), 2015). Some communities fare worse than others. Wellbeing inequalities are shaped by race, place, and other states inherited at birth such as sex, disability, mental health or economic strata origins (CYHNEO, 2010).

The factors that shape wellbeing inequality are commonly referred to as socio-economic determinants in health and policy literature. These issues raise an interest in resilience (thriving in the face of adversity).\(^1\) Rurality is a determinant of health and wellbeing; a location of inequality (CYHNEO, 2012). Despite growth in gross population numbers in rural areas, rural populations now face new collective challenges to sustainability and wellbeing (Caldwell, Kraehling, Huff, & Kaptur, 2013; OMRA, 2014).

In the context of need for promoting wellbeing, physical activity is a broadly embraced vehicle for physical and mental health promotion and illness treatment. Physical activity approaches recognize a need to correct the obesogenic (obesity-inducing: Ferreira et al., 2006) and mentally toxic nature of the socio-physical environment, by creating environments and systems that are more broadly salutogenic (health-inducing: Antonovsky, 1996; Morgan & Ziglio, 2007; Mental Health Commission of Canada (MHCC), 2012). The Canadian cultural mosaic calls for culturally and contextually relevant recreation options for wellbeing promotion. Even vulnerable communities such as rural communities have assets for wellbeing.

The wellbeing needs and contextual challenges described in the literature review (see Chapter 2) point to a need for rural communities to explore their local cultural and recreational assets for sustainable options to meeting wellbeing needs. Rural areas in Canada are rich in recreational assets with a long history of use in medical care, health promotion and human development support (Wall & Marsh, 1982). Some examples are animals, people, green space, and space for movement. Equestrianism is a popular recreational activity that straddles sport and leisure, industry and health-care.

Horses and horse owners are an available ‘Green’ resource in many Canadian rural communities. The equine industry in Canada is also a robust economic contributor, though it is

\(^1\) Brodhead’s (2011) report on youth wellbeing captures the idea in the title: “What Canada Needs Most is Resilience”.

increasingly challenged to become more relevant to contemporary societal needs (Evans, 2010; Sansom, 2016). Equestrianism is a popular rural physical activity in Southern Ontario, making it a relevant physical activity (‘sport’ or recreation) option in that context. There are rich bodies of literature supporting physical, outdoor, animal-based and equine-based activity for youth engagement in physical activity, health promotion and even mental and physical illness treatment.

However, as discussed in the literature review (see Chapter 2) there are gaps in knowledge about how socio-emotional and psychological benefits are facilitated specifically by the horse experience. For example, the only study I am aware of specifically on equine activity and self-efficacy (Hurley & Smola, 2016) showed significant improvement in self-efficacy after a 10-week intervention for participants with developmental disabilities, but could not explain the change. In another study, Johnson et al., (2018) conclude their recent study on the reduction of PTSD symptoms (self-efficacy, emotion regulation, social/emotional loneliness) in equine therapy participants, by saying that “many potentially extraneous variables…may have influenced our findings…..Methodologically, a long list of variables must be taken into account” (p. 9).

The studies were designed to establish whether there was, or was not, improvement in specific psychopathology symptoms, as opposed to trying to explain mechanisms for the beneficial outcomes, or diversity of outcome experience across participants. There is a kind of ‘black box’ where psycho-social and life skill or therapeutic benefit outcomes may be documented, but their mechanisms of acquisition or transfer are less clear. This type of study design seems ill-suited to producing explanations under the conditions of multi-variability inherent in these types of programmes.

The study presented in this dissertation examines community-based physical recreation using horses in a rural green space as a potential location of wellbeing promotion. Specifically, the study took place in the context of 4-H horse clubs (4-H Ontario). The key research questions are: Are resilience and other life skill outcomes experienced by participants? If so, what are their features? What elements facilitate these outcomes?

This study seeks to understand the lived experience of participants (youth and their club leaders) with regard to resilience and other possible psycho-social or life skill outcomes. The primary outcome lens is resilience. However, to understand the meaning of resilience in context, what other life skill outcomes could emerge, and what the facilitative mechanisms or elements could be, it is necessary to turn to other intersecting bodies of knowledge. As Johnson et al. (2018) note:
The question may be asked, ‘what components...contributed to our beneficial findings..?’ For example, driving to and from the stable, indoor vs. outdoor ...the weather...may have influenced the outcomes. It is not possible to isolate these factors. Additionally, the fact that [equine therapy] consists of many steps...grooming the horse and interacting with it, apply the tack, learning basic horsemanship skills...interacting with the horse leader and [helpers].... These...cannot be isolated...to ascertain their individual effects...It is not realistic that each of these components could be studied separately in a randomized controlled trial. (p. 9)

Since neither the equine therapy nor the sport for youth development literature adequately account for the wide range of possible facilitative elements, other bodies of knowledge relevant to experiential learning, development or therapeutic activity in green spaces using animals (specifically horses) are explored in the literature review (see Chapter 2). These include therapeutic recreation, outdoor experiential education, and nature-based activity. The ways that the informing fields intersect in the 4-H horse activity studied can be depicted as a Venn diagram with nature, physical activity, and the developmental/therapy framework shown below (Figure 1.1). However, a Venn diagram is overly-simple. Within each of its lobes, there are distinct approaches that contribute to the literature relevant to this study. These are better understood by the flower diagram (Figure 1.2). The complexity of the possible variables applies both to the facilitative mechanisms, and to the possible outcomes (meanings of resilience, possible other outcomes). Each of the contributing bodies offers important insights for understanding these variables and their possible interaction.

Figure 1.1. Venn Diagram of Broad Intersecting Elements
Figure 1.2. Complex Intersections- Flower Diagram

Such complexity gives rise to a reasonable expectation that patterns of interconnectedness would be involved. Or, as Johnson et al., (2018) state, the individual relevance of a narrow set of variables is “perhaps less important than the complete...experience because these components would not naturally occur in isolation” (p. 9). This view aligns with foundations of thinking about human behaviour in terms of complex systems developed almost 50 years ago by Maslow (1971). Commenting on views that study human behaviour as a linear process, Maslow said that “people are beginning to discover that the physicalistic, mechanistic model was a mistake and that it has led us ...to atom bombs” (p.166). It is a little dramatically stated, but the point is that human psychology should be studied as a complex system. This view is reflected more recently by Lerner (Lerner, von Eye, Lerner, Lewin-Bizan, & Bowers, 2010), leading researchers applying positive psychology to youth development. The following quote is from his meta-study (Lerner, et al., 2010) on positive youth development in a variety of programme types:

This strength-based view...seeks to identify the individual and ecological bases of thriving among diverse youth....a conceptual alternative to the long-held deficit models....Instead of searching for the conditions that may decrease problem behaviors...the positive youth development perspective broadens...to include...the individual-context relations that promote thriving (p. 708).

The research design used in this study included multiple data collection methods with space for participants to adapt these methods in the execution of the field work. While the quantitative survey was administered in a standardized manner, participants engaged in slightly
different ways with the qualitative part of the research. For example, participants were invited to submit photos and to use them as a focal point for their interviews. Some participants chose to submit drawings or video instead. Accepting images in various forms empowered participants to interpret their engagement with the research in positive and meaningful ways.

The research design involved 4-H in logistical decisions about execution, such as the means by that participants would be contacted, or that data would be gathered. The research included an important and intentional bidirectional movement in that deductive and inductive processes were used. The initial question (Is resilience present?) was examined deductively using eight outcomes selected a priori for investigation (seven protective factors for resilience, plus self-efficacy). However, there was also an inductive process of exploring participant-generated themes and meanings (What does resilience mean in their context? What other life skill benefits do they describe? Why do participants think this program (or elements of it) has anything special to do with those meanings?). Although resilience factors can be facilitated (studied as an outcome of intervention), they are themselves, processes that can facilitate other outcomes and benefits. The criteria for participation were being or having been a youth member of, or currently being an adult leader in, a 4-H Ontario horse club. Rather than use one club as a case-study, the approach involved inviting clubs across the Province to participate, with the hope that diversity in club cultures and participant demographics would be reflected.

The connections between processes and other outcomes benefits made in this study are those that were indicated by participants. Some post-analysis theory (such as Patrik Grahn’s model for therapeutic green spaces; Grahn, 1991; Bengtsson & Grahn, 2014) is introduced in the discussion section (Chapter 6) as a way to re-link the findings with relevant fields and to offer an avenue of further research. The findings also provide footholds for further research. Since the study population (n = 70) is too small to form conclusions that are statistically generalisable to the wider population, the study does not purport to do so. The study is offered as a rich source of explanation for possible outcomes and their processes in this type of work, based on the testimony of participants. Most of the outcomes and processes identified are easily and affordably replicable in other contexts, some with other species or activities. This information can inform effective programme design and further research.

1.2 Study Overview

To frame the context, this study begins in Chapter 2 by defining rurality, youth, wellbeing and resilience as they are used in this research (section 2.2). Next, an alternate or revised history of recreation and its link to wellbeing in Canada is presented, from the Canadian rural
lens rather than from the commonly accepted versions written from the viewpoint of the dominant urban culture (sections 2.3.1 and 2.3.2). The historical narrative is critical to understanding the contemporary rural wellbeing ecology: recreational needs and assets and historical and cultural factors. The central questions guiding the development of this narrative were: What happened to the historical use of green space for population wellbeing? How have rural communities shifted from experiencing themselves as rich in salutogenic recreational assets, to being considered pathogenic environments? What are the assets they can access today? The literature review highlights how wellbeing promotion and challenges in rural areas are intimately tied to the diminished use of green and rural spaces. The overview presented here clarifies the circumstances involved in why rurality is considered a socio-economic determinant of poor health, and what some of the rural community assets are for recreation promoting wellbeing.

The subsequent sections of the literature review provide an overview of the key themes and research gaps in the main informing fields to this study. First, established and newer fields that combine physical activity, greenspace and life skill or wellbeing outcomes are identified and mapped (section 2.3.3). Their basic frameworks are described. They include activity-based therapy (including animal), outdoor learning, sport-for-youth-development, therapeutic recreation and community-based positive youth development. The literature review concludes by narrowing its focus to a deeper investigation of the theories and themes in nature-based, animal-based and equine-based activity (section 2.3.4).

The methodology used in the study is described in detail in Chapter 3, and includes a contextualizing description of the club locations involved in the study. The findings, including a more fulsome description of the participants in the study, are presented in Chapters 4 and 5. Chapter 4 describes what was observed. The participant description (section 4.1) blends both the quantitative and qualitative data sets. Next, outcomes are described as they appeared in the quantitative resilience data, and in the qualitative data. Outcomes as described by participants in the qualitative component are presented in four main categories that emerged from the data: 1. resilience, 2. psycho-emotional competencies, 3. workplace skill, and 4. life approach. Chapter 5 describes how these outcomes were facilitated, based on themes and topics emerging mostly from the qualitative data since quantitative outcome measurement scales could provide little insight into internal processes. Facilitating processes are organized by the four main categories that emerged (environment, relationships, 4-H structure, and 4-H approach). Chapter 6 concludes the study with a final discussion, including recommendations.
and study limitations. Conceptual models and relationship tables are presented throughout to clarify relationships or summarize the data.

1.3 Purpose of the Study – Rural Recreation for Resilience

This study aims to address critical gaps in the literature with respect to the rural context, focusing on equine-assisted activity, and physical activity for youth development and therapy; the processes of life skill acquisition and transfer; the contribution of these activities to resilience specifically; and the gap of literature on youth development and wellbeing promotion in community-based programming for a general population.

In that context, the purpose of this research was to develop an understanding of whether and how resilience or other life skill outcomes could be fostered in a youth development program using a specifically rural physical activity (equine-based learning). The first step was to explore the nature of resilience resources and other wellbeing benefits and outcomes within context. For example, what does resilience look like within the specific culture of rural 4-H horse clubs? The second step was to understand the facilitating processes. The goal is to be able to contribute to evidence-informed health promotion and youth intervention practice.

1.4 Relevance

The research has theoretical and practical relevance in several areas.

1.4.1 Rural studies. Rural communities grapple with questions of economic and social sustainability (Bryden & Bollman, 2000; Bollman, 2009; Burns, Bruce, & Marlin, 2009; Caldwell et al., 2013; CRRF, 2015). The rate of youth brain-drain depletes communities of human capital (OMRA, 2014). This decline reduces the base of support for social and recreational infrastructure (Corbett, 2005), creating a need for rural communities to redefine development in their own context (Cloke, Marsden, & Mooney, 2006). Healthier communities attract young families, retain young people and incubate entrepreneurship (Brodhagen, 2009; OMRA, 2014).

This study responds to the need to support endogenous and sustainable local contributions to wellbeing infrastructure and skill development for Canadian rural communities. Since it is based on a youth organization that has been a feature of diverse rural communities across North America for over 100 years, the study is relevant nationally, as well as to other communities with similar need for cultural interpretation of youth development.

1.4.2 Health promotion. With widespread population wellbeing concerns, particularly among vulnerable populations, there is a need for pro-active support for healthy development. This study examines wellbeing promotion through an existing recreational option that is accessible to lower income brackets (4-H). In this way, it provides needed evidence about
outcomes and related processes that can inform intervention, collaboration, and health promotion policy.

1.4.3 **Youth intervention.** Therapy, sport, recreation and general non-sport youth programming share common gaps in knowledge about how youth experience wellbeing benefits or acquire life skills. However, some of the gaps are the result of a lack of interdisciplinary referencing. Interdisciplinary research can help with best practice and knowledge sharing, especially in areas where there are large gaps such as understanding the relationship between activity outcomes and facilitating processes. In this way, interdisciplinary research can inform suitable designs for program evaluation that in turn will generate more knowledge for research, program effectiveness and funding support.

1.4.4 **Equine activity.** The equine therapy field in North America is highly fragmented (Schlote, 2009; Evans, 2010; Sansom, 2014). Schlote (2009) summarizes “the fact that the field is still in its infancy in Canada may explain why it is still so fragmented, disjointed, and lacking the professional guidelines, consistency, and standards typically seen in more well established techniques and disciplines” (p. 109). Equestrian activities generally (including sport) have been shaped more by business logic than by a centralized, regulated, governance framework, or research. Equestrian instructors (including therapeutic instructors) can have a wide range of training or no formal training at all, facilities are not legislated, and what and who they teach depends on their preferences and marketing skill. Equine-assisted psychotherapy has no governance for the equine part, but the act of psychotherapy is controlled by legislation and restricted to designated professions.

The fragmentation of equine activity is seen in the proliferation of certifying bodies and practice types. While there are some exceptions, the equestrian sport and therapy industries rarely intersect since facilities tend to cater to one or the other, separate, market niche. The equine activity studied in this research can be conducted even if the horse has completed his full sport work load, as well as with horses that are not suitable for sport programs. It can also be conducted without need for expensive therapeutic professionals or equestrian sport coaches. Both of these factors make the activity more financially accessible than equestrian sport or equine-facilitated therapy. Equine activity is a known intervention with vulnerable populations.

---

2 Schlote (2009) found that 67% (p. 114) of practitioners never consulted academic literature.
CHAPTER 2: Literature Review

2.1 Introduction

This chapter provides an overview of the literature relevant to the key constructs and disciplines intersecting in this study. The goal of this chapter is to provide the reader with a framework for understanding the context of the research questions and approach, and the lenses through that data were collected and analysed. In the first section (2.2), the key concepts of rurality, youth, wellbeing, and resilience are described. Also, youth and rural wellbeing issues that give rise to the need for fostering resilience are described. Rural youth face challenges to wellbeing. However, rural communities and rural residents are rich in wellbeing and development support assets.

Sections 2.3 and 2.4 discuss relevant details pertaining to the fields represented in the Venn and Flower Diagrams (Figures 1.1 and 1.2) from the introduction (see Chapter 1). Section 2.3 addresses how the role of sport and recreation in wellbeing support has evolved historically, and describes the contemporary forms of recreation for wellbeing, outlining the theories and gaps in the literature relevant to this study. Section 2.4 explores the theories and gaps in the literature specifically related to nature, animal and equine activity that are relevant to this study.

2.2 Rurality, Wellbeing, and Youth Resilience

This section begins by defining the key concepts for this research. Next, wellbeing issues that give rise to the need for fostering wellbeing and resilience in rural areas are described.

2.2.1 Foundational definitions. This section defines rurality, youth, wellbeing, and resilience. Sub-categories of rurality include description of rural economy, demographics (people) and location (place).

Rurality: economy, people, place. Rurality can have many meanings, depending on context. It can be defined as a physical place, or a place defined by the types of activities that occur there, or by culture, or a liminal space between places (Halfacree, 1993; 2007). Definitions of rurality can be complex. This section addresses rurality on three dimensions: economy, population, and location.

Economy: Many rural economies are still significantly characterized by primary resource activities and agriculture. Yet, rural economies have experienced change. Between 1850 and today, the rural/urban population ratios have almost completely reversed: the 90% rural, 10% urban population ratio of 1850 is now a fairly stable 19% rural, 81% urban (Bryant, 2001;
Whereas agriculture was once the dominant national economic driver, it now represents only 6.7% of the Canadian Gross Domestic Product (GDP), or just over $103B (Agriculture and Agri-Food Canada (AAFC), 2014). Agriculture and resource extraction (forestry, mining, fishing, and oil and gas) now account for only 16% of the $64B GDP (6.7%, 3%, 2%, 1%, and 4% respectively) (AAFC, 2014; Forestry Products Association of Canada (FPAC), 2007; Fisheries and Oceans Canada (FOC), 2014; Mining Industry Human Resources Council (MIHRC), 2016).

The dominance of urban economic activity (and voting populations) means urban cultural dominance, creating a ‘quiet crisis’ (Federation of Canadian Municipalities (FCM), 2009) in that issues faced by rural populations are largely invisible. Yet, even with relative decline of traditional rural industries and perceived rural relevance, current estimates place rural population economic contributions (including those cited above) at approximately 30% of the Canadian GDP (CRRF, 2015). Canadian economic health requires a productive rural population.

Rural areas that thrive are characterized by endogenous economic control (including entrepreneurship) (Alexander, 1978; Korsgaard, Müller, & Tanvig, 2015). Rural areas are characterised by higher levels of self-employment, at 21% versus the national average of 9% (Bollman & Alasia, 2012; Bahar & Liu, 2015). The greater rate of endogenous economic activity in the form of self-employment in rural areas aligns with correlations between increased self-employment (and lack of employment options), and older population ages (Bahar & Liu, 2015). Whether framed as endogenous (local business for local market) or neo-endogenous (local business for local and broader market) (Bosworth & Atterton, 2012; Mitchell & Madden, 2014) development, the emphasis for sustainable rural development in developing and developed countries is on promotion of entrepreneurship and innovation (MacKenzie, 1992; Johnstone & Lionais, 2006; TORC, 2007; OMRA, 2014). For example, in Ontario the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) (OMRA, 2014) responds to a rural human capital deficit by highlighting the need to attract entrepreneurs.

People: On average, rural populations (outside of First Nations reserves) in Canada are comprised predominantly (94%) of Caucasian European descendants, with some variation between the Provinces (OMRA, 2014). Although ethnically homogenous when compared to urban centres, contemporary rural populations are still culturally and economically diverse. They represent diversity in terms of age, income, European cultural backgrounds, and economic enterprise.
Nationally, the rural population is experiencing an aging demographic effect greater than urban areas. This effect is accelerated by youth outmigration (FCM, 2009; OMRA, 2014; Moazzami, 2014). Although rural populations are growing, they grow less quickly than urban populations in Canada. Also, the growth is not experienced in all regions. Statistics Canada has ceased collecting much information based on rural/urban differences, although still differentiates between non-metro and metro populations based on proximity to population centre (Statistics Canada, 2011; H. Sansom, conversation with Statistics Canada, September, 2017)\(^3\). Population centres have at least 1,000 people, with a density over 400 people/square kilometre. From the viewpoint of Statistics Canada, rural is defined as those areas that are not population centres. In 2015, the Canadian Rural Revitalization Foundation (CRRF, 2015) estimated the non-metro population at 31% of the population (11,113,000), a significant increase from rural population numbers calculated in 1996 (6,389,984; Statistics Canada, 2014). These numbers make the potentially rural population well over twice the population of Canadians over 65 years old (just over 4 Million), and just under twice the size of the population under 14 years old (just over 6 Million) (Statistics Canada, 2017b). Rural communities (First Nations and other) are an important, though often invisible, Canadian demographic.

**Place:** There are multiple definitions of rurality used in Canada. They mostly relate to population density, absolute population size, proximity to urban areas, or gradations of clustering around population centres. This study aligns more with public health literature in a functional definition of rurality. Bollman (2012) notes that Census Canada describes five sizes of population centres (rather than urban and rural regions) based on proximity to a density hub. Another definition that has been used since 2006, defines rural areas as ‘areas located outside urban centres with a population of at least 10,000’ (FCM, 2009 p. 6). This definition corresponds to other documents that merge ‘rural and small town’ populations for functional purposes (Bollman, 2009; Kaptur, 2014). The Government of Canada makes further functional distinctions, splitting rurality into urban-adjacent areas defined by a working population of over 30% commuting to the urban centre, and the rest (FCM, 2009).

Although relatively low population density is a key concept for defining rural places, there is significant variation between rural areas in terms of population numbers and density based on functional definitions. Population in and out-migration and municipal amalgamations mean that contemporary rural area boundaries do not necessarily align to municipal boundaries. As an example, an estimated 75% of municipalities contain rural areas (Caldwell, 2015), even though

---

\(^3\) I called them after reviewing the 2016 Census results because, unlike previous Census data, there was no apparent way to sort demographic data by rural / urban categories. They explained that they no longer use the categories.
the majority population is urban. There are consequently populations within urban classified municipalities, such as Ottawa, that face infrastructure and socio-economic barriers to wellbeing described in Public Health literature as *rural*, even though by other definitions the municipality could be classified as urban.

The closest municipal definition corresponding to rurality as discussed in the public health literature would be those communities that fall into the ‘non-metro’ category (Rural Ontario Institute (ROI), 2013). Some of these, such as Ottawa, clearly exceed the ‘rural small town’ population limit of 10,000. Low population density is implied but not precise in public health literature describing rural areas. These reports do not specifically define what they mean by rural areas. Some areas such as those described in the Child and Youth Health Network of Eastern Ontario reports (CYHNEO, 2012), are areas that may have a population concentration hub (e.g., Ottawa, Brockville, Cornwall), but are otherwise characterized by lower density and common infrastructure issues normally described as ‘rural’.

The concept of “rural” as used in the public health literature appears to cross traditional geography and density boundaries by describing rurality functionally and qualitatively: as a distinctive experience impacting wellbeing in ways distinctly different from urban experiences. Without actually defining rurality, Canadian public health literature appears to take a functional or socio-economic perspective in that populations are considered rural, even where they may be in geographical regions that do not meet any of the common population-based definitions of rurality used in Canada.

Rurality in this study aligns with the implicit functional definition used in the Public Health documents referenced, in that rurality is described by wellbeing and recreational barriers and assets that are qualitatively and experientially different from urban areas. Rurality is associated with lower population density typical for rural-small-town and non-Metro areas without specifying population numbers or proximity to urban centres, since many residents with rural type experience may reside close to larger centres or in amalgamated municipalities with populations exceeding official rural definitions.

As an example, the descriptions of functional rurality in Eastern Ontario are applied to the population of the United Counties of Leeds and Grenville where participants in two of the

---

4 This situation may contribute to some of the issues since lack of match between municipality and rurality means that majority population may often be urban, resulting in voting and policy patterns biased to urban needs, even at the municipal level, contributing to the cultural invisibility of the needs of rural populations.

5 Due to very large municipalities and presence of rural areas within municipalities that have larger population centres, the Australian Government has an expanded population-based definition of rurality that includes 3 rural regions (the largest can contain population clusters of 99,999 or less) and 2 remote regions. In the Australian system, most of Eastern Ontario would classify as rural and map well onto the Eastern Ontario public health documents using rurality as a lens to describe the area’s wellbeing barriers and patterns.
study 4-H clubs lived. Most residents of these counties are within 45-50 km of the downtown core of a large city hub (Ottawa: core population 500,000, 900,000 counting rural Ottawa), and a smaller city (Brockville: core population 22,000). Despite a population of over 99,000 and almost 70% urban commuting workforce (factors qualifying it as urban in some definitions), the municipality known and reported on collectively as “Leeds and Grenville” is included in Public Health reporting on youth wellbeing and the rural lens as a rural type location (CYHNEO, 2012). Although the municipality has had steady population growth (ROI, 2013), is close to urban centres, most of the population is dispersed in smaller communities or rural routes. The area experiences uneven population growth, with some communities growing while others decline. A large segment of the population is characterized by lack of access to sufficient employment with large enterprises, greater presence of entrepreneurship, reduced access to education suitable for local employment or employment creation, and lower household earnings (LGLDH, 2014; McSweeney and Associates, 2014; MDB, 2014).

Socio-economic need in the area is sometimes obscured by median household income higher than the Provincial average ($111,207 vs. $92,806: NGED, 2016, p. 10). Higher incomes are mostly attained by commuters, and only 13% of the population earns over $80,000 (NGED, 2016, p. 9). The mean income is lower than the Provincial average. McSweeney (2014) notes that income levels are much lower than Provincial averages in the Grenville area when the large urban centre (Ottawa) is excluded. The high percentage of commuters underscores findings in health literature correlating parental absence with lower youth wellbeing (CYHNEO, 2012). There is a significant mis-match between the picture of thriving painted by documents produced by the municipality to attract development and business, and those produced for tracking child and youth wellbeing in the area (CYHNEO, 2012). The municipality openly encourages private or entrepreneurial solutions to recreation needs (commodified recreation), while offering a limited recreation programme. The municipality is functionally rural.

Youth. In general, there are two main, often overlapping, ways of defining “youth”. One is based on age, and the other is based on stages of development. The broadest age-based definition used in Canada extends from 12 years old to 30, that maps almost exactly onto the participants in this doctoral research, who ranged from 10-30 years of age. The participants in this study spanned middle-childhood to transitional-age emerging adulthood. One of the reasons for this span is that the 4-H membership age range is from 10-21 years, with emerging

---

6 Some resources focus on age ranges, while others focus on youth as a stage of development somewhere between childhood and adult functioning. The Public Health Agency of Canada (PHAC) defines youth as between the ages of 12-18 (PHAC, 2011). Many of the public health documents specifically discussing rural youth include children and youth together.
leaders participating into their later 20’s. The literature review maps primarily to the PHAC definition of youth as 12-18 years because most of the literature reviewed corresponded to an age range with a lower limit at 12, and upper limit in the 20’s. Some of the literature reviewed maps to the more recent construct of emerging adulthood, a new stage in between adolescence and young adulthood, ending at approximately 30 years of age (Tanner, Alberts Warren, & Bellack, 2015).

Wellbeing. The definition of wellbeing can often seem amorphous, but there is general consensus that the concept of wellbeing is a holistic framework for understanding healthiness (mind, body, social, spiritual). The World Health Organization (WHO) defines health in terms of a state of complete physical, mental and social wellbeing (WHO, 2006), determined more by circumstances around the life-cycle, than by particular behaviours. The important aspect is that health includes mental, physical and social components. This holistic view has been widely adopted across Canadian Government, social intervention and youth development disciplines (Caldwell et al., 2013; Canadian Medical Association (CMA) 2013). It therefore serves as the definition for this study. The Federal Government publication Canada Fit for Children interprets this definition of wellbeing for children and youth in the following way:

The National Children’s Agenda, developed by the federal, provincial and territorial governments in consultation with the public, sets out a shared vision for ensuring that children in Canada have the best possible start in life and the necessary opportunities to realize their full potential. This shared vision includes four goals, for children to be: healthy (physically and emotionally); safe and secure; successful at learning; and socially engaged and responsible. (Her Majesty the Queen (HMQ), 2004. p.5)

Wellbeing is strongly linked to the environment surrounding the person and its potential to foster future wellbeing through social determinants of health (CMA, 2013; PHAC, 2011). Brown and Westaway (2011) expand the concept of wellbeing to include future potential by defining it as “a state of being with others, where human needs are met, where one can act meaningfully to pursue one’s goals, and where one enjoys a satisfactory quality of life” (p. 331). Despite evidence of environment factors as determinants of wellbeing, assumptions relating wellbeing to individual choice persist. These assumptions often reflect a lack of awareness that unequal health outcomes are related to unequal health promoting opportunities. For example, Shankardass (2012) showed that large percentages of the population are unaware of both inequalities, and their link to socio-economic determinants.

---

7 While ten year-olds are children developmentally, they did participate in the study on equal footing with their older peers.
Resilience. Like wellbeing, resilience is often also amorphous. It is used in many different contexts, with different meanings. In this study, resilience is understood as dynamic (not a static state or trait), and about how individuals navigate toward wellbeing in cooperation with their community (environment) and other actors (e.g., caregivers, community members) (Liebenberg & Ungar, 2008). This approach in contemporary resilience research assumes persons (and their communities) also have strengths and assets that can be supported through interventions to overcome potential obstacles or risk (Cameron et al., 2007; Berger, 2008).

In the early phases of resilience research, resilience was related more strongly to individual characteristics (Rutter, 1987). Resilience theory has evolved towards greater emphasis on the systemic and contextual interdependency between people and their socio-structural ecology (Theron 2008, Liebenberg & Ungar, 2008; Ungar, 2011; Ungar speaking in conference proceedings, Halifax, May 2014). Today, there is strong recognition that the factors impeding optimal positive development are often not under the control of the individual, particularly for more vulnerable persons such as youth. Instead agency and perception of possibility are framed by environmental elements out of an individual’s control (Abramson et al., 2010). Resilience thus implies both a challenge or risk component, and an asset component.

Uneven power structures create a wellbeing deficit, usually described in the literature as risk or adversity (Lerner et al., 2012). Resilience assets are variously referred to as protective mechanisms (Rutter, 1987), processes or resources (Liebenberg & Ungar, 2008), or factors (Henderson, Bernard, & Sharp-Light, 2007). Henderson et al. (2007) summarize the emphasis on strengths and assets by stating “what’s right with you is more powerful than anything that is wrong with you” (p. vi). This study is framed by Ungar’s (2008) definition of resilience:

The capacity of an individual to navigate their way to resources that sustain wellbeing, plus the capacity of their physical environment to provide those resources; plus the capacity of the individual, their family and the community to create resources that are culturally relevant. (p. 22)

The interplay between the individual and the context is such that outcomes across people (even in the same programme) will be different. Ungar (2011) refers to the process of navigation to obtain or maintain wellbeing as ‘equifinality’ (p. 7) because the outcomes are different for different individuals. Some life skill outcomes commonly studied in resilience related literature include social competence, problem solving, task-mastery, sense of positive identity, self-efficacy, job and life skills, sense of community or belonging, positive communication skills, positive bonds with others, conflict resolution, self-awareness, optimism, sense of purpose, empathy, ability for reflecting on choices (delayed gratification/self-control),
and voice (Henderson et al., 2007; Pike et al., 2008; Prilleltensky, Nelson, & Peirson, 2001; Ungar, 2003).

In research with youth in 14 sites across 11 countries, Ungar et al., (2007) identified seven factors of resilience that they use to measure capacity for resilience rather than specific lifestyle/cultural choices. The seven factors are conceptualized as ‘tensions’ in order to describe their dynamic nature. The seven factors account for both internal and external assets in alignment with Bronfenbrenner’s ecological systems theory of human development (Bronfenbrenner, 1977; 1994) that sets the individual in a series of nested circles of influence (Bronfenbrenner, 1994; Boyd, Johnson, & Bee, 2015, p. 51).

The seven factors are described below, and are the primary outcomes examined in this research, along with self-efficacy. They are: access to material resources, relationships, identity, cohesion (need to belong), power and control, cultural adherence (sense of cultural or values identity) and social justice (sense of exercising rights). The definitions used by Ungar are paraphrased in Table 2.1.

Table 2.1 Definition of the Seven Protective Factors for Resilience

<table>
<thead>
<tr>
<th>Resilience Factor</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to material resources</td>
<td>Availability of financial, educational, medical and employment assistance and/or opportunities, as well as access to food, clothing and shelter.</td>
</tr>
<tr>
<td>Relationships</td>
<td>i.e., with significant others, peers and adults within one’s family and community.</td>
</tr>
<tr>
<td>Identity</td>
<td>Personal and collective sense of purpose, self-appraisal of strengths and weaknesses, aspirations, beliefs and values, including spiritual and religious identification.</td>
</tr>
<tr>
<td>Power and control</td>
<td>Experiences of caring for one’s self and others; the ability to affect change in one’s social and physical environment in order to access resources.</td>
</tr>
<tr>
<td>Cultural adherence</td>
<td>Adherence to one’s local and/or global cultural practices, values and beliefs.</td>
</tr>
<tr>
<td>Social justice</td>
<td>Experiences related to finding a meaningful role in community and social equality.</td>
</tr>
<tr>
<td>Cohesion</td>
<td>Balancing one’s personal interests with a sense of responsibility to the greater good; feeling a part of something larger than one’s self socially and spiritually.</td>
</tr>
</tbody>
</table>

(Ungar et al., 2007, p. 295)

Self-efficacy. While self-efficacy is related to or embedded in some of the seven protective factors of resilience (especially ‘power and control’), it is a separate construct. It is akin to self-esteem, but with direction: self-efficacy is about a sense of ability to impact, or agency. It is inherently relational to the environment or to others. Where self-esteem is a
subjective state, self-efficacy is an appreciation of agency, usually based on observable past or likely future actions. Self-efficacy moves beyond self-esteem since it is outwardly directed and related to the agency of the individual. It is the belief in one’s ability to be able to act effectively on one’s goals, to meet needs, or to influence other persons or circumstances (Bandura & Schunk, 1981).

General self-efficacy has been validated cross-culturally, and correlated with health-promoting behaviour, optimistic self-belief and expectations, coping, quality of life and positive affect (Luszczynska, Scholz, & Schwarzer, 2005). It is also a core construct in the work of a foundational theorist in positive psychology, Albert Bandura (1993). Although self-esteem studies are more prominent in positive-youth-development literature, critics justifiably question the long-term impact of a self-esteem boost (not to be conflated with self-efficacy) through programme participation.

Self-efficacy was selected in this study as a distinct aspect of resilience because of its concrete relationship as a precursor skill to the type of resourcefulness or entrepreneurialism (Zhao, Seibert, & Hills 2005; Wilson, Kickul, & Marlino, 2007; Wilson, Kickul, Marlino, Barbosa, & Griffiths, 2009) that has been described as so important to thriving in the contemporary Canadian rural context (OMRA, 2014).

Self-efficacy was selected in this study as a distinct aspect of resilience because of its concrete relationship as a precursor skill to the type of resourcefulness or entrepreneurialism (Zhao, Seibert, & Hills 2005; Wilson, Kickul, & Marlino, 2007; Wilson, Kickul, Marlino, Barbosa, & Griffiths, 2009) that has been described as so important to thriving in the contemporary Canadian rural context (OMRA, 2014).

A perceived effective self is inherently in relationship to environment. The environment is part of the perception, and there has to be an environment to act upon, in order to be efficacious. Similarly, there have to be elements at hand (or perception of their availability) to be efficacious with. Self-efficacy is negatively related to bio-psychological processes of stress (Bandura, Cioffi, Barr Taylor, & Brouillard, 1988) and depression (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999). This means that persons high in self-efficacy are more likely to go through a challenge without becoming pathologically stressed or depressed. The mitigating role of self-efficacy in mental and physical health, as well as life-path trajectories (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001), links self-efficacy with resilience (Brown & Westaway, 2011).

A person does not have to feel satisfied with where they are in life in a precise moment to perceive self-efficacy. Gaps are often what instigate action and growth. Brown and Westaway (2011) and Bandura (2001) all studied the presence of self-efficacy or agency in the midst of hardship or gap. Readiness or confidence that one can take action (agency) despite a hardship is a feature of resilience (navigating risk or difficulty in order to thrive).

**2.2.2 Canadian youth and wellbeing.** With the above definitions in place, this section describes the risk situation Canadian youth are in with regard to wellbeing. Vulnerable
populations such as rural residents are even more at risk. Despite the celebrated high ranking on the Organisation of Economic Cooperation and Development (OECD) Better Life Index (OECD, 2013; 2015), the OECD also ranked Canada 25 out of 30 countries for child wellbeing in 2009 (Cross, 2012; Best Start Resource Centre (BSRC), 2010), and even more poorly (27 out of 30) in 2014 (Senate Canada (SC), 2015). Physical activity levels and related health issues are used as a general wellbeing indicator (King & Sallis, 2009). Some reports show that 80-90% of youth do not meet basic physical activity guidelines for healthy development, placing them at risk for later health issues (PHAC, 2011; Tremblay, 2012). For the first time in history, it is predicted that Canadian children across all income brackets will have shorter lifespans than their parents (Salvadori et al., 2008).

While socio-economic determinants of health (SED) are widely acknowledged to impact health status (making some populations more vulnerable), all social strata are represented in the Canadian wellbeing crisis (Mountjoy et al., 2011; PHAC, 2011; CIW, 2012; CSEP, 2012). The current environment for physical recreation for all economic classes has been referred to as an ‘obesogenic environment’ (facilitating obesity: Ferreira et al., 2006, p.129). While the physical health of youth (obesity specifically) has been referred to as a public health epidemic (CYHNEO, 2009), mental health is also referred to as ‘the new morbidity’ for Canadian children and youth (CYHNEO, 2010) due to its impact on current and future physical health and social status.

In any given socio-economic group, youth also face other adverse circumstances. Regardless of economic and social strata, the high rate of dual income families and single-working-parent families means that approximately 60% (CYHNEO, 2005) of children spend a significant amount of time on their own. Significant alone time or lack of family and social connection is correlated to negative affect and other mental health concerns. Across all social strata, 20% of children and youth will have undergone the divorce of their parents (Employment and Social Development Canada (ESDC), 2015). When multiple ‘risk’ factors are considered (such as poverty, family breakdown, violence, neglect, abuse, substance, and disability), 30-40% of families experience one of these risk factors (CYHNEO, 2005). Regardless of family income, 25% of children entering the school system are considered vulnerable (to lack of school success) (CYHNEO, 2005), and an estimated 86% of girls and 76% (PHAC, 2011) of boys suffer critically low levels of self-esteem by the age of 15.

---

8While previous reports cited indicated lack of participation in sufficient physical activity as reaching to percentages in the low 80%, another report cites as few as 4% of girls and 9% of boys reaching the physical activity guidelines of one hour of moderate to vigorous activity per day (cumulative) (Tremblay, 2012).
Even though concern for youth is often focused on the reduction of anti-social behaviours, anti-social behaviours by youth are not as prevalent as such behaviours perpetrated on them. Only 4% of youth are involved in reported crime, whereas 26% of youth across all socio-economic brackets are the victims of reported crime (with an estimation that twice as many are victims of unreported crime such as bullying or inappropriate sexual approach, usually by a family member or known person) (Statistics Canada, 2001).

Although high numbers of youth face these risk factors, and youth is a critical period for successful intervention, youth are inadequately supported. It is estimated that only 20% of youth with a diagnosable need for mental health intervention receive any appropriate attention in the critical first 6-month window (CYHNEO, 2009). This means they are without access to relevant, timely support and effective intervention. There are no figures available for the higher number of youth needing support who fall below thresholds of diagnosis set by the current Diagnostic and Statistics Manual (DSM-V). Data on proxy indicators of mental health concerns is available in Ontario. For example, 25% of underage youth in Ontario report heavy drinking habits (CYHNEO, 2010). Youth wellbeing has been one of the UN Millenium Goal priorities because of the expectation that wellbeing is related to economic productivity (UNFPA, 2010). In Canada, Brodhead (2011) underlines the multiplier effect of fostering wellbeing in youth in terms of participation in civic and economic life.9

2.2.3 Rurality and wellbeing profile. Rural populations are considered to be at higher risk and lower wellbeing levels than the general population (CMA, 2013). Higher percentages of rural residents are currently in lower socio-economic brackets (Statistics Canada, 2011; Ontario Centre of Excellence for Child and Youth Mental Health (OCECYMH), 2013), with some estimates as high as 25% (Burns et al. 2009, PHAC 2011). Rural residents experience higher levels of sedentariness, obesity and related health issues (Lutfiyya et al., 2007; Bloch et al., 2008; Burns et al., 2009; BSRC, 2010; Caldwell et al., 2013). Rural youth engage in significantly higher rates of screen-time than their urban peers (PHAC, 2011; Grontvedt al.,2014). While rural youth across the country have a 25% higher risk of obesity (Caldwell et al., 2013), some regions show even higher levels of youth obesity. In rural Eastern Ontario, youth obesity is 153% higher than the provincial average (CYHNEO, 2012).

Mental health issues are elevated, as is the experience of social breakdown. A higher percentage of rural children live in lone parent families and report higher levels of life-stress.

9The following quote notes the irony between focus on narrow economic measures leading to inflated ideas of the actual wellbeing situation, and the impact to wellbeing and long term economic thriving: “Western societies, that have traditionally focused on economic growth as their sole indicator of wellbeing, are wrestling with the implications of sustainability.” (Brodhead, 2011. p. 21)
Underage abuse of alcohol is elevated in rural areas. In Eastern Ontario, youth heavy drinking exceeds the provincial average by 140% (CYHNEO, 2010).

The rural context presents challenges to meeting the wellbeing needs of youth and children, and to equipping them for adult wellbeing. Rural youth are less likely than their urban peers to obtain post-secondary training (66% urban vs. 57% rural) (PHAC, 2011). Unsustainable socio-economic conditions for youth are causing outmigration, particularly of youth with higher education. Outmigration negatively affects rural regional economic vitality (World Bank, 2012; OMRA, 2014), and also forces youth to leave their support networks. Bradford (2005) notes that rural area provision for and retention of youth is critical to Canada at large, stating: “Lost human capital, increased social tensions, and foregone economic opportunity will take their toll on the overall quality of life of the provinces and all of Canada” (p. 3).

2.2.4 Rural barriers to wellbeing. Some of the key barriers to youth wellbeing emerging in the literature include housing, training, adult support, transport, and service access (including recreation option barriers such as limited number of options, or exclusionary fee structures). These barriers can impact youth access to support (e.g., for illness care), health promotion, and resources for positive development (recreation, supportive environmental resources).

Housing. Although the average housing cost is lower in rural areas, it often represents a greater percentage of household income. Also, while home ownership is higher, there are fewer other housing options (SC, 2008). Inadequate housing is related to poorer physical and mental health, and usually accompanies inadequate household financial resource (Watt, 2008). Additionally, families or individuals spending a higher percentage of their income on housing lose out on discretionary budget for transportation, leisure, recreation and even healthcare costs not covered by public healthcare.

Training. Training encompasses direct and indirect skill learning. There is lack of formal training in rural communities for both entrepreneurship and local employment (Bryden & Bollman, 2000; Bollman & Alasia, 2012; OMRA, 2014). Additionally, unemployment among rural youth is higher (GOC, 2006; Marr, 2012). Between lack of on-the-job training and formal training and education opportunities, rural youth have less opportunity to discover strengths and

---

10 In their work, How Healthy are Rural Canadians, Desmeules and Pong (2006) confirm that rural areas have higher rate of risk in some health areas, due to higher proportions of people on lower income and with lower education, with elevated levels of obesity compared to urban Canada. They acknowledge that other health issues are more prominent in urban areas.
interests, and develop skills that can lead to household revenue (Hamilton & Hamilton, 2004; ILO, 2010; CYHNEO, 2012).

Recreation and sport are another common way for youth to identify strengths and develop skills transferable to later adult functioning (AHKC, 2014), but again, access is more limited in rural areas (EOPAN, 2015). Both employment and recreation provide opportunities for experiencing adult mentorship important to healthy development and eventual productive engagement in society (Hamilton & Hamilton, 2004). Lack of adequate support for self-responsibility, and for eventual responsibility for potential families, perpetuates the urban-rural household economic disparity (Looker & Dwyer, 2008).

**Adult support.** In rural areas, the problem of parental absence is magnified by the need for parents to be away more hours in the day (commuting or working longer hours because of lower median hourly wage in rural areas) and lack of ability for youth to access alternative association with adults in the after-school timeframe. They miss out on learning skills and cognitive development (PHAC, 2011) that would prepare them for job and life skill acquisition. Also, Kremarik (2000) notes that lifetime health habits are impacted by presence or absence of adult models in daily life more than participation in structured activities. In a study on parental involvement versus organized sport involvement, Kremarik (2000) found that 81% of youth with a single athletically involved parent participated in organized sport.¹¹ Yet, family physical recreation participation is challenged by absent parents, by programming restricted by gender and age-group or fees, and by lack of facility for informal, low-cost family activity (Walia & Leipert, 2012). Many adults are not available to drive youth to jobs, healthcare, recreation, or youth programming that might otherwise fill the gap.

**Transportation.** Transportation is a significant issue impacting the ability of rural youth to access mitigating supports (Schreuder, 2010). With the widening distances, increased traffic on roads, consolidation of schools and services, fuel price increases,¹² removal of public transit commuting links in many rural areas, motor transport is mandatory but many families have limited access. Transportation emerges as a significant factor in access to timely and appropriate healthcare (physical and mental) (CYHNEO, 2012; CMA, 2013). An estimated 35% of women in rural areas do not have a personal car (Marr, 2012), leaving family members less able to get to health appointments, part-time jobs, sport or social activities. Paving and road development omitting sufficient shoulders for active transport in most communities is also a factor. Even when a family does have a car, fuel and repair costs for operating vehicles are

---

¹¹This study was conducted on data from 1998. The average rate of participation was 53-54% depending on single versus dual parent family.

¹²Between 30-40% in the last decade (Ferdous et al., 2008)
significantly higher for rural residents, eating more into family discretionary budget (CYHNEO, 2012). In a photo-voice study on barriers to physical activity for rural youth by Walia and Leipert (2012), transportation emerged as a significant theme.

**Services.** Even if alternate transport options were available, rural communities do not have the range of recreation services that urban municipalities do. Because of a smaller tax base, rural communities are not able to keep up with the infrastructure demands of the urban-based sport, recreation and youth service models. Brownson et al. (2009) note that there is a lack of evaluation of suitability of recreation programs for rural areas, and they state: “It is most important to ensure that the environmental measures are relevant to the populations” (p. S119).

Commenting on the lack of consideration in municipal service planning for context and calling for application of a Rural Lens advocated by the Canadian Rural Partnership, Bradford (2005) emphasizes the need for contextual solutions and greater harmonization between the three levels of government to make it financially possible. Bradford states:

> One-size fits all policy delivered from above is not conducive to integrated place-sensitive solutions. (p. 10)

> The fundamental pattern is one where federal and provincial governments, faced with their own fiscal pressures beginning in the 1990’s offloaded programs on to municipalities and community organizations….In some cases…protracted disputes between the federal and provincial governments resulted in de facto policy vacuums with regard to urgently needed services….The combination of program offloading and grant reductions has left Canadian municipalities with extraordinary challenges in providing an expanding range of services and infrastructure while relying mainly on the limited revenue tools of the property tax and user fees. The situation is not sustainable as estimates of the national municipal infrastructure deficit now stand at over $60 billion. (pp. 12-13)

> Close attention must be paid to the particular needs, assets, and capacities of specific neighbourhoods at the same time that local strategies connect to wider metropolitan or regional opportunities. (p. 31)

**2.2.5 Call for rural resilience.** Rural/urban differentials in wellbeing have been referred to as experiences of *deprivation amplification* (Floyd et al., 2009, p. S157), where the options available are intertwined with social context, social supports and environmental supports. For example, Frisby and Millar (2007) explain that persons in lower socio-economic brackets do not have equal access to sport (or other social benefits of society), because of basic lack of the financial, social and cultural capital that make such options physically and perceptually possible. Rural communities are faced with the challenge of finding contextually relevant solutions to the rural wellbeing situation.
The wellbeing of individuals and of communities are intertwined. Dustin et al., (2010) summarize the relationship between health and context in the following quote that is reminiscent of the earlier discussion of resilience:

Health from an ecological perspective is a measure of the wellness of the individual and the community considered together. The individual cannot be healthy independent of the condition of the larger community, and the larger community cannot be healthy independent of the condition of the individuals constituting it. Healthy individuals require healthy families, healthy families require healthy communities (p. 8).

At a very transactional but persuasive level of thinking, fostering resilience reduces public and social costs. Dustin et al., continue:

Preventing health problems is simply cheaper than paying for medical treatment after the fact. For this reason alone, parks, recreation, and tourism services should be embraced as part of a comprehensive health promotion strategy (Dustin et al., 2010, p. 9).

**Physical activity and resilience.** Fostering resilience in rural communities is essential to the health of the Canadian economy, rural communities, and individuals. While many measures can be taken to address the issues discussed to this point, the approach relevant to this research is the use of physical activity and recreation for promoting youth wellbeing and resilience.

Recreation and physical activity are widely acknowledged resources for fostering wellbeing and healthy development. For example, item number six in the Ontario Public Health Standards refers to amenities for active living as critical to health outcomes:

Everyone in Ontario has a right to quality, accessible and inclusive recreation and parks services in their communities- services that are essential for the health of Ontarians, the quality of life in our communities and the sustainability of our environment (OSPAPPH, 2007, p. 7).

Despite the barriers to wellbeing discussed, links have been made between smaller communities and elite athlete performance (Côté, Macdonald, Baker & Abernethy, 2006). Rural populations have many recreational assets shaped by the rural context. Specific rural assets include the people (smaller communities, high civic engagement), and green assets (green infrastructure both publicly and privately held). Rural communities offer potential for greater belonging and inclusion, a very diverse economy rich in people with entrepreneurial skills, and a larger percentage of young people. Rural green-ness offers health-enhancing biodiversity in both wild and domesticated flora and fauna (Sandifer, Sutton-Grier, & Ward, 2015)\textsuperscript{13},

\textsuperscript{13} Sandifer et al., 2015 discuss the importance of biodiversity for health and wellbeing, in particular for respiratory health that is a significant problem in Canadian urban centres, most of that have unhealthy levels of smog.
opportunity for connection to food source cycles and life-cycles, and ample land affording recreational greenspace and healthier, more contemporary urban planning.

**People assets.** Even though some studies note that rural youth experience social exclusion due to a gap that many experience between their lived reality and the marketed image of the ‘rural idyll’ (Matthews et al., 2000), others such as Rolfe (2006) note that social cohesion or connection are high in rural communities. Social cohesion or connection is an important mitigating factor for health and wellbeing. From the standpoint of youth development toward adult thriving, the higher percentage of entrepreneurs and very small business owners in rural areas (Bollman, 2009) is also a potential wellbeing resource through mentoring, training and employment.

Finally, the higher percentage of younger people under 20 years of age (Fellegi, 1996) is perhaps rural areas’ most important asset. Despite a net aging effect due to in-migration of retirees and outmigration of working age young people, youth represent one of the greatest (and possibly overlooked) (Fernando, 2012) resources rural areas have for human capital and citizenship engagement. According to Benson (2002), an asset building community is one that promotes development and strengths in its youth. The United Nations Population Fund (UNFPA) describes youth as the most important investment for micro and macro-economic growth (UNFPA, 2005 & 2010).

**Green assets.** The recreation infrastructure in rural areas is greener with more wild and domesticated nature assets than in urban areas. Even though previously discussed barriers prevent access for many to rural nature assets, the assets are still there in greater abundance than for urban populations. Physical activities commonly practiced in rural spaces by urban and rural residents alike include walking, hiking, cycling, running, boating, skiing, snowshoeing, golfing, animal care and companionship, and equestrianism. Rural areas may have fewer indoor pools, sport courts and rinks, but they have an abundance of ‘green’ resources afforded by the features of the space and other species (Rolfe, 2006; Jones, 2006; Wilton, 2008; Caldwell et al., 2013).

In their meta-analysis of 33 quantitative studies on children’s physical activity and surrounding environment, Krahnstoever and Lawson (2006) conclude that evidence clearly supports correlation between increased physical activity and health, and proximity to accessible infrastructure for physical activity. While Krahnstoever and Lawson’s study focuses on built recreational facilities, other studies make similar observations about access to nature infrastructure. In another study, McMorris et al., (2015) showed a positive correlation between physical activity levels and health measures, and population access specifically to green spaces
for unstructured recreation. In one study on forest schools and child self-esteem, Swarbrick et al., (2004) found that having playtime in the forest environment rather than a built schoolyard fostered creativity and critical thinking skills.

Nature (including ‘tame’ nature such as parks) has been shown to have significantly positive effects on all aspects of wellbeing: increases in physical activity, learning, focus, cognitive development and reduction of stress (Louv, 2006; King’s College London (KCL), 2011; CNN, 2012) regardless of the participant’s conscious awareness or personal appreciation for nature. Greenspace activity appears to provide even greater health benefits for vulnerable sectors such as persons with very low income. In a study on proximity to greenspace involving 10,000 Dutch people, de Vries et al. (2003) found that the most noticeable benefit occurred for the more vulnerable populations. The findings support the notion that green space recreation is salutogenic, especially for more vulnerable populations.

**The history of 4-H and rural youth wellbeing.** 4-H is a youth development organization that is just over 100 years old in Canada. It sprang from the older Boys and Girls clubs located in rural areas. It is heavily dependent on volunteers who lead clubs based on topics in their communities. In its early days, the topics were largely related to traditional agrarian society: agricultural and home economic learning, from raising piglets, to gardening to baking pies. In the early 1900’s, a very small fraction of the population accessed formal higher education. 4-H filled an important technical training gap for rural populations at a time when post-secondary training was not accessible to the majority. It also provided high quality education for the agricultural industry that drove the Canadian economy at the time.

The 4-H model of community education was taken seriously as an economic contributor, receiving funding support from the Banks, railroads and the Federal Government. Education topics spanned a variety of areas now taught in Community Colleges and University, from agricultural skills, to mechanical and electrical technical skills and horticulture. It was common for both elementary and secondary schools to also be more involved with school gardens in partnership with their local 4-H clubs (Mann, 1982; Lee, 2015).

Over time, the organization evolved with society. Today, clubs exist in urban and suburban areas as well, and topics reflect urban and rural culture (such as computers or camping/outdoor clubs). Livestock, agricultural and ‘life skill’ (baking, sewing, business) clubs are still the more visible face of the organization in rural communities due to their presentations at agricultural fairs. However, club topics offered in an area are more dictated by what volunteer leaders are able to teach or the local community is interested in, than by the organization itself. In rural communities, 4-H has a strongly rural flavor as the only youth development organization
with consistent presence in rural communities. In many rural communities, youth clubs commonly presumed to be accessible in mainstream urban culture are simply not present.

4-H is listed here as a rural asset because it facilitates connection between other rural assets, and addresses many of the barriers to youth wellbeing discussed above. It connects rural people assets (youth and mentoring adults, community members), and often connects people with green assets (wild nature and agricultural or horticultural nature). While the organization cannot do anything about inadequate housing, low cost of membership makes it accessible to households with less discretionary budget, or no budget for dominant culture sports (or mainstream equestrian sport). The organization collects donations for scholarships to fund youth whose families cannot afford the low membership cost. Clubs do fundraisers to make special outings affordable to all members. Volunteers overcome transport and services barriers by engaging in carpooling to ensure that youth members can participate, regardless of their family situation. The adult mentoring and education barriers are overcome by the community-based learning model.

4-H was practicing youth development before the field of positive youth development (PYD) was created. Although largely ignored by sport for positive youth development, the 4-H approach is foundational to that same field since it was the primary context of Lerner et al.’s (2005) work that developed central concepts in that field (the 5 C’s). There have been few PYD and 4-H studies since that study.

2.3 Sport, Recreation and Wellbeing

Sport is often differentiated from physical recreation generally by being more highly organized, and containing a competitive element. However, in the broader sense, sport can also mean recreational forms of physical activity (PA). This review looks at sport and recreation as physical activity (or related to it, i.e., excludes the ‘sport’ of car racing). Sport and recreation are differentiated in this literature review because they appear to have diverged historically. However, a conclusion is that there is a need to return to a broader understanding of physical activity, and that the notion of ‘sport for positive youth development’ should be widened to include physical recreation forms not typically included in that field.

Physical recreation has historically been a strong source of combined benefit to all aspects of wellbeing (Wall & Marsh, 1982; Kidd, 2008). Understanding the importance of wellbeing and recreation research in rural areas requires not only the current wellbeing data (discussed), but also the history of trends that shaped both the problems and the assets of the current situation. From a rural rather than an urban perspective, the history of recreation in
Canada began with high association to rural green spaces. Recreation was highly linked to wellbeing benefit, and wellbeing was associated with civic participation and economic productivity (Wall & Marsh, 1982; Kidd, 2008; Kidd, 2013). The historical view through a rural lens shows that as the dominant culture urbanized, recreation was co-opted by sport as a commodified industry.

The emphasis in recreation shifted from access for public good to private consumerism, and from the outdoors to the indoors. The wellbeing deficits in the face of a robust sport system in Canada have been discussed in the previous section. The history also reveals clues about the deep traditions of green-space recreation that have been and can be salutogenic. For areas rich in green recreation infrastructure, a re-discovery of the value of physical recreation based on the local assets (albeit in contemporary forms) could be a sustainable way to re-discover recreation as a community resource for wellbeing.

A rural lens shows that rural communities had a rich recreational culture that has been inadequately replaced, and does not meet the wellbeing needs of rural populations. While a nostalgic return to the past activities such as the formerly widespread youth competitive gopher hunting (Mann, 1982) is unlikely, rural communities could better leverage contemporary forms of recreation that are not based on competitive sport or consumer spending models. Green-space recreation for wellbeing is anchored on traditions with deep roots and a rich body of theoretical and practical knowledge.

This section presents an overview of the cultural relationship between recreation, physical activity and rural spaces in Canada (sub-sections 2.3.1 and 2.3.2). The section finishes with a review of the contemporary fields that are relevant to research on youth wellbeing outcomes and physical activity in rural spaces (sub-sections 2.3.3 and 2.3.4). These are activity-assisted therapies, sport for youth development, therapeutic recreation, outdoor experiential learning, and community recreation with positive youth development. Further elaboration of green and animal-based bodies of knowledge is in section 2.4.

2.3.1 History of sport and recreation in Canada. Recreation and leisure histories written in Canada were largely written prior to the 1980's, with the exception of George Karlis (Leisure and Recreation in Canadian Society, 2004; 2011). After that period, discussion of recreation is dominated by discussion of the histories of sport. Sport is a fragmented field in that information tends to be specific to particular sports.

Before recreation and leisure were eclipsed by sport, histories of recreation tended to have been written within the framework of histories of parks and outdoor spaces. Most Canadian curriculum on leisure and recreation adopts the accepted historical model developed
in the recreation field in the United States. This model classifies historical periods tracing industrialized, Western European culture back to foundational Greek thought, defining leisure (including all physical recreation) as activity conducted for enjoyment in unobligated time (Robertson & Long, 2008). The model divides the history of recreation into six key periods based on a transition from philosophical or moral views of recreation, to recreation defined by the dominant economic models (Dattilo, 2015):

1. a **Golden Age** of antiquity in that leisure was an learned attainment;
2. a **Renaissance** age (1350) where leisure meant balance and health;
3. a **Reformation** period of the 1500’s that introduced the protestant work ethic and demoted leisure to wasteful idleness;
4. an **Industrial Revolution** of the 1800’s that demoted time to its productive value;
5. a **Consumption** era beginning in the 1920’s that saw leisure as a potential growth industry (merchandized leisure) based on time freed up by automation in daily living; and a
6. **Commercial** stage in that leisure involves consumption of a product, service or experience, requiring a work-to-spend lifestyle prioritization.

Critical reflection of this model would note that this historical classification is without specificity for physical activity, specific activities (type, space), location (specific culture / time, rural/urban), or differences in social class engagement. The model is applied as if pertaining to a largely homogeneous, European-based, middle class, post-industrial, Western, urban North American society. In the only Canadian historical overview of recreation spanning the 19th Century to the early 2000’s, George Karlis (2004; 2011; 2016) attempts a different segmentation by organizing significant events, legislation and trends decade by decade. Karlis frames the history as an evolution toward a commercial stage of flourishing for individual choice. He contrasts contemporary culture with the earlier Welfare State approach, reflecting his value judgment and political leanings in the use of the term ‘paternalistic’ (Karlis, 2016, p. 63).

In contrast to Karlis’ view that the transformation of citizens into individual leisure consumers is a positive evolution, recent Public Health documents concerned with population wellbeing and health promotion have returned to a socially embedded understanding through the commonly accepted notion of social determinants of health and wellbeing. The idea that the use of leisure time should be left to free-market forces, or unstructured laissez-faire individualism, does not match with the ways that lack of population access to healthy leisure is connected in Public Health and therapeutic recreation to health promotion (CYHNEO, 2010; CMA, 2013; Active Healthy Kids Canada (AHKC), 2014; Dattilo, 2015).

Although no longer part of the recreation history discourse, the links between wellbeing for persons and society and built and green infrastructure have also been rediscovered and acknowledged recently in other documents such as the **Framework for Recreation in Canada**
2015 Pathways to Wellbeing (Canadian Parks and Recreation Association (CPRA), 2015). To understand what happened to the connections between greenspace, recreation and wellbeing in Canada and in rural areas, I apply a rural or green historical lens: I trace the recreation ‘story’ through the perspective of rural spaces.

Through this lens, I conceptualize the recreation history in Canada as divided into four key periods showing values shifts regarding wellbeing, recreation, and specifically ‘green’ activity and spaces. The four periods correspond are: 1. Green Activity for Health & Character (years before 1900- beginning of industrialization and urbanization); 2. Recreation for War & Citizenship (first half of the 20th Century- the two World Wars, interwar Depression and post-war social restructuring); 3. Sport for National Pride (third quarter of the 20th Century- emergence and establishment of the Welfare State); and 4. Failure of Sport and Commodified Recreation (end of 20th into the 21st Century- financial crisis and retreat from Welfare State models towards a return to primacy of free market forces) (also see Appendix A).

They key trends are: a shift from broadly accessible outdoor based activity based on the public good, to indoor leisure and less accessible sport based on a laissez-faire approach to private consumption; a movement from leisure for wealthy classes primarily associated with the outdoors, through realization of the value of leisure for population wellbeing (still tied to the outdoors); and of population wellbeing as for the national good, back to access based on economic privilege. The transitions are characterized by a gradual eclipsing of leisure by sport, of green spaces by indoor and built spaces, and changes in the cultural value of rural experience.

Through the rural or green lens, the links between population wellbeing and recreation are related to the relationship with and access to green recreation. Even though rural areas contain a diversity of green spaces used in leisure throughout history (parks, wilderness, ski hills and golf courses, farm and hobby farm spaces), the commoditization and cultural co-optation of leisure has reduced rural access to contextually suitable leisure. Figure 2.1 conceptualizes these shifts by depicting the three main trends: a) social access (y axis), b) shift from outdoor (green dash) to indoor (orange solid line), and c) economic access (cost-based vs. free: x axis).  

\[14\] A slightly different visual model is also available in the Appendix B as: Cycle of Physical Recreation and Wellbeing in Canada. The concept of the cyclical return to free market thinking vs. welfare thinking applied to recreation is reflected in the circular pattern, while more detail is given about important aspects of each period.
By the turn of the 20th Century, the population was still primarily rural, and recreation was inherently tied to the natural resources available and to the agricultural cycle. In rural areas, sports and games were conducted at fall and school fairs developed to promote community and skill acquisition in farming (Morgan, 1982; Wall & Marsh, 1982; Lee, 1995).

In urban areas, the squalor created by unchecked capitalist industrialization sparked a movement to expand access to green spaces, championed by wealthy philanthropists (more often their wives). Through the parks and playground movement, parks promoted healthy development in lower classes through social interaction and physical activity (McFarland, 1982). The general mindset that green spaces should be preserved for all classes to enjoy leisure, freedom of movement and fresh air was known as the ‘rational recreation’ (Kidd, 2008, p. 371) movement (McFarland, 1982; Godbey, Caldwell, Floyd, & Payne, 2005; Godbey, 2009).

This approach included camps for youth to get them out of the ‘bad influences’ of the city. By the time the Scouts and Guiding organizations came to North America, the cultural climate was favourable to its growth (Wall & Wallis, 1982; Gass, Gillis, & Russell, 2012). Boys and Girls Clubs included rural activities such as trekking and appreciation of the environment (Wessel & Wessel, 1982; Lee, 1995; Gass, Gillis, & Russell, 2012). Boys and Girls Clubs in rural areas were the forerunners of the 4-H organization. The goal of these clubs was to promote vocational and personal skills for taking on socially productive roles (Mann, 1982).
**P2: first half 20th Century: recreation for war and citizenship.** This period is characterized by the use of physical recreation and greenspace to solve two social problems: worry about how increased leisure hours could be used constructively, and concerns about population fitness for the military draft. The perceived critical need for increased leisure services stemmed from the reduction of the workweek, increase in salaries and mass popular access to cars. The 1.5 day weekend established in 1907 with the ‘Lords Day’ Act (Karlis, 2004) was later lengthened to two days, shortening the workweek to 40 hours with estimated annual gains in leisure time of 675 hours/year (Wurman, 1972).

While farmstays were a leisure form in Canada, they were not promoted as much as they were in the US (National Recreation Association (NRA), 1946; US Department of Agriculture (USDA); 1963) since it was a higher Canadian priority to keep leisure seekers off arable land. Canadian cities were also closer to large sections of non-arable wilderness. Consequently, identification of rural leisure leaned towards wilderness experience. Campground and related services mushroomed well into the 1970’s as cars became affordable to more people, making outdoor activity part of the Canadian identity (Wall & Wallis, 1982).

The economic potential of rural recreation (primarily for the urban population) framed in outdoor experience was considered high, and followed closely by the Federal Government that issued Outdoor Recreation Demand Studies in 1967, 1969, and 1972 (Wall & Marsh, 1982). This division in thinking about recreation in rural spaces as separate from farm activity is important, because it has had an impact on notions prevalent today about what spaces in rural communities are available as recreation resources. Meanwhile in cities and towns, although the first indoor recreation facility was built (in Toronto) in the early 1900’s, physical recreation remained for some time synonymous with access to the outdoors (McFarland, 1982).

However, the type and use of the outdoor spaces changed. When large numbers failed the military physical entrance exams, the Youth Training Act of 1939 subsidized leading organizations like the YMCA, so that they could promote physical activity for citizenship skills and military fitness potential (Rose, 2007). Large, flat spaces used for drilling became the new park space preferred for team sports, mostly for males. Parks began to lose the former emphasis on nature features.

**P3: third quarter of the 20th Century: sport for national pride.** By the 1960's, formal organized sport and game leagues made use of the urban park infrastructure. The heyday of assumptions that the population wanted rural or rural-like recreation had passed. Sport and recreation became divided, with the former increasingly associated with competitive and commodifiable access.
This shift emphasized leisure as occurring in built infrastructure. In Canada the Centennial year (1967) was a time when built recreation infrastructure was significantly enhanced with the spread of parks, pools, tennis courts and other facilities that were generally publicly available at no or very low charge. Assumptions were made that school consolidations, including rural areas, would enable more members of the population to access built recreational infrastructure by aggregating resources to larger schools.

The growth of popular television media favoured activities that occurred in smaller, more televisable spaces. With rising costs of land and increased urban density, nature areas in many urban parks, and park sizes, were reduced (Wurman, 1972; Louv, 2006). Recreation in the dominant culture shifted to more organized and competitive pursuits—especially attached to marketable Olympic or competitive sports. Olympic sport performance became a symbol of nationalism during the Cold War (Karlis, 2004; Kidd, 2008).

**P4: 21st Century: failure of sport and commodified recreation.** This period is characterized by a consolidation of the shift in leisure behavior from outdoors, to indoors, from active to sedentary activities, and from broad social provision to access limited by socio-economic status. In the previous Century, the concept of green-space recreation as a right was reflected in guidelines establishing an ideal number of hectares of park space per capita (McFarland, 1982). Language suggesting park space per capita disappeared in Canadian public discourse by this period. Much new development fails to provide both enough privately owned space, and park space within child walking distance for the population to meet daily physical activity guidelines. Lack of access to space contributes to a reduction in physical recreation as a matter of culture (vs. consumption).

By the 1980’s, concern for population fitness for the military had decreased significantly. Under the economic models favouring the GDP as a proxy measure of national health, the focus shifted to economic participation: consumption of sport by paying fees to access designated locations, or buying services, products or entertainment (live game spectatorship). Recreation as a commodified service to individuals eclipsed earlier emphasis on collective responsibility for recreation as a means of health promotion, and character and citizen development. The National Recreation Statement jointly signed in 1987 by the Federal, Provincial and Territorial governments stated: “Leisure in our democratic society will always remain the prerogative of the individual...the individual should be both a provider and recipient of leisure services” (Golob, 2010, p. 8).

The cost of sport participation increased as indoor facilities became more elaborate (Gebhardt & Eagles, 2004). Federal government policy to cut social spending and increase
individual responsibility resulted in Provincial funding transfers for social programs such as recreation declining by almost 30% (Rose, 2007). Even as population density increases grew municipal revenue, per capita spending on recreation dropped between 1990 and 1999 from $151 per capita, to $133 per capita (Gebhardt & Eagles, 2014).

Prophetically, some opposed user fees on grounds that user fees would “distort leisure services and make them more commercial in nature” (Getz, Graham, & Box, 1988, p. 5), and that fees would deprive the poor of recreation opportunities and reduce participation rates. Some thought that free services would undercut supply and demand cycles of privatized fitness and sport industry (Getz, Graham, & Box, 1988), revealing prioritization of a transactional economic valuing of physical activity rather than a predominantly social investment (Welfare State) view.

**Current trends, recreation and wellbeing.** Between the 1980’s and today, other trends that had an impact on recreation in urban and rural contexts also occurred, notably: increases in automobile traffic in rural areas, school amalgamation and bussing, lone parent families and dual income families (reduction of a parent to interact with or drive youth to activities), reduction of average house yard size, and of population access by active transport to greenspace. It seems that population leisure choice has shifted not only from outdoor spaces to indoor spaces, but also from physically active to sedentary choices.\(^{15}\)

In the two decades after the arrival of the Internet, sport participation among Canadians dropped by 17% (Heritage Canada (HC), 2013). The percentage of population engaging in an accumulation of 3 active hours per day (of any intensity) dropped from 82% in 1988, to 52% in 2000 (Craig, Russel, Cameron, & Bauman, 2004). Since the efforts of the late 1990’s and early 2000’s to expand internet access in rural areas, the rate of decline in rural youth participation in physical activity surpassed that of urban residents (CYHNEO, 2012). PHAC (2011) reports note that there have been no conclusive causal studies for the obesity epidemic. The increase in sedentariness and use of the internet in the same period also co-occurred with a public health messaging shift in the 90’s toward disease-prevention, rather than physical activity promotion (an unfortunate simultaneous drop in intentional promotion of physical activity as a public health priority). Youth obesity tripled between the 1980’s and 2010 (CYHNEO, 2010). In consequence, this trend has started to reverse (movement back toward physical activity as

\(^{15}\) Screen-time is commonly accepted as a main contributor to health risk in larger population studies (Cragg & Craig, 2009; Grontved et al., 2014), with some showing that sedentariness displaces physical activity. Other studies show that the quality of screen-time activity may be an additional factor influencing gross time spent active vs. sedentary (Koezuka et al., 2006; Marshall et al., 2004).
health promotion) very recently, as reflected in documents such as the ParticipACTION physical activity report cards (Barnes, 2015; 2018).

Sedentariness is also acknowledged nationally and internationally as concerning for social and economic impact such as labour market outcomes (CPRA, 2015; CS, 2015). In a June 4, 2015 Canada Senate (Federal Government) Hearing, Franco Sassi, Senior Economist of the OECD Health Division acknowledged the steady increase in population obesity in Canada (youth and adult) since the early 1990’s (CS,2015). Obesity or overweight are commonly cited as flag indicators for a trend in general health, including mental health (AHKC, 2014; Zahl et al., 2017). The economic burden of physical inactivity has been estimated for health-care costs alone at between 6.8 billion (Janssen, 2012; CPRA, 2015) and 10.8 billion dollars (Krueger et al., 2014).

Some studies show that sedentary leisure is often a default where there is perception that better options are not available. In one study I helped design (EOPAN, 2015) on rural youth sedentariness and after-school use of time, youth with high screen-time usage indicated that sedentary and screen leisure was not their preference: they would rather be more engaged, physical, and social. Screen-time and loneliness were correlated to increased negative emotions and lack of identity confidence (clear gender identification).

One main reason commonly cited for disengagement with physical activity is cost. Approximately 20% of the general population and 45% of the recent immigrant population are estimated as not being able to afford fees for after-school programs (Clyne & Wilson, 2013). However, a much larger percentage (71%; Mulholland, 2008b) of Canadians cite cost as a major barrier to participation in sport. In a study on differences in access to recreation facilities, Dahman et al. (2010) summarize inequality of access: “Inequitable provision of rec programmes- and the public facilities and parklands where they are provided – raises social and environmental justice issues” (p. 432).

In describing power imbalances and inequality of access one paper summarizes the impact of the shift in recreation service:

The rising wealth in Canada has not narrowed disparities, they are widening. This trend is not shared by other wealthy countries such as Sweden, Finland and Norway. The key assumptions of neo-liberalism are that: the market uses resources and produces them more efficiently; society is composed of autonomous individuals; inequality is a result of market forces; (there are stereotypes of the poor blaming them for unhealthy choices)...Recreation evolved from the social reform movement...most recreation departments have a mandate to provide for all citizens, but in reality they cater primarily to middle class citizens who can afford the rising costs associated with participation (Frisby & Millar, 2007, pp.9-12.).
2.3.2 Rural change and physical recreation.  The above discussion of recreation in Canada shows a national movement from primarily rural activities or rural-inspired activities to urban sport, from outdoor to indoor, and from wider population access to organized and fee-based activity. The broad societal trends, as well as some specific trends experienced by the rural population, resulted in a removal of access to traditional rural recreational options, with a lack of sufficient support for contextually-relevant replacement options. The result is the Public Health concern discussed, in that programmes to increase engagement in physical activity are framed as important for mental and physical health promotion.

In terms of organized recreation, 4-H clubs historically provided an important source of vocational training, as well as a rich array of recreation and physical activity options. Specifically, rural recreation such as 4-H has lost its former level of support as assumptions are made that: a) the formal post-secondary education system is meeting educational needs, and b) the dominant culture sport and leisure system is meeting recreational, psycho-social development and physical activity needs- even though public health data is showing that they are not.

In terms of informal physical recreation, rural youth obtained a fair degree of physical activity in the past through active transport to school until the school consolidations starting in the 1960’s (Corbett, 2005). Active transport also facilitated spending time together after school. School consolidations meant sport infrastructure more similar to urban schools. Bussing eliminated active transport and after school recreation for many. Mechanization of farming reduced the manual labour (farm chores) typically practiced by youth living on farms or obtaining local agricultural employment.

Demographic change also influenced recreation. Counter-urbanization in the 1970’s increased the demand for the recreational options urban incomers were used to. Fewer people were living on farms. Pressure for suburban development eclipsed protection of arable land, if it could be exploited more profitably in other ways (Cloke et al., 2006). In 1994, it was estimated that only 12-14% of the rural population actually lived on farms (Lee, 1995). Despite a steady net rural population growth, the drop in number of farms was slightly over 26% between 1991 and 2011 with a 24.8% drop in farm operators (Statistics Canada, 2015).

At the same time, recreational land use was also affected by other changes. Private land ownership models do not include a right of access to the population (Lambden, 1976) as

---

16 In the early 1900’s, 4-H clubs were heavily sponsored by early public-private partnerships in that the rail, banking and agricultural corporations worked in partnership with farmers and government through the Ministries of Agriculture to fund youth access to 4-H (Lee, 1995).
they do in some other countries. Changing lifestyle habits and the introduction of more motorized recreation (dirt bikes, snowmobiles, all-terrain vehicles), combined with a heightening perceived risk of litigation resulted in recreational land use conflicts between the various activity clubs, private land owners, and environmental preservation interests (Conservation Council of Ontario (CCO), 1971). These debates continue today (Ministry of Health Promotion (MHP), 2005; Wilton, 2008; Caldwell et al., 2013). More recent trespassing fine increases negatively impact access to sections of long-standing trail systems (Legislative Assembly of Ontario (LAO), 2015). Many rural municipalities facilitate stakeholder partnership to overcome these barriers for motorized sport such as snowmobiling, but not for lower cost family-friendly physical activities more prominent in earlier times (i.e., walking, picnicking, fishing).

Consolidation of municipalities in the 1990’s further centralized recreation. The concern of municipalities shifted from providing for the needs of very local people, to managing cost recovery for new, centralized recreation facilities. Smaller municipal budgets in rural communities create heightened pressures to outsource physical recreation to community stakeholders running recreation on a for-profit basis (CYHNEO, 2012). An example of this trend has already been provided in the section on definitions in Chapter One (Leeds and Grenville).

Rural leisure businesses (ski hills, golf courses, equestrian sport training centres) often depend on urban consumption financially. However, these local assets are not necessarily accessible to the local rural residents, and often siphon money out of the community. As noted by Caldwell et al. (2013) in a study mostly describing the Greater Toronto Area, greenbelt areas make significant contributions to meeting urban requirements, including recreation. Even though farm spaces also offer many forms of physical recreation such as apple picking, maze walking and other experiences, rural green recreation today is largely still associated in the cultural mindset with wilderness experience or managed resources with a high barrier to entry. They therefore cater to middle-classes, largely from nearby urban centres.

In summary, many rural communities sit in a recreation in-between. The general population is not accessing the historically common types of physical activity or recreation, nor do people have sufficient access to new options for meeting wellbeing needs, especially if they are part of a more vulnerable sub-population. The following Canadian Parks and Recreation Association (CPRA) (2015) statement summarizes these changes, pointing to the need for communities to look to their shared recreation assets for a sustainable future.

Over the past 50 years, recreation and society have changed. Historically, recreation was considered a public good, that focused on outreach to vulnerable people, families and communities. In recent times, this has often shifted toward an individual-based, facility-focused, user-pay model….This creates an urgent
need for recreation to reaffirm historic values, while simultaneously adopting new ways of working that meet emerging needs…. Recreation has the potential to address socio-demographic challenges and troubling issues such as increases in sedentary behaviour and obesity, decreased contact with nature, threats to the environment, and inequities that limit participation. These challenges can become opportunities....

Most communities in Canada have significant infrastructure deficits. These deficits include the need to develop walking and cycling routes, facilities, and green spaces in order to meet the recreation requirements of growing communities....Traditionally, recreation has contributed to this goal through the provision and stewardship of outdoor places and spaces, and the development of enabling policies, programmes and services related to natural environments. These activities continue to be essential components of recreation’s role (CPRA, pp. 7, 12 & 25).

Although challenged, rural communities do have recreational assets, especially green recreational infrastructure. In Europe, farm spaces are viewed as an important location for recreation that promotes physical and mental wellbeing in an approach known as Green Care (Berget, Lidfors, Palsdottir, Soini, & Thodberg, 2012; Jordan, 2014). While association of farm spaces in Canada with recreation for wellbeing promotion is not common conceptually, it is a fairly widespread practice in North America. Camps, 4-H clubs and therapeutic animal farms are common across North America. Ranches for wellbeing or personal development are more common in the United States and Western Canada.

2.3.3 Contemporary forms of recreation for wellbeing. Despite the broad divergence of sport and recreation, wellbeing, physical activity and greenspace discussed in the above sections, several fields of practice have a long history of maintaining the connections between them. A review of these fields revealed a range of life skill outcomes and possible facilitating elements that could be relevant to this study. A goal for this research project was to discover which of these areas was relevant to the 4-H horse club participant experience. Those theories that are important in these fields are discussed briefly in this section. The final Discussion chapter (see Chapter 6) reflects back on the ways that the participant experience resembles these fields.

The fields (represented earlier in Figure 1.2 Flower Diagram) are grouped in this section by the following: Psychotherapy or Physical Therapies using nature and physical activity (Activity-Assisted Therapy), Sport for Youth Development (S4D), Therapeutic Recreation (TR), Outdoor Experiential Learning (OEL) (encompassing variants such as Adventure-based learning), and community use of Positive Youth Development (PYD) in recreation. The descriptions in this section include a general description of the field, followed by common
theories that may explain facilitative mechanisms or outcomes in this study. Research gaps are also discussed to better situate the need for the approaches taken in this study.

The two fields originally thought of as the main intersecting disciplines for this research were animal-based therapy and S4D. However, they lacked satisfactory explanations for the range of participant outcomes and experiences, and empirical evidence for contributing processes. This led to the necessary search for explanations in the other related fields. The sub-fields of nature, animal and equine based activity tap into various aspects of the broader forms just listed, but are discussed in more detail in the next Section (2.4).

These are the main forms of (largely green-based) physical activity for wellbeing that inform the background for this research. Their main features are described in this section, along with some of the common research issues and gaps. The most common gap discussed in the Introduction (see Chapter 1) is the lack of explanations in sport and animal based activity for life skill acquisition and transfer. This knowledge gap is complemented by information from OEL, TR, and community based positive youth development.

Despite the common area of convergence of these fields (outdoors/green space, physical activity, and psycho-social outcomes), the fields are developed with different foundational perspectives, based on their position on two key dimensions: asset vs. deficit, and focus of the individual vs. group. These differences may explain why the fields do not often cross reference one another for theory and knowledge they are missing, even though it would seem logical to do so. These differences in approach are significant both for differences in informing theory, programme design, and for research outcomes and issues. Aspects of all of them appear to have relevance to this research, depending on participant and context.

To visualize the different approaches and provide a framework for understanding their contributions, the fields are placed in the models below (Figures 2.2 and 2.3). Deficit models are mainly about illness care or problem resolution (restoring basic functions of daily living, or reducing anti-social risk/social cost). These are a key concern of therapy programmes and sport for youth development interventions. While therapy typically targets the individual in treatment, sport for youth development takes a group approach targeted at ‘risk’ or problem sub-populations. Asset models are mainly interested in developing participant potential (strengths-based approach like the resilience definition already discussed, thriving and self-actualization).

In the quadrant model below (Figure 2.2), the 4-H activity would sit in the upper right (Asset, Group) quadrant. However, it also emphasizes goals and processes for individuals, and seeks to address development gaps. The mechanisms involved come from the activities in all
four quadrants. It is my view that a main reason that these disciplines have not used one another’s knowledge more extensively to answer common questions is a lack of recognition that other disciplines are relevant since they have different goals, methods, and target populations.

Figure 2.2. Quadrant Model for Main Forms of Recreation for Psycho-social Development and Therapy

The deficit/asset approach difference is further clarified and depicted in Figure 2.3. In the figure, the dashed line represents the threshold where deficit mitigation goals switch to goals of self-actualization. 4-H sits above the line, but shares characteristics with the activities below. The various fields are presented in this section based loosely on most to least oriented toward deficit approaches. Most of the space in this section is dedicated to S4D and TR. While the project was initially conceived of as an S4D project drawing on animal-based therapy features, it became clear that it was also an example of TR in a community setting. Since the project seeks to make a contribution of knowledge specifically to the use of physical recreation for psycho-social or life skills, which can be developmental or therapeutic goals, there is an extensive discussion of relevant points from these fields.
Activity-assisted therapy: individual, deficit focus. Since the specific nature and animal activities are discussed in more depth, this section provides a short overview of the contribution of activity-based therapies generally. Activity-based mental health or physical therapy (inclusive of adventure, outdoor, wilderness, walking, animal, dance and other therapies featuring an activity other than talking with the therapist clinical psychotherapy, physio-therapy, or occupational therapy session) is based on common assumptions. Reflecting the deficit view depicted in Figure 2.3, the assumptions are that: the activity is assistive to the therapeutic process primarily managed by the therapist; and that the person engaged is a client of therapy (has a diagnosed pathology, illness, injury, or condition).

A main contribution of activity-assisted therapy has been to provide evidence that physical activity and nature exposure can be facilitative of mental as well as physical health, including treatment of a wide range of needs (Norton et al., 2014) and serious conditions (ie: PTSD, anorexia, depression, anxiety, autism). The difference with the 4-H or other community type of experience is that activity-assisted psychotherapies emphasizes the importance of the presence of a qualified mental health professional, the therapeutic process, and the fit of the activity for providing enhancement to the therapeutic process. The therapist remains the interpretive expert who prioritizes goals for the receiving client. The main purpose of the activity is that it is a prop or tool to engage a client with an a priori diagnosis.

Research issues. Most studies show some benefit of activity engagement, concluding that therapy via an activity is usually at least as effective as talk therapy control groups. In some cases, the activity therapy is more effective. However, as has been mentioned in the Introductory chapter, common research questions relate to the difficulty of controlling variables in field of practice, lack of empirical evidence for the many theories that are put forward as
explanations (or lack of explanation), and lack of ability to generalise from small case studies in a way conducive to writing medical prescriptions for activities (Pauw, 2000; Russell, 2001).

Activity-based therapies are sometimes lauded as innovative, and sometimes critiqued as un-necessarily expensive given an assumed baseline of effectiveness and availability of talk-based therapy. Their utility for generating explanations, especially for situations where a variety of outcomes are experienced as influenced by a variety of factors, is quite limited. For example, a study on a dog therapy group (Berri et al., 2013), and one using horses (Mueller & McCullough, 2016) showing the animal aspect to be at least as effective as control groups without, did not consider the possible importance of the preferences of the individuals in the two groups. In other words, a factor as important as the therapy itself is whether the individual being treated is personally well suited to it. Unlike biological/medical studies which activity studies are modeled on, the subjectivity of participants in psychotherapeutic interventions is a critically differentiating factor. While the animal therapies make particular contributions (discussed in the next section, 2.4), other fields need to be referenced to understand the range of the participant outcome experience.

**Sport for youth development: group, deficit/asset focus.** Sport for youth development (S4D) is the use of sport as the vehicle for positive youth development (PYD). It emerged as a field of practice in the 1990’s on the heels of the emergence of positive psychology. Positive psychology focuses on people’s strengths and abilities to learn positive functioning to thrive and achieve self-development. S4D was enthusiastically embraced by the UN in the early 2000’s with the formation of the Task Force on Sport for Development and Peace in 2001 (UNSDP, 2015) and Sport and Development conference held in 2003 in Switzerland (Mulholland, 2008). Projects within and between countries varied according to the stakeholders involved from large sporting events with economic impact, to smaller organizations creating opportunity for more local social cohesion, youth divertissement or as a vehicle for education of key messages such as safe sex (Darnell, 2007; Coalter, 2010).

In developed countries, and since the UN’s cessation of its sport for development and peace programme, S4D branched into more of a focus on personal development. Initially, sport programmes have been a popular way to target risk populations, keep youth busy and off the streets, or deliver moral, civic or public health messaging. In Canada, the Trillium Foundation, McConnell Foundation and Right to Play are three key supporters of S4D practice, though mostly directed at ‘at risk’ populations.

Today, the S4D discourse in Canada emphasizes ‘youth development through sport’ (Fraser-Thomas, Côté, & Deakin, 2005; Holt, 2016). S4D is about developing psycho-social
and emotional skills through sport. While parts of the field still focus on life skill support for ‘risk’ populations, other branches investigate embedding positive youth development in typical sport programmes to enrich support for all participants. S4D is considered a new and emerging field, even though the concept of use of physical activity for personal and social development has a much longer history.

S4D literature makes some strong claims for the benefits of sport participation: vehicle for social or public health education (Right to Play, 2008), social inclusion, community building, character, problem-solving, leadership, goal setting, sense of belonging (Cameron, 2013), self-confidence, teamwork skills, building self-esteem (Smoll et al., 1993), reducing stress, anxiety and depression, improving concentration (Intrator et al. 2008, Barros et al. 2009), building social capital (Skinner et al., 2008), opportunity for civic engagement, and opportunity for contact with a positive adult role model (Cameron, 2013). Many of these life skill outcomes parallel resilience factors, though resilience is not commonly a study topic, apart from reference to the Search Institute and their 40-item developmental asset (Dzewaltowski & Rosenkranz, 2014), and the “5 C’s” (competence, confidence, character, connections and contribution) (Hamilton & Hamilton, 2004; Lerner, 2005).

Although a consistent theory base has not yet emerged in specifically named S4D study, there are several key theories that inform the field. Lerner (2005), considered a foundational thinker in S4D, is credited with the primary facilitative factors that appear in the literature: positive focus sustained over time, opportunity for adult-youth relationship and mentorship, and life skill learning with opportunity for reflection and application in the community. Other theories address physical exertion itself and socialization through sport. Regardless of socio-economic bracket, physical exertion and having fun releases endorphins that have a positive impact on affect, promote presence, and favour a neural-emotional environment more conducive to learning and optimism (Trost, 2009). Physical involvement in an activity is considered to promote self-confidence and acceptance since physical engagement results in accomplishment (Petitpas, Cornelius, Van Raalte, & Jones, 2005). Additionally, the activities bring people together to make them happen, that builds social capital (Skinner et al., 2008) and opportunity for fostering positive adult/youth relationship (Cameron, 2013; Armour, Sandford, & Duncombe, 2013).

From this theoretical standpoint, S4D appears to be asset-based. However, some S4D programmes are still primarily targeted to individuals or communities with identified deficit. For this reason, S4D straddles the deficit/asset areas in the above models (Figures 2.2 and 2.3).
Although sport is starting to explore integrating S4D more (Camiré, Trudel & Forneris, 2014; Forneris et al., 2012; Santos et al., 2017), programmes designed with S4D as the primary goal have an important difference from mainstream sport programming: they are structured to use sport to achieve the primary life skill goals, vs. including life skill outcomes as a collateral benefit to a sport skill development path (Bean & Forneris, 2016). S4D literature also acknowledges that participation in sport does not guarantee youth development outcomes (Donnelly & Kidd, 2004; Biddle, Brown, & Lavallée, 2008; Skinner et al., 2008; Coalter, 2010).

Sport is a known environment for exclusion, bullying, low self-esteem, and excessive use of alcohol under-age (Freitag, 2005; Darnell, 2007; Coalter, 2010). For example, Fraser-Thomas et al., (2005) compared positive and negative outcomes of sport participation, finding that the positive outcomes seemed to occur in programmes structured around the outcomes (vs. mainly around sport skill), and regardless of socio-economic demographic of the participant. While explanations of life skill acquisition and transfer are not complete, there is a consensus with Lerner’s view (Ford & Lerner, 1992) that life skill acquisition involves intentional facilitation, reflection and application to other contexts. Playing on a sport team does not necessarily translate into learning to be a good team player in other life contexts without facilitation such as emphasis in the experience on the interpersonal skills (vs. winning the game), and on the importance and application of these skills for other areas of life.

The main contribution that S4D makes to this study is its unique focus on physical activity as a vehicle for youth psycho-social and emotional development. While it does stand on the shoulders of deeper traditions that share this view, such as outdoor experiential learning (OEL), S4D takes the development expectations into a whole new range of activities not traditionally used in OEL. Although S4D does not generally reference OEL for relevant explanations, some S4D researchers such as Hellison (2003) access outdoor experiential learning literature (OEL) for theoretical explanations. Petitpas et al., (2005), and later Carreres-Ponsoda, Carbonell, Cortell-Tormo, Fuster-Lloret, and Andreu-Cabrera (2012) use the OEL explanation of “mastery climate”, without specifically referencing OEL.

Research issues. After Lerner et al., (2005) developed the 5 C’s as constructs for evaluation of PYD programmes, they have been used extensively in S4D. PYD is broader than the 5C’s, and they have been shown in some S4D studies not to be a useful lens for programme evaluation (Jones, Dunn, Holt, Sullivan, & Bloom, 2011) since they are rather broad. Much S4D research continues to be narrowly focused on the 5Cs as study outcomes. There is a tendency in S4D research to be self-referential, with more limited use of the disciplines it is built on (OEL, PYD). Another limit is the narrow focus on organized sport or programmes designed specifically
for S4D study. The result is that S4D thinking and research has been rarely applied to community physical recreation programmes that fall outside ‘sport’. Consequently, there is a lack of S4D or even PYD research available on robust, long-standing physical activity programmes with wide reach in communities (i.e., 4-H, Scouts, YMCA, etc...). In an article reporting evaluation results from a programme for at risk girls, Bean et al., (2014) note the lack of data available from community programmes. One UNICEF report (2006) found that the lack of empirical data and reliance on ‘anecdotal’ evidence made community programme evaluation difficult (Levermore & Beacom, 2011).

S4D has also come under similar criticism as animal-based activity studies for lack of empirically supported theory (Lykas & Peachey, 2011) and generalizability, due to small samples and large numbers of uncontrolled variables (Durlak, Weissberg, & Panch, 2010; Coalter, 2010). Also, a large percentage of S4D literature comes from the field as grey-literature, or is self-referential. Critics of sport for community development note that some of the goals are too broad to be established (such as peace or addressing widespread health issues) (Darnell 2007, Levermore & Beacom, 2011). Critics of sport for personal, positive development note that S4D is often culturally insensitive (Coalter, 2010), or even dominating/indoctrinating (McRae, 2012).

In her study on participation in S4D programmes by urban indigenous youth, McRae (2012) discusses use of sport as social control of a deficit. She notes that indigenous youth are portrayed as a potential societal problem (risk population). Although a well-meaning intervention, S4D is used as the hook to manage the public danger, as well as to enculturate. She underlines the ways that sport environments are culturally insensitive and exclude the sub-populations they serve. On the other, inclusion through S4D is a tool of cultural assimilation. She states that “inequitable inclusion is a form of social exclusion that reproduces inequitable power relations” (p. 54). One of her study conclusions is that non-mainstream communities should meet their wellbeing needs by using culturally relevant forms of recreation based on their own assets, rather than programmes reflective of dominant culture sports.

There is no common or standard set of practice guidelines for effective S4D programmes. For example, Biddle et al., (2008) reviewed eleven sport interventions, concluding that while they were all successful to varying degrees, there was a wide range of goals and little consensus on how outcomes were facilitated. It does not seem to matter what type of activity is involved, and no-one knows whether some activities are more facilitative of certain outcomes than others. On the other hand, outcome data do show that S4D is versatile, that is why it is
often used with developing country or at risk populations who do not have access to expensive equipment or modern/elite sport infrastructure (Mulholland, 2008; UNSDP, 2015).

Neuropsychology is not common in S4D literature, although it has been a popular source of explanations for psycho-social and emotional benefit through physical activity in other fields. Ratey (2008), for example, explains the role exercise plays in neuro-genesis, synapse connections, learning, memory and even brain size. Other research in sport psychology supports positive effects on cognition through exercise via increased neural stimulation, and possible cell generation through release of Human Growth Hormone (Colcombe & Kramer, 2003; Colcombe, Kramer, McAuley, Erickson, & Scaf, 2004). Neuropsychological mechanisms are reasonably assumed to contribute to life and cognitive skill acquisition through physical activity.

In a recent meta-analysis of qualitative S4D studies, Holt et al., (2017) proposed a grounded theory of PYD in sport. While their method could be debated as true Grounded Theory (Charmaz, 2014) since it was a meta-study rather than work with primary participant data, they made important contributions. They showed a feedback relationship between the participant, the programme, and the environment (shown in Figure 2.4, Holt et al., 2017, p.36) for S4D, consistent with Bronfenbrenner and Lerner’s adoption of individual/environment systems views. They also introduced a distinction between explicit and implicit mechanisms into S4D discourse.

(Holt et al., 2017, p. 36)

*Figure 2.4. Holt model for PYD in sport*

**Therapeutic recreation: individual, asset assumption with deficit reduction.**

Therapeutic recreation encompasses a broader range of activities than S4D, blending goals of
fun and recreation, with developmental and therapeutic goals. Therapeutic recreation (TR) is the preferred Canadian term. It is alternatively called recreation therapy in the US. In many countries, TR is embedded within other fields, such as social work, psychology, occupational therapy and other mental and physical health professions. In North America, TR is a separate discipline. Although overlapping with other therapeutic areas and appearing similar to S4D in its use of physical activities for psycho-social skill development, TR has a richer body of theory explaining mechanisms and outcome benefits.

For this study, the TR literature seemed closer to contemporary positive psychology than the S4D literature. It also better matched with the resilience concept of equifinality. TR was closer to community-based recreation than therapy literature, and enveloped a wider span of physical and green activities than S4D. The practice of TR in North America can be either as a non-prescriptive intervention for a need community (i.e., palliative care, community integration/quality of life for special needs communities), or as a complementary activity to medical prescription by regulated health-care practices. Recreation therapists straddle recreation facilitation, health promotion and illness-care. The ties to illness-care and activity therapies would make TR appear to be deficit based.

However, there is an important difference that is shaped by the adoption in the field of the WHO definition of wellbeing discussed previously (section 2.2.1), and an approach derived from the positive psychology underpinning TR principles (Dattilo, 2015). Unlike S4D, TR has kept current with positive psychology, adopting Martin Seligman’s (2011) five elements of psycho-emotional wellbeing: positive emotion, engagement (feeling ‘lost in the task’), meaning (subjectively defined, often including a sense of being part of a bigger picture), positive relationships, and accomplishment (achievement, competence).

There are some very important differences between TR and several of the other related fields that make TR an important source for theory for this study. Where activity-based therapy is expert-centred, TR is person-centred (Austin, 2013; Dattilo, 2015). Where the goal of medical treatment is to restore functioning necessary for tasks of basic survival (deficit-based), TR goals also include the ability to flourish, self-realize (Austin, 2010) and enjoy leisure by exercising “signature strengths” (Seligman, 2011, p. 38), based on the right of recreation established by the WHO (Roberston & Long, 2008; Kunstler & Stavola Day, 2010). Also, TR adopts the view that persons are in a dynamic process where they may change in their needs for health promotion support vs. health-care (Dattilo, 2015). The TR approach based in positive psychology is summarized in this quote by Martin Seligman (2011):
The skills of enjoying positive emotion, being engaged with the people you care about, having meaning in life, achieving your...goals, and maintaining good relationships are entirely different from the skills of not being depressed, not being anxious, and not being angry....It is all too commonplace not to be mentally ill, but....Positive mental health is...the presence of flourishing (pp. 182-183).

TR is close to resilience research in its emphasis on a person's contextuality and existence in an ecology of relationships. These relationships and other contextual resources are factored in as much as possible (Dattilo, 2015). Also, like resilience research, TR has starting assumptions about multifinality (even though that word was not encountered in the literature review). There is a range of TR approaches (Dattilo, 2015), nearly all of that take the view that persons participating in a programme could all have completely different and equally beneficial outcomes (if not equal in degree) based on their individuality and the inherent subjectivity of each person's experience (Austin, 2010).

There is a therapeutic alliance formed in TR, in that the therapist has a more shoulder-to-shoulder relationship as a therapeutic friend (Dattilo, 2015). While not informal (as a friend), the approach rejects a distant expert/receiver relationship used in deficit-based therapy (Austin, 2013). In addition to the therapeutic relationship and joy of the activity, other mechanisms at work in TR are the opportunity that the activity creates for immediate feedback and development of competence in a group setting where others can affirm (Austin, 2010). The learning process is an iterative process of trial, error and success that leads to rewards of feelings of competence, efficacy and worth (socially and internally).

Research issues. Academic leaders in the field base their theoretical work in academic training in education, therapy or recreation, and first-hand experience as practitioners. Data are borrowed from therapy fields since there are few research studies within TR itself- possibly due to the lack of a disciplinary home. While there is little primary research from TR as a discipline (it is inherently interdisciplinary), TR complements the research it draws on by providing contemporary theoretical explanation based on long history of practice. TR practice evolved in advance of its related academic disciplines similarly to the use of outdoor physical recreation for experiential learning (OEL; i.e., Scouts and 4-H).

Outdoor experiential learning: asset assumption, individual change in group setting. 4-H has explicitly used an experiential learning approach since its inception, expecting that youth develop character and personal skills while engaging in technical learning and fun activities. The philosophy was shared at the time with other groups that started in the same period, namely Scouts and Boys and Girls clubs (rational recreation movement) (Gass, Gillis, & Russell, 2012). Later, other well-known organizations emerged such as Outward Bound (that
emphasizes experiential learning in extreme outdoor conditions). Outdoor experiential learning (OEL) practice existed long before the development of PYD and S4D. These were later historical theoretical developments based in early research on OEL-type practice and outcomes, such as learning theory from outdoor learning, or Lerner’s work with 4-H.

Today, people do not think of 4-H as being connected to Outdoor experiential learning (OEL), despite the fact that many of its activities are outdoors and it has always shared the same root educational approach. One reason may be the current association of OEL with wild nature experiences, of 4-H with agri-business, and a conceptual disconnect between farm spaces and nature in North America. Whatever the reasons, OEL theory is highly relevant to the explanatory gaps highlighted in S4D. OEL shares root origins with TR, as well as its asset focus. The difference is that while OEL often sought to develop character and resilience in privileged rather than under-served youth (Gass et al., 2012), early practice of TR sought to assist people with illness or disability in experiencing some of the same salutary and soft-skill benefits. The OEL approach is to build on participant strengths, intentionally incorporating reflection and facilitating life skill transfer.

The principle theory for OEL benefit is the experience of a ‘mastery climate’: In the outdoors, a mastery climate is created by physical challenge. The challenge creates an experience of dissonance between present ability and the requirements of meeting the challenge. This creates a practical need to learn new physical and interpersonal skills, as well as the opportunity to practice and demonstrate that competence in a group setting (Gass et al., 2012). The commonly accepted theory is Kolb and Kolb’s (2009) learning theory shown in Figure 2.5. In this model, learning is a cycle that includes elements of reflection on lessons learned and their transfer and applicability to other situations, including situations outside of OEL (the rest of life). Without this learning loop, it is an experience, but not experiential learning. In OEL, reflection is facilitated through journaling or group discussion.
Figure 2.5. Kolb’s Experiential Learning Cycle

Some foundational notions in OEL are inherent to the expectation that experiential learning can occur for participants. One is the concept that every participant is capable of leadership, and brings strengths and assets to a group experience (Martin et al., 2006). There are some common expectations about what types of life skills participants can learn (besides leadership), and how they are learned. In the face of the unknown factors and challenge presented by nature, participants learn limits, planning for contingency, problem-solving, persistence, technical skills for outdoor activity and survival, and other psycho-emotional and social skills (Paisley, Furman, Sibthorp & Gookin, 2008; Collins, Sibthorp & Gookin, 2016). Personal growth and group growth are intertwined as participants work together to achieve the physical task presented, such as a wilderness excursion or fixed-location experience like rappelling. Both the encounter with the non-negotiable (nature circumstances) and negotiable (other persons) are important processes for acquiring internal self-management skills, as well as interpersonal and technical skills.

Participant attitudes, perceptions and behaviour have an impact on their own safety and experience, the outcomes of the group encounter with nature, and on others. Some challenges include real elements of danger common to nature settings (e.g., drowning, falling, starvation/dehydration, injury). The degree of risk is managed by the organizers based on the group capabilities (Gass et al., 2012). The group and the circumstances provide immediate and ongoing feedback, and new moments for bodily practice of the cognitive, emotional and physical learning. Repeated exposure to challenge is an inherent and intentional feature of OEL as a
way to progressively build both skills (technical and soft), and resilience (Green, Kleiber, & Tarrant, 2000; Davidson, Ewert, & Chang, 2016).

Since outcomes are heavily based on individual participant needs, OEL can be both therapeutic and developmentally supportive, depending on the participant. Adventure therapy, a form of TR, is OEL (similar skill goals) for a population in treatment (Groff & Dattilo, 2011). OEL experiences are used in activity-based therapy and therapeutic recreation, and have been used as therapy since the turn of the 20th Century (Groff & Dattilo, 2011). Regardless of previous background or abilities, all participants in OEL are equal members of a team, and equally able to bring value to the successful completion of the task as a team. Whether therapeutic or developmental, OEL values the fact that outcomes for individuals are inherently uncertain, and influenced by a host of uncontrollable variables (Groff & Dattilo, 2011).

Adventure therapy recommendations might include co-facilitation with a mental health professional, while others might include the prescription for joining an activity that is open to anyone, and not specified as therapy. The goal of TR is to move a person from need for focused therapy, to ability to participate in society (not be segregated based on their challenges) (Dattilo, 2015). The opportunity for a participant to engage in an experience as a typical person alongside others is considered one of the therapeutic features (Austin, 2013).

The simple goal of OEL is to create a challenge out of ordinary every-day experience. The challenge creates learning moments that can then be translated back into higher quality living. Whether OEL is used as therapy or education, the main ‘therapeutic alliance’ and learning relationship is between the participant and outing leaders and other participants, not between a designated professional and the client (Green et al., 2000; Austin, 2013). This triangular alliance is very similar in TR and especially in animal-based therapies.

Contemporary OEL has kept pace with theories relevant to psychological change and learning in nature. Some of these include attention restoration (discussed further in section 2.4.1) (Wells, 2000; Louv, 2006; Berman, Jonides, & Kaplan, 2008; Martensson et al., 2009; Child and Nature Network (CNN), 2012), and neuro-plasticity (mentioned in the section above on S4D) (Gass et al., 2012). In one study on First Nations youth participation in a paddling programme, Skwarok (2013) discusses the role that neurotransmitters play in facilitating life skill learning and transfer. To explain theory behind participant transformation in outdoor adventure, Allan et al. (2012) elaborate on brain plasticity by discussing how new learning in a positive experience promotes wiring and firing of neural connections that are accessible after the activity is over.
Research issues. Since most outdoor learning experiences occur in the wilderness over a period of several days requiring a degree of fitness for carrying equipment and high cost in equipment and time, research in situ is uncommon. Davidson et al., (2016) attempted a relatively rare in situ study by observing and interviewing people in a rappelling exercise. They reported that their data were negatively influenced by participant stress at having to respond to questions as they rappelled down a rock with an interviewer beside them. Arguably, their method would be annoying to participants because it would interrupt the flow experience that is one of the main elements in nature immersion, sport, and competence development, as well as enjoyment (Csikszentmihalyi, 2008; Dattilo, 2015).

OEL does not have to occur in the great wilderness. Similar experiences have been recreated in smaller spaces that lend themselves more easily to study, such as Broderick and Pearce’s (2001) study of an indoor climbing wall experience (mimicking nature), or Kanter and colleagues’ (2002) urban park adventure (nearby urban green space). Kelly’s (2013) research on experiential leadership learning occurred in a round-pen at a horse facility (nearby rural green space).

Despite the robust use of learning and other theories in OEL, some criticism is similar to S4D and animal-based theory, noting a lack of evidence-based links between outcome data and explanations of effective processes (Roberts, Stroud, Hoag, & Combs, 2016). In a meta-analysis of outdoor programming, Roberts et al., (2017) note that there are no published studies on how variables in outdoor experience influence change, as well as the existence of a large gap in data related to age, gender and other participant differences. While these are important points, it is my view that many study designs are not best suited to complex human experiences where multiple variables are an inherent feature, because they keep underlining similar explanatory gaps.

Despite evidence that beneficial outcomes occur regardless of gender and culture of origin (Hoag, Massey, Roberts, & Logan, 2013), there appear to be gender and culture-economic gaps in access to OEL experiences. Some literature notes that many of the (wilderness) experiences are culturally Western with mostly male and middle class participants due to high physical demand (Bocarro, 1995; Little & Wilson, 2005) and cost (Russell, 2001). Although subsidized outdoor wilderness camps are popular for youth identified as ‘at risk’, terrain and physical requirement make it a less common choice for females or persons with significant disabilities. Most of the research in OEL focuses on activities occurring in wild nature, despite common use of the same elements with vulnerable populations and in other green spaces.
While the OEL field has a lack of literature on programmes for vulnerable populations, so does the TR field. It seems that the people who lead and study OEL do not cross over to therapeutic interests. In *An Environmental Scan of Adventure Therapy in Canada*, Ritchie et al. (2016) found that 42 percent of the 77 available Canadian studies were unpublished theses from a variety of disciplines. There are no graduate studies programmes in the use of adventure therapy in Canada. Ritchie et al., (2016) note that the gap in knowledge is a problem for the field in that only a small minority of practitioners in either therapy or OEL are cross-trained: practitioners are not commonly researchers and vice-versa.

Despite these issues, the literature review showed that OEL is a field with strong parallels to the experiential learning approach of TR, and of 4-H horse clubs and nature-based or equine-assisted therapies. Many of the common mechanisms and outcomes are not necessarily limited to wild nature spaces. Since OEL is usually discussed in educational or leisure fields, reference to its body of research and theory are rare in S4D or animal-based therapy studies. This is despite the fact that OEL’s main theories appear to address some of the outcome-mechanism and transfer knowledge gaps in these other fields. After reviewing OEL literature, it was a logical expectation that mechanisms similar to Kolb’s learning cycle, OEL debriefing processes, team learning, peer learning and challenge experience would be present in the 4-H horse programmes.

**Community recreation with PYD: asset assumption, group approach.** So far, the fields discussed in preceding sections are mostly characterized by special events: programmes created for particular populations, or as special outings. Except for times when TR recommendations result in clients joining ongoing community recreation or sport programmes, the previously discussed events are not generally open to any interested community participant. Some barriers to entry are financial, and some are assessment dependent (either diagnosis, or identification as part of a group at risk). The 4-H horse clubs are essentially a community recreation programme in nearby green spaces, not a wilderness adventure, sport programme for at-risk youth, or therapy programme. Yet, 4-H activities (all types including horse) are intentionally structured in a positive youth development framework. After exploring youth development and therapeutic outcomes in the above types of programmes, it made sense to investigate where these might be found in community recreation.

A wide array of community physical recreation programmes incorporate PYD in practice: summer camps, recreation sport programmes, youth clubs with physical activities in their

---

17Petitpas et al. (2005) and Carreres-Ponsoda et al. (2012) in S4D and Burgon (2011) and Kelly (2013) in equine assisted activity are some rare examples. Kelly’s (2013) was specifically on equine assisted experiential learning. Equine therapy studies do not typically reference OEL or use its language.
programme, and sport skill programmes that intentionally incorporate PYD. These are distinguished from S4D by being open to any youth (not created for ‘at-risk’ groups). Yet, there is very little research on truly community-based physical activity for PYD or therapeutic outcomes. Even the Barker and Forneris (2011) study, which was described as investigating a community physical activity programme, still studied a pilot program for a targeted ‘at-risk’ youth population.

There was one study (Ellis, Braff, & Hutchinson, 2001) that explicitly sought to study the integration of PYD goals in an everyday community recreation programme. The goal was to evaluate whether a municipally-run programme could meet psycho-social needs of all participants, particularly those needing resilience support, with population integration rather than segregation. The project was framed as TR in community programming, because the intention was to integrate youth with enhanced need, offering elements of resilience support to all participants. They found that community programming could be used effectively as TR, and that the results showed that “TR and youth development have similar processes and theory” (Ellis, Braff, & Hutchinson, 2001, p. 315). They recommended personnel training and sensitization to TR and youth development goals and techniques as a way to widen youth access to such support, and address youth social issues pro-actively.

Research issues. Despite widespread endorsement and common acceptance of benefits of community recreation with PYD, there is a conspicuous gap in academic research. Integration of developmental and therapeutic outcome goals with community programming may be new to academic study, but it is not a new practice. Community organizations that offer physical activity options for youth development and wellbeing such as Scouts, Guides, 4-H, Boys and Girls Clubs, and YMCA, and religious groups have a strong historical reputation for positive impact on the populations and communities they serve. They do conduct programme monitoring and evaluation, but most of their available information is not linked to academic research. High Five is a Canadian programme that teaches youth psycho-social development support skills to community recreation workers. Although the programme is based on solid youth development research, effectiveness studies are non-academic, and focus on youth satisfaction and the impact of training to use the programme on leaders, not on the impact of the training on youth outcomes (J.C Consulting, 2008; High Five, 2012; PRO, 2016). There are no known Canadian YMCA, Boys and Girls Club, 4-H or municipal recreation studies on therapeutic or PYD life skill outcomes in community recreation. This doctoral research project is
the only Canadian 4-H study on youth development outcomes to publish findings (Sansom, 2017).18

2.3.4 Summary: forms of activity for wellbeing. Each of the fields discussed brings important questions and knowledge to this study that is about life skill benefit in a complex community recreation activity combining physical activity, nature, experiential learning, developmental and therapeutic outcome goals, and animal/equine elements in the 4-H horse club. McDaniel Peters and Wood (2017) stated in their meta-study on programmes for people with autism: “equine-assisted interventions…are highly heterogeneous in nature” (p. 3237).

Some of the fields discussed have overlapping observations and theories, while there are other ways in which they are complementary, filling each other’s theory and research gaps. The next section addresses the sub-fields of nature, animal and equine intervention more in depth since relevant outcome and mechanism expectations impacting the above general fields have only been briefly mentioned.

2.4 Green and Animal-based Recreation for Youth Development and Therapy

Within the fields discussed in the previous section, nature, animal and equine-based activities literatures have specific relevance for studying 4-H horse clubs. These approaches are explored further in this section to understand the common outcomes and explanatory theories of close relevance to this study.

Most equine-assisted activity studies include definitions and divisions in the literature review between EAT (equine assisted therapy) and EAL or EAA (equine assisted learning or activity). This approach has been repeated so often that it is not taken here. Instead, there was a need to understand what parts of an experience with horses might be explainable as equine related, versus the parts that might be a feature of animal or nature related activity generally. Equine literature has a tendency not to reference outside of other equine literature, or rather to take credit for elements that are also common features of other animal or nature activities.

Rather than viewing these activities as making three separate contributions, they can be viewed as sub-sets of one another: Animal-based activities are a form of nature-based activity, and equine activity is a sub-set of animal activity. Understanding the specific contribution of the horses requires understanding equine activity as first a nature, and then an animal activity. Viewed in this way, equine activity partakes of features of animal activity (though not all animal activity shares all features of equine activity). Animal activity (including equine) relates to nature

---

18 There is another 4-H study underway through Carleton University psychology department, but at time of writing, their findings have not been published.
activity in a similar fashion. This relationship is depicted in the nested boxes shown below (Figure 2.6).

This section begins by reviewing features and findings in nature activity that are also relevant to the sub-set activities. Next, additional aspects of the animal-based literature are reviewed, followed by remaining elements specific to equine activity literature. Only the additional and unique contributions of equine specific activity are then mentioned in the equine activity section, since other aspects that may be present are addressed in the previous two sections. For this reason, the sections get progressively smaller. There is an important nuance of difference in a horse experience as a *nature* or a *horse* encounter, but it can be both.

This section is not an exhaustive review of forms of nature, animal or equine based activities, or all of the possible outcomes or facilitative processes. It is a review of those elements pertaining to the psycho-social, emotional and life skill outcomes reasonably possible in the 4-H horse experience. Any of the facilitative mechanisms discussed in the three areas is a possible variable in the 4-H horse experience. The main theories and operative elements discussed in these sections are listed here in Figure 2.6 in each of their boxes.

**Figure 2.6. Nature, Animal and Equine Activity Relationship**

### 2.4.1 Nature-based activity.

Nature-based activity is linked to a wide range of outcomes in both passive exposure and active engagement as has been noted in previous sections. In addition to the mechanisms discussed in the previous section as part of S4D, OEL and therapeutic recreation, other common and important nature-linked theories that are
addressed here are: neurobiological change, the degree of intensity (immersiveness of the experience), biophilia, Gestalt (present moment/multi-sensory), and attention restoration theory.

**Outcomes.** In addition to PYD type outcomes, studies specifically on nature-based (including animal and horse) activities show a range of beneficial development outcomes such as increased attention and focus, calmness/stress reduction, improved cognition, creativity, agency, improved physical health, opportunity for social engagement and social skill development, enhancement of environmental knowledge and appreciation, and providing a normative experience alleviating sense of stigma (Graham, 1999; Louv, 2006; Munoz, 2009; Burgon, 2011; Allan, McKenna, & Hind, 2012; Berget, Lidfors, Palsdottir, Soini, & Thodberg, 2012; CNN, 2012; Lem, 2012; Hanrahan, 2013). Habits of being outside in natural environments open opportunities for social engagement, percentage of time spent moving, and development of creativity (Louv, 2006; Martensson et al., 2009).

Many of the benefits of nature exposure are experienced regardless of critical consciousness about the process, or conscious appreciation for the nature exposure (Wells, 2000; Faber-Taylor & Kuo, 2009). Studies cited by Berget et al., (2012) and Louv (2006) showed stress reducing changes such as a drop in salivary cortisol, improved self-esteem or attentional focus as a result of nature exposure and regardless of participant conscious appreciation of the nature itself. In another study by Wells (2000), American children in low-income housing units with windows facing a greenspace demonstrated less anti-social behaviour at home and at school than the children in the same building whose apartment windows faced concrete parking areas or neighbouring building walls. Wells & Evans (2003) discuss the stress buffering effects of ‘nearby nature’ on rural children.

The nature exposure can also be mimicked. Felston (2009) noted improved calming and stress recovery in college students in a room with large murals of nature pictures. Attempts to understand passive or mimicked nature effects are often found in environmental psychology and urban design research. McMullen and Winkler (2012) analysed light, shade and texture elements of nature pictures with a goal of re-creation of those elements for architectural design to improve human affect.

Even though passive and mimicked exposures are both linked to benefits, there seem to be increasing benefits with active or more immersive engagement. Studies on test performance and stress levels of children in a room with a live animal versus stuffed animals or other humans consistently show better results with the live animal (Graham, 1999; McCardle, McCune, Griffin, Esposito, & Freund, 2010). Hartig et al., (2003) also compared passive and active nature experience, showing that visual exposure to nature did reduce blood pressure, but engaging
physically had added benefits. In a study of children with diagnosed attention-deficit hyperactivity disorder (ADHD) who took a 20-minute walk through a park, Faber-Taylor and Kuo (2009) showed significant improvements on attentional focus tests compared with a control group walking in urban streets. The more active the engagement, the more processes are potentially involved.

**Facilitating processes.** Biological explanations for change cluster on hormones and neurotransmitters. Most studies focus on measured reduction of the stress hormone cortisol (McCraty, Barrios-Choplin, Rozman, Atkinson, & Watkins, 1998; Jurga, 2014; Pendry, Smith, & Roeter, 2014). Cortisol is released by the adrenal system in all mammals in response to stress. Circulating blood levels of cortisol are impacted immediately by exposure to certain events or environments. Increases in cortisol disrupt the brain’s ability for executive functions (i.e., rational thought, emotional regulation, problem solving). While they have natural fluctuations, patterns in waking cortisol levels are considered a reliable indicator of biological response to stress. Cortisol reduction has been measured in nature, animal and equine experience studies.

Japanese studies on *shinrin-yoku* (forest bathing: being in the forest for several hours) study health benefits based on affect change and biological markers, including cortisol, pro-inflammatory cytokine levels, sympathetic and parasympathetic activity, and hypertension (Lee et al., 2011; Mao et al., 2012).

Nature activities are also experienced as fun and engaging. Enhanced play behaviour, creativity and problem-solving skill improvement are linked to the novelty factor of nature, that involves freedom (less structure) and boundaries (immediate consequences imposed by nature) to a greater degree than built play structures (Green et al., 2000; Martensson et al., 2009; CNN, 2012). Primary explanations are that fun provides a normative experience (a break from stigmatising and marginalising effects of sterile treatment environments). It also provides a physical influx of endorphins facilitative of positive meta-cognition.

Other common theoretical explanations for beneficial outcomes of nature experience include biophilia (Louv, 2006), Gestalt therapy theory (Austin, 2010) and attention restoration theory (Louv, 2006; Austin 2010; Allan et al., 2012). Biophilia suggests that there is something inherent in nature and relationship with nature that is hard-wired into the human psyche such that wellness requires a harmony with nature (Louv, 2006). Biophilia is a kind of instinctual affinity or relationality with nature. While there is a gap in empirical evidence for this theoretical explanation, the theory is prominent in the literature especially that related to animal-assisted therapy (Graham, 1999).
Gestalt therapy theory is based on the immersiveness and interactional aspects of nature (or equine) experience. Detailed understanding of Gestalt is out of the scope of this paper. However, a very relevant aspect of it is that the theory suggests that the transformative or salutary benefits of nature experience are related to the multi-sensory experience. The rich input interrupts the participant’s (less desired) state and brings him/her into the present moment, enhancing ability for self-awareness (Jarrell, 2009; Austin, 2010). Physical presence in the moment facilitates concentration, executive cognitive functioning, and more successful relating/attachment (Lac, 2016). The idea of nature experience encouraging the participant to be present is a strong theme in the literature.

This attention-capturing aspect of being in an embodied moment with nature is developed further in Attention Restoration Theory (ART) (Kaplan, 1995). The theory is that the brain recruits deliberate attention mechanisms for filtering out stimulus in order to remain focused, and that these mechanisms become fatigued leading to loss of focus. Different people (such as those with ADHD) have lower thresholds for fatigue than others. Nature improves focus by allowing an opportunity for the deliberate attention mechanism to rest. The way that it does so is counterintuitive. It is the busy-ness of nature, the multi-sensory input provided, that constantly distracts. If there is no threat, the mind shifts into a ‘soft’ attentional focus. There is so much going on for all the senses, that a person in nature ‘goes with the flow’ attentionally-like a cat looking out a window, or someone watching trees move in the wind across a lake, or watching clouds without purpose.

This is the opposite of the focused attention or blocking efforts needed to navigate city streets, or stay focused on work or homework tasks. Attention restoration theory posits that attention is like a mental muscle that gets more energy from resting when it is fatigued. Giving up self-directed attention to experience nature allows the participant to rest from having to focus, that gives recovery time for deliberate attention mechanisms (Kaplan, 1995). Attention restoration is at work in nature virtual reality, visualization meditation or mindfulness techniques.

Finally, an interesting feature of the nature therapeutic literature (mostly from TR) is that it spans all types of green spaces from wild nature, to small urban gardens, yards or even indoor nature (i.e., indoor plants). Many of the nature-based and animal-assisted studies occurred in more accessible urban, peri-urban and rural areas that makes them highly relevant to this study (Wells, 2000; Martensson et al., 2009; Faber Taylor & Kuo, 2009; Harrington, 2011; Louv, 2011; CNN, 2012).

Research issues. There are imprecise connections in many studies between the study design (what is being tested) and the explanations of the nature-related operative processes.
For example, outcome improvements are clearly measured in the Japanese forest bathing studies (Lee et al., 2011; Mao et al., 2012). Explanations provided involve cleaner air (measured compared with urban control groups) and phytoncides (chemicals emitted by the forest plants that are active on the human body). However, like many therapy studies, the authors do not actually demonstrate the link between these co-occurring factors or explanations, and the documented results. The studies were designed to establish health improvement, but are not as well suited to examining operative processes, participant experience, or the possibility of individual participant differences in outcome and experience. Also, these and many control group nature studies neglect to report on other variables that might be impacting the experience, such as level of physical exertion, or social/emotional interactions.

2.4.2 Animal-based activity. Animal-assisted activity and the therapeutic or developmental benefits have a long history in practice. Political philosopher John Locke encouraged the keeping of pets for children as a way to develop responsibility and compassion in the 1600’s. Florence Nightingale, credited as a founder of the nursing profession and of recreation therapy, wrote about the benefits of animals for lifting spirits in the 19th Century (McCardle et al., 2010). Key themes in the animal-based theory include relationship, attachment theory, the animal as co-therapist, and the animal as a bridge to other therapeutic resources such as relationship with peers, therapist or a mentoring adult.

Facilitating processes. The theme of relationality emerges more in the animal-assisted literature than any of the other nature-based literature. Due to animals possessing their own individual personalities and choice, interaction with them involves a relationship at levels that interaction with flora and landscape does not, even if it is at a distance such as in wild dolphin observation (Graham, 1999). At least, it is a more concrete and observable relationship than the mystical sense of biophilia.

While there is debate in animal psychology and behaviour as to the degree that animals are capable of feeling and showing affection, the therapeutic benefits to humans are in the human perception that the animal chooses to be with the person, and displays behaviours associated with happiness or affection for the human (Graham, 1999). Domestic animals (usually mammals) are often demonstrative of enjoying attention and grooming, that facilitates a sense of being accepted and of making a positive difference to the needs of another being (Burgon, 2013; Pendry et al., 2014).

Stroking mammals triggers attachment mechanisms involving oxytocin and other neurotransmitters, as well as bio-physical reduction of stress evidenced by reductions in cortisol and heart rate in both species involved (McCardle et al., 2010; Beetz, Uvnas-Moberg, Julius, &
Attachment theory is often drawn on to explain the phenomenon of healing emotional attachment that is experienced between the animal and the person. In early childhood, strong attachment stimulates brain development in areas connected to self-governance. Disruption in early development affects later states of mind and relational behaviour (Geist, 2011), partly by learned behaviours and partly by structural change in the brain. Insecure attachment is a risk factor to the healthy sense of connection with others, and to important skills for self-governance impacting self-efficacy (Ungar, 2011). However, insecure attachment is not necessarily a permanent state, even though it is often difficult to address in human-human interaction.

Animals provide an opportunity for healthy and safe attachment that may have been missed (Graham, 1999; Lem, 2012; Hanrahan, 2013). Interaction with them provides an experience of trust and unconditional acceptance or affectionate display that participants may have missed or have difficulty with. Experiences of safe and secure attachment with the animal or people involved in the animal experience are successfully transferrable to other human interaction. Some species tend to be more demonstrative and more seeking or accepting of connection with the human participants than others (Graham, 1999; McCardle et al., 2010).

One explanation for how human-animal relationships are facilitated is that the animals do not engage in the ‘double bind messages’ (opposing spoken and body language messages) that complicate human to human communication (McCardle et al., 2010). Even unconscious human duplicity can be overwhelming to various populations such as those with attention-deficit/hyperactivity disorder (ADHD), post-traumatic stress disorder (PTSD) or other trauma, disorganized attachment, or autism. In spite of common association of equiphilia (love of horses) with women, work with horses has been particularly useful in the area of social relationship skills with males with PTSD. An example is the work with military personnel with PTSD in equine therapy (Duncan, Critchley, & Marland, 2014). Some researchers make a link between the lower attention demands made by communicating with animals, and attention restoration theory in the other nature literature (McCardle et al., 2010). Animals also appear to facilitate or bridge access to other beneficial processes such as friendship through common interest, reduction of loneliness and increasing sense of and actual participation in community (Wood et al., 2005; McCardle et al., 2010; Lem, 2012).

By living, needing and interacting, animals provide additional benefits to human experience. Observing them can induce calm and also lead to self-reflection and useful projection of personal views and understanding of social interaction (Wood et al., 2005; Burgon,
Physiological changes are also sometimes attributed to the multi-sensory experience, rhythmic motion and element of trust experienced (Yorke, 2010; Bachi, Terkel, & Teichman, 2011; Pendry, Roeter, Smith, Jacobson, & Erdman, 2013).

Another explanation (applicable to large, imposing or potentially dangerous animals) involves the animal encounter as an OEL-type experience. The person experiences a need to respect an animal’s size and ability to react to human actions (Graham, 1999; Borioni et al., 2012). The need to meet the challenge forces participants to use self-governance (think before acting) and inspires compassion and empathy (Yorke et al., 2013; Duncan et al., 2014).

Caring for animals appears to be a trigger for empathy, compassion, healthy displays of affection and even improved self-care, especially where the participant’s ability for these have been obstructed (Arluke et al., 1999; McCardle et al., 2010). Performing care tasks with horses has been linked to improvements in self-care for participants (Borioni et al., 2012). In some cases, the animal can even become a substitute therapist (referred to as a co-therapist) or teacher (McCardle et al., 2010).

**Research issues.** As has been noted, common criticisms of the research literature are that the connection between explanatory theory and documented outcomes is not established, that there are too many un-controlled variables, and that case studies (that are typical) cannot support generalisable statements (Odendaal, 2000; Marino, 2012). Researchers have done a good job of documenting a wide range of outcomes, for a wide range of animal therapy types, programme structures and participants. While many studies suggest connections between animal-based programmes and resilience in their discussion sections, there are no animal therapy studies documenting resilience as an outcome.

**2.4.3 Equine-based activity.** Since thorough description of the different modes of equine activity is common in most papers, it is not replicated here. Literature reviewed for this study related to EAT (equine assisted therapy, psycho-social and emotional), EAA (equine assisted activity), and EAL (equine assisted experiential learning): programmes addressing learning and psycho-social/emotional needs. These diverse areas are simply referred to here as **equine-based activity** or **equine activity**. Hippotherapy was not reviewed since it addresses physical therapeutic need.

Equine-assisted therapy is a popular treatment for some diagnoses that are more prevalent in males (ADHD, autism spectrum (ASD) and PTSD). In the McDaniel Peters and Wood (2017) meta-study on equine activity for people with ASD, 78 percent of participants in the study programmes were male. Most equine activity programmes for PTSD work with males. Yet, the particular appeal of equestrian activity for girls (Evans, 2010) (though not exclusive of
boys) makes it interesting as an activity option for girls. Females show lower participation rates in other sport and outdoor education (estimated at 20 percent by Hoag et al., 2013), and higher incidence of mental health diagnosis (up to 60 percent of youth cases, Roberts et al., 2017).

**Facilitating processes.** Some additional theory elements that appear uniquely or differently in equine-based literature include the horse’s size, their being a prey/herd species, and their function as a specific bridge to other resources based on common interest. There is an ample body of grey literature that emphasizes various forms of the biophilia theory (special connection humans have with horses) and attributions of special knowledge and communicative abilities to horses (horse intuition or special 6th sense). However, these theories are speculative.

With regard to size, the horse’s size is experienced in close quarters, where there are personal and immediate risks. There are physical risk elements of height from the ground and possibility of loss of control (Burgon, 2014; Dell, Chalmers, Dell, Suave & MacKinnon, 2008; Pendry et al., 2013). There is a suggested link between the imposing size of the horse and satisfaction, accomplishment and self-efficacy gained through successful self-mastery to approach and interact with the horse to accomplish tasks (Bachi et al., 2011; Bauducco et al., 2012; Burgon, 2014; Dell et al., 2008). Self-confidence gained is frequently attributed to achieving the sometimes intimidating task of working with or riding the horse.

Secondly, while rabbits and other animals are also prey or herd species, the prey aspect only appears in the equine activity literature. Horses have a heightened attunement to the mood, intention and body language of predators (including humans), as well as other prey animals (Burgon, 2014). Through years of domestication, their attunement contributes to their ability to make social connections with humans, rather than simply fear them (as a deer would). Their sensitivity and interactivity results in their tendency to provide an immediate feed-back loop when in contact with humans (they respond quickly to the human, and to changes in affect or behaviour). They are effective mirrors of subtle changes in the human participant’s affect and body language. Horses respond to these changes quickly, and many of their responses are more obvious to the human because of their size. By providing immediate feedback, horses are particularly helpful in teaching awareness, communication and leadership skills (co-operative self-assertiveness) (Burgon, 2013; Cuypers, De Ridder & Strandheim, 2011; Kelly, 2013; Kuropatkin, 2013). Being a herd animal, horses are oriented toward bonding in a group for security. The social connecting instinct causes them to seek connection and clarity in situations when a human comes into their environment.
Horses are also a unique bridge for people who are more interested in doing an activity that involves horses, or at least being in the environment where they are kept. Participants can be involved in a socially boosting or novel leisure experience (Burgon, 2011; Corring et al., 2011; Dell et al., 2008; Jurga, 2014). While rarely the subject of the study itself, positive relationships and links to self-efficacy and competence are frequently mentioned in the discussion sections of many equine activity studies (Bachi et al., 2011; Bauducco et al., 2012; Borioni et al., 2012; Hameury et al., 2010; Hauge et al., 2014).

Research issues. While research in equine-assisted therapy and activity consistently shows participant gains in areas such as bio-physical change, improvements in self-esteem, problem solving, or focus, (Bachi et al., 2011; Beetz et al., 2010; Beetz et al., 2012; Burgon, 2013; Cuypers et al., 2011; Dell et al., 2008; Pendry, 2014; Murphy, Wilson, & Greenberg, 2017; Saul, 2017), the results are not tied by the study to facilitating processes. These appear in discussions more like theoretical musings. Even if they are accurate, they are not supported by data. Murphy et al., (2017) conducted one of the few mixed-methods studies, finding several outcomes reflected in the qualitative data that were not reflected in the quantitative data. However, they were not able to identify facilitative processes. Many studies do not provide details about the exact structure of the programme: its activities, horse breed used, or other variables not targeted by the study such as presence of other volunteers or involvement of family members. In the McDaniel Peters and Wood (2017) meta-study, 91 percent of the therapy studies reviewed did not confirm participant inclusion criteria.

A valid question is raised about where the benefits of equine programming come from: the horses; being in nature; being in a novel environment; facing a challenge; learning a new skill; connecting emotionally with the animal; the physical activity component; connecting with other humans; the overarching therapeutic approach the therapist is using; the presence of the therapist; the presence of a compassionate and involved adult; time with their caregiver going to the activity; specific activities used; or some other yet undistinguished aspect. Not knowing that of the many elements of the experience are contributing to the outcomes is a challenge for research, and efficient and effective program design. McDaniel Peters and Wood (2017) noted that programme outcome goals varied widely across intra and interpersonal, and behaviour and functional skills. They conclude that outcomes depend on personal fit between the individual participant, their supporters, and the features and goals of individual programmes.
2.5 Framing This Research.

The variability in S4D, PYD, TR, OEL and nature/animal-based activities is typically considered a research method weakness. Yet, variability is a perennial feature. An alternative view of the observation of high variability could be to note that the approaches seem to all have the ability to adapt to a variety of contexts and meet heterogenous needs in the same programme. Practitioners consider this flexibility a key strength rather than a handicap (Smoll et al., 1993; Donnelly & Kidd, 2004; Skinner et al., 2008; Austin, 2010).

Resilience researchers Ellis & Boyce (2008) develop the concept that individuals in the same circumstances will have different reactions and different outcomes, and different needs for support resources. Recreation therapy (Austin, 2010) has similar assumptions of heterogeneity and multi-factor, multi-finality. It would be helpful to fill some important research gaps in the following areas:

1. Elements contributing to life skill acquisition;
2. Types of life skills different activities are suited for (and the participants attracted to those activities develop);
3. How suitable for resilience and development support (as opposed to therapy treatment) various activities are; and
4. How diverse needs could be met in community based programmes.

Few studies explore participant experience in depth, and those that do, do not connect mechanisms and outcomes. Chalmers’ (2014) study of the processes of human-horse relationship with adult horse-owners makes important contributions to descriptions of relationship. However, even though it is rare in studying processes (the other side of the equation), it does not connect them to outcomes other than general feelings of wellbeing. Another study on child and adolescent girls’ relationship with horses by Toukonen (2011) contributed descriptions of three main relationship characteristics and three main perceived benefits (outcomes), without connecting them. Given the research gaps around participant experience, eliciting data on participant experience of outcomes, and their connection to processes, is a core purpose of this research.
CHAPTER 3: Research Methodology

3.1 Introduction

This research sought to explore participant experience in equine activity within a youth development framework to understand whether resilience and other possible life skill benefits are experienced, and what elements participants identified as facilitative of these outcomes. To address the wellbeing and sustainability concerns of rural communities, a rural physical activity option (equine) was chosen. Also, similar to the Ellis et al., (2001) study on resilience as a therapeutic recreation outcome of a community recreation programme, a specifically community-based recreation format was sought (as opposed to formal therapy or competitive equestrian sport). A goal of this inquiry was to investigate and identify outcome and facilitative mechanism elements that could be present in programming accessible to a wide population demographic (different income brackets) and physical activity levels (outside of formal sport and traditional OEL wilderness type programmes).

Based on the literature review, the two main hypotheses were: 1) resilience factors and other life skill outcomes were likely to be present, and; 2) any of the facilitative mechanisms reviewed could be observed, with the exception of those that the study was not designed to measure (i.e., cortisol levels or brain activity). The study had two main research questions:

1. Do 4-H horse club members experience resilience or other life skill outcomes as a result of their participation in a 4-H horse club? If so, how are they described by the participants?
2. What mechanisms or processes contribute to resilience or the other documented outcomes for the 4-H horse club participants?

Who participated in the programme was a sub-question related to the research. Nothing was known about participants prior to the research, other than that they were members or leaders of 4-H horse clubs, that the formal membership age-range was from 10-21 years, and that there was no upper limit age parameter for adult leaders. No other demographic information was known, although the assumption was made that most participants would be female. It was also assumed that they might reflect the various economic demographics and ethnic origins of their regions, that are largely Caucasian European-descent in rural Ontario, as discussed in the literature review. Generally, participant characteristics did align with these expectations. Participant description is further explored at the beginning of the findings sections (Chapter 4).

The study focuses on processes and outcomes experienced by youth members of 4-H (whoever they happened to be), as expressed through member (youth) testimony and leader
observation (including potential leader observation of self as a former member). Leaders reflected longitudinally on members (often staying in relationship over many years), or their own experiences of how former membership as a youth impacted their life.  

3.1.1 Selection of 4-H horse clubs. As discussed in the literature review (see Chapter 2), 4-H is a very important recreation, wellbeing and youth development asset in rural communities. 4-H was selected for this study because it is the only youth program in rural Ontario with a specific youth development framework. While there are small local clubs and camps such as church camps that use horses in their activities, 4-H was the only club specifically designed as an intentional PYD programme, and the only one with a national history and presence.

4-H Ontario has approximately 5,000 members, with 536 youth and 105 leaders involved in horse clubs Province-wide. Since the PYD and sport for youth development literature agree in the view that life skill outcomes are more likely to occur in programmes intentionally structured for youth development, 4-H was also the only equine-related programme that matched this description. It was the only organization with a horse programme delivered specifically in a youth development and community recreation context, rather than as sport skill training or therapy. It was one of the only youth-development organizations that used horses as one of their physical activity options. There is no requirement for club leaders to be trained in education, outdoor education, equestrian coaching, mental health, or youth leadership. Clubs are required to have a minimum of six members, two leaders present at all times, and a minimum of six meetings in the season for approximately 2 hours (12 hours of contact time), including one opportunity to demonstrate skills which can be either at another event, or an in-house Achievement Day.

Clubs may organize their meetings across the year, or in any season. Typically, horse clubs run in the summer season. Once a member joins a club, they may participate in any number of other 4-H clubs run in their membership year, either at other times or concurrently. Since clubs of various kinds are run throughout the year, it is common for youth to be involved with more than one club. They may join horse clubs regardless of their prior experience with horses. Club leaders will often wait to see who has signed up for their club, before the club agenda is set so that the activities will be based on feasibility for the members involved that season.

---

19 It was outside the scope of this thesis to explore leader outcomes beyond those experienced through the leader’s own membership earlier in life (i.e. impact of volunteer/leadership involvement on the leader’s current adult life was not an aspect of the study, although their interview reflections on this topic were conveyed to 4-H).
The club structure, approaches, session structure and key tasks (such as public speaking) are standard across all clubs, regardless of their topic. Apart from content and possible indoor vs. outdoor location, clubs across the country share essentially the same framework regardless of their topic (i.e., beef, horse, computers, camping, pie-baking etc…). This means that many characteristics of participant experience are standard, and not idiosyncratic of a topic, species or local case study. Also, 4-H was interested in partnering in the research since the findings could be useful to ongoing programme evaluation and development.

In summary, 4-H was selected as a location of youth development that was specific to the rural context. Although the field of sport for youth development has emerged very recently, older organizations like 4-H are part of older, more established fields in that green-based (in an outdoor or nature-feature environment) physical activity is used for psycho-social, emotional and physical developmental and therapeutic benefit.

3.2 Research Approach

As has been discussed, many studies in the fields informing this study showed limited range of outcomes due to narrow study designs (Pauw, 2000). However, these studies collectively show a wide range of outcome possibilities for youth. While the literature generally accepts that physical activity, nature and equine activity are used to beneficial result in a wide variety of situations, the attempt to validate this understanding by applying quantitative methods (suited to larger scale studies) to small-case studies with multiple variables is questioned. As has been discussed, there is a tendency in quantitative studies to treat observations that were not central to the research filter as anecdotal information, and to offer process explanations for what remains essentially a black box logic model. Qualitative studies have a tendency to focus either on outcomes, meaning or processes, but not to connect them. It is as if quantitative and qualitative studies explored different questions with seemingly unrelated results (Pauw, 2000). Meta-studies confirmed this observation, frequently calling for mixed-method designs, or more correspondence between the different aspects that quantitative and qualitative methods could best address (Lerner et al., 2005; Krahnstoever & Lawson, 2006; Roberts et al., 2017; McDaniel Peters & Wood, 2017).20

20 One S4D study (Rivard, 2015) on the meaning of physical activity for Rwandan schoolgirls approached this gap by using a modified form of Photovoice, a qualitative method more commonly used in small groups, across an unusually large population for an S4D study (196 girls in 5 schools). One compromise of the study was that qualitative data from each participant was restricted to one paragraph of written information accompanying one photograph (quantification of the qualitative data reduced its depth and richness in return for increasing its credibility).
This study mixes qualitative and quantitative methods in a pragmatic approach aligned to the same research questions (Creswell, 2007; Creswell & Plano Clark, 2011). Both of the research questions were addressed by the quantitative and qualitative data sets, that are linked by a common resilience lens. The data sets were treated as complementary to one another in that they address different aspects of the research. In this way, the different data sets provide data for triangulation comparatively, and complementarily.

At the start of this study, to the best of my knowledge, no data on youth development outcomes or on resilience in 4-H Canada existed. As a result, the study needed to start by documenting outcomes and their meanings, and then look for explanations. Since many intervention studies are critiqued for being based on small samples, an attempt was made to use Morgan’s (2014) mixed-method model in that quantitative data is input to a mainly qualitative study. The model is an exploratory execution design with both sequential and convergent analysis (Creswell, 2014). Quantitative data were sought to establish a resilience and demographic profile of the target population across a larger number of participants. The same larger group also responded to a limited number of short-answer qualitative questions.

Quantitative study designs in these fields are critiqued for offering little insight into mechanisms that support particular outcomes, and low empirical support for direct relationship to the programme given the number of uncontrolled variables (Pauw, 2000). Deeper qualitative inquiry was therefore used on several smaller samples of the target population to explore the research questions in depth (meaning) and breadth (outcomes not included in the quantitative measures). It was hoped that common themes would be found across the different variables between the individuals and smaller groups. While some of the interview participants did indicate having also contributed to the online survey, the survey was anonymous except for leaders who filled it out during their interview. Thus for the individual youth members, the quantitative data from the surveys can only be linked to the qualitative data in the surveys, and not to the qualitative data from the interviews.

The data analysis approach privileges participant (youth and leaders) experience and meaning. While acknowledging the a priori agenda created by the research question and the broad theoretical framing of the study, the intent of the study design was to privilege participant articulation of the benefits of participation in their own words. This focus situated this project within constructivist approaches: emphasizing participant narrative and the meanings they attribute to experiences; being aware of the inherent co-construction of meaning that includes researcher perceptions and subsequent analysis; accounting for cultural embeddness and the inherent diversity across contexts and between individuals; adopting a systems rather than
linear causal view; and having concern for practical application of the results (Lincoln & Guba, 1994; Mahoney, 2004; Lincoln & Guba, 2013).

Even with an initially deductive (hypothesis testing) use of a priori constructs for inquiry (resilience and self-efficacy), the study is inspired by Grounded Theory approaches (Corbin & Strauss, 1990; Strauss & Corbin, 1994; Corbin & Strauss, 2008; Charmaz, 2014) to give prominence to an inductive (discovery) process. It also uses a phased approach (Charmaz, 2014) in that each phase is informed by the data emerging from the previous phase. Even in the deductive aspects of this study (for example, the use of constructs like resilience), attention is paid to inductive discovery (i.e., what does resilience look like and mean to the participants).

For example, while the construct of the overall resilience framework used is known, the meaning of resilience and self-efficacy in the study context were unknown. Therefore a certain open-endedness created by a research design that allowed for findings unanticipated by the researcher was necessary. Other life skill outcomes, facilitative processes, and the relationships between them emerged from the data inductively. So that participants would be free to express themselves in their own terms, the terminology of resilience, self-efficacy, and positive youth development outcomes was not discussed with them during the research or used during data collection. Only terms that participants mentioned were then re-used in subsequent conversations.

The research included three main phases. In the first phase, a population survey of the target population (4-H horse club members and leaders) most able to provide relevant insight to the research question was completed (Creswell, 2007). Even though this phase involved quantitative methods, its purpose was not to establish results that are generalisable to the broader general public (Patton, 2002), but to generate a profile of outcomes that could be compared to, or correlated with the qualitative data. The end goal of this project was not to form causal statements, but to increase knowledge about fostering resilience in order to inform recreation and intervention practice. Information was sought as provisional and suggestive of connections, rather than causal. In constructivist research, findings are typically understood in terms of plausible applications to other situations, but not as universal generalised theory statements (Guba & Lincoln, 2008).

In the subsequent phases, smaller groups of participants participated in deeper qualitative inquiry that was based on themes emerging from earlier phases or interviews (Corbin & Strauss, 2008). Using phases incorporated continuous movement between data collection, analysis, and idea checking with participants. In this way, analysis began after collection of the initial data, and continued alongside remaining data collection. Corbin and Strauss (2008) refer
to this movement as a ‘spiral’. This spiral allowed for emerging concepts to be discussed and checked during subsequent participant contact. The research approach is depicted in Figure 3.1.

![Figure 3.1. Research Approach: Mixed-Method, Three Phases](image)

As previously noted, constructivism acknowledges the role of the researcher in shaping the findings (Charmaz, 2014). The researcher is a filter for the data and its meaning, and ultimately has the task of organizing the information into codes, themes, categories, connections and systems. The researcher breaks down participant narrative and other data, and then reconstructs it in order to make sense of what they are observing and to present it in a way that is seen as meaningful for themselves, as well as the fields and stakeholders concerned. There is an inherent and unavoidable subjectivity in all scientific research. Even the most impersonal mechanised laboratory studies start with a research question and design initiated by a human being or group of humans (interest group, corporation), based on their previous experience, observations, needs and priorities.  

---

21 For example, the act of choosing this research topic testifies to the value of studying horses as a vehicle for youth development, on the part of the researcher (myself). The existing practice of 4-H is evidence of the fact that
3.3 Research Design

The study's three phases were: 1) an online survey, 2) key informant interviews with club leaders, and 3) youth club member interviews with image elicitation. Each successive phase involved increasing contact between the researcher and participants, moving from impersonal (the online survey) to more personal (extensive, mostly phone interviews with club leaders), to observation in situ (youth interviews held onsite and during club activities). The three phases are described in more depth below. Briefly, the survey was anonymous and distributed to all 536 horse club participants and 105 leaders. Key informant interviews were one-on-one with a mixed of structured and semi-structured questions. Youth interviews were in a group setting with varying numbers of youth interviewing at any one time. They also incorporated image-elicitation.

In image elicitation, participants use images as a basis for conversation about their ideas (Harper, 2002; Palibroda, Krieg, Murdock & Havelock, 2009). The participants provide the meanings of the images, rather than a researcher analysing the images for meaning (as in art therapy). The purposes of image elicitation methods are to reduce power imbalances between the researcher and participants by allowing participants more of a margin for expressing themselves in different ways, and to make the research process more fun and engaging (Liebenberg et al., 2013). By inviting participants to express themselves creatively, the interview process is more open to different learning styles and intellectual abilities. Also, creative projects and presentation of ideas are a regular feature of 4-H programs. The organization felt that the method would make participation in the research more compatible with the 4-H experience. Also, they felt that participants would be more comfortable with and enjoy it, than a standard interview.

In summary, the research phases were:

1. Online survey sent to 4-H Ontario horse club member (536) and leader (105) participants (out of an estimated 5,000 4-H Ontario members and leaders);

2. In depth, semi-structured, key informant telephone interviews with 10 club leaders that used interview questions and an oral administration of the online survey; and

3. Club member interviews with image elicitation at 5 clubs with 30 youth members.

These three phases resulted in the following data:

participants value horses as an activity, and youth development work. Although I am an NCCP (National Coaching programme) certified Equestrian Coach and lifelong rider, I had no former experience with 4-H. I began the research biased by my own life experience and professional exposure toward thinking that it would be worth doing, but with open-ness toward outcomes due to my lack of familiarity with the relevant literature, or with 4-H.
Quantitative
1. Quantitative surveys (56 member and 4 leader responses online; 10 leader responses completed in interview); and
2. Other information provided during interviews, such as member numbers, years of service/membership, demographic observations.

Qualitative
1. Open-ended questions included in the survey (56 member, and 4 leader responses);
2. Club leader interview transcripts (10, plus 2 transcript segments of additional leader comments embedded in one youth group interview where the leaders also participated);
3. Club member interview transcripts (15 separate transcript segments);
4. Media: photos submitted, photos taken, photos of photos, photos of artifacts, drawings, video taken, video received; and
5. Researcher observation notes: sights, sounds and ‘spatiality’ of context; participant tone of voice, gesture, posture, action, mood, emotion, facial expression; animal body language and vocalizations.

I made observational notes during all interviews as part of the data. Prior to conducting this research project, I had little familiarity with 4-H or its members. The choice to work with 4-H was entirely due to its being one of the oldest established youth development organizations in Canada, the only one mandated for rural regions, and the only youth development programme in Canada using horses as an activity for youth development, rather than therapy or sport.

3.3.1 Research partner involvement. The research partner organization, 4-H Ontario, was engaged from the initial stage of study design to ensure that the study execution would be feasible, and would be welcomed and supported by staff, volunteers and members involved. 4-H programme staff who had experience of direct contact with club members, leaders and curriculum reviewed the survey, participant interview questions and permission forms at several points during their drafting and Ethics Review. Some preferences of the Ethics Review Board for individual member parental consent, for example, could not be accommodated by 4-H due to the way that their member contact possibilities were organized. The survey phase of the study had to be adjusted to meet both Ethics Review and 4-H requirements. Earlier, longer versions of the survey that included Hope and Self-Esteem Scales had these edited out because 4-H found the survey too long. Similarly, specific questions on the CYRM-28 (resilience scale) were removed due to REB concerns.
As has been mentioned, ‘show and tell’ in a group setting is a common activity in 4-H meetings (regardless of club topic). Members are intentionally encouraged to speak in public, formulate and defend their views, and talk about their accomplishments in age appropriate ways. Further, 4-H clubs routinely intentionally invite outside experts or community members to meetings to share information with the members. It was therefore felt that I would be an interesting outside visitor, and that participating in the research would be an experiential educational opportunity for club members.

4-H Ontario has only been involved in one academic study at the organizational level previously. They found the involvement somewhat cumbersome and costly in terms of staff time. Accordingly, a main concern for the research partner involved having a central communication pathway, and not fatiguing members with too many pieces of communication. The organization preferred therefore to be the main point of contact with members and club leader volunteers, and to integrate announcements about the study into their standard communication pathways. This consisted of:

1. Announcing the research study through internal staff meetings so that staff would be aware of what their involvement might be, and the reasons for agreeing to participate. This involved a presentation by the researcher, to staff with an opportunity for questions;
2. Announcing the study to members and club leader volunteers through a regularly timed news email;
3. Posting information and a link on the 4-H Ontario website;
4. Staff members from head office phoning regional coordinators to explain the study on the phone and ask for club leader engagement to be interviewed or to involve their clubs in interviewing;
5. Regional coordinators phoning club leaders to request engagement; and
6. Club leaders asking their own members if they would like to participate, and providing printed copies of information and permission forms to member families.

3.3.2 Phase one: survey. The first phase of the research consisted of an anonymous online survey (see Appendix C) sent to all 4-H Ontario horse club members and leaders. The survey was also incorporated into the club leader phone interviews in phase two.

The survey included a short list of demographic questions, open-ended questions, the 28-item version of the Child and Youth Resilience measure (modified to 25 questions) (CYRM-
28: Liebenberg, Ungar & Van de Vijver, 2012), and the Schwarzer and Jerusalem Self-Efficacy Scale (Schwarzer & Jerusalem, 1995). These scales have been validated by the authors across cultural contexts, socio-economic and age groups (Schwarzer & Jerusalem, 1995; Ungar & Liebenberg, 2011; Liebenberg, Ungar & Van de Vijver, 2012). The scales phrase questions in accessible terms about participant perceptions rather than external markers that can be culturally biased. These factors made the scales an attractive choice for a rural context, and for a study population spanning several age and education categories.

The survey’s open-ended questions focused on motivations for joining 4-H and comments about what participants enjoyed or wished to improve about the programme. The demographic questions were designed to elicit indirect information about the socio-economic or risk levels of the club members by asking about family and living situations (i.e., with parents vs. a guardian, both or one parent), and how members got to club meetings (i.e., active transport, parent driving, other adult driving). As discussed previously, since there is no public transit in rural areas, family or community ability to provide transportation to development and health facilitative services is an important factor in wellbeing and risk (Schreuder, 2010; Walia & Leipert, 2012; CMA, 2013).

The CYRM-28 contains three subscales (Individual, Context and Caregiver) that are further divided into personal, peer, social, spiritual, educational, cultural, material and emotional elements (Liebenberg et al., 2012). The questions reflect the seven tensions or protective factors for resilience (Ungar & Liebenberg, 2011), and use a 5-point Likert Scale. Due to Ethics Review Board concerns, the CYRM-28 was modified to 25 questions. Three questions pertaining to risk (specifically material support as provided by caregivers) were removed and three questions were modified (see detail below). This step was due to REB concern that responses indicating a lack of these resources would generate legal responsibility vis-a-vis child protection reporting or place a child at further risk. The replacement and original questions were as follows (see also Appendix C):

1. When things don’t go my way, I can fix it without hurting myself or other people (for example, without hitting others or saying nasty things). NB: This question replaced the originally proposed question “I solve problems without drugs or alcohol.” The original CYRM question was “I am able to solve problems without harming myself or others (for example by using drugs and/or being violent)”

2. I feel that my parents/caregivers are there for me when I need them. NB: This question replaced two original questions “My caregivers watch me closely.” And “My caregivers know a lot about me.”

3. I feel that my caregivers/parents provide what I need. NB: this question replaced three of the original questions “I eat enough most days.” (Original CYRM question: “If I am
hungry, there is enough to eat.”), “My caregivers stand by me during difficult times.” And “I feel safe when I am with my family/caregivers.”

The Schwarzer and Jerusalem Self-Efficacy Scale contains ten questions, all of that were retained. Since the CYRM used a five-point scale, the Self-Efficacy Scale was adjusted from its original four, to a five-point Likert scale so that there would be consistency throughout the survey. Both the CYRM and Self-Efficacy Scales frame statements in positive terms (e.g., ‘I can manage to solve difficult problems’). Respondents are asked to rate their agreement. In the five-point scale, 1 = ‘not at all’, and 5 = ‘definitely/a lot’.

3.3.3 Phase two: club leader interviews. Horse club leaders participated in a single phone interview. During the interview, they completed the same survey sent to the youth online, and responded to additional semi-structured interview questions (see Appendix D). Semi-unstructured interviews have a pre-determined list of questions that are used to guide the conversation. The actual questions asked may be adjusted during the interview, as appropriate to the flow of conversation. Consequently, while the same semi-structured interview was followed, the content of interviews was also shaped by the participants’ narrative. The interviews were audio-recorded. All leader interviews were transcribed verbatim. Transcriptions were returned to the leaders by email as a verification step (Patton, 2002). None chose to add to, change or remove any of the verbal data from the study. Some chose to additionally share visual data.

Phase Two interviews were conducted in the spring, just prior to the start of the busy 4-H meeting season, to accommodate the 4-H programme schedule. Two leaders met with me a second time. One of them met me face to face, and the other joined in one of the youth group interviews, providing additional comments. Additional leader perspective data were also gathered from a leader who was not one of the ten leaders participating in Phase Two, but who was present at a club interview and joined in. Club leaders interviewed were spread across mid and Southern Ontario. Four leaders who participated in Phase Two interviews led clubs that participated in Phase Three.

3.3.4 Phase three: youth group interviews. Youth group interviews were conducted after the club leader interviews, so that leaders would be comfortable with the project and the researcher, and have a better idea of the questions that youth might be asked. Also, information from the leader interviews could be used to make any necessary adjustments to the planned youth interview questions. The leader interview and survey data did inform clarifying questions and topic starters used during the youth interviews (See Appendix E for youth Interview Questions and consent forms).
Image-elicitation interviews were conducted with club members. In image elicitation interviews, participants use images as a basis for exploring and discussing their experiences (Harper, 2002; Palibroda et al., 2009). The participants use the images as a means of reflecting and thinking more critically about their experiences and how they understand these experiences. Additionally, by focusing on the image, and positioning the participant as the narrator of the images’ meaning, these methods are able to reduce power imbalances between the researcher and participants by allowing participants more of a margin for expressing themselves in different ways (Liebenberg, 2009). Depending on how they are used, they can also make the research process more fun and engaging, yielding more rich data (Meo, 2010; Liebenberg, Ungar, & Theron, 2013). Finally, by inviting participants to express themselves creatively, the interview process allows participants to engage more on their own terms than a traditional interview (Meo, 2010).

As a starting point for this Phase, all youth members in 4-H Ontario were invited to bring images to a group interview with their club. It was not known whether leaders or youth would drive interest in a club’s participation. Once participating clubs were volunteered by leaders, all youth in the clubs were given the same invitation. The instructions for the images were to bring photos that represented what they learned or valued about 4-H horse club (see Appendix E, instructions to youth). Many youth chose to bring photos or to email them after the interview. The youth who had prepared in advance, had prepared a short talk to explain their photos that became the starting point for their other interview comments. Photos brought were printed, in frames, in photo albums or on smart-phones, depending on the inclination and resources of the participant.

Others interpreted the request for pictures differently. They chose to bring drawings or show items, email a video or grant permission for video or photos to be taken. Items and images that the participant wished to keep were photographed during the interview. A small minority of participating youth shared their comments in interviews without pictures or video. They added visual content to their interview by using body or hand gestures, or indicating items, activities, people, animals or aspects of the farm setting that were visible onsite, and that connected to their comments. Three leaders also decided that they liked the opportunity the youth were being offered to share images, and shared photos and items that enhanced their comments. Two of them led clubs that were interviewed, sharing their photos afterwards. The other leader who shared photos only participated in Phase Two.

The format of the interview (i.e., large group, small group, pairs) was determined by members and leaders at each of the different clubs, and was based on the different logistics and
preferences of the club at that they occurred. Accordingly, in two locations youth were interviewed as a whole club group. They were interviewed in several small groups in one location, in pairs in two locations, and as individuals in two locations. All interviews were conducted in the club setting with other club members, leaders or parent volunteers in the vicinity. Usually they were outside the youth space in order to give youth freedom to respond, while complying with 4-H rules for not leaving me alone with the youth (as an unscreened volunteer). Leaders and parents contributed comments after the youth interviews onsite. In one group already mentioned, the leaders were also parents of club members. The club participated as a group, including the leaders. In this instance, leader inclusion in the youth conversation appeared to encourage youth participation, and did not appear to dampen anything they might have wanted to say. In another club, the nearby presence of the parents and leaders appeared to contribute to reticence to engage as fully as the other clubs.

As mentioned, variety in club structure and functioning, timing of leader decision to participate, and leader understanding of the instructions sent in advance varied. The logistics of this part of the research demonstrated the diversity of 4-H horse club cultures and members that was optimal for the study since it invited the researcher into their world. Whatever degree to that youth participants engaged with the option to enhance their interview with images or media served its purpose to invite self-expression, and help me understand the ways that participants viewed their own experience. The fact that participants took initiative in how they wanted to respond to the request also revealed self-confidence in negotiating time with them on their own terms, and awareness of their own tastes, strengths and choice.

Since checking data at a later date with the same member who generated it was not going to be possible, member meanings were checked in three other ways. First, extra time was taken within interviews to clarify member word and statement meanings. Second, ideas and observations from youth interviews were shared anonymously with other members at subsequent interviews (where relevant to the conversation) to get further participant feedback on the credibility and reliability of the statements and meanings. An example might be a statement like ‘Some of the people I’ve interviewed said x, what do you think of that?’ inserted as a clarifying question or conversation starter within the dialogue. Third, youth interview excerpts and preliminary findings were shared with other leaders and researchers (anonymously) as a way of verifying their fit within expected outcomes and meanings.

---

23 It actually was consistent with the data gathered from that club about the youth sense of strength in their own self-leadership, and the high degree of self-growth and co-participation that the leaders expressed.
All youth interviews were audio recorded and transcribed verbatim. In some instances, short video clips and photographs were also taken, with permission or at request. Due to the fact that I did not have all club member contact information, youth were not able to review the interview content. Although it was felt by the leaders that there would be no time to regroup for a follow-up meeting with the clubs, I was invited to attend two extra-curricular events with two of the clubs: an outing to see the Royal Canadian Mounted Police musical ride, and an opportunity to see one of the clubs perform their activity at a local agricultural fair. I was able to attend the fair, obtaining further video and photo footage of participants (with permission- they wanted me to see an example of the performances they had talked about in interviews for the research) and 4-H activities. In rural Canada, agricultural fairs are a culturally central part of the 4-H experience, so this was an important opportunity to get further experience of the 4-H cultural context.

3.3.5 Pilot process. The survey, recruitment letters and research study description for youth participants, and youth semi-structured interview questions were piloted prior to conducting fieldwork with 4-H. Two youth who I had known since birth (children of a school friend of 35 years) completed the survey and worked through the image making and interview process. Their comments on the flow and phrasing of the documents, as well as their feelings about the process were solicited and used to make necessary adjustments to the various documents (particularly instructions youth would be reading or receiving aurally). The two youth were girls, aged 10 and 12. One is a fairly advanced student and rapid learner, while the other has a learning disability and ADHD, and read behind her grade level at the time. They live adjacent (within walking distance) to agricultural lands, have a parent raised on a multi-generational farm, and extended family in the rural Mennonite community. The two girls were home-schooled at the time of the pilot.

This was an excellent opportunity to see how youth with different levels of maturity and scholastic ability would interact with the research. The girls were not 4-H members, but were involved in weekly dance classes and seasonal performances. Piloting the process with these girls provided an opportunity to refine explanations of the activities so that they were age-appropriate. Piloting also provided an opportunity to gain insight into current expressions for that age group.

The girls enjoyed the process, and their choice of photos and topics was engaging and fit well with responses that might have been in the expected range based on the literature review. They found the explanations approved by the Ethics Review cumbersome, and appreciated a simple oral explanation instead. Apart from the title of the project, resilience-
related words were not used in the pilot in order not to prime participants with language or ideas. They were simply asked to share what they like most about the activity (in the pilot, dance), and what they thought they learned. Since this was a successful approach, it was adopted during the study interview phases where resilience language was also not overtly used, other than in the official study communication pieces approved by the Ethics Review Board.

The pilot was very successful in eliciting rich comments and insights from both participants. It became clear that the opportunity to express their experiences and opinions through images worked especially well for the girl who was more kinesthetic with less sophisticated vocabulary for the ideas she was trying to express. When she ran out of words, she would demonstrate with gestures, movement, sound and facial expression. This occurred in the actual research as well.

The pilot participants had high scores on their survey scales. They found the questions easy to understand, filling them out within roughly 20 minutes, and without asking for further clarification. As expected, the quantitative surveys shed little light on their personal experience, and they expressed the opinion that the Likert scale did not give them room to answer the questions as accurately or in depth as they would have liked. These limits of the quantitative methods and the pilot participant desire to be able to further express themselves in a less structured way validating the additional use of qualitative methods.

With regard to their interviews, their presentations of their chosen images were treated as a kind of group dialogue in that I participated with comments and questions. The dialogical aspect of the presentation proved to be quite important as meanings were not always clear based on the initial presentation of a photo. Asking deeper questions also facilitated further thinking for the participants. They expressed appreciation for adult interest in their experiences, and in helping them express themselves by asking clarifying questions.

Gathering the qualitative data in an interview format rather than as a written submission proved to be quite useful for allowing for clarifying questions. An example is one photo presented of the 10 year-old’s friend. The presentation included statements like “This is my best friend, and I love dance because she’s awesome.” Friendship was clearly an important benefit and aspect of the dance experience, as was expected. Since the children in the pilot were home-schooled, the opportunity to develop peer relationships through dance class in the community had added significance. Peer relationships are a protective factor for resilience. Left on the surface, the assumed mechanism would be dance class: nothing revealing about that. However on further exploration of this idea with her through dialogue, the mechanism of carpooling with another family emerged:
Researcher: “Why is she your best friend? I mean, instead of all the other girls you know in dance?”
Participant: “I don’t know. ‘Cause her mom comes and picks me up and we’re in the car and we have fun.”
R: “So you get extra time with her because you’re driving back and forth.”
P: (bouncing up and down, and smiling) “Yeah, it’s cool. We have SO much fun, like she’s my bestest friend. We even do sleepovers.”

Similar transitions from surface information to deeper meaning happened during the research. The pilot made it clear that youth of different abilities did indeed have lots to say, if they felt there was real interest in understanding their point of view. The significance of what they had to say was not necessarily related to the volume or choice of words they took to say it. In the pilot, the participants considered the impact of their own experience in response to researcher questions. For example, when asked what she learned in dance, the 10 year old with ADHD commented in a single word: focus. Her photo for this word was a mirror shot showing herself taking a photo. The camera in her photo was her metaphor for focus.

When asked why she mentioned focus and why it was important, she thought about it before responding: “I don’t know, it helps with everything, like with my school. Yeah, focus. It’s important for everything. I can remember to do what mommy said.” She was bouncing up and down while talking. Since focus is not a word I have heard her use, it stood out as a significant comment. The pilot exercise improved awareness of the kinds of comments children might say, how significance might be expressed, and the areas to watch for that might be similar to the pilot participants’ dance experience versus unique to 4-H.

3.4 Participant Recruitment

3.4.1 Sampling strategy. The sampling strategy is described here in terms of two main factors: quantity and quality of participants.

Quantity. The goal for the survey phase was to have as many as possible of the over 500 4-H Ontario horse club members and just over 100 leaders respond to the survey. The pragmatic expectation was that somewhere between 10-15% were likely to do so, and that at least 50 responses (10%) would be needed for the survey. As has been mentioned, the main purpose of survey was to establish a profile of the presence of factors for resilience which would be further investigated in subsequent inquiry.

For the qualitative interview phases, the qualitative studies reviewed showed a wide range of sample sizes (from 6 - 20). Guest et al. (2006) conducted a study to determine the sample size needed for data saturation and concluded that the minimum number is 12. Some
studies do not specify the sample size in advance because it is dependent on the emerging themes in data analysis, and analysis and sampling are conducted in alternating layers: as more themes emerge, more samples may be sought to clarify until saturation is reached (Charmaz, 2014). The research plan was to interview at least 30 youth (10 in 3 clubs) and 10 leaders, allowing for the possibility of having to find more participants if data saturation was not reached. Five clubs were needed to reach the goal of 30 interviewed youth. Data saturation was reached by the third club and seventh leader interview. At that point, additional comments provided more detail for themes that had already emerged.

**Quality.** As mentioned, the wide variation in programme approach represented in equine-activity and S4D study literature has been criticized from quantitative research viewpoints on the basis that small case studies cannot be used to make generalisable statements, and that they vary so much between one another that they cannot be compared. However, there have been successful meta-studies across different programmes (Lerner, 2005; Holt et al., 2017; McDaniel Peters & Wood, 2017). Meta-studies intentionally aggregate findings across variables in order to look for consistent patterns.24

Quality was sought in this study by taking a similar approach of looking for consistency despite or across different contexts and cases. Rather than assume that the variety of the programmes studied is a liability, a reverse question also needed to be asked: *if beneficial outcomes are tracked through such a variety of programme formats and types, then what are the consistent elements (the ‘red threads’)?* As has been discussed, a reason 4-H was selected was because it applies a consistent youth development framework across club types (different animals or topics), as well as a wide geography. The diversity of club type within a consistent framework also applies across 4-H horse clubs. While it was expected that the horse clubs might each have contextual differences based on leader personality differences or local culture, my lack of significant exposure to 4-H prior to the research meant that I assumed that the clubs would have a fairly common and standard equine curriculum, like sport training. They did not. In addition to having leaders with individual styles and other contextual differences, they all used different breeds of horses, and practiced different tasks with them.

Similarly to the McDaniel Peters and Wood (2017) meta-study on equine assisted programmes for people with autism, differences between the 4-H horse clubs were multi-

---

24 An American 4-H study successfully isolated youth development factors from data collected from over 1,000 participants in a wide range of local clubs and project types (Theokas et al., 2006). Another meta-analysis of 73 completely different after-school programmes successfully isolated common themes for programme effectiveness (Durlak et al., 2010).
dimensional. Learning content, species, type of activity, engagement with community, and degree of competitive involvement are some of those dimensions. 4-H club leaders do not follow a uniform curriculum. They are very free to develop their own technical content, use 4-H materials or whatever materials and information they can find. They are free to include mounted and/or non-mounted activities, use any breed of horse they wish, or even conduct a ‘horseless’ horse club where the youth learn about but are not in frequent direct contact with real horses. Clubs can be held in urban, farm, or remote locations. Performance involvement ranged from very competitive, to only in-house demonstration events. In addition to content and horse type variety, club meetings have different seasonal structures. They have a common core but may diverge for most of the session, dependent on how the youth participants and leader co-construct the format.

Further elements of diversity are leadership styles and member demographics. Other differences across members included age, gender, ability/disability, first language and urban/farm residence. The diversity between the clubs increased the value of findings as representative of a 4-H ways of doing things, as opposed to specific equestrian skills or techniques, or specific characteristics of individuals or clubs.

3.4.2 Online survey. Staff in the 4-H office emailed letters of invitation to participate in the survey (see Appendix C), along with a link to the survey to all 4-H horse club members and leaders in Ontario. The organization did not have personal emails for all youth members. They collect ‘family’ email addresses. Caregivers have the ability to decide what email 4-H uses in its communication with youth members: the email may belong to a parent or youth member, but the 4-H mailing list does not differentiate. Two follow-up emails were sent out to the same list to remind members and leaders about the study and to ask for participation.

Most survey participants engaged after the second and third follow-up emails. 4-H Ontario has approximately 5,000 members in total, but only 536 members and 105 leaders in horse clubs. The surveys were sent to the horse club members and leaders. Youth membership in 4-H ranges in age from 10-21, and this range was captured in the survey responses. The survey was completed anonymously online in full by 56 youth members and 4 leaders. Additionally, the 10 leaders interviewed also completed the survey during their interview. In total, 56 youth and 14 leader surveys were completed.

3.4.3 Leader interviews. The 4-H office also sent emails to the 105 4-H horse club leaders with separate invitations to participate in the leader interviews by contacting me. Response to this email was low: only four leaders contacted me about participating. A parallel communication path evolved on the part of the 4-H staff and leaders in that the staff used
simplified, ‘plain language’ ways to ask for engagement. 4-H staff phoned leaders and regional coordinators to give them a brief oral description of the study and invite them to participate. The first leaders interviewed were instrumental in recruiting other leaders. Although data saturation appeared to occur by the seventh interview, all ten leader interviews outlined in the research plan were conducted.

Once leaders agreed to be interviewed, a copy of the study description, recruiting letter with consent forms, and semi-structured interview questions was emailed to them in advance of the scheduled interview. The purpose and structure of the interview was explained again at the start of the phone interview, and verbal consent was confirmed and recorded. Participants were given the option of ceasing to participate, or taking a pass on questions. Once they became more comfortable with me and the interview process, they were very forthright, often deeply personal, and frequently showed interest in making sure that certain messages got back to 4-H, usually with the intent to improve the programme or increase youth engagement. All of the participants answered all the questions asked, and completed the interview. Interviews averaged 1.5 hours, resulting in approximately 15 hours of audio footage. Reported leader participant ages ranged from 28 to 70.

3.4.4 Youth group interviews. Information about the youth interviews was included in the initial 4-H staff invitation emails to all horse club members. As has been mentioned, the hope was that youth from around the province would express interest, and that at least three clubs and thirty youth would be represented. In practice, no youth or member families responded to the interview participation portion of the initial email request. Consequently, all youth participants were recruited by their club leaders. Most of the leaders of clubs participating in the youth interviews had participated in the leader interviews and decided to invite their club members to be involved once they were comfortable with the research project and with me. The leader for one club that participated had not been part of the leader interviewing, but agreed to get her club members involved based on the leader interview experience of two of her neighbouring club colleagues. Once rapport was established with one or two leaders through interviews, these leaders either volunteered their own club members, or phoned other leaders or their regional coordinator to recruit further club participation.

Youth interviews were clustered in two regions where support for the project seemed particularly strong. The two regions were at the far East end (3 clubs), and mid-Western end (2 clubs) of the Province, approximately 500km apart. Not all members of participating clubs wished to be part of the activity. Five clubs participated to obtain 30 youth interviews, for a total
of six (6) hours of audio footage. The clubs used different horse and activity types, none of that were typical of equestrian riding schools.

3.4.5 Distribution of participants. Although data saturation appeared to be reached by the fourth club interview (23 members), a fifth club was engaged to achieve the planned 30 member interviews. Youth in the interviews ranged from 10-30 years old (a returning youth member/volunteer leader), with most in the 10-15 year age range. The map below (Figure 3.2) indicates participant locations (all three Phases) with green markers. The geographic locations of club interviews are circled in orange. The map was created in Google Maps by placing markers at the town locations indicated by participants in the online survey and interview phases. The map shows a well-distributed spread of participants across the geography of Southern Ontario, from the Eastern border, to Western Ontario, and as far North as Manitoulin Island (based on data provided in the survey and interviews).

![Figure 3.2. Geographic Distribution of Study Participants](image)

3.5 Club Descriptions

As has been noted, club characteristics varied. Each visit to do the interviews was a different experience for me, and not just because the individuals being interviewed changed. Each location that I visited was a normal club location for that club, but each was unique. Many studies provide demographic descriptions of participants in the methodology section so that readers can understand the context of the findings. In this study, participant demographic information is included in the findings (Chapter 4). Rather than using demographic descriptions
to situate the reader in the context of the study population, this section provides a brief
description of each club. A summary of the club features is shown below in Table 3.1.

Since the majority of the Canadian population is urban and a small minority has
experience with either horses or 4-H, no assumptions can be made that readers are familiar
with the Canadian farm or 4-H environment, or the species, breeds or activities discussed.
Similarly, readers from the S4D field, or other non-equine recreation fields might never have had
a personal experience with these contexts, and might never have encountered academic
literature relevant to their field and conducted on horse facilities. The club descriptions thus
invite the reader as much as is possible on paper to understand the club context.

Even as an experienced equestrian and sport professional living in a rural area, I would
not have appreciated the possibility for inaccurate assumptions about 4-H, prior to my own
encounters with the organization. I would have assumed the club environment or experience
was like my own childhood experience of Pony Club or other equestrian facilities or youth clubs,
had I not visited. If I had not immersed myself in their context, my own reading of the findings
would have been different. Mainly, I would have been at a disadvantage for understanding
meanings and importance of many items in the findings.
## Table 3.1 Summary of Club Features

<table>
<thead>
<tr>
<th>Club Number</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approx. leader 4-H experience</strong></td>
<td>20 yrs</td>
<td>2 yrs</td>
<td>20 yrs</td>
<td>1= 3 yrs approx.</td>
<td>30+ yrs</td>
</tr>
<tr>
<td><strong>Leader occupation</strong></td>
<td>farmer, entrepreneur</td>
<td>horse trainer, entrepreneur</td>
<td>administration job, urban employment</td>
<td>1= civil servant urban employment, 2= beef farmer, entrepreneur</td>
<td>retired, farmer earlier in life (agriculture)</td>
</tr>
<tr>
<td><strong>Members met</strong></td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td><strong>Visit location</strong></td>
<td>Agri-production farm (chickens), Century farmhouse meeting room &amp; barn</td>
<td>horse training farm, viewing lounge of indoor riding arena</td>
<td>private hobby farm with small barn, outdoor training space, met on back deck of house</td>
<td>private hobby farm with small barn, outdoor training space, picnic table on lawn, kitchen</td>
<td>Beef farm, meeting in barnyard</td>
</tr>
<tr>
<td><strong>Interview location</strong></td>
<td>indoors seated</td>
<td>indoors seated</td>
<td>outdoors seated</td>
<td>Running, standing, seated outdoors &amp; indoors</td>
<td>outdoors standing</td>
</tr>
<tr>
<td><strong>Interview format</strong></td>
<td>pair</td>
<td>large, whole group</td>
<td>successive small groups</td>
<td>small, whole group</td>
<td>pairs &amp; singles</td>
</tr>
<tr>
<td><strong>Member advance preparation</strong></td>
<td>extensive</td>
<td>Very little to none</td>
<td>Extensive to none</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td><strong>Images contributed or taken at interview by researcher</strong></td>
<td>Several photos submitted by each, photos taken</td>
<td>Half submitted 1-2 photo images on printed paper or a framed photo shown for photographing, photos taken</td>
<td>Drawings, photos taken, photo album shown for photographing</td>
<td>Photos shown on phone &amp; artifacts for photographing, photos &amp; video taken, photos &amp; video emailed afterwards</td>
<td>Limited photos taken</td>
</tr>
<tr>
<td><strong>Leader presence during interview</strong></td>
<td>N: in adjoining room</td>
<td>Y: observing</td>
<td>N: visually distant</td>
<td>Y: participating</td>
<td>N: visually distant</td>
</tr>
<tr>
<td><strong>Visit timing</strong></td>
<td>irregular date, weekend daylight</td>
<td>regular date, weekend late afternoon</td>
<td>regular date, weekday evening</td>
<td>regular date, weekday evening</td>
<td>regular, infrequent wkend day</td>
</tr>
<tr>
<td><strong>Activity at interview time</strong></td>
<td>irregular: there for interview</td>
<td>regular club session</td>
<td>regular club session</td>
<td>regular club session</td>
<td>annual interspecies learning event</td>
</tr>
<tr>
<td><strong>Distance to lge urban centre</strong></td>
<td>1hr</td>
<td>1hr</td>
<td>45 min</td>
<td>1hr</td>
<td>30 min</td>
</tr>
<tr>
<td><strong>Distance to full service town</strong></td>
<td>20 min</td>
<td>10 min</td>
<td>15 min</td>
<td>20 min</td>
<td>15 min</td>
</tr>
<tr>
<td><strong>Approx. pop nearest town</strong></td>
<td>2000</td>
<td>5700</td>
<td>200</td>
<td>3000</td>
<td>4500</td>
</tr>
<tr>
<td><strong>Roads</strong></td>
<td>Paved</td>
<td>Paved</td>
<td>Gravel</td>
<td>Gravel</td>
<td>Mix</td>
</tr>
<tr>
<td><strong>Horse type</strong></td>
<td>mini</td>
<td>light horses</td>
<td>ponies &amp; various</td>
<td>Western types</td>
<td>heavy horse</td>
</tr>
<tr>
<td><strong>Horse size: height at wither (feet), weight in pounds</strong></td>
<td>3, 150-350</td>
<td>4-5, 700-1000</td>
<td>3.5-5, 500-1100</td>
<td>5, 800-1000</td>
<td>5.5-6, 2000</td>
</tr>
<tr>
<td><strong>Horse activity</strong></td>
<td>breed show (unmounted), Parelli style horsemanship (unmounted), 4-H style horsemanship (unmounted)</td>
<td>breeding drill</td>
<td>riding drill</td>
<td>breeding show (unmounted)</td>
<td></td>
</tr>
<tr>
<td><strong>Horses present at interview</strong></td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Horses in use at interview</strong></td>
<td>N</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td><strong>Horses private vs. borrowed</strong></td>
<td>Borrowed</td>
<td>Even mix</td>
<td>Most borrowed</td>
<td>Private</td>
<td>Most owned</td>
</tr>
<tr>
<td><strong>Other animals</strong></td>
<td>chickens, dogs, cats, rabbit</td>
<td>dog</td>
<td>dogs, cats</td>
<td>goats, chickens, dogs, cats</td>
<td>cattle, sheep</td>
</tr>
</tbody>
</table>
After experiencing the clubs, I would have taken their structure for granted had I not also done 4-H site visits in Europe, where the club experience is quite different. Those visits were not a formal part of the study. I was there to share the research and have a classic 4-H exchange experience for myself.\textsuperscript{25} Being allowed on the farms in the study was a privilege. Being trusted to use a camera and also meet the animals was an additional honour. The following brief descriptions provide further context for the findings.

3.5.1 Club one. After participating in the leader interview phase, the club leader agreed to organize a youth interview on a date when I could travel to the area. Since my visit would not be on a regular club meeting date, she organized a special meeting for the interviews. The farm was easy to locate in the heart of an agricultural area, on a paved road. While it was a working chicken farm, a small barn was set aside for the 4-H mini horses and activities. The club also used a room in the back of the farmhouse as a club meeting space. I interviewed two club members while sitting together around a round table in the club room. Parents dropped their children off and left, and the club leader hovered within hearing but out of sight in the next room. The two members had prepared several photos and extensive comments that they shared for approximately one hour. Depending on the participants involved in a given year, the club alternated between 4-H style horsemanship and driving the horses in small carts. Horsemanship encompasses a wide range of approaches to handling the horse from the ground. The 4-H approach resembles livestock competition, with the difference that they are not being judged for presenting the animal’s qualities as an agricultural resource. Instead, the competition for horses is based on how the handler conducts themself and manages controlling the horse to show off its conformation and movement. I was invited afterwards to visit the horses and different animals in the 4-H barn. The visit is depicted in Figures 3.3 and 3.4.

\textbf{Figure 3.3.} Club 1 participants writing comments on submitted photos

\textsuperscript{25} 4-H encourages cultural exchange of members between club types, regions, Provinces and countries. A limited experience of exchange is embedded in the annual requirement for each club to do Judging events in a mixed topic setting. Some members and leaders interviewed spoke about their own inter-regional and inter-Provincial exchange experiences.
3.5.2 Club two. The club leader had also participated in the leader interview phase, and had agreed to organize a youth interview for the same day as club one since they were geographically close. The day I arrived was a regular club meeting day. The club was easy to find on paved roads, quite close to a nearby town. It was held at an equestrian training facility owned by the club leader, who was self-employed as a 'natural horsemanship' teacher and riding coach. Club activities not involving handling horses were conducted in a large lounge room with windows onto the indoor training arena. The lounge had a kitchen area and couches arranged in a horseshoe. The interview was conducted at the end of the meeting, before supper-time. Only a few participants had brought photos with them with minimal to no preparation for presenting their thoughts. The parents and leader decided to stand several feet away talking among themselves, while the members sat in the couches in a semi-circle around where I was standing. It seemed as if the physical barrier of the classroom setup where I could not easily get to their level, or the presence of the adults observing, or the lack of preparation, had a quieting effect. Although eight members were present, only 20 minutes of interview was obtained. Since the parents had horse-trailers and trucks waiting to take children and horses home for supper, the timing is also a possible factor. I was not invited to the barn area, or to meet animals other than the farm dog. I was welcomed to linger and chat on the riding arena porch with the leader and a member waiting for her parents, for about 20 minutes after the interview. Educational items and the porch visit are shown in Figure 3.5.
3.5.3 Club three. The club leader agreed to organize a youth interview after completing a leader interview with me. She thought that my visit would be educational for the youth, and so integrated the interview into a regular club evening. The farm was approximately 15 minutes from a suburban cluster, in a rural area characterized more by residential and hobby farm properties than industrial agriculture. Getting to the farm involved driving on some gravel roads, and the farm itself was a hobby farm on a small rural acreage. There was a small log barn for the two resident horses, and a fenced outdoor sand ring for working the horses. The club leader was not an equine professional, and commuted to the nearby city for work. There was no designated club room. Activities not involving the horses were conducted outdoors in the yards or barn, on the house deck, or indoors in bad weather at the family dining table. The interviews were conducted as an activity station at the picnic table on the deck. Parents had brought horses in trailers, but kept their distance socializing together at the trailers. Youth took turns in small groups to join the interviews while the rest of the members conducted their activities with the horses in the sand area, that was visible from the deck. Seven youth participated in the interviews. One was highly prepared in advance with drawings and a speech, and one brought photos. Others permitted photos to be taken. The main activity practiced was the same ‘horsemanship’ style used by club one, but with full-sized horses. The club also engaged in a wider range of educational modules such as anatomy and evolution, and did Western riding activities in other seasons if the membership that year did not need to share the club leader’s horses. It rained during the interview and mosquitoes eventually drove everyone into the house where the club leader and remaining members shared a photo album.
Pictures shared included extra-curricular non-meeting activities such as cook-outs, trail rides, outings and sleepovers. Images from the visit are shown in Figure 3.6.

3.5.4 Club four. One of the club leaders had also participated in the leader interview phase. She organized the youth interviews towards the end of a regular club meeting time. The club meeting itself was a little unusual in format since the youth were practicing their choreography on the ground and had not brought their horses. Mounted meetings were usually held at various privately owned or community locations where the leaders could obtain permission for the members to practice. The unmounted meetings were held on a mid-sized farm property that was now a hobby farm with several species. The farm was quite far from nearby towns, down gravel roads with rare vehicle traffic. It was well outside the zone for light or noise pollution, and was the most rurally remote of the club locations. Crickets and train whistles can be heard in the audio recording. The one leader was self-employed as a beef farmer, but the beef were at a different location. The second leader who owned the farm visited, worked in the nearest large city, commuting about an hour each direction. Both were parents of youth in the club. I was invited to watch the six club members working on their choreography, and then proceed with the interview at the picnic table on the lawn. Unlike the other clubs, the two club leaders were present throughout the group interview with the youth, contributing comments as part of the conversation. Only a couple of the youth had brought photos on their smartphones. Otherwise, I was permitted to take video footage as well as photos. They volunteered many items to illustrate their discussion, and sent video and photos after the interview. This was the only club visited in that riding on the horses was practiced in the year
the data were collected. The members did drill-team riding on average riding-sized horses. Most of them also participated in Western riding games such as barrel racing. This was the only club for that all members owned their own horses and lived on farms.

This club engaged in interviewing twice as long as the others, inviting me into the house after dark for a second hour of interviewing. I was also invited out to the barn afterwards to meet horses, chickens and goats by the farm owner, visiting until well after 10pm. I was also invited to attend their drill team performance at an agricultural fair later in the season. The club setting, drill team and different species are shown in Figures 3.7 and 3.8.

![Figure 3.7. Setting and Barn Visit at Club 4](image)

![Figure 3.8. Subsequent Club 4 visit to see team performance at fair](image)

### 3.5.5 Club five

The final club visit was the only club where the leader had not been part of the leader phone interviews. Two of her peers persuaded her to include her club, after I had done youth interviews at clubs Three and Four. Instead of attending a specific horse club meeting or location, I was invited to meet the horse club members at a multi-club learning evening, where various club types were gathered to exchange learning about different species.
The club was held in an agricultural area on a beef farm, about 20 minutes to the edges of the nearest large city. Speaking to me would be one of several learning stations that included one about beef cattle, and one about market sheep. It appeared that no-one other than the horse club leader was aware that I would be there. The horse club leader was retired professionally, but involved on an almost full-time basis as a volunteer in 4-H, providing mentorship to other leaders. Members of the club mostly did 4-H style horsemanship with heavy horse breeds, because they were involved in heavy horse pulling competition outside of 4-H with their families. Some of the youth used mini horses in another club. Interviews were conducted standing in the farm-yard as youth became available while rotating through different learning stations. Parents and leaders were clustered around the trucks, out of earshot of the interviews most of the time. The activity of interviewing me was added last-minute to an already busy agenda. Consequently, parents were not previously aware that I was coming. Also, although friendly, youth appeared distracted and concerned with making sure they did not miss any of the other learning since they would have to demonstrate competency in judging the different species, and this was a special preparatory training night.

Over my two-hour visit, I collected 30 minutes of audio footage from 7 members either one-on-one or in pairs. Sheep bleating and cattle mooing punctuates the audio recordings. Only two of the youth permitted photos to be taken, and none had prepared photos in advance, or sent photos afterwards. Club five was the only club at that male members were present and participating in the interview. Various images from the visit are shown in Figures 3.9 and 3.10.

![Figure 3.9. Youth and Farm at Club 5 inter-club meeting](image1)

![Figure 3.10. Later observation of heavy horse hitch and Club 5 member at fair](image2)
3.6 Summary

In summary, each of the five club environments was different. Differences included distance from urban centres or towns, type of horses used, activity the horses were used for, club size, involvement of parents, leader experience, and the activity that was occurring at the time of the interview. Apart from being a member or leader of a 4-H horse club in Ontario willing to participate, there were no other criteria of participation in the study. I hoped that sampling participants from several clubs would represent a diversity of ages, activities and local club cultures. One of the first tasks of the research project was therefore to step back from a priori assumptions about participant descriptors. Seeing who participants were became one of the first layers of the study findings. Participant description is therefore included in the next chapter on Findings (Chapter 4). Leaders who were present at the youth interviews expressed the view that the youth had made comments that were typical to their experience and observations, even though not all youth from each club participated.

The number of images collected was 3 drawings, 4 videos, 5 virtual image descriptions, 170 photos, and approximately 40 additional historical photos that could not be shared in the research findings due to lack of photo subject consent. These are summarized in Table 3.2.

Table 3.2 Summary of Participant Involvement and data

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Survey</th>
<th>Interview</th>
<th>Interview Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Member</td>
<td>86</td>
<td>56</td>
<td>30</td>
<td>6</td>
</tr>
<tr>
<td>Leader</td>
<td>14</td>
<td>14</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>70</td>
<td>40</td>
<td>21</td>
</tr>
<tr>
<td>Researcher images</td>
<td>101 photos, 3 videos</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participant images</td>
<td>69 submitted or requested photos, 40 shown historical photos, 3 drawings, 5 virtual images described orally, 1 video</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.7 Data Analysis

3.7.1 Preliminary steps and data verification. As mentioned, data were analyzed in an ongoing way as soon as initial data were received. For example, online survey responses were read as they came in to ensure that no changes needed to be made to the survey for its use within the leader interviews, and to provide guidance for conversation prompts and clarifying questions if needed during leader and youth group interviews. The analysis at this preliminary stage was very rudimentary and consisted of reading the qualitative responses
individually while using the survey tool (Survey Monkey) to aggregate quantitative responses and watch for trends or missing answers. Preliminary analysis of interviews began during the first interview. Since the interviews were recorded for transcription, the researcher took note of key themes in the margins of the interview question sheet while the participant was speaking. Participant responses then informed slight changes to subsequent questions, to the presentation of the questions, or to the questions in subsequent interviews. This ensured that each individual participant could share what was meaningful to them, and clarify or confirm terms or themes. I also listened to leader and youth group audio files repeatedly prior to transcription, taking thematic notes on a pad of paper. This step facilitated better understanding for the transcription phase, and deeper sense of meaning.

3.7.2 Quantitative data analysis. Online survey data were collected in Survey Monkey and then downloaded into Excel. The oral survey responses collected in the ten leader interviews were added manually to the same Excel file. Once all the data were captured, the complete data set was screened and reviewed for missing data. Three cases were blank and so were discarded. Five respondents completed the demographic and other questions, but did not respond to any of the Self-Efficacy or CYRM questions. A sixth respondent skipped the CYRM questions. These cases were used in cases where data were provided. For this reason, the data reported show slightly different \( n \) values on different aspects. The total of mostly complete surveys was 70 (56 members, 14 leaders).

Survey responses to the open-ended or qualitative questions yielded over 20 distinct free-form answers. To prepare the data for analysis in Excel and SPSS, these responses were coded and card-sorted (Grbich, 2013), regrouped into a much smaller list of codes (see Appendix H), and then re-entered as binary responses in separate columns. Other data such as participant location had to be similarly simplified for computer assisted analysis. In the case of location, maps were consulted to determine whether town names were in one of four areas of the Province. In the case of place of residence, open form entries had to be sorted into categories (farm, rural not farm, town, etc.). Some questions included a list of responses from that the participant could include any that applied. These had to be themed with columns created for numerical response entry. In other cases, such as the open ended question about gender, a number was attached to the responses (1 = boy, 2 = girl, no other answers were provided). It is acknowledged that this step of coding and assigning a number designation to responses is itself also part of the analysis.

CYRM sub-scales were calculated in Excel before loading into SPSS. CYRM and Self-efficacy raw scores were converted to percentages since they had different ranges of total
possible score (50 versus 140). The adapted CYRM (25 items) also had a different possible score total from the original 28-item CYRM used in global data. Converting raw scores into percentages made cross-comparisons easier.

Analysis was conducted in Excel (2007 and 2010) and SPSS (24). Excel was used to plot graphs, especially where the sizes of sub-samples was very small. Some of the trends plotted this way were statistically insignificant, but where a relationship might nevertheless have been indicated in the qualitative data, the quantitative data was still observed for patterns. The survey response volume was satisfactory as representative of the population being studied. The set was significantly larger than most single study data-sets for nature or animal-based experiential learning, sport or therapy studies. There is a high degree of confidence that survey responses were authentic, and no reason to question their reliability or validity since data behaved normally, and responses were internally coherent, and aligned well with data from the interviews.

3.7.3 Qualitative data analysis. The primary approach taken with the qualitative data resembled a reciprocal and layering ‘spiral’ described by Corbin and Strauss (2008). In this approach, preliminary analysis starts after the first data are collected, in a manner described for the leader interviews in the preliminary steps (3.7.1). This approach is considered to improve the reliability and validity of the qualitative data. It also served to connect all the data sets from the beginning so that triangulation and comparison could occur on an ongoing basis (Creswell & Plano Clarke, 2011).

The main analysis of the interview data (transcriptions, observations, and visual artifacts) was conducted after all the interviews had been completed. Interviews were first transcribed, by typing them manually into a template with line by line numbering in Microsoft Word (2007). Data analysis consisted of three main steps:

1. Coding the data
2. Deriving themes and sorting the data by outcomes and processes
3. Identifying relationships between outcomes and processes.

Initial codes and themes were noted in a separate list while transcription was completed. Observations on tone of voice, facial expression, gestures and other non-verbal pieces of information provided (such as that picture related to the present speaker’s comments) were noted at the head of the transcription, and in brackets in the body of the transcriptions at the relevant location of participant speech. Where important, speaker emphasis was captured alternatively in capital letters or italics, and appropriate punctuation points.
There was a pragmatic mix of types of codes used (Saldaña, 2013), depending on the data being provided. For example, in some moments in-vivo coding seemed appropriate: the participants generated words or phrases that seemed to be suitable code words. In other cases, participants struggled to find words to describe a process or experience, and descriptive codes made better sense as a way to translate their expression into terms that could be analysed. An example might be where a young participant had language for friendship, but did not have detailed words for a critical thinking process being described. Beside the language they did use, I coded the description as critical thinking if that was effectively what they were describing. In this way, transcripts were analysed both inductively and deductively. Inductively, they were coded using substantive or open-coding (Charmaz, 2014). They were also coded deductively, including an intentional search for any segments that related specifically to the seven protective factors of resilience reflected in the CYRM and self-efficacy.

Next, codes were organized by their meaning either as an outcome, or a process. These thematic sorts were applied across participants and clubs. Once outcome and process element themes were identified and named as spreadsheet headings, a digital card sort was performed. Codes and themes were condensed or merged where possible. Transcript segments and description notes were then retyped into the Excel sorter. Each theme had a column in the Excel spreadsheet. A separate sort was made for comments that were made specifically about 4-H programme effectiveness or constructive suggestions, since this material was not part of the formal research but would be valued by 4-H and its stakeholders as one of their expected benefits for participation.

To help keep track of the original context for each segment while sorting them, tags were assigned to each interview (i.e., L2 for leader 2, and C3 for Club 3), and to each interview participant. Leaders interviewed were tagged in chronological order of interview. Youth were tagged in the order they were interviewed within that club visit. Each segment typed into the Excel sorter was prefaced with its tag(s), followed by the original transcript line numbers. The Excel spreadsheet also sorted entries by line, with a separate line for each leader interview or club so that the segments could be traced two ways: by theme or by interview event.

Visual artifacts (photos, videos, drawings) were listed and tagged as described above. A brief description of what is visible to the researcher was listed, along with meaning words or narrative quotes ascribed by the participant. Context notes were also included in some cases to prevent misunderstanding of the meaning of the artifact. In the case of virtual images, the image description given by the participant was listed, tagged in the same way as the others. Analysis of visual data submitted by participants was based on the meanings ascribed to the
choice of item and to the item itself, by the participant (Liebenberg, 2009; Enright & O’Sullivan, 2012; Liebenberg, Didkowsky & Ungar, 2012). Some image data were generated by me, and were part of the researcher observations data.

Connections between outcomes (resilience or other) and facilitating elements or processes were then mapped (Miles & Huberman, 1994). This process included manually writing key words representing each theme on notes, positioning and organizing them on a surface, identifying the connection lines between them, and then organizing and re-organizing them until the web of lines formed clearer relational patterns. Outcomes were written in one coloured ink, and processes or contributing elements in another. This helped with visual understanding of connections of items that doubled as both an outcome and a contributing process. The concept map was then transferred to digital format in the form of a grid (see Appendix F: Visual Map Outcomes and Processes) as a way to organize the connections.

Relationships between processes and outcomes were based on member and leader data, not on my assumption of connections based on logic, literature or theory. The grid was based on all the material contributing to each process or outcome. Since not all participants discussed all the possible outcomes or contributing processes (there are too many for that to be possible), the grid does not track the frequency or prioritize the importance of these elements or their connections. This sorting and mapping procedure facilitated simplification of the outcome and process findings into four main interconnecting category themes each. This map represents inter-relations, correlations and contributions, not linear causal processes.

Other than Bronfenbrenner’s nested macro, micro and meso-systems (1977; 1994), I did not encounter dynamic systems and chaos theory in the literature prior to data analysis. Thus, my a priori expectation was based on the linear logic models used in most of the reviewed studies (input, programme participation, output, attempt at causal explanation). When I searched for language to explain the multi-directional paths that emerged in the data, more multi-directional systems ideas seemed a better fit. Even the Bronfenbrenner material that I read during the literature review did not create an expectation of the model of findings that emerged, since Bronfenbrenner’s model is represented in nested circles.

Other than for the qualitative data in the online survey, numerical coding of the qualitative data was not practiced. Where themes emerged often, this was naturally tracked as a loose indicator of importance. For example, since examination of the data started with the first interview, it was possible to notice when data saturation appeared to be occurring. Also, a visual examination of the volume of quotations (space they take up in the theme sort) is a loose kind of quantitative observation. However, frequency analysis was not used on the basis that a very
relevant outcome or factor might only be discussed by one person, or might be mentioned with
great meaning, yet discussed only briefly. This decision aligned with the view of Miles and
Huberman (1994): “We argue that although words may be more unwieldy than numbers, they
render more meaning than numbers alone and should be hung on to throughout data analysis”
(p. 56).

Finally, since data analysis was continuous and ongoing, preliminary anonymous
findings could be shared and validated with stakeholders and other researchers. They were
shared at several conferences and with 4-H (in Canada and internationally). These exchanges
confirmed the reasonableness of my understanding of trends and key points.

3.7.4 Summary. The research process and methods selected yielded rich data.
Quantitative and qualitative data were cross-referenced on an ongoing basis. For example, the
resilience and self-efficacy scores were high and themes related to their sub-categories were
strongly present in the interview data as well. Large discrepancies between a high or low score
in the quantitative data, and an opposite prevalence of meaning in the qualitative data would
have raised questions about the study design, instruments used or interview questions being
asked. However, there was either high correspondence between the data sets, or
complementarity. The next two chapters describe the findings regarding outcomes (Chapter 4)
and facilitative processes (Chapter 5).
CHAPTER 4: Findings: Mapping Outcomes

This chapter describes the research findings, including: Who the participants were, what the protective factors for resilience meant in this context, and what other life skill outcomes emerged. Although some facilitative processes become apparent in this section, they are discussed further in Chapter 5. This chapter is divided into four sections. The first section provides a participant description. The second and third sections (4.2 and 4.3) discuss evidence for resilience mostly through the quantitative data, and then explore the meaning of resilience in this context, within the framework of the eight factors (seven Liebenberg and Ungar protective factors and self-efficacy). The fourth section (4.4) discusses three main categories of other outcomes that emerged: 1) psycho-emotional competencies (section 4.4.1), 2) workplace skills (Section 4.4.2) and 3) life approach (Section 4.4.3). These outcomes are depicted in Figure 4.1, and shown in a non-hierarchical, non-linear interconnected relationship.

These sections show some overlap that is reflective of the resilience factors and other outcomes having distinct conceptual differences, while being inter-related and often mutually reinforcing. For example, although there are three sub-sets (individual, relational, context) of the CYRM resilience processes (Liebenberg, Ungar & Van de Vijver, 2012), they inter-relate and connect with other competencies. Self-efficacy is one example. It is a resilience factor in this study that can overlap with confidence (a potential psycho-emotional competency outcome). They can overlap with specific workplace skills, or impact future life trajectory through academic or other adult thriving goals based on sense of ability to achieve them, and skills acquired to do so. All psycho-emotional and social skills, including resilience, have transferrable benefits to the workplace and other adult roles.

![Figure 4.1. Participant Outcome Categories](image-url)
4.1 Participant Description Information

The 4-H participants were selected because they represented a community of rural-based activity (horses specifically), within an intentional youth development framework, where a variety of club contexts could be expected that would be helpful for identifying outcomes common to 4-H horse clubs, as opposed to any specific club context or person influence.

As discussed previously, rural Canada is largely Caucasian (96%; OMRA, 2014). Also, the majority of participants in equine-related activities are Caucasian females, with a higher than average household income (Evans, 2011). Participants who completed the survey reflect 4-H horse club demographics: 81.6% of survey respondents identified as female, 6.7% as male, and 5.3% did not answer the gender question even though it was anonymous and offered a free-form response.

All interview participants (leaders and youth) appeared Caucasian\(^{26}\), and were born in Canada. Most were Anglophone or did not disclose any other mother tongue/culture, except for one leader who had a francophone background. Survey responses indicated that the majority (95.7%; 44 of 46) were born in Canada, and all were Canadian. Survey participants were also asked about ethno-racial identity with the question, “To that of the following groups do you belong” (see Appendix C). A list of racial groups was provided, although it included ‘black’ and ‘white’ that are very heterogenous, and a number of sub-divisions of Asian identity as well as ‘mixed’ and ‘other’. A majority (90.7%; 39 of 43) selected ‘white’. Other identity responses were First Nations (1), Asian (1), and Mixed (2). The Mixed responses were followed up with notes mentioning ethnic groups of Caucasian, European descent (such as Italian, Polish), and so were re-classified as ‘white’ for the data analysis. The primary identification of these respondents with their ethnic heritage instead of race was interesting, but there were not enough of such responses to consider this information significant data about identity meanings.

Most of the 56 youth who responded to the survey lived with at least one parent in family of origin (97.8%; \(n = 45\)), where the majority (91.1%; \(n = 45\)) lived with both parents. Three (6.6%) lived with one parent. The picture of parental support is further bolstered by indications of having a parent available to drive them to activities, or else adequate resources for them to borrow or own a car. In terms of transport to the club, 82.7% (43 of 52) were driven by a parent, 2 children carpooled with another adult (3.8%), and 13.5% (7 of 52) drove themselves. Those who drove themselves were all between 18-21 years of age. No participants used active transport (i.e., bicycle, horse, foot transport), personal vehicles (ATV, snowmobile, electric

---

\(^{26}\) Racial and ethnic categories used in this research were those that were approved or recommended by the Research Ethics Board.
scooter) or public transport to get to their 4-H meetings. Although the demographic data appear to point to a homogenous ‘low-risk’ youth profile, the qualitative data revealed a more diverse and nuanced picture. The following sections elaborate on participant identity in terms of commonalities (i.e., culture, spirituality) and diversity (i.e., challenges, location, education, age).

4.1.1 Commonality: culture, spirituality, civic engagement. Participants shared a strong identification with a culture of rurality, as well as with a sense of the bigger picture (spirituality without named religion) and of civic identity (democratic engagement without political partisanship).

Culture. One finding about participant identity in this study was that for rural people, rural is a cultural identity category, not just a descriptor of where they live. While participants did not represent common mainstream categories of cultural difference (i.e., obvious skin colour or linguistic differences or sameness), they did reflect a culture of rurality as a different felt identity from the mainstream Canadian culture. Rurality was a cultural descriptor that was much more significant for participants than skin colour, religion or ethno-culture, based on the fact that they discussed the former extensively, and the latter very little.

Underneath the superficial homogeneity of white skin reflected in the survey, there was ethno-cultural diversity as well. The last names and some references in the qualitative study indicated that participant ancestry was from a diversity of cultures (even if mostly European). When leaders were asked about the ethnic composition of youth members in their clubs over the years, they indicated a slightly wider range of participants than is suggested by the survey or observation of the 5 participating clubs, especially if their club was located near First Nations reserves, or close to an urban suburb with a significant Newcomer population.

Interview participants clearly articulated self-identification with a rural culture, as distinct from urban culture. The ways they discussed this are articulated in the resilience section (Section 4.2). Interestingly, proximity to a city did not influence more identification with urban culture. The closer the participants were to larger urban centres, the more they discussed a felt cultural gap with the dominant culture.27

Cultural difference was discussed as difference. Rural cultural identification was felt and expressed, even by participants who otherwise conducted part of their life in the urban milieu such as a job or school location, or actually lived in a nearby urban area. In some cases, the dominant (urban) culture was specifically eschewed as the participant expressed hope of continuing to be part of rural culture despite pressures felt against rural identity. The following

---

27 Participants did not explain. This could be because they encountered differences more frequently due to having urban peers in their school and working lives, leading to a felt need to affirm their own cultural identity. It would be an interesting subject for further research.
quote is an example of rural cultural identity despite present geographic urban living, and an urban-related income source:

And now I live in the city and it’s just like, you know, there’s people EVERYWHERE [sic] and none of them are my people….And so yeah when I…moved back to the area….I was definitely looking for community and how can I get back with people I know will there for me. (C3, B1, 237-241)

Participation and identity in rural culture were framed both in terms of belonging (a resilience factor), and a risk factor: barrier to resources, education, work, friendships and community connections. Thus, the research results inform the participant description through an important self-identification in a culture of rurality. Even though rurality as a social construct is an established idea in rural studies (Halfacree, 1993), rurality as an aspect of cultural diversity (Pratt, 1996) is not a common topic in rural studies, and virtually absent outside of rural studies. Since rurality is not part of the dominant discourse on cultural identity, the participant insistence on using rurality as a primary cultural descriptor highlights its importance to them.

**Spirituality.** While participants indicated higher levels of spiritual/religious engagement than the comparison CYRM data (Mean: 74.5% vs. 59.4% for the comparative Canadian data) (Liebenberg & Ungar, 2015), spirituality was represented in the qualitative data more as values or community involvement than specific doctrinal or organizational adherence. A minority of survey respondents \( n = 17; 30.4\% \) participated in religious based after-school activities. Specific religious affiliation was not identified either in the survey or the interview phases, but spirituality did emerge as an important part of some participants’ lives in the qualitative data. Several members and leaders linked the spiritual values of human community, or human relationship with nature (environment/animals) to motivations for 4-H participation.

**Civic engagement.** Just as the data do not speak to participants’ involvement with specific religions, even while supporting a high value for spirituality, neither did it speak to their involvement with formal politics (i.e., political parties, voting). It does offer evidence that suggests a high value placed on civic engagement and democratic political processes. Participants were committed to being democratically engaged as expressed through active local citizenship, understanding federal democratic processes, and being social contributors to the greater good. Leaders were characteristically involved in local committees and governance. Youth civic engagement was more reflective of their age group such as volunteering in the community, or taking a responsibility within 4-H for a role as an activity community member (volunteer, contributing, not merely consuming a youth club service). The program intentionally and overtly teaches the values and processes of democratic engagement through use of the parliamentary procedure, and active engagement with community partners. Participants
characteristically showed awareness of and concern for broader societal issues related to environmental, development and economic trends, local and micro awareness of interpersonal ‘politics’, and personal and collective civic engagement. They showed awareness of their responsibility and role as citizens in an age of consumers. Further examples are discussed in the outcome findings sections on belonging (4.3.5) and social justice (4.3.7).

4.1.2 Diversity: challenges, location, education, and age. The survey did not include questions about household income or parent/adult occupations, but did include information on education and age. Interview data provided a more complete picture of socio-economic factors, and of cognitive and physical diversity.

Socio-economic differences and other challenges. Both leaders and youth participants referenced other 4-H members who lived with challenging personal circumstances (e.g., family illness, death, divorce, non-traditional family structure, lower income, or different physical or intellectual abilities). Some showed such differences themselves. The interviews revealed that contrary to notions of privilege associated with access to horses, many members joined because they never would have been able to afford to be involved with horses otherwise, or might have been excluded from more typical equestrian sport training opportunities. If survey participant data seemed to indicate privilege because respondents lived with their parents who could drive them to activities, the interview data showed a more diverse demographic picture.

Location. Most survey participants identified themselves as living rurally (85%). Most of the leaders lived on a farm or country property and used their own space and animals for club activities. Most of the youth also lived either on a farm (45.3%; n = 24) or non-farm rural property (39.6%; n = 21), with a minority living in a town (9.4%; n = 5) or city (5.7%; n = 3).

The interview data showed that most participants who had their own horse appeared to live on a farm or country property where it was kept, making horse ownership more affordable. For example, participants frequently indicated that horse ownership was possible due to ability to keep them at home, and few participants boarded their horses at equestrian facilities. Youth who had their own horses tended to also participate in other equestrian leisure or competitive sport activity, but not all of them. Those who did not own their own horse tended to only do horse activities through 4-H, with 4-H indicated as a key enabler of access to horses for them. A slight majority (51%) of youth participants used borrowed horses from the club (n = 23; 43.4%) or other sources (n = 4; 7.5%).

Education and age. Study participant variation was also ensured by the broad range of ages and education levels represented. Participants spanned 7 decades: youth participants ranged from 10 (minimum joining age) to young adulthood (31). Current club members ages
were spread from the lower (age 10) to upper (age 21) membership limits. Older member participants were informal leader-mentee volunteers who had been former club members. Formal leader ages ranged from 28 to 70 years old.

Participants in this study discussed their experiences with both formal and informal education. Although the survey data focused on formal education, interview data showed an additional strong commitment to informal education across all ages and levels of formal education. Leader participants were from a range of educational backgrounds, including community college, university, professional apprenticeship or no formal schooling past high school. The leader data did not appear to be influenced substantially by their level of formal education. In other words, regardless of level of formal education, leaders were accomplished people with a strong sense of their own value in the community. They demonstrated lifelong learning, applied knowledge and teaching others (the youth members) through community-based co-operative and experiential learning models such as 4-H or other youth clubs.

Youth participants appeared to have a strong adherence to school, and valued doing their best, even when recognizing that their strengths might not be academic. In addition to formal education, youth participants also indicated commitments to lifelong informal education: experiential and applied learning outside the school environment. I would describe study participants (youth and leaders) as characteristically learning engaged, by that I mean that they had life goals, and expected to engage in learning to achieve them, both in and outside of the classroom. Ages and formal education levels correlated as expected for those still in school. For those out of high school, highest educational level achieved is also indicated. These are reflected in the Table (4.2) below. The importance of learning was upheld by all participants, regardless of their level of formal education. Some leaders had not pursued formal post-secondary education, though did have professional training or certifications.
Table 4.1 Age and Education of Survey Participants and 4-H Leaders

<table>
<thead>
<tr>
<th>Age</th>
<th># of Youth</th>
<th>Highest School Grade Achieved</th>
<th># of Leaders</th>
<th>Leader Education Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>1</td>
<td>Grade 5/6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>8</td>
<td>Grade 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>7</td>
<td>Grades 6/7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>6</td>
<td>Grades 7/8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>5</td>
<td>Grades 8-10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>3</td>
<td>Grade 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>4</td>
<td>Grades 10/11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>4</td>
<td>Grades 11/12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>4</td>
<td>Grade 12/working</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>2</td>
<td>College/Uni</td>
<td>1</td>
<td>High School</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>2</td>
<td>College/Uni</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20's</td>
<td>1</td>
<td></td>
<td></td>
<td>Bachelor's</td>
</tr>
<tr>
<td>30's</td>
<td>3</td>
<td></td>
<td></td>
<td>Bachelor &amp; Master's</td>
</tr>
<tr>
<td>40's</td>
<td>2</td>
<td></td>
<td></td>
<td>High School</td>
</tr>
<tr>
<td>50's</td>
<td>3</td>
<td></td>
<td></td>
<td>High School/ College</td>
</tr>
<tr>
<td>60's</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>70's</td>
<td>1</td>
<td></td>
<td></td>
<td>Bachelor's</td>
</tr>
</tbody>
</table>

4.2 Resilience and Self-Efficacy Scores

This section presents the results regarding the presence of resilience in the study population. Resilience was tracked in two ways: Scale scores in response to the survey, and descriptions and themes that emerged in the qualitative data. Both data sets confirmed a strong presence of the seven protective factors for resilience, and of self-efficacy. Additionally, the qualitative data provided a means of understanding the contextual meaning and character of the resilience factors and self-efficacy.

As has been discussed, analysis of statistical significance was done in SPSS, while Excel was used to generate graphs. Some themes that emerged in the qualitative data also appeared to be reflected in quantitative data graphs. For example, qualitative data suggested that exposure to the programme had an impact on resilience factors over time. Quantitative data showed no statistical significance for the CYRM score, but did show significance for the Self-Efficacy score. This particular point is discussed later. Aggregate scores for both resilience and self-efficacy were calculated both as a Mean score and a percentage (Table 4.2) for easier comparison. They are both very high.
Table 4.2 Self-Efficacy and Resilience Scores Compared

<table>
<thead>
<tr>
<th></th>
<th>Youth: (n = 47)</th>
<th>Leader: (n = 14)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Youth Mean Score</td>
<td>Youth Mean %</td>
</tr>
<tr>
<td></td>
<td>Leader Mean Score</td>
<td>Leader Mean %</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>39.18/50</td>
<td>78.2</td>
</tr>
<tr>
<td></td>
<td>43.7/50</td>
<td>87.4</td>
</tr>
<tr>
<td>Resilience</td>
<td>105.6/125</td>
<td>86.8</td>
</tr>
<tr>
<td></td>
<td>112.2/125</td>
<td>89.8</td>
</tr>
</tbody>
</table>

There was a very high positive (Pearson) correlation between the self-efficacy and resilience scores \(r = .908, n = 56\)\(^{28}\). The high scores did not appear atypical, either from the point of view of statistical analysis, or in comparison with the qualitative data. In the aggregated (leader and youth) scores, there was a slight negative skew for the CYRM and a lesser one for the SE (Self-efficacy) Scale, with a slight clustering around higher scores but an otherwise normal distribution, as shown below (Table 4.3 and Figure 4.2).

Table 4.3 CYRM and Self-Efficacy Distribution

<table>
<thead>
<tr>
<th></th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYRM Score ((M = 109.39))</td>
<td>-1.013</td>
<td>.922</td>
<td>5.237</td>
</tr>
<tr>
<td>CYRM % ((M = 89.8))</td>
<td>-2.042</td>
<td>2.616</td>
<td></td>
</tr>
<tr>
<td>Self-Efficacy Score ((M = 40.13))</td>
<td>-.414</td>
<td>.922</td>
<td>9.381</td>
</tr>
<tr>
<td>Self-Efficacy % ((M = 87.4))</td>
<td>-1.907</td>
<td>2.621</td>
<td></td>
</tr>
</tbody>
</table>

\(Schwarzer & Jerusalem = SJ.\) Graphs based on total scores.
\((SJ: M = 40.13, SD = 5.237, n = 62; CYRM: M = 109.39, SD = 9.381, n = 61)\)

Figure 4.2. Histogram of Self-Efficacy and CYRM Scores

\(^{28}\) Henceforth, unless otherwise indicated, significance reported is two-tailed, where \(p < .01\).
The meaning of the scale scores is more apparent when compared with larger data sets. For such comparisons, percentages had to be used since adjustments were made in both scales for this study. For example, the Self-Efficacy Scale had been adjusted to a 5-point Likert Scale from 4, and the number of questions used in the CYRM was changed to 25 from 28.

Scholz et al., (2002) examined results from a global sample of 19,120 respondents between 12-94 years of age, with a much higher mean age (25 years) than the 4-H sample (14.33 years). Also, the Scholz study had a more balanced mix of men and women (7243 men, 38%; 9198 women, 48%), whereas this 4-H sample was mostly female (7 men and boys, 6.7%; 94 women and girls, 87%). This is significant because Scholz found gender to have significance for scoring (women scored lower on self-efficacy). Given the young mean age and higher proportion of female respondents, the self-efficacy scores in this data would have been expected to be much lower, based on Scholz’s findings correlating lower scores with younger age and female gender. Instead they were much higher. Figure 4.4 shows the higher 4-H scores compared to the Scholz global sample. In this case, the 4-H youth and leader data were combined, since the Scholz sample included ages up to older adulthood.

Although the comparison between the Scholz and 4-H data (Figure 4.3) are not statistically significant in a difference of proportion calculation (z = .4), it should be remembered that the sample sizes were \( n = 70 \) (4-H) and \( n = 19,120 \) (Scholz, Gutierrez Dona, Sud, & Schwarzer, 2002). There is still a noticeable difference, even if statistically insignificant (z = 1.4). When a subset of the 4-H data were taken to match the Scholz mean age, the 4-H participants had even higher scores (7.9 percentage points). This comparison is shown in Figure 4.4, along with scores for the two other English-speaking developed countries in the Scholz study (USA and United Kingdom).

\[
\begin{array}{ccc}
\text{World data norm} & \text{Canada norm} & \text{4-H Mean} \\
73.9\% & 78.0\% & 80.2\%
\end{array}
\]

\( n = 19120 \text{ world data}; n = 367 \text{ Canada}; n = 56 \text{ 4-H} \)

Figure 4.3. 4-H Participant self-efficacy scores compared with global data

---

29 The 72yr old leader was excluded as an age outlier (all other ages stopped in the 50's). Responses were ranked by age and then selected from the bottom up (range 14-57 years, vs. 12-92 for the global data). Mean self-efficacy scores were calculated, and then converted to a percentage so that they could be compared with the Scholz data set, since the two studies used different Likert scales creating incomparable raw scores.
Figure 4.4. Comparison of Self-Efficacy Scores with same mean age

4-H CYRM results showed a similar pattern (Figure 4.5) when compared with larger data sets from the Resilience Research Centre (RRC) (Liebenberg & Ungar, 2015). For the RRC data, the total study population was 1,946, subdivided by youth with complex needs (n = 658), and comparison youth living in the same and similar challenging communities as youth with complex needs (n = 1087).

Although specific family or personal challenges to 4-H survey respondents were unknown, the challenges of rurality and tendency for 4-H to attract participants with higher support needs (due to low cost) are discussed in the literature review and qualitative findings. Relatively speaking, the 4-H scores are much higher than the comparison data set. Since the 4-H population was mostly female, even when the 4-H CYRM scores were compared to only girls in the RRC data (who had significantly higher resilience scores), the 4-H results were still two to three times higher than in the RRC data (n = 988) (Figure 4.6). The 4-H scores were 4% higher than RRC comparison youth, and 6.4% higher than RRC complex needs youth.
Figure 4.6. Resilience scores compared with Canadian girls

Analysis comparing the resilience subscale Mean scores with the total CYRM score (minus that sub-scale), showed all sub-scales as having a moderate to very-strong influence. There were no particular sub-scale categories that were more influential than others. This finding in the quantitative analysis was supported by the qualitative data showing the resilience factors as inter-related and mutually reinforcing. These findings are in alignment with systems theory of inter-relationships informing the construct of the seven protective factors, and the corresponding CYRM instrument to measure them. Table 4.4 shows the alignment between the seven protective factors discussed in the literature review (Ungar et al., 2007), the eight sub-clusters of the CYRM, and self-efficacy.

Table 4.4 CYRM sub-clusters, Self-Efficacy and the 7 resilience ‘Tensions’

<table>
<thead>
<tr>
<th>7 ‘Tensions’ (protective factors)</th>
<th>Self-efficacy &amp; CYRM subscale correspondence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to material resources</td>
<td>Caregiver: provision (questions removed by ethics review. Replaced with some demographic questions.)</td>
</tr>
<tr>
<td>Relationships</td>
<td>Caregiver: relationship Individual: Peer relationship</td>
</tr>
<tr>
<td>Identity</td>
<td>Context: culture Context: spirituality Individual: personal strengths</td>
</tr>
<tr>
<td>Cohesion (belonging)</td>
<td>Context: culture Context: spiritual Individual: peer relationships</td>
</tr>
<tr>
<td>Cultural adherence</td>
<td>Context: culture Context: spirituality</td>
</tr>
<tr>
<td>Social Justice</td>
<td>Context: culture Individual: social skills Context: education Self-efficacy</td>
</tr>
<tr>
<td>Power and control</td>
<td></td>
</tr>
</tbody>
</table>
In terms of statistical relationship between self-efficacy and the CYRM sub-scales, the Self-Efficacy score ($n = 48$) was moderately correlated with the Individual CYRM sub-scale (Table 4.5). Within that sub-scale, it was slightly more strongly correlated to the Personal Skill sub-cluster (Table 4.6). To better understand the meaning of high self-efficacy in the 4-H population and its relationship to the Personal Skill sub-clusters, it is important to recognize that of the Individual sub-clusters, Personal Skills are the highest gap for Complex Needs youth, followed by peer relationships. The Tables below show the data for youth and leaders. Figure 4.7 shows a comparison of the Individual sub-cluster between the 4-H and RRC data.

Table 4.5 Relationship of Self-Efficacy with Resilience Sub-scales

<table>
<thead>
<tr>
<th>CYRM Sub-Scales</th>
<th>Individual</th>
<th>Context</th>
<th>Caregiver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth</td>
<td>$r = .445$</td>
<td>$r = .230$</td>
<td>$r = .148$</td>
</tr>
<tr>
<td></td>
<td>$p = .002$</td>
<td>$p = .116$</td>
<td>$p = .315$</td>
</tr>
<tr>
<td>Youth &amp; Leaders</td>
<td>$r = .442$</td>
<td>$r = .308$</td>
<td>$r = .233$</td>
</tr>
<tr>
<td></td>
<td>$p = .000$</td>
<td>$p = .015$</td>
<td>$p = .069$</td>
</tr>
<tr>
<td>Leaders</td>
<td>$r = .271$</td>
<td>$r = .579$</td>
<td>$r = .602$</td>
</tr>
<tr>
<td></td>
<td>$p = .350$</td>
<td>$p = .030$</td>
<td>$p = .023$</td>
</tr>
</tbody>
</table>

$(n = 48$ youth; $n = 14$ leaders)

Table 4.6 Correlation of Self-Efficacy to CYRM Individual Sub-clusters

<table>
<thead>
<tr>
<th>Individual Sub-Clusters</th>
<th>Personal Skill</th>
<th>Social Skill</th>
<th>Peer Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youth</td>
<td>$r = .465$</td>
<td>$r = .347$</td>
<td>$r = .341$</td>
</tr>
<tr>
<td></td>
<td>$p = .001$</td>
<td>$p = .016$</td>
<td>$p = .018$</td>
</tr>
<tr>
<td>Youth &amp; Leaders</td>
<td>$r = .489$</td>
<td>$r = .316$</td>
<td>$r = .322$</td>
</tr>
<tr>
<td></td>
<td>$p = .000$</td>
<td>$p = .012$</td>
<td>$p = .011$</td>
</tr>
<tr>
<td>Leaders</td>
<td>$r = .590$</td>
<td>$r = .011$</td>
<td>$r = -.006$</td>
</tr>
<tr>
<td></td>
<td>$p = .026$</td>
<td>$p = .970$</td>
<td>$p = .984$</td>
</tr>
</tbody>
</table>

$(n = 48$ youth; $n = 14$ leaders)

Figure 4.7. Comparison of Member CYRM Individual Sub-cluster Score Profiles
A final item of interest related to the overall resilience and self-efficacy scores was the finding that they had a different relationship to the subjective survey question about felt importance of participation to members (‘Participation in 4-H is very important to me’). The question had a significant moderate correlation to the resilience CYRM score ($r = .408; p = .002$), but a lesser one to the self-efficacy score ($r = .294; p = .032$), despite the already noted strong correlation between CYRM and Self-Efficacy scores generally.

The implication is that participant awareness of deriving valued benefit, however tangible/intangible or conscious/unconscious, was a moderate reflection of resilience generally, but not so much of self-efficacy alone. It is important to note that the question was not related to how the participants felt or whether they liked the programme or had fun. The question was phrased around felt importance of the programme. The mean score for the survey question was 4.62/5 (92%; n = 52), with a skew to higher scores (-1.207; SE = 0.327) and low range (3). Clearly 4-H was very important for those who completed the survey.

**Summary.** In summary, the study population does appear to have noticeably higher levels of self-efficacy and of the seven protective factors for resilience than the comparison data. Compared to general population and even ‘low risk’ youth. There was no way to know from the survey whether the 4-H population included complex needs youth; however, the qualitative data suggest that some participants could be described as having complex needs. Additionally, the scoring profile of the study population appears to be normal, with expected correlations between the CYRM and Self-Efficacy Scales. There is no reason from the quantitative data to suspect a particularly unusual bias (e.g., data errors) that might have been problematic for the data, or that might not be representative of 4-H horse club members and leaders (at least for the overall study sample). While the small data set prohibits statements of statistical significance relative to the comparison populations, scores do appear to flag an unusually high level of resilience that was confirmed and further contextualized in the qualitative data. The quantitative data reflected on resilience, but did not yield information about either other life skill outcomes, or facilitative processes. Those emerged in the qualitative data.

### 4.3 Resilience Meanings in the 4-H Horse Context

This section describes how the seven protective factors for resilience (access to material resources, power and control, identity, relationships, cohesion, cultural adherence, social justice) and self-efficacy were reflected by participants. While use of the eight elements of resilience selected a-priori is a deductive movement toward the data, a key goal of the research was to understand their meaning for participants (rather than participant reflection of a
supposedly neutral meaning). The descriptions are nuanced by sub-themes generated by the participants. Member data are anonymised. Table 4.7 shows the eight resilience factors with the sub-themes that emerged.

Table 4.7 Resilience Factors and Sub-Themes from the Data

<table>
<thead>
<tr>
<th>Resilience Factor</th>
<th>Sub Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Resources</td>
<td>Facility and Equipment</td>
</tr>
<tr>
<td></td>
<td>Space for Active and Healthy Living</td>
</tr>
<tr>
<td></td>
<td>Access to Practical Help</td>
</tr>
<tr>
<td></td>
<td>Access to Education and Learning</td>
</tr>
<tr>
<td>Power and Control Identity</td>
<td>Safety, Respect, Choice, Empowerment</td>
</tr>
<tr>
<td>Relationships</td>
<td>Family : Origin and Adoption Mentoring: Proximal and Distal</td>
</tr>
<tr>
<td></td>
<td>Resourcing &amp; Learning: Community and Horses</td>
</tr>
<tr>
<td></td>
<td>Ecologically Connecting: Nature, Animals, Horses</td>
</tr>
<tr>
<td>Cohesion and Belonging</td>
<td>Team, Community, Country</td>
</tr>
<tr>
<td>Cultural Adherence</td>
<td>Appearance and Common Interest Values, Practices</td>
</tr>
<tr>
<td>Social Justice</td>
<td>Macro : Cultural Validation</td>
</tr>
<tr>
<td></td>
<td>Meso : Opportunity</td>
</tr>
<tr>
<td></td>
<td>Micro : Social, Physical and Neurodiversity</td>
</tr>
<tr>
<td>Self-Efficacy</td>
<td>Agency/Contribution, Competence</td>
</tr>
<tr>
<td></td>
<td>Confidence/Can-do, Perseverance</td>
</tr>
<tr>
<td></td>
<td>Problem Solving &amp; Critical Thinking</td>
</tr>
<tr>
<td></td>
<td>Leadership</td>
</tr>
</tbody>
</table>

4.3.1 Material resources. Participants articulated the 4-H experience as providing access to material resource in four key ways: the facility and material equipment required for the experience, space for active/healthy living, access to practical help, and education and learning.

Facility and equipment. Participation in 4-H includes access to a farm, animals and the various items required for conducting activities with animals such as personal transport (critical in a rural area), horse trailering, items for animal care and animal interaction, the animals themselves, and a space to do the activity. These are all material resources that persons not involved in the rural, farm or horse world, do not typically have access to. In contemporary 4-H horse clubs, participants are not expected to own their own land and horses. In this study, the population was nearly equally divided between those who did and did not own land or horses. Thus, both leaders and members noted the importance of the availability of the facility and of the horses to the club members. In some cases, horse-less horse clubs are run where participants who are keen on horses learn horse-related topics through hands-on activities, but still have no regular horses to be with. Only one of the study clubs did not offer
horse-loaning, but did offer community sharing of training location, ‘carpooling’ with horse trailers, and facilitated animal sharing between members when a member’s animal became unusable due to lameness. Most clubs facilitated equipment sharing and encouraged suitable ‘make-do’ clothing.

Some of the 4-H members couldn’t afford weekly riding lessons, and this is a way for them to get started safely. (L3, line 80)

It gives them that opportunity they wouldn't otherwise have at a lower financial burden to the parents than some of the other options in the equine industry. (L5, 29-30)

If you’re showing a mini and don’t have one, S’s mom will let you borrow one of theirs for the year and show. (C5 Y2, 160-163)

Figure 4.8 shows one member’s favourite boots for club nights. Their appearance is markedly different from the more polished expectations for equestrian sport facilities. They are old cowboy boots with cracks, temporarily repaired by duct tape.

![Youth member boots with duct tape](image)

Figure 4.8. Youth member boots with duct tape

A final aspect of material provision also involves the farm space as a location of access to other animal species and farm experiences, and to space for nurturing. Members and leaders mentioned snack provision, as well as space for informal youth ‘hanging out’ as an important feature of the 4-H experience. The value of having a space for connection through hanging out is captured in the photo of youth having a pyjama party (Figure 4.9). Figures 4.10, 4.11 and 4.12 illustrate opportunity through horse sharing, the importance of horses to a non-horse-owning member, and the other species accessed in the club spaces.

![Youth member enjoying social time: sleepover](image)

Figure 4.9. Youth member enjoying social time: sleepover
Space for active and healthy living. Another way that space was a resource was as a space for physical activity and healthy living (as distinct from space for 4-H activities specifically). Farm spaces are a form of green infrastructure. As a 4-H club, horse club is a hybrid straddling agriculture experience and leisure physical activity (sport). Participants contrasted the access to the physical space to move at club, with the limits of other aspects of life (non-farm participant’s living environment, school, work or home). During club observations, participants were active for a majority of the time: standing and physically moving around. The
value that youth placed on their 4-H experience as contributing to physical activity is captured in the following quotes by one female and one male member. 30

4-H is more FUN [sic] (than time at home with their horses)... it's more ACTIVE [sic] and it keeps you GOING [sic] (compared to school or indoor youth activities). 
(C5, Y6, 13-14)

I guess for animal (4-H) it's just more kinda hands on and like more laborious I guess, but it's like you're outside a lot and it's fun and like you're moving quite a bit....outside you get to run around and be kind of free and have fun....You're not cooped up inside all the time. (C5, Y1, 208-212)

Finally, with regard to material space provision for physical activity/ healthy living, club location as a location of female-attracting physical activity is important since mainstream trend is for less female engagement in physical activity (AHKC, 2014). While 4-H is not intended or marketed specifically to girls, the quantitative data has already shown that it nevertheless attracted girls. The activities can be experienced differently than other sports, but still include girls in physical movement and challenging, confidence-building tasks. Figure 4.13 shows 4-H as a physical movement opportunity for rural girls.

![Figure 4.13. Club members using farm space for physical activity wearing come-as-you-are clothing, with a variety of body-shapes and athletic skill](image)

In addition to specific identification with 4-H as their activity, participants also showed higher engagement in other physical activities than the general population. In contrast to broader data showing that less than 10% of the general population meets physical activity guidelines (PHAC, 2015), and that the numbers are worse for girls than for boys (Koezuka et al., 2006; PHAC, 2011), a majority of participants indicated consistent involvement in other physical activities for the health benefits, as well as enjoyment of the activity and the social connections that they brought. A minority of participants also engaged in competitive equestrian activities. The following graph shows other physical activity as the primary other activity practiced by horse club survey participants. A majority of interview participants also indicated recreational

30 Standing is considered more physically active than sitting, as evidenced by the promotion of use of standing desks and standing meetings to increase overall population physical activity. Standing burns more calories, places a higher demand on core muscles, and also includes frequent shifts of position. Time spent at club meetings standing and moving was significantly higher than sitting.
involvement (sometimes competitive) in other physical activities. Only a minority indicated additional involvement in equestrian activities other than 4-H. Figure 4.14 shows member involvement by activity type.

Figure 4.14. Member Involvement in Other Activities

**Access to practical help.** Faced with challenging tasks or new experiences, youth members experienced practical help from leaders, more senior members, direct peers and members of the community. Leaders experienced practical help from other leaders and from community members willing to partner with them in creating learning experiences for the youth, in ways additional to the provision of facility space, animals or equipment already discussed. Practical help as a material resource also extends outside the immediate 4-H context, through the relationships built with the community. Participants mentioned help with job references, sourcing summer jobs, and coping with parenthood. The following quote captures the value that members and leaders placed on access to practical help within 4-H, and for the other parts of life.

Yeah, (leader name) is the most dependable person you could ever count on. Like you could be gone from 4-H for 20 years and if you needed something she would be there in a second. (C3, A1, 239-241)

**Access to education and learning.** 4-H is explicitly an experiential learning programme, so it includes a wide variety of learning experiences and facilitative processes. As discussed in the literature review, access to meaningful education, considered a basic experience of all Canadians, is not so obvious for rural youth. In Ontario, the OMRA (2014) report notes the lower overall level of post-secondary education, and lack of training suitable for
rural economies, accessible within rural areas. In this context, 4-H as a material provision of learning and knowledge was important to participants.

Participants discussed access to knowledge and learning in several ways: learning about a desired leisure activity, self, life in general, practical skills for later vocational employment or adult responsibility, and learning-skills (how to learn and how to communicate). One example shared by a leader was a story about a youth member who developed agricultural entrepreneurial skills that were different from what his family or local education could offer him. He aged out of his 4-H programme having started a successful rabbit meat business that he used as his revenue source while going through college to learn more about business.

Other examples of practical education raised by youth members (notably, as a distinct and advantageous opportunity compared to regular school attendance or other youth clubs) included learning how to budget, how to sew and cook, exposure to tradespersons and apprentice-type learning opportunities (credited with helping secure summer and post-secondary employment), farm skills, and learning essay-writing skills (credited with facilitating later success at university). Learning experiences were highly valued as additional opportunities that would not have been available through the school or home environment. The sample leader and member quotes below reflect the value of these experiences for life outside of 4-H. Figure 4.16 shows items and a foal used in learning about biology, anatomy and life-cycle.

She decided she wanted to take non-traditional trades. She's going to be a trim carpenter...because she built herself a tack box. (L4, 387-399)

Like all growing up I thought oh my gosh I wanna be a vet cause I love animals ...but then we went to this meeting and you dissected a lamb...I don’t think that I would be able to operate on an animal like that and be able to go tell somebody this is what happened....I've researched it all and I can go to school to be an agricultural architect.....still in a field dealing with animals. (C4, Y3, 523-540)

It's just fun cause like in science when you do a lesson and the teacher uses an example about cars, and the boys are all over it because it's...something they like. But it's just like...having a unit more related to things I like. (C1, S, 97-130)
4.3.2 Power and control. Power and control as one of the distinct seven protective factors for resilience does overlap with other factors, such as self-efficacy and identity (as has been discussed). As a distinct concept, power and control were described by participants as inherently inter-relational in terms of safety (personal safety and learning how to consider safety of others), respect (for self and others), choice and empowerment. While power and control were not individualistic, they were tied to spheres of influence in a sense of personal boundaries, expression, and responsibility. Power and control were predominantly not expressed in terms of hierarchy or dominance.

Safety. Participants discussed safety at 4-H in several ways. A starting point for the discussion of safety was the basic necessity of learning the link between behaviour, self-control and practices around farms and animals, and personal safety. Safety also extended to the impact of one’s conduct on the safety of others, as well as expressions of the importance of 4-H ‘space’ as physically and emotionally safe for members. Leaders emphasized the importance of an environment where members could expect to feel safe, and be held accountable for safety. Members described learning about safety as an important feature of personal control in situations that can sometimes get out of control, or in that some factors are out of your control. Ability to control safety conditions was a separate item from the riskiness of activities. Participants described elements of inherent risk in working around animals, not with a view to eliminating the risk, but rather as an important element of learning and interest. The following quote reflects the link between personal safety, agency and respect for others.

Yes, you have to be careful and tell them 'no', but they learn to put their helmet on, and their gloves. [safety steps]….They all learn to wear their boots rather than their sandals, that's just part of the rules of safety…and we jump on them quite strongly that they are responsible for themselves. We make them think. It's just part of living on a farm. You think ahead….They all learn that you pick up a shovel if you see it knocked over because otherwise you might trip over it. (L4, 564-569)
**Respect.** Leaders and youth members emphasized the importance of respecting yourself and your own values. Respect was articulated as a type of mutual dignity. One male participant articulated respect more in traditional terms (taking off your cap, not talking back). He said "you have to be able to talk in front of people...polite, respectful, take yer hat off, don’t chew gum" (C5, Y4, 11-17). Most other participants described respect more generally for self, others and the animals as involving asserting yourself, in balance with respect for the other person.

As far as the family situation, we just deal with them who they are that day, we just love on them. That's all...accepting them, listening to them. That's all they ever want no matter what situation they're in. They just want somebody to not judge them, and feel comfortable and safe and whatever they have to go home to, if this is an environment that gives that to them every other week- great. (L7, 104-105)

I can be myself and people can accept that, even though not everybody else will. (C3, M2, 217-221)

We have the 4-H pledge for respect at the beginning of everything. I like it because it's a sign of respect and that you promise to try your hardest and not just quit. (C1, A1, 369-373)

**Choice.** Even very young members associated being in 4-H with choice: personal choice (preference, selection) and other choices within the group. Leaders and youth described joining and participation within 4-H as characterized by choice. Youth choose to join. Both leaders and youth placed high value on the availability of diverse experiences, opportunities and options (the freedom of choice). Members were encouraged to reflect on how choice within the club may extend to choices in life. The following quote illustrates member sense of choice, and leader observation of member choice and empowerment.

Me and my older sister we...decided we were going to find something that would take our minds off [mom with cancer]....Like, I didn't choose to live on a farm, but I did choose to come here. (C3, M2, 136-247)

They learn skills....that take them forward in the future. When you see a girl choose her horse and saddle over the boyfriend, you know you've won. That she's made her choices. She will go ahead and get her education. She will choose wisely. It's her choice...you know she'll go ahead....I hope we're showing them....to choose what you do want. Not what somebody else wants for you. I can't choose for you, but I can give you the tools to help you choose for yourself. (L4, 534-537, 556-558)

**Empowerment.** In addition to other choices mentioned above, empowerment as an aspect of power and control was described by participants as a power to choose wellbeing (i.e., self-care, positive trajectory). One member used the term power to, a notion that contrasts with a notion prevalent in equine-therapy literature of ‘control over’. Only one participant in the study ever referred to ‘controlling the horse’ as a source of empowerment. She said “the difference
that makes 4-H fun is you get to learn how to control [the horse]. It is more of an accomplishment than it is just doing something just for fun” (C2, M4, 110-129).

Notably, this participant was fairly new to 4-H. In contrast to the control language in the above quote, most participants did not talk about controlling the horse in uni-directional terms, even when they were talking about an intentional leadership moment where their goal was to engage the horse in completion of a task chosen by them. Most participants described encountering and accomplishing tasks with the horse in respectful, co-operative terms.

The relationship of mutual respect, in that the participant is able to assert their wishes and needs while learning to respect and accommodate the wishes and needs of the other, was empowering. The sense of how this empowerment was felt as an ability for self-care is captured in the following member quote (words in capitals indicate words that the member emphasized strongly).

When you nurture something and care for it, it first of all gives you a position of power because you have to take care of yourself in order to take care of something else. And you can't take care of something else if you're in pieces, so it teaches you...Power TO [sic] rather than power OVER [sic]...so it's IMPowering31 [sic] because you have to take care of yourself in order to take care of something else....You can like as a kid or as a teenager be learning to take care of something ELSE [sic]...it gives you the tools you need to take care [of yourself and others]...once you become an adult and there's sort of fewer people there taking care of YOU [sic], you've already to this toolbox because you know HOW [sic] to take care of something. (C3, B1, 79-104)

4.3.3 Identity. Identity is a resilience factor that strongly overlaps with relationship, belonging (group, culture) and self-efficacy through the attachment process (Cameron et al., 2007; Ungar, 2011; Lerner et al., 2012) discussed in the literature review. From a systems perspective, where the person and their environment interact, the individual does not exist separately from context, or from connection to that context. This does not mean that identity or even individual identity are lost. Since the above overlapping aspects are discussed in other sections, other aspects of identity that emerged are discussed here. They relate to identity as uniqueness reflected through choice and voice, sport identity, and being a girl. While the male members in the study might have related their 4-H experience to their maleness, they offered no such data, whereas the girls and women spoke about, and illustrated features of, the importance of identifying as a 4-H girl.

Participants reflected a strong sense of self, of confidence, and of self-acceptance. Given the high prevalence of body dissatisfaction and low self-esteem in female adolescents (Al

31 Word is intentionally left spelled as it was pronounced distinctly by participant as part of speaking style (distinctly with an i).
Sabbah et al., 2009; PHAC, 2011; CWF, 2017), and known influence (positive and negative) of peer group, cultural identification, and physical activity engagement on body-image and self-esteem (Paxton, Schutz, Wertheim & Muir, 1999; Jones, 2001; Burgess, Grogan, & Burwitz, 2006, Jewett et al., 2014), the confidence and physical comfort with their bodies reflected by the mostly female participants was remarkable.

**Choice and voice: uniqueness and diversity.** In terms of identity, choice and voice were part of participant descriptions of the uniqueness of self, as well as the accepted uniqueness of other. In the 4-H programme, intentional facilitation of self-awareness begins early where members are encouraged to express themselves on a topic they know best (themselves). One leader describes early introduction to a self-awareness exercise: “And self-awareness. It's called a 'me speech' and it's a page they can design any way they want, so that if anyone was looking at it they would learn about you” (L2, 45-47).

In addition to reference to one’s own tastes, preferences and views as an expression of self-awareness, participants described self-awareness of being part of a unique collective characterized by diversity: a unique person among unique people and species, all with different strengths and needs, approaches and sets of knowledge. One leader summarized: “it gives kids with different interests- it can bring them together…It helps the kids learn there's maybe not always one way….With horses there's such a variety, you can get such a variety with the kids.” (L9, 181-184)

**Shared ‘sport’ identity: “horse people” and “aggies”.** It is common to hear people identify themselves in terms of their favourite activities. In addition to statements such as “I’m a dancer”, or “I’m a boarder”, people communicate their identities through clothing, accessories, music choices, and through other choices that offer cues about their sense of self. In this study, in addition to recognizing their own and others’ uniqueness, participants also described themselves as having a shared identity as “horse people” or “aggies” (a vernacular term used self-descriptively by youth and students interested in agricultural/farm topics). This was common terminology amongst participants, rather than equestrian sport terminology, even when participants also engaged in equestrian sport outside of their participation in 4-H. According to participants, being a horse-person or aggie influenced friendship selection (common interest, proximity, time spent together), as well as verbal and visual statements about themselves.

Activity-related identity clothing for the 4-H members sometimes included the 4-H organizational brand (more in a sense of ‘I do 4-H’). More often, it consisted of clothing used for

---

32 Activity-related clothing is clothing signifying connection with the activity (e.g., running shoes), as opposed to clothing signifying identity with a group or club (e.g., a hockey team jersey worn by a fan, who does not actually play...
the activity or worn within rural culture. Members and leaders in the study specifically referred to the clothing that they wore as a marker of activity-identity. The following quotes refer to identity based on shared activity, and as reflected in appearance. Figure 4.16 depicts some identity-reflecting clothing items.

In high school you have a bigger spectrum of different people that peer pressure is greater. If you’re in 4-H, whether it’s bigger or smaller, they all have at least one common thing that they want to learn about horses, cattle or whatever. So you’re all on the same spectrum on stuff. So even when you go out to the other activities it’s all ag kids. (L10, 254-255)

Well friends in 4-H you have more people you relate to…if that friend has a farm n’ that, like they have beef n’ that and horses n’ that…you can get in with more people that have the same stuff as you do. (C5, Y6, 29-31)

Figure 4.16. Sport-identity clothing

**Being a confident girl.** In addition to identifying with their activity, participants expressed a particular sense of being a 4-H girl. Leaders referred to ways in that being a girl in mainstream culture involves certain mainstream social pressures that are not positive. In contrast, 4-H provided a way to be a different kind of girl: confident instead of boy-pleasing or a sex object. One leader illustrates this strength-based female identity in the following description of a member:

The deal we made...was that she would stay in school and go on to college, and we would keep the horse and she could ride it. She enters L in September. If you can interest a girl in a horse, over a boy, when she picks up her saddle and says 'I'll take the horse over you', she has won. The girl has won. She sets her priorities so that SHE matters, not everything the boy wants. And we’re from a society where you please the boys. (L4, 30-35)

If you ever talk to a girl, all girls are horse crazy. If you’re lucky you can keep it going until about 18 and get her into university. Anything but boys. And this is why we were so thrilled with this kid...She’s about to graduate in non-traditional trades...She decided on what she wanted to take and it's non-traditional trades. She's going to be a trim carpenter. (L4, 387-394)

They learn skills, confidence in themselves. These are skills that take them forward in the future. When you see a girl choose her horse and saddle over the boyfriend, you know you’ve won. That she’s made her choices. She will go ahead and get her education. (L4, 534-537)

hockey (communicating fan belonging, not personal adherence to hockey practice), or by a fan who plays but is seeking to communicate connection to the team).
While there was a sense of being a non-traditional girl (a girl who can use power tools, drive trucks, become an architect, do anything she sets her mind to), being a girl in 4-H did not exclude growing up to take on the adult options of becoming a parent. 4-H participation was understood by leaders and youth to empower girls to be strong, self-determining, confident people equipped for adult roles, including parenting, should they make those choices, and when they chose to. For the participants, they felt that 4-H equipped them to parent successfully, if they chose.

Dialogue:

P1: "You learn how to, like, care for others. (various agree: yeah, yeah). Whether it’s, like, for life skills...so (we) did pizza club or syrup baking...we just learned how to cook or basic....Like, learning how to cook for others, how to..."
P4: "One day have a family or something that you can take care of."
P1: "Yeah". (C4, P1, P4, 401-411)

Another feature of being a confident girl included a different self-expression and comfort-level in appearance. While performance in the 4-H competitions does involve attention to appearance, it is not an appearance based on contemporary culture body-image pressures for females. Figure 4.17 shows some clothing as functional, and gender neutral. Attention to appearance by participants was about self-confidence, with a focus on professionalism and demonstration of knowledge. Clothing is symbolic of internal ability and pride in self, not externally imposed aesthetic. Most photo submissions or descriptions of self that included observations about appearance, were about who the participant was with (horse and/or human), and/or what they were doing, and/or what values or accomplishments the photo represented.

Figure 4.17. Male and female members in competition clothing

Rather than reflecting a tom-boy identity, wearing work-wear and doing physically difficult manual labour tasks were reflected as a mark of being a confident, achieving girl. One leader articulated the freedom for 4-H girls from dominant culture image pressure:
To me, it's affected them in such a more positive way than what their school friends have. You know, with the school friends you've got the bullying, the girly stuff and all of that nit-picking. With the 4-H friends it doesn't matter if they've got make-up on, their hair done. You know they're supposed to be in rubber boots and barn clothes and things like that. It brings all those other....I just find that the 4-H takes out all those stereotypes and puts them on a level ground. The kids are allowed to be themselves. (L8, 30-39)

Members of the one club consisting of girls in their mid-teens (slightly older median age than the other clubs) inhabited their sense of identity as girls through clothing items normally associated with cowgirl culture, and other bold use of clothing. The girls identified very strongly with the cowgirl culture (Figure 4.18) emulated by leaders in their chosen activity (drill-team choreographed riding), and stood out as very physically confident and comfortable with their bodies and body-image. The importance to them of their visual self-expression through their clothing is illustrated by the following dialogue about the members’ successful efforts to initiate a new club leader into their culture.

Dialogue:
L1: "As you can see from the sparkle belts, the blue jeans and the boots, the bling."
L2: "All about the bling. It's all about the bling" (laughter erupts)
L1: "J (the other leader) had NO concept, no concept of the sparkle belts at all."
Y1: "You had to learn all about the bling!" (C4b, L1, L2, Y1, Y2, 343-357)

Even for 4-H you have to be there and like last year our dress code - you could probably call it that, what we were wearing was blue jeans, our sparkly belts that we all love. (C4b, Y3, 90)

Figure 4.18. Confident, Cowgirl Culture; Sparkle and Bling

The non-mainstream sub-cultural aesthetic was also an expression of owning a different sense of beauty. They had a different idea of beauty that they felt they were participating in. The best illustration of this theme was a photo (Figure 4.19) provided by one of the members who chose to have her prom photos taken with her horse. Her choice of footwear is unusual

33 The specifically referenced inspiration by the ‘Canadian Cowgirls’ drill team, referring me to Youtube videos in order to understand what they meant.
(compared to mainstream urban culture). The collage of her images includes one of her in a competitive pole-bending race. It reflects her merging of her aggie/sport/4-H identity with her femininity at a moment (prom dress photo shoot) that is often an important milestone for becoming a young woman, culturally. This collage groups the visuals that this participant shared to communicate her confidence in her sense of self.

**Figure 4.19. People relationships: most commonly cited reason for 4-H participation**

**Self.** Participants reflected a strong sense of self and comfort with what or who they perceived themselves to be, or with who they saw themselves becoming in life. Since this sense of self also overlaps with the sections on power and control (4.3.2) and identity (4.3.3), only a few additional comments are shared here. Participant confidence was linked to accomplishment, inclusion, strengths, self-esteem, and comfort level with the idea of selves (all selves, including animal selves) as having strengths and being on a growth journey, and with self (particular self) similarly described. The strong self is not to be confused with an egoic self, since members (youth and leaders) characteristically avoided boasting about self. When mentioning strengths or accomplishments, they were often framed as learning moments or in connection with gratitude to others for helping make it happen. One twelve-year-old member illustrated the healthy and confident sense of self by saying: “This photo represents flying birds and it also represents…one of the things I've learned is how to be…confident with myself and the people around me” (C3, Y1, 22-23). Figure 4.20 shows the image discussed in the quote, as well as another image submitted by an older participant also showing comfort with self and confidence.

**Figure 4.20. Member depictions of confident self**
**Friendship: youth, adults, horses.** Participants described a complex network or matrix of friendship experiences in and through 4-H, many of that were not primarily based on age/stage of life. Friendships were characterized by common interests, or as providing help and support. Friendships formed within 4-H participation were not necessarily limited to 4-H in space or time. Friendships were characterised as having wider and longer-term meaning for participants. The following member’s quote and image (Figure 4.21) illustrates the recurring importance of friendships for youth participants.

And then I have the last photo that is a chain of people….For me this represents the many friendships and the many great people that I have met in 4-H that have the same interests as me. (C3, M1, 28-37)

![Figure 4.21. Chain of people holding hands](image)

Friendships across generations were common. Since the 4-H programme is not age-segregated, club member ages spanned ranges sometimes as wide as 10-21 years, with additional, older youth attending as leaders in training or assistant leader volunteers. Youth participants discussed friendship with other youth of similar, younger or older ages, as well as with adult volunteer leaders, youth from other clubs and regions, and other adult community members. The following quote and photos (Figure 4.22) illustrate the commonality of friendship across age groups.

I have friends that are younger than me, friends that are older, you're what...so many years younger, but when J and I joined the group she was much older than I was. When I joined …there was a really wide spectrum…there are people who like the same things as you and they don't necessarily have to be your age. (C3, M2, 181-189)

![Figure 4.22. Friends of different ages](image)
Neither members nor leaders were friends with everyone they knew in 4-H. Personality differences or conflicts were sometimes present. However, participants indicated that those they knew through 4-H were some of the most important friendships, whether with younger or older persons. Importance of friendships was linked to shared interest (common love of horses/rurality), caring, support and fun, and was expressed both between youth, and between youth and leaders. The following member quotes capture these thoughts.

Like the older members, you usually get paired up with when you're a younger new member, so they'll kind of guide you when you're starting off….They're really there for you….You just kinda become friends. We all become friends as a big club….It's pretty cool. (C5, Y1, 142-170)

I mean we all have stories about the teacher that changed our lives, and I think that 4-H is a really good platform for the leaders to invest in the lives of their kids… First of all that consistency that they're with you for a long time is very important, and like when you invest in a kid like that, there is...they become friends. (C3, B1, 254-259)

A final significant finding about friendships was the participant description of the horses as friends. Horse relationships were discussed in interviews almost as much as people relationships. In the survey data, horses were the second most commonly selected item from a drop down list for the question about what members considered best about 4-H. The chart in Figure 4.23 shows the percent of members selecting the responses from the list of options (grey), compared with the overall frequency of mention including the data from the open-ended qualitative answers about their 4-H experience (red). In both cases, horses rank as second most important.

![Figure 4.23. Survey Results: top motivations for joining 4-H](image)

Commenting on the most important part of 4-H, one member chose to discuss human and horse relationships. Participants described similarities in relationality between human and horse relationships, expressed in interactional styles.
Probably the relationships…that you make with your friends, and probably your relationship with your animal too. So with horse 4-H you really learn a lot more about your horse, you learn a lot about how to work as a team. Like, I bought her last May and we started this in June, and it really built our relationship…it's kind of like having a best friend, that can't talk. (C4 P1 line 36-40)

Members discussed other animal species they were in contact with, but rarely positioned as friends. Only one participant discussed a non-horse animal (family dog) as a friend. She did not have any horses in her life at the time of the dog friendship. By contrast, the friendship with horses was a strong theme in the data, and considered very significant. Friendship with horses was discussed by youth who owned their own horse, as well as those who did not (used a borrowed club horse a few times a month). Horse friendship was referenced by members of all ages, as well as for typical and special needs members. The following quote by a non-horse owning member and images (Figures 4.24 and 4.25) depict the importance and intimacy of the horse relationship, regardless of horse ownership.

Ginger…if I called her in the field she would look up and slowly start to come toward me….We had this kind of bond, like the way the horse's hug, they kind of lean against you. She just had that sparkle in her eye like when she looked at me she had that sparkle in her eye and I could tell she was happy to see me….I love it that she loves me. (C1, S, 337-347)

Figure 4.24. The horse’s eye: window to the heart

Figure 4.25. Horse as best friend

Friendship with horses was viewed as a source of solace and courage, as well as a space for experiencing intimacy, loss, trust and partnership. When the relationship with horses was discussed, it was discussed with more emotion than even strong peer-to-peer friendships. Horse relationships were two-way relationships. In the horse-human relationship, horses were described as exercising agency, having personality, expressing need and emotion, and
occupying a role in negotiated partnership, mutual care and growth. One leader comments on a member’s empowering friendship with her borrowed horse: “So one girl is fairly shy in public….And she, just because she was riding her best friend (at a competition) and she knew that her horse knew the pattern, she had total confidence” (L8, 188-191).

While very detailed descriptions of friendship with horses were made by women and girls in the study, a male participant also made reference to the unique relationship between an individual horse and a person. This younger participant grappled for words to describe the difference between species characteristics, bonding, and individual personality differences based on time spent with the horse.

Dialogue:
Researcher: “So you mean horses have a certain way of communicating that's horsey?...Each horse might have its own little personality?”
Y6: “Yeah. Each of them do. Same with the cows. Even dogs have their own personality. Pretty much every animal has an own personality.”
(C5, Researcher, Y6, 136-148)

In the following two selections, a leader who was also a member parent comments on the friendship she observes between her daughter and her horse. The second quote is by the daughter at a different time and location, completely unaware of her mother’s previous comments. While these quotes provided richer detail than some, they were characteristic of the feelings and thoughts expressed about the horse-human friendship.

What they get out of being with their horses is, immeasurable. My oldest daughter had her first thoroughbred die on her and she slept for a year with that horse’s halter. It was her best friend…. She told that horse everything about her day: the crappy times the happy times, who was pissing her off, you know everything…She went out and cried it out with the horse. That was her best friend, and so when that horse died we really had to respect the fact that was her best friend that died. (L8, 59-71)

Dialogue:
Researcher: What would life be like without your horse?
M7: "Horrible. Horrible because my horse is my best friend and I don't know it would just be so plain and boring without a horse because like...people can be so annoying, or like not tell the truth or like say things that annoy you....to calm you down you could just go see your horse...cause you know, you have like a good relationship with your horse... when people are really mean you like you know you have a mane to cry into kind of like.”
(C3, Researcher and M7, 364-395)

Family: origin and adoption. Even though the survey responses graphed in Figure 4.26 show a very low prioritization of family as a motivator for joining 4-H or a feature of 4-H, family emerged in the interviews consistently and frequently as an important 4-H horse club relationship. The discrepancy between the data sets seems to be related to the nature of the survey questions that asked about reasons for joining, or best features about the 4-H horse
program. Responses tended to focus on 4-H club features. Also, regardless of family involvement, most members and leaders experience the member involvement as an independent choice as has previously been discussed.

Only one member interviewed stated that a main reason for involvement was to continue multi-generational family traditions. Even that member also indicated choosing a vocational direction that continued the family farm. He commented: "Well, it runs in the family. Grandpa always had a hitch of horses…so it’s kind of family culture" (C5, Y3, 71-72). Figure 4.27 depicts the often inter-generational family activity of competing in 4-horse hitch. Intergenerational support is necessary for this particular activity since it is so costly to own the horses, equipment and truck to ship them around in. The activities practiced by the other clubs were lighter on resources, and more members were involved who did not have horses or equipment of their own, or a family member also involved.

![Multi-generational family four-horse hitch at fair](image)

*Figure 4.26. Multi-generational family four-horse hitch at fair*

Youth participants occasionally mentioned their own parents, usually referring to them as an appreciated enabler to their participation.

**Dialogue:**
Y2: "And like our beef leader, every single time that we go to a meeting before we leave he always reminds us…"
Y1: "Thank your parents"
Y2: "Thank your parents or...every single meeting he says now on your way home, don't forget to thank whoever drove you here tonight."
Y1: "Yeah it is….But we wouldn't have gotten to do it without the people that we belong to." (C4, Y1, Y2, 916-927, 985)

In the interviews, respondents tended to either reflect an important family member connection in relation to their 4-H participation, or else refer to their club or leaders as surrogate or additional family. In reflecting on family as connected to 4-H participation, members described joining 4-H both as a self-determined choice that was sometimes separate from their family’s traditions, and as a choice empowered by family support. Both members and leaders discussed parental or sibling involvement. Members and leaders commented on surrogate
family aspects for both members with family 4-H involvement, and members who were in 4-H on their own. The following quotes reflect surrogate family roles as viewed by both members and leaders.

I'm going to give you an analogy, you're talking about lambs and foals and colts. You should talk about lambs. If a lamb is not mothered by its mother and it's bottle fed and raised, it does not know how to mother its next generation. And so I think when we're looking at this, we have an opportunity to mother some little critters...And we should do it right. We can show them or maybe just relieve (parents) of the pressure. (L4, 100-105)

Dialogue:
Y3:"I think we look forward to the people more than anything (several chime in affirmations) like, we didn't know J (one of the leaders) very well."
Y1: "But it's almost as if like not joking, another FAMILY. It's almost like drill team is a whole nother family, like we.... it's like a big happy family."
Y2: “We call them, we have mommy number 1, mommy number 2 and mommy number 3 (group laughing)"
Y1: "Yeah. You all know it!." (C4bc Y1, Y2, Y3, 37-43, 452-453)

I think, I've always said to the girls that you have so many other 'aunts' 'mothers' that look after you probably better than I would. (C4b, L1, 487-488)

People work together; it's a community and a family. It's more a family I guess. (C4, L2, 479)

In the following quote, a youth member blends the two prominent themes by referring simultaneously to the importance of 4-H involvement for her relationship with her sister, as well as an alternative supportive family experience when her family of origin was facing difficulty.

Me and my older sister we actually started together because my mom got really sick...so we decided we were going to find something that would take our minds off of her. It became our little competitive family outside the family thing. We're very close now. We started off two different ends of the spectrum. We're now very close knit, that I never expected to happen. (C3, M2, 136-140)

Most of the leaders interviewed expressed involvement in 4-H themselves as an opportunity to enhance their relationship with their own children that extended to a surrogate role in the community. The two leaders without children both expressed a desire to replicate an experience for other children that they had valued themselves as former members. Leaders with children (often now grown adults) expressed value in having extended opportunity to be engaged to a greater extent in their child’s life through their 4-H relationship. Figure 4.27 shows a leader-parent at a fair event where her club, including her daughter and niece, were participating.
Leaders also lamented a perceived lack of involvement of other parents in the community, expressing desire for more involvement by parents who dropped their children at the club and then left until it was time to pick them up. They viewed parent involvement as meaningful for the youth members, but also as a valuable opportunity for ongoing growth, development and community connection for the adult concerned.

We're not a baby-sitting service. If the parents actually took some time to interact with their children through the 4-H programme, they might gain more understanding of what their child is actually experiencing....there's always a space for parents to stick around and be part of it. I mean 4-H is an organization that can always use more volunteers, and that's the first step to getting the volunteers, where they...take on a more active role....I mean if we have parents there, we always try to give them a job that will include them in some way so that it's a learning experience for them as well. (L4, 392-408)

**Mentoring: proximal and more distant.** Participant discussion around virtual or surrogate/adoptive parenting discussed above was very close to the theme of mentoring. Club leaders viewed themselves in a clear mentorship role, not simply a coach or teacher for an activity of interest.

As a leader, I see kids that drop off because parents can't be bothered making it to enough meetings. Then I don't feel so bad. But when I see a kid that looked like she was trying and just seemed to maybe be in a hurting place, and I just didn't know how to reach her. That bothers me. (L7, 346-358)

While they were teachers as well (discussed in the next section), the role of mentor implied more of a role-modeling and life-helping/coaching aspect. Mentors care about the person and teach the person, sometimes via activities. Sometimes the mentors also taught techniques and skills within the club (such as when they were a club leader or visitor, teaching a skill). Besides the club leaders (perceived as mentors by themselves and by members), mentors could also be other volunteers, peers or people in the community.

Most but not all leaders saw their mentoring role as extending beyond the boundary of club meetings. Members also recognized club leaders as mentors, with some of those relationships primarily at club activities, and some extending into the members’ lives beyond the
4-H club context (either in other areas while the member was a member, or in other ways past the ending of membership). Sometimes the mentor role was contrasted with parenting, either in terms of responsibility, or in terms of opportunity for positive influence. One leader described her freedom to be goofy with members in a way she experienced as different from her own parental responsibilities. In her view, this freedom enabled her to be approachable and available for moments youth might need someone other than a parent to offer support. The following quotes show, respectively, a leader and member perspective on the leader’s role as a mentor in 4-H and in life.

I think it's my job as a leader at the bottom of the pyramid to make this experience as enjoyable and fulfilling for each kid while they're there….you need to say one good thing …'hey I noticed you did this good thing'. It's up to the leader to initiate that. We're not parents. We're there to give a good experience for that club meeting. (L7, 319-335)

K (the leader) is the most dependable person you could ever count on, like you could be gone from 4-H for 20 years, and if you needed something, she would be there in a second. (C3, A1, 242-245)

Both leaders and members further described mentorship relationships between older and younger members. Older members or leaders who had been members discussed the opportunity they experienced to develop leadership skills by mentoring younger members. Sometimes this mentorship involved helping teach technique. Usually it was framed more as being there as a resource person, especially for informal knowledge such as attitude toward learning, respect for others, and a lifestyle of work-ethic and helping others.

Some of the younger members also referenced these peer-to-peer mentoring relationships, describing them as an important part of their inclusion in the club and opportunity to learn. Leaders actively and intentionally facilitated these peer-to-peer older/younger helping relationships as a way to increase their support reach to members, facilitate friendships between age groups, and provide leadership skill development opportunities.

A lot of times I'll work into a buddy system. So an older kid …they can now help the younger kids and it takes a little bit of pressure off me ….And it gives the (older) kids a chance. (L9, 294-307)

Like the older members, you usually get paired up with when you're a younger new member, so they'll kind of guide you when you're starting off. So there's lots of help really…..They're really there for you….I was kind of shy at first but once you get to know them through the year it's kind of nice cause you can still go to them….It's pretty cool. (C5, Y1, 142-177)

Participants also had more distant mentoring relationships. Both leaders and youth discussed mentoring relationships with people they were in contact with more distantly, but who nevertheless were considered as mentors. An example for the leaders was other club leaders
with more experience who they experienced as resourceful and available at the other end of a phone or email if need arose. Both members and leaders referenced other adults in the community who were considered to be in a mentoring position because of their role as a resource to the club and its members. Visiting subject experts were frequently discussed as being a source of mentoring relationship beyond the session they came to help with, and not just a provider of technical knowledge for a brief visit. Having a wider support network was experienced as empowering.

The people are a huge part of it....the people cause you meet…they all can teach you something to improve yourself as whether it be a rider or a different person…that can help you in all areas of your life. (C4, P7, 373-384)

**Teaching relationships: people and horses.** Participants identified teacher-learner relationships as important, and as distinct from mentorship relationships. Participants experienced important teacher-learner relationships with peers, members of the wider community, and horses. Club leaders routinely invite specialists or practitioners from the community in to teach during the learning portion of the meeting. They also typically organize at least a couple of club outings in the season specifically to bring youth together with other adults for learning. The following quotes illustrate a typical intra-club (peer, leader teachers) and extra-club (community adult) teaching relationship.

I find that I also learned, well, some people around me or the people who are in 4-H, some of them know more things than me and they teach me in a different way I find. So leaders teach you, well most of the time...but they teach you...but my friends who are in 4-H will teach me the other, like...how to feel confident in myself and stuff like that. (C3, M1, 65-76)

You can learn something from every person, like clinics, there's certain things that stick with you all the way. And like some of those things we've learned we woulda never, like for them just to volunteer their time to teach us... Every person you meet, changes you whether a little bit or a lot. (C4b, Y3, 905-915)

The teaching/learning relationship connections were not unidirectional (more experienced to less experienced person). The roles were frequently reversed where a less experienced person, or a horse was in the teaching role. Placing the less experienced person and the horse in teaching roles was intentional on the part of leaders, and valued by both leaders and members. In the case of the horse as a teacher, the teaching relationship was somewhat separate from the friendship discussed earlier just as it was for human friend relationships. The quotes below capture the experience of role-reversed teaching. The photo below (Figure 4.28) was submitted by the member quoted below to illustrate her conversation about how Ginger, a borrowed club horse, had taught her in 4-H.
Sometimes I make the younger kids teach the older kids something. It's not just a one way street. (L9, 357-410)

A horse....They're great teachers....so if you're nervous your horse is going to be nervous...So they learn.... 'I better try and calm myself down'.(L6, 338-340)

It teaches you a lot of patience because a lot of the horses that W gives us to work on are older, and stubborn. It teaches me a lot of patience. (C1, S, 116)

Figure 4.28. S’s photo with Ginger her miniature horse teacher

Ecologically connecting: nature, animals, horses. As has been discussed in the literature review, the farm as a Green space (nature, green capitalized in reference to Green Care) is not a popularly common notion in North America. However, it is widely understood in North America that youth experience of the plant growth cycle and animal life cycle through activities such as school gardening, raising chicks in the classroom, 4-H and other experiential learning increases ecological awareness and appreciation (Wall & Marsh, 1982; Louv, 2006).

In addition to the more interactive relationship types just discussed, participants also reflected on relationship to nature. The points of connection with nature included flora (growing systems, ecosystem supporting human and other species life), awareness of nature aspects of environment, and positive connectivity with animals, including horses specifically. The farm was experienced by participants as a point of connection for relating to nature, either in the form of animals or Green/ ecological/environmental aspects.

Youth participants who lived rurally most commonly volunteered comments about the animals encountered on the farm, rather than the farm as green-space. Those who did not live rurally tended to more consciously appreciate the farm as a nature (green) space. Appreciation for the outdoor aspect of the experience was shared, regardless of whether the youth actually resided in rural or urban areas. While most of the youth commented on the farm space only if asked, several of the leaders volunteered comments about the farm as an outdoor or nature-connected space. The farm as a green location is illustrated in Figure 4.29.
Expressions of the farm experience as connection to the outdoor (nature) space varied in sophistication by age and education of the participant. As one participant stated: “You're outside a lot and it's fun and like you're moving quite a bit....you get to run around and be kind of free and have fun, I guess. You're not cooped up inside all the time” (C5, Y1, 209-212).

Younger members made simpler statements about the value of the farm as an outdoor space, encounter with animals, or learning the life-cycle. The following quote is a more sophisticated explanation by an older member of the nature connection on the farm, in contrast to her urban living conditions. ‘Getting dirty’ as a concrete metaphor for physical contact with nature was mentioned by some leaders as well as youth.

So now I live in the city and I hate it. And one of the big things that brought me back to 4-H was the chance to get away from the concrete...As a human being it's really great for us to get away from concrete for a little while and be out where there is space...I believe in nature as a wholesome, life-giving element that is important for a human being and I mean you know the way the leaves breath is something we can connect to so like on a physical level, we are part of nature and it's very important for us to be there. I mean there's something very unyielding about concrete and glass...Whereas nature is so giving and forgiving even just sort of like in a tactile way you're running on dirt instead of concrete and there's more give to that. So I think that sort of on every level...being out in the green-space being out in the country, being away from the city and the concrete and the glass is always going to be beneficial....I don't know the science of it but I believe that being like getting out and getting dirty is good for you... like I'm happy to come out and get dirty because I don't get to any other day of the week. (C3, B1, 17-65)

Youth members who lacked animal connection in their home environment were more likely to comment on the general exposure to animals as a special opportunity than those who lived on farms with multiple animals. Participants connected to animals generally, not just horses. The importance of these connections for participants is reflected in the photo in Figure 4.30.
The value of the farm as a space of nature encountered through animals is highlighted by the following quote by a leader, commenting on the value of her farm club in its urban-adjacent location.

The shift in demographic….That's typically who is coming into the club now. Most of the members may have a dog or a cat or no pets at all. It's very common in this area here coming out of the urban development. Families come to just visit the DOGS [sic]. A lot of Asian and East Indian families, but all families are the same in terms of children wanting to see animals. (L2, 76-80)

The opportunity to be with horses was valued for its own sake and as a nature experience, both by members who felt comfortable with horses, and by those who experienced the encounter as unfamiliar, intimidating or challenging. Figure 4.31 depicts the horse encounter as an opportunity to experience natural life-cycle.

4.3.4 Cohesion and belonging: team, community, country. Although cohesion and belonging do have a conceptual overlap with some of the sections previously discussed, such as culture and relationships, it is a separate resilience factor. The definition of cohesion shared in the literature review (Section 2.2.1, Resilience definition) was: “Balancing one’s personal interests with a sense of responsibility to the greater good; feeling a part of something larger than one’s self socially and spiritually” (Ungar et al., 2007, p.295).
Expressions of cohesion and belonging were strong. This section focuses on three expressions of cohesion and belonging: team, community, and country. The 4-H pledge recited at most meetings reminds leaders and members that their learning and development is not only for their own wellbeing, but also connects them to ‘club, community and country’.

**Team: people and horses.** A strong belonging theme that participants described was ‘team’. Belonging to a team involved connections that could span ages, roles and species. For example, youth expressed ‘team’ in reference to leaders, parents, other community members and themselves working together. Leaders tended to reference youth working relationships when they discussed ‘team’. The most common team sub-themes were the club members as one team, and the team formed between a member and their horse. The importance of teamwork was expressed strongly in the interviews and image elicitation, even though it did not appear in the survey (teamwork was not asked about, nor did the few open-ended questions lend themselves to generating comments about teamwork).

Members and leaders actively sought to contribute to a sense of team belonging. Team belonging was not articulated as a status, but as an active participation that included responsibility to support one another, collaborate, and try one’s best for the other as well as self.

My goal for the kids of our club is to work at things as a team. It doesn’t really matter who wins the showmanship. If everyone semi-does the pattern and no-one gets hurt- it’s a good day. And you know, cheer on the person that’s having a hard time. And they do. They actually do. (L10, 316-318)

Figures 4.32 and 4.33 depict some of the outward expressions of team such as matching clothing, and club name, and active teamwork between members, and between members and their horses.

*Figure 4.32. Team shirts at a public presentation*
Although the drill team club participated in a horse activity with obvious parallels to team sports, the sense of team was also strongly reflected in clubs where skill presentation or competition could be considered an ‘individual sport’ by common categorizations (one person with one animal before the judge). The 4-H participants did not experience participating in competitions others might regard as individual sport that way. They experienced it as a team activity. The following photo (Figure 4.34), and quotes by a member and a leader show the shared perspective of teamwork, even in competition as an individual. In the quote she attributes credit for the work to the club, not herself alone, despite competing as an individual.

My name is S, and I'm 13…These pictures are from the A Fair last year. This is me and Ginger. We're in the colour class…and they look for the ones that are clean I guess… I mean her coat was clean, like her spots were shining (participant smiling)….We did a good job cleaning her. (C1, S, 18-21)

And don't kid yourself, these kids when they get in the show ring they're there for blood, and they compete well. But they help each other.....as they mature the kids accept the responsibility of working together and working with and for others. (L4, 517-529)

The sense of team (with humans and horse) experienced by participants in 4-H horse club was sometimes contrasted with other situations commonly associated with team, such as more urban mainstream sports. Participants described their 4-H experience as real teamwork, in contrast to other ‘team’ activities that they had experienced (e.g., soccer), and which they considered lower in team feeling. The following are quotes capturing youth members’ sense of teamwork as commitment to team-mates (human and horse).
So we just met…but you feel like you're so a team…..Well in soccer you're worrying about yourself…but in drill team you have…a lot more responsibility.  
(C4, P1, 75-87)
You can’t just ditch it. Like for soccer if you sign up one year, you don't have to the next year. You have this horse for a long time. (C4, P4, 714-717)

Community belonging. Mentoring and resourcing relationships that connect participants to a wider community have already been discussed in the previous section. From the point of view of cohesion and belonging, references to community pooling of resources to make activities happen also conveyed a sense of community. Participants described a sense of community connection in relationship to getting to know more people, employment and volunteer involvement. Leaders and youth described participating in other community organized activity (i.e., religion, sport, culture, events), often as an outcome of their participation in 4-H. It was common for leaders to also be volunteer leaders in other organizations such as Scouts, Cadets, Church or various agri-related committees and Boards. Connection with the community was highly valued and consciously appreciated as supportive to present or future life goals. The following leader quote illustrates the sense of community commitment expressed by leaders and members of all ages.

Most of the kids I've seen in 4-H are very involved in their community. If you take a look at the leaders who are there now, most of them are through 4-H …They learned to…feel committed back to their community, and they're very involved. It just becomes part of your living.  (L4, 580-592)

Participation in community was a close cousin to a sense of citizenship or duty to country. One leader said: “You take what you’ve learned from 4-H and you take it into life….Service to others” (L4, 251-254).

Country belonging: citizenship starts here. As has been mentioned, the 4-H pledge (Figure 4.35) recited out loud at every meeting pledges the member to club, community and country. As has been discussed, the perspective reflected by member and leader participants was characterized by a sense of contribution to country via local civic engagement. In addition to having meaning for civic engagement already discussed, citizenship also had a meaning for belonging to something greater. In this way it reflected the definition of belonging as a resilience factor as “responsibility to the greater good; feeling a part of something larger” (Ungar et al., 2007, p.295).

In the study, participants reflected a sense of understanding of personal place in a bigger picture where one is benefitted by belonging, and has a duty toward the benefit of the whole. Leaders and members of all ages spoke proudly about their country and responsibilities to a wider society inherent in belonging to it.
Being Canadian (belonging) (Figure 4.36) for 4-H participants was not about a sense of homogenous national identity. For them, belonging to Canada meant being inherently linked together with others across diversity. When they spoke about Canada, they spoke about inter-provincial, regional, inter-club and other cultural differences, including the place of their own rural cultural difference in that mosaic. For example, some participants described cultural differences between 4-H club cultures based on the different animals that they worked with, or different experiences with farming. Others highlighted cultural differences encountered at inter-regional meets, or through inter-Provincial exchanges.

Participants described a strong sense of belonging to a distinct Canadian rural subculture. Although rurality has already been discussed as part of the earlier demographic description of participants, it was part of that description because it emerged as the main meaning for participants of the resilience category ‘cultural adherence’. This factor was defined as “adherence to one’s local and/or global cultural practices, values and beliefs” (Ungar et al., 2007, p.295). Specific relevant features of their sense of culture were: appearance and interest, values and practices.

Participants from the youngest youth members to the oldest leaders discussed this cultural identity. Sometimes comments were direct. Sometimes the participant described cultural difference as background information to their main story. Participant cultural discourse was about a sense of difference and shared values in that they emphasized what they shared, who they shared it with, how they shared, and where.
Appearance and common interest. As discussed in previous sections (4.1.1, 4.3.3, 4.3.5), cultural features of appearance that might be mistakenly identified as merely backwards (to contemporary urban culture) often carries stigma (Didkowsky, 2016). For this reason, rural residents often change clothing to go off farm (even if clothing is not soiled by chores). As has been mentioned, youth participants expressed appreciation for 4-H as a space where they not only shared a common activity, but were also free to be open about their lifestyle in their appearance. The cap below has an embedded fishing hook. The girl on the left has chosen a cowgirl outfit (Figure 4.37). Appearance not only reflected cultural identity (surface). It also reflected deeper and different values.

Figure 4.37. Cultural pride clothing

Values. Most leaders interviewed indicated cultural values as an important feature and motivator for their own involvement. Work ethic, personal responsibility, sportsmanship (supportiveness to others), and resilience (perseverance, bounce-back, stick-with-it) were values expressed across the interviews and age range. Participants also expressed this cluster of values interchangeably as rural, farm or 4-H values, supported by their 4-H participation. These values were expressed by one leader: “Because of the country atmosphere or farm atmosphere. Knowing what values and morals that will instill in those young people” (L5, 377-379). In the other quotes selected, the context of the conversation involved an explanation of the importance of working hard, taking responsibility, and persevering. In the two youth examples, personal effort is contrasted with those who attempt to buy their way to success instead.

This girl with a $10,000 mini horse, and supposedly perfectly trained, and my horse beat this horse….it really depends on attitude and what you make of it because instead of watching Netflix…you could be outside training your horse. (C1, S, 599-608)

Some kids'll show up to an achievement, they like say if you were going to make a cake, and say they'll go out to the Superstore, they'll buy a cake…. You gotta keep going. That's one thing that 4-H really teaches you… like you have to roll around it [meaning the colloquial expression ‘let it roll over you’ – don’t let it bother you]. (C4B, Y2, 649-667)
At the same time accept responsibility and try. Work ethic every time. As long as a kid or anyone has a work ethic we can teach them to do something. The work ethic is not found just anywhere. (L4, 478-479)

**Practices.** A cultural aspect connected to values included *practices*. As discussed in the previous section on identity, at least part of participants’ sense of culture appeared to be directly related to sharing a value of prioritizing things that are different from the dominant culture. Some of these practices were more private, such as a lifestyle including an after-school routine with barn chores contrasted with classmates with more urban after-school patterns. Some practices were more external, such as participation in specific activities that are less common in mainstream culture (Figure 4.38) illustrated by the following quote.

So at the end of the year we…do apple dunking and the kids LOVE [sic] it....We also have a fun night…when they present their projects…. And then we'll do a campfire and roast wiener and have some games or we'll go on a trail ride, or we'll take them to the Royal [Royal Winter Agricultural Fair]….They can shop, they watch the rodeo and that's what they want to do. (L6, 505-521)

![Figure 4.38. Cultural recreational activities outside of regular club time](image)

Fairs, mentioned in many quotes and examples to this point, were a kind of high point of their year. Fall Fairs (Figure 4.39) were looked forward to all year, past fairs were frequently referenced, and it was an experience shared by nearly all participants. In Canada, many 4-H clubs use the fair as their end-of-season opportunity to showcase their learning and skills. Participants in more remote clubs or clubs that could not access enough animals or animal transport to take the club to the fair, held smaller scale fair-like events of their own, such as the one described above.
4.3.6 Social justice. In the Liebenberg and Ungar (2008) framework of protective factors for resilience, social justice is about a sense of exercising rights, being respected, having voice and being included. In therapeutic recreation, social justice focuses on alleviating barriers to participation in a full and meaningful life, that includes the right to recreation affirmed by the World Health Organization (WHO), encountered by those with physical, socio-emotional, and neurodiversity (Kunstler & Stavola Daly, 2010). In TR, this process empowers the participant, and is inherently co-operative (Serrano & Pons, 2014) and dialogical (Westoby & Dowling, 2013; Errington, 2015; Natland, 2015).

Participants in this study reflected a world-view in that all persons, regardless of age, ability or specialized knowledge, have valuable knowledge and skills to contribute (including leadership skills), and dignity, and are part of the conversation. This view extended outside the human species. 4-H Ontario uses a bottom-up leadership framework in that regional coordinators (staff members of the organization) are resource people, there to support the efforts of the club leaders (not direct them). Hierarchically, they are at the top of an organizational chart. In practice, they consider themselves as a foundation for the leaders and members. Club leaders are referred to by the organization as volunteers. I was persistently corrected for referring to the adult club leaders as club leaders by staff. However, within the interviews, members and youth referred to club leaders as leaders. Leaders occasionally referred to senior youth as leaders.

Several quotes in several sections shared previously show the adult leaders relying on the horses to be co-teachers and friends of the youth, and the youth privileging the animal’s preferences. The club leaders saw themselves as adults with resources available to them (knowledge, farm, animals) that the youth did not have. Their goal was to make what they had and who they were available to help others, so that they could become who they could be. The
best quote that captures the view of leadership as empowering others is this one (already shared) in that a member said that it is "power TO [sic] rather than power OVER [sic]. So it's IMpowering [sic]" (C3, B1, 79-80).34

Leadership as a responsibility that empowers others rather than a power over others is closely related to the approach common in OEL. In OEL, there may at times be a visible one or few at the head of the line, but power and leadership are shared in a mutually beneficial, turn-taking structure. In the OEL framework, being an effective follower when it’s one’s turn to do so, is a form of leadership (Martin et al., 2006). The same features were reflected in the 4-H participant discourse on leadership.

As has been referenced in other sections, youth members described 4-H horse club as a space that supported larger group identity (rural), and was internally facilitative of fairness, respect, voice, and choice. An additionally empowering feature was that it was also inclusive of physical, socio-economic and psycho-emotional difference. Social justice as inclusion appeared in three of Bronfenbrenner’s system layers: validation at the cultural level (macro), opportunity at the inter-club structural level (meso), and social, physical and neurodiversity at the intra club level (micro).

**Macro meaning: cultural validation.** As discussed in previous sections, a macro-level social justice concern relevant to this context related to a sense of marginalization in an urban-normative larger cultural landscape. Although participants were not isolated from the urban-normative culture, they still identified with a rural culture they experienced as marginalised.

While marginalization and victimization often overlap, the data shared to this point clearly show that participants did not identify as victims. Nevertheless, they did frequently discuss ways in that they had to negotiate obstacles to being understood and accepted. Many quotes in that participants discussed the need for friendships and community support through 4-H that they could not find in the broader culture have been shared. Finally, the promotion of civic awareness, which has already been discussed, contributes feelings of being a valuable part of a bigger picture, and knowing how to engage in it.

**Meso meaning: inter-club opportunity.** At a meso-level of social structure, 4-H horse clubs exist within the broader 4-H structure. In that context, they offer an activity that straddles agriculture, nature-based leisure recreation and sport. For many of the participants, horse club was the doorway that allowed them into 4-H, even though they did not come from farm families or have an initial interest in agriculture. The availability of an activity option they were interested in opens the door to participation in a youth development system.

---

34 Word emphasis and pronunciation were the participant’s.
[The best parts about 4-H] is probably getting to know all the new people (dog barks) and getting to learn all the different stuff….there was a sheep milking farm…. like we have vets and stuff …. Yeah, I like to do different clubs too. Like they’re all kinda joined under the (regional) club, so we have like our open meetings. We all go. We get new experiences basically…. outside of 4-H you wouldn’t get the same opportunities…. Most people don’t like strangers on their farm, but with 4-H…so you get [kind of back door access]. (C5, Y1, 37-136)

A minority of leaders expressed a lack of social justice at this level. Since horse activities do not enjoy the same support (funding, large events) as some of the other animal clubs, some leaders expressed a sense of lack of fairness and desire for greater support for horse activities and horse club members. As one leader said: “I wish there was something for our kids that was more like that. You know the dairy guys get it. They go to the Royal and we don’t have that for horses. You learn so much just participating in those events” (L6, 555-558).

Most participants generally expressed inclusion in the local community and 4-H culture through the horse club. For example, they could be full participants in Fairs, because Fairs had horse events. Fairs and other culturally important assembling events brought members with different interests into contact with one another and with the wider community on an equal basis.

**Micro meaning: intra-club social, physical and neurodiversity.** The 4-H horse club environment fosters respect for knowledge, and learning from others regardless of whether they are older or younger than ones’ self. These aspects have been reviewed in previous sections. Social, physical and neurodiversity were another important theme that emerged at the club level. Both observation and interview data revealed a consistent presence of club members from different socio-economic strata, and with a diversity of physical and mental conditions different from neuro-typical, able youth members. There was evidence in the qualitative data of members in foster care and living in lone-parent families, and members with physical or learning disabilities. Specific examples were disability from an accident, and congenital disabilities and conditions such as cerebral palsy, autism, ADHD, dyslexia, learning disability, and cleft palate. This type of inclusion makes the horse clubs stand out as atypical of normative community physical recreation, sport programming, OEL or equestrian sport.

No photos showing people with disabilities or identifying family situation or mental capacity are shared in this section. No photos of people with obviously physical disabilities were contributed to the study. Members did not point out other youth members with deficits, as has been mentioned. Reference to diversity is most often made either by a leader if interviewed out of earshot of any youth, and by members when referring to their own needs. For example, one member with ADHD self-identified the need to be active. During the youth interviews, it was
obvious that there was a diversity of learning styles, learning abilities, intelligences, attention capacities, and other cognitive processing skills. Since the members were interviewed mostly in groups or at least within earshot of other members, most of the data on social, physical and neurodiversity within clubs came from leader interviews. Leaders commented on their current horse club, as well as past years. Since some had been leading for decades, they had a lot of experience with many members, as well as a longitudinal view.

All leaders interviewed talked about inclusion of diverse needs. It was clear that they valued these members’ participation. It was characteristic of the leaders to describe the challenges faced by the member, rather than the “deficits” of the member. Since 4-H is a positive youth development organization, evidence of developmental support for youth would have hopefully been present. However, there was no a priori expectation that 4-H horse clubs would have been locations of therapeutic recreation for a-typical needs so consistently. The stories shared by each leader are quite moving, and evidence for 4-H horse clubs as a location of therapeutic recreation, in addition to other outcomes. One story, shared below, typifies attitudes and patterns of inclusion, as well as outcomes. All ten (one from each leader interview) are shared in Appendix G. They depict empowering experiences for members with learning, attention, behavioural, cognitive, physical, emotional, social and economic difficulties.

We had one young lad who had a handicap and there’s no way we could get him on a horse, the horse would have been uncomfortable. And the boy who wasn’t able to get up- he was in a terrible car accident, we noticed that he brushed the horse. He built his confidence brushing the horse….He learned to brush the horses and get them tacked up. And he was able to drive. The day that he drove he cheered and all the other kids cheered with him. It was a good experience…he brought himself slowly forward and all the other kids worked with him. Nobody isolated him….And his speech is better and his walking is improved. You tell me what it is, but it all happened about the same time. It’s just that he matured all of a sudden, or that he gained confidence and did it. But he was so happy. His speech at the start was really difficult, but you could hear him laughing and trying to tell everybody how much fun he was having….therapeutic. No fees, just us….I think we need to do more at the ground level with our kids that are just…at the bottom levels….They’re not all going to be Eagle Scouts, ok. They’re going to be an awful lot of the foot people, the ground people….These are the foundations and this is where we should be putting our energy and our dollars. (L4, 188-504)

Four key factors contributing to successful inclusion of these members appeared to be: the initiative of leaders in making accommodations and creating an environment of acceptance (to be discussed in Chapter 5); the fact that an animal-rich environment already accommodates diversity; and the variety of activity types possible with horses (referenced in the club descriptions at the end of the Methodology chapter). From the point of view of participants,
learning to accept difference and communicate across animal species vs. human differences, are points on a spectrum of skill for accepting and working with differences. Also, the horses themselves are attractive to participants, and appear to adjust their behaviour to accommodate a wide range of human behaviours, capacities, emotional needs and appearances.

4.3.7 Self-efficacy. The study participants have shown themselves clearly to be persons in relational and cultural context, who perceive themselves as being surrounded by supports and tools for personal effectiveness. The high self-efficacy Scale scores (Section 4.2) were supported by many excerpts and examples already referenced, that showed that participants perceive themselves as efficacious. No participant in this study said that they had high perceived self-efficacy, or used that term at all. However, most participants (youth and leaders) gave examples of agency or described themselves or their experience using agentic cues. No participants gave evidence of perceiving themselves to have no or little agency, control or influence in their world. Even members who were very shy or had possible emotional/behavioural/developmental issues contributing to the shyness in the interviews, still demonstrated courage, accomplishment and a sense of self-determination. It is possible that members and leaders with a low sense of self-efficacy were less likely to respond to the survey or participate in an interview.

For example, many leaders were entrepreneurs or socialpreneurs. Most of them had decided to join 4-H as a leadership decision to solve social and developmental needs in their families and surrounding communities. Most of them were also involved in leadership capacities in their communities, as already discussed. Most leaders discussed how they took initiative in their own personal lives, often as a result of learning to be a leader through 4-H. In this excerpt, a leader illustrates a typical pattern that leaders had of pro-actively reaching out to people, organizations, or other resources in an effort to support the youth members.

Well, we have really good leadership at (county level). They've really put themselves out there to say hey if you need anything call us.....So I think you just have to ask....I'm drawing from other resources like in the horse industry for the club....There is a membership that I still belong to.....So I just draw upon those resources (L7, 79-83)

The 'you just have to ask' approach described above was also strongly present among the youth participants. Youth members not only spoke about confidence and other clues, but also demonstrated it in the research process such as eye-to-eye contact with me, and an expectation that they could influence the interview (interviewing with me in groups or pairs as comfortable, submitting photos as asked, or substituting items or drawings). One leader quote
below uses typical language to describe how the youth were observed acquiring and expressing self-efficacy.

A lot of confidence and independence. The ability to think outside the box sometimes. And a lot of problem solving skills as well...And it's something you can only hope that's instilled in them in 4-H will carry through into adulthood.

The first thing that comes to mind is intestinal fortitude. 4-H members are given life skills...they carry them through different situations as they go through life: confidence, communication skills, the ability to problem solve, judge, I could go on and on. They're learning ...how to make good choices. (L5, 126-127, 497-498)

Some examples of participant self-efficacy additional to those already shared in previous sections are agency/contribution, competence, confidence/can-do attitude, perseverance, problem-solving, and leadership. Participants discussed self-efficacy as leadership with both other humans and horses. Most of the time, collaborative leadership styles were reflected. Occasionally, accounts of leadership of the horse referenced a more authoritative leadership style. Participants also reflected on self-leadership (self-governance, self-determination, taking the high road). This aspect is discussed more in the following section on other life skills. The following youth quote is an example of how youth described the meaning of self-efficacy in their actions within the club, as well as the rest of life. The quote shows resourcefulness, agency, a sense of support available, and a resulting sense of responsibility and independence.

You have to do a budget and you have to figure out how much it costs to take care of a miniature horse for a year. We went to like (the horse supply store) and...it felt kind of like a shopping trip except that I wasn't actually buying anything.....I asked the (store clerk) if she could help me a little bit....I was nervous.....Whenever mom makes me order my own food at restaurants, I used to be like mumbling really quiet but I've gotten used to it now.....so I've gotten better at that. I still feel a lot more responsible when I'm able to do that. I don't feel as much as a kid. I feel more like a teenager that I'm able to be responsible with that. (C1, S, 97-158)

4.4 Other Youth Development Outcomes

In addition to experiencing the protective factors of resilience, participants also experienced a range of other life skill outcomes, many of that are also transferrable to life outside of 4-H. Members and leaders did not discuss resilience consciously. I did not use the word “resilience” or the term “protective factors” during the interviews, and they were not in the survey other than in the name of the research project (‘resilience research project’).

Participants were asked what they valued and appreciated in 4-H, and what they thought they learned in 4-H that helped them with other areas of life. Even quite young participants found their own ways of expressing their awareness of life skill outcomes. Many have already been
referred to in previous sections. It was sometimes confusing in the research process to use the term ‘life skill’ in the interviews, because of the terminology. Many leaders and youth had experience with 4-H clubs called “life skills” clubs: a specific name for a club about teaching practical domestic skills for living that many children do not get taught at home, such as cooking and sewing on a button or hemming clothing. When I asked about life skills, I often had to define it as ‘soft skills that help you in life, not sewing, cooking etc. from “life skills” clubs. Once I had explained, they usually provided information about lifeskill outcomes such as those seen in the literature review.

Looking for resilience factors took attention to words and descriptions that had resilience meanings since language directly using resilience words was not used in the interviews. Other outcomes were more obvious. If participants discussed competence, confidence or problem-solving, they used those words most of the time, or gave examples and analogies that were obviously related.

The other outcomes that emerged can be organized into three main categories: 1) immediately and broadly useful, so-called ‘soft-skills’, that are psycho-emotional competencies (Section 4.4.1); 2) other technical skills with obvious practical application to the workplace (Section 4.4.2); and 3) outcomes that have obvious longer term impact on life trajectory (Section 4.4.3), such as long term career or personal goal visioning. Since the survey focused on resilience, most of the data for these other outcomes came from the interviews.

Participants of all ages demonstrated or discussed numerous examples of successful transfer of the learned skills to outside life: family, workplace, future professional navigation, future family-building, engagement in the community, school and other projects, plans and spheres of activity. All participants interviewed commented on life skill transfer with the exception of two members who were interviewed on the day of their second 4-H meeting, of their first season and therefore provided only a few comments about their short experience to date, and what they were looking forward to experiencing based on peer comments and their love of horses.

Clearly, not all participants commented on the same life skills. The outcomes grouped in this section were consistently present across the interviews, though specific outcome clusters varied by individual. As has been noted in the literature review, the possibility that individuals might experience individualized clusters of outcome benefits was common in OEL and TR, though not so much in therapy or S4D literature.

4.4.1 Psycho-emotional competencies. While each of the skills in this section is a skill on its own, they are inter-related. Although participants did not discuss self-efficacy, nearly all
participants interviewed referenced self-esteem directly or indirectly. In addition to positive self-regard discussed in the relationship and identity sections of resilience (4.3.4 and 4.3.3), self-esteem appeared to be reflected in self-confidence, a sense of responsibility, care for self, and empathy and care for other people and animals. Self-responsibility surfaced in language around leadership, and discussion about executive functions: critical thinking, problem solving, self-regulation (including self-calming and patience), and focus (attentional control/inhibition, including perseverance). While leader awareness of the transferrable soft-skills learned by youth would have been expected, even very young members were conscious of the skills they were learning, and of their application to life within and outside of 4-H. The member in Figure 4.40 had a slight learning disability. Her photo submission represented learning how to lead, self-regulation and problem solving. The quotes below are by members of different ages reflecting on self-regulation.

Figure 4.40. Member photo representing leadership, self-regulation and problem-solving

Dialogue:
B1: “It's like not giving in to the chaos.”
A1: “You have to keep that calm.” (C3, A1 & B1, 79-80)

Don't get angry. They feed on your energy so like if you're upset they'll get upset so they're pretty much, ok human, but with 4-H….You can get mad, just don't like get MAD [sic]. (C5, Y6, 101-103)

I was successful at some things but we've got to keep trying and going...not giving up because like you're not going to move on and learn anything else if you give up...Patience. Having patience. You have to have patience to work with people every day. (C2, M5, 8-10)

You have to basically be in the zone and not let anything distract you...it really helps in anything just being able to focus on something and not getting distracted. Like even in school or something…probably for classes and that, like if you're working on a project say or something and you need to get it done, just being able to focus on it and not get distracted by the peers around you. It's pretty good. (C5, Y1, 246-257)
**4.4.2 Workplace skills.** Participants also developed competencies for farm-related work, either indirectly (how to work around farms generally, feed, tractor driving and animal care) or directly (specific technical knowledge of how to raise other quality livestock or plants for agri-business, or certain veterinary or other trade procedures such as temperature taking or horse massage). In addition to practical exposure to agricultural-related and horse related literacy and task skill, participants also applied the soft-skills above to skills directly transferrable to workplace settings. They could be grouped in three themes: organization and planning with regard to self (such as budgeting, time management, project planning); management of others (such as supervising, meeting facilitation, teaching others); and working with others (such as teamwork, communication, negotiation, and presenting logical arguments). The following quotes are representative member and leader perspectives on some of these skills.

**Dialogue:**
Y2: “I don’t think that any of us are failing. We’re all still managing. You learn to balance it in the way that’s not like work versus play like, getting the work done as WELL [sic]as enjoying it?”
Y3: “You can handle it. Like you don’t take on ...like we’ve learned what our limits are so like we can say like ‘no, we can’t do three nights a week’ like ‘we need school time’ we can’t do that.”
Y2: “As much as we DON'T [sic] want school time, we know that we have to have it.”
(C4b, Y2, Y3, 67-74)

They learned scheduling like you would not believe, that’s for sure because they’re all very very busy girls. (L8, 157)

There’s a lot of things in 4-H that I feel like a lot of other kids are missing out on ....Like, we get taught like money kind of thing...stuff they don’t teach I like taxes and...entry fees. Like we have to pay money to show our cows to compete in that class. (C4b, Y1, 87-89)

I’ve heard many employers say they’d rather hire a 4-H kid than any other kid. They have the understanding of what it means to get up at 3 in the morning and bath the calf and get it ready. (L8, 521-524)

**4.4.3 Life approach.** Conscious appreciation for life skill learning in 4-H as a preparation for adult responsibility has already been reflected in several of the resilience categories, and is reflected in the above workplace skills. Outcomes influencing life trajectory can also be summarized by three main themes: environmental sensitivity, engagement and commitment to learning, and developing healthy adult goals.

Sensitivity to the environment has been discussed under the ecological relationship in the relationship section (4.3.4) of the resilience factors. As was discussed, a sense of connection to nature and natural cycles is an outcome that shapes other decisions, not simply a matter of conscious awareness of the environment or support for environmental causes.
Access to 4-H as a learning environment was addressed under the material resources resilience factor (4.3.1). However, the desire to learn is a slightly different but significant outcome. Youth and leaders viewed their experience as teaching them that learning can happen everywhere, life challenges and interpersonal conflicts are fodder for learning, and, regardless of formal education, learning is a key to personal success and problem solving. Members and leaders were committed to learning as a way to achieve goals.

Participants were committed to healthy lifestyles (beyond participation in sport), and were goal oriented. In addition to goals for their 4-H specific experience, they valued engagement in physical activity, community and learning, and identified other life goals, whether to have a family one day, have healthy relationships, identify a career path, or earn enough money to achieve something important. Some of their goals were traditional (i.e., a girl envisioning being a parent one day and learning skills now that would help with being successful at parenting), and some were non-traditional (i.e., a girl become a tradesperson or agricultural architect; a boy building a rabbit breeding business instead of taking on his parents’ beef farm). For the participants, there did not seem to be any pressure to have specific goals or to fit any particular roles other than that of a responsible adult who makes healthy choices that are personally fulfilling and about being a net societal contributor. Participants of all ages, across all interviews identified life goals they were working toward, and ways they used learning and a work ethic to work towards them.

While constructive goals for adult life may seem to be an assumed feature of middle class life, especially for high achieving or university-track youth, many of the youth faced barriers or would not normally be considered academically high-achieving. Also, career and lifestyle trajectories are not obvious in the contemporary knowledge economy, especially for rural residents. While life-long learning, connection to the environment, and development of later life goals have an impact on life trajectory, some participants and nearly all leaders interviewed credited 4-H involvement more specifically with changing a person’s socio-economic prospects. The following quote is by a former member who did not go to university. In this quote, she frames 4-H as a support for her successful employment with a degree of importance greater than a simple recognition of common affiliation. In the context of the conversation, it was her view that without 4-H (and its related people supports, particularly a leader who was connected to someone, who was connected to the boss), she might not have acquired the job, and also might not have been as prepared with the skills needed to be good at it.
[4-H] actually helped me get my job. My boss…she’s told me on multiple occasions it made her take a second look…it got me the second look that I needed to make it past interviews. (C3, A1, 126-151)

4.5 Summary

Many of the resilience and life skill outcomes were related or mutually reinforcing. While some individuals mentioned unique benefits of participation, the outcomes discussed in this section (see Table 4.8) appeared across a majority of the interviews.

Table 4.8 Outcomes by Category

<table>
<thead>
<tr>
<th>Outcome Category</th>
<th>Sub Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resilience</td>
<td>Material resources (facility &amp; equipment, space for active living, access to practical help, education &amp; learning)</td>
</tr>
<tr>
<td></td>
<td>Power and control (safety, respect, choice, empowerment)</td>
</tr>
<tr>
<td></td>
<td>Identity (choice &amp; voice, sport identity, confident girl)</td>
</tr>
<tr>
<td></td>
<td>Relationships (self, friendship w. (human &amp; horse), family (origin &amp; adoption), mentoring, teaching (human and horse), ecology/nature Belonging (team, community, country) Cultural adherence (appearance &amp; common interest, values, practices) Social justice (cultural, inter-club, intra-club diversity)</td>
</tr>
<tr>
<td>Psycho-emotional</td>
<td>Self-esteem, confidence</td>
</tr>
<tr>
<td>competencies</td>
<td>Responsibility</td>
</tr>
<tr>
<td></td>
<td>Self/Other Care, empathy</td>
</tr>
<tr>
<td></td>
<td>Executive functions (self-regulation, critical thinking/ problem solving, focus, patience, perseverance, self-calming)</td>
</tr>
<tr>
<td>Workplace skill</td>
<td>Farm/Agri industry literacy</td>
</tr>
<tr>
<td></td>
<td>Self-organization / planning (time &amp; project management, goals)</td>
</tr>
<tr>
<td></td>
<td>Plan/ Manage / Teach / Communicate with others</td>
</tr>
<tr>
<td></td>
<td>Work with others (teamwork, negotiation, logic)</td>
</tr>
<tr>
<td>Life Approach</td>
<td>Environmental sensitivity</td>
</tr>
<tr>
<td></td>
<td>Desire to learn / engage</td>
</tr>
<tr>
<td></td>
<td>Healthy living, including productive adult goals</td>
</tr>
</tbody>
</table>
CHAPTER 5: Findings: Facilitating Processes and Elements

This chapter addresses the second research question about the processes which facilitated resilience and other outcomes. This chapter focuses on processes and elements that facilitated the documented outcomes for youth members (sometimes evidenced longitudinally by leaders who had been members), rather than for leaders. This main question relates to the ‘black box’ effect noted in many critiques of equine-based therapy and sport-for-development studies. The chronic black box effect highlighted in the literature (especially the therapy and S4D literature) is not due to lack of plausible explanations. It seems rather that research designs are not optimally suited to eliciting the data about facilitating mechanisms that participants are able to provide.

The emphasis on “mechanistic” (Maslow, 1971, p.166) cause/effect relationships, and deficit based focus on “conditions that may decrease problem [or symptomatic] behaviours” (Lerner et al., 2010, p.708) are not providing satisfactory answers to the question “what components…contributed to our beneficial findings?” (Johnson et al., 2018, p.9). In response to the critique of lack of data, I asked participants about what contributed to their outcomes in order to elicit information about the underlying processes. As has been mentioned, there is a wide range of variables involved. In one study, Johnson et al., (2018) explain the lack of process explanation by giving a list of horse activity variables of the sort that were all a part of the 4-H experience: “For example, driving to and from the stable, indoor vs. outdoor …the weather… grooming the horse and interacting with it…learning…skills…interacting with the [supporting people]” (Johnson et al., 2018, p. 9).

Findings have contributed to greater understanding of these underlying processes, but have also challenged some of the factors highlighted in the literature. Consequently, this chapter includes some information about factors that did not appear to matter to the outcomes. For example, how do we know it is 4-H experience that contributes to these outcome experiences, and not living on a farm? After all, I had no control population.

As discussed in Chapter 3 (Methodology), both the qualitative and quantitative data were queried for factors that impacted outcomes. Findings presented in this chapter reflect those parts of the analysis where the data sets converge the most (Creswell, 2014). The movement of analysis went back and forth between the qualitative and quantitative sets to see how they contributed to specific research questions. Where factors appeared significant or not at all significant in the quantitative data, the qualitative data were examined for confirming or contradicting information. Similarly, if some important elements emerged in the qualitative data,
and they could be examined in the quantitative data, they were. Morgan’s (2014) model referenced in the methodology chapter uses quantitative data to further inform an essentially qualitative study. Understanding this segment of the study as primarily qualitative is important, since it is the qualitative data that was the main source for information about facilitative processes. Generally, the data sets complemented one another. For example, a relationship not highlighted in the qualitative data usually did not have statistical significance when tested in the quantitative data either. However, there were many factors that the quantitative data simply did not address. For example, outcomes like problem-solving or relationship with nature were not tracked in the survey.

This chapter is divided into two main sections. Section 5.1 explores factors that both the qualitative and quantitative data could address. These include a small set of elements that appear operative, and a small set for that it is important to note their apparent lack of relevance. Section 5.2 discusses four categories of elements and processes that emerged in the qualitative data as facilitative of the resilience factors and other documented outcomes: the environment (the physical context: where), relationships (who), 4-H activity structure (what), and facilitating approaches (how). The categories are depicted in the model below (Figure 5.1) with a circular flow, which can have any entry point and could reverse. The availability of space and actors to engage in activity and interpret meaning is a pre-requisite but, once in place, not a necessary starting point. The system continues to attract people and places, and to influence them while shaping experiences. Once there are people willing to lead a club and a location to hold it, the activity experiences attract more people and locations, in a cycle. In this model, all of the element categories (on the four ‘corners’) are equally connected to one another. Multi-directional flow is indicated by the green arrows on the outside, and small arrow points across the diagonal lines.
5.1 Factors that Matter and Do Not Matter

The strong evidence of resilience and the wide range of outcomes documented in the previous chapter beg some questions. For example, are participating youth involved in other activities that might also have fostered resilience or self-efficacy, or been the main contributing factor? Is there a relationship between resilience and self-efficacy, and exposure to the programme? If there is something healthful about experience with horses, is there an exposure difference, i.e., between youth who own horses and those who do not? What about participants who have the benefits of farm or rural residence, versus those who do not? Was a documented outcome more influenced by being outdoors, being with animals, being with a horse specifically, having a mentoring adult, or a challenge experience?

The critique discussed in the literature review that equine-activity, OEL and sport for development study results do not adequately address potentially confounding variables is understandable. 4-H as a group-based, physical recreation activity occurring in a green-space, involving mentoring adults, animals, challenge experiences, cultural belonging and community connection makes the programme a nexus or hub for an amazing range of possible contributing factors.

5.1.1 What does not appear to matter. Factors that appeared to have no impact on resilience scores included other activity or community involvements, place of residence and domestic situation. The statistical non-significance of these factors in the quantitative data was also supported by the qualitative data. The interview data showed that youth participants with a variety of other extra-curricular activities, a variety of residence locations and a variety of domestic situations all experienced resilience and other positive outcomes.
**Other activities.** As has been noted in the resilience outcomes, 4-H participants also engaged in many other types of extra-curricular activities ($M = 2.6$). Involvement levels are displayed in Figure 5.2. The degree of engagement in the different activity types was shared in section 4.3.1 (see also Figure 4.16) and is also shown below in Figure 5.3. Resilience scores did not seem to be influenced by other activity involvement, since other activities had a very low correlation to self-efficacy ($r = .149$), and an even lower one to resilience scores ($r = .036$). Also, the number of 4-H club meetings attended in the term appeared to have little significance ($r = -.102, n = 52, p > 0.1$).

![Figure 5.2. 4-H member involvement: number of other activities](image1)

**Figure 5.2. 4-H member involvement: number of other activities**

![Figure 5.3. CYRM and Self-Efficacy scores across other activity involvement](image2)

**Figure 5.3. CYRM and Self-Efficacy scores across other activity involvement**

**Place of residence.** Location of residence (i.e., farm, rural non-farm, town, city) had a negligible correlation to both self-efficacy ($r_s = .031, n = 61$) and resilience scores ($r_s = -.013, n = 62$). The self-efficacy scores for farm-dwelling (78.7%) and non-farm dwelling (77.6%)

---

35 The stability of CRYM and self-efficacy scores across activity types shown in Figure 5.3 may eliminate specific other activities as confounding variables, but does not eliminate the possibility that other activity involvement, might be an outcome of participation in 4-H, especially since community engagement and healthy lifestyle are intentionally encouraged as discussed in the resilience section (4.3.1)
members were very similar, suggesting that high self-efficacy was more related to the 4-H participation than farm dwelling. In cross-tabulation (Table 5.1), High/Low resilience scores were insignificant (evenly split with a slight difference for self-efficacy).

Table 5.1 Cross-tabulation of Resilience Scores for Farm/Non-Farm dwellers

<table>
<thead>
<tr>
<th>Cross Tab</th>
<th>High Resilience</th>
<th>Low Resilience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm (n = 20)</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Non-Farm (n = 14)</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Chi-square hi/low</td>
<td>$x^2 (1, N = 61) = .315, p = .575$</td>
<td></td>
</tr>
</tbody>
</table>

Table 5.1 Cross-tabulation of Resilience Scores for Farm/Non-Farm dwellers

<table>
<thead>
<tr>
<th>Chi-square</th>
<th>Resilience</th>
<th>Self-Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm/non-farm</td>
<td>$x^2 (1, N = 61) = .789, p = .374$</td>
<td>$x^2 (1, N = 62) = .315, p = .575$</td>
</tr>
<tr>
<td>Rural/non-rural</td>
<td>$x^2 (1, N = 61) = .315, p = .575$</td>
<td>$x^2 (1, N = 62) = .341, p = .559$</td>
</tr>
</tbody>
</table>

**Domestic situation.** The difference between living (or not) with both parents was negligible in the interviews. One member from a lone parent family was especially articulate regarding outcome benefits, and another noted benefits but was not particularly articulate. Domestic situation appeared to make no difference to the quality or type of data in the youth interviews. When leaders addressed it, they indicated that 4-H participation helped offset disadvantages youth might have if they were lacking parental support. In the previous chapter, the resilience factor of relationships has been shown to have included meaningful emotional and mentoring relationships within 4-H that were often regarded as family-like.

There was insufficient quantitative data for statistical analysis, and no meaningful difference of scores in the data available.

**5.1.2 What appears to matter: length of time.** Outcomes did seem to be impacted by various dimensions of exposure to the programme activities: being too busy (reducing availability to 4-H), time involved in the programme, and, slightly, by access to more exposure to the horses. These elements surfaced in the qualitative data, and also to varying degrees in the resilience and self-efficacy score data. The importance of time and exposure is supported by the qualitative data, and by the expectation from youth development theory that life skill acquisition is more likely with prolonged exposure and reinforcement (Durlak et al., 2010).

In the survey, the top two items that leaders wanted to see more of in 4-H were people and financial resources to support more youth getting access to the horses, and more activities for the youth to do with the horses. The top two items that youth prioritized were more opportunities to do more with their horses, and more time with horses (see Table 5.2).
Table 5.2 What participants want more of in 4-H horse club

<table>
<thead>
<tr>
<th></th>
<th>Participants Want More</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Resources</td>
</tr>
<tr>
<td>Youth</td>
<td>0.0%</td>
</tr>
<tr>
<td>Leaders</td>
<td>23.8%</td>
</tr>
</tbody>
</table>

**Being over-booked.** In the interviews, leaders and youth commented on members missing out on benefits of participation when they had too many other demands on their time, or their parent’s time. Although the number of other extra-curricular activities did not have a high statistical correlation to either the resilience or self-efficacy scores, the data in Figure 5.4 suggests that there may be such a thing as being too busy that has a negative impact on resilience and self-efficacy (more than 4 activities).

![Figure 5.4. Mean Self-Efficacy and Resilience, and Number Other Activities](image)

(A=activity #, N= sub-population)

**Duration of time in years.** Participants also commented on the positive impact of staying in 4-H over time. It is part of the 4-H structure to introduce a variety of situations within a programme in that youth can apply their learning. As discussed, that is the essence of the experiential learning process. Also, the youth development research by Lerner et al., (2005) showed the importance of engagement over time in years. In terms of the quantitative data, there was a strong relationship between self-efficacy and age ($r = .407$, $\rho = .601$, $n = 57$), a moderate relationship with time ($r = .355$, $r_s = .408$, $n = 62$), and a weak relationship between resilience, age, and length of time in 4-H ($r = .116$). Age and time had a strong correlation with one another ($r = .765$, $n = 56$), supported by the qualitative data that showed that youth typically started 4-H when they were young, so that there was usually a correspondence between age and experience with the club.

The relationship of self-efficacy with age and time (Figure 5.5) also supports established links between life skill acquisition and sufficient opportunity for reinforcement. The jump for self-
efficacy between 12-15 years in the 4-H data occurs as the youth transition through puberty and into an age bracket for that there is a known dramatic drop in the general population toward clinically low levels of self-esteem, particularly for girls. The group in this study reporting the highest self-efficacy is the same age group for whom only 14% report healthy self-esteem in the general population (PHAC, 2011).

When resilience score percentages were graphed (Figures 5.6 and 5.7), they showed an interesting pattern of a slight general increase with age and time, punctuated by drops in score at ages when youth would normally undergo transitions in to and out of High School, followed by a rebound in the scores. The scores are nevertheless, still unusually high even for earlier ages, as noted previously (see Figure 4.6). What the pattern suggests is that resilience factors do contribute to successful negotiation of challenges faced through transitions to High School and later life. The tracing of this pattern in the graphs is supported strongly by the resilience literature and the by the qualitative findings showing high resilience factors across the participants regardless of age, as well as their acknowledgement of using resources made available to them through 4-H to successfully navigate life challenges.
Figure 5.7. Variation in resilience score by time in 4-H

**Horse time.** In addition to accrued time in 4-H and time available to fully participate, leaders and youth also commented on time with the horses. Leaders who had members using borrowed horses, and members who borrowed horses, shared a theme of lament over youth not having enough time with the horses, either due to other obligations, the need for horses to be shared, or the logistics of a family making time to drive to a farm to provide practice time in between club meetings. Members with horses did not discuss desire for more time with them. Rather, they emphasized more time learning new tasks in the 4-H context, with the horses.

Youth who owned horses (n = 27) had higher resilience scores (88.4%) than those who did not own a horse (n = 26, M = 85.3%), though the relationship was statistically insignificant in both Spearman (rs = -.160, n = 61, p = .217) and chi-square (χ² (1, n = 61) = .040, p = .842) tests. This suggests that horse ownership on its own did not have an impact on overall resilience factor scores.

However, there was a wider gap between horse-owning (M = 80.3%) and non-horse owning (M = 75.8%) mean scores for self-efficacy as a specific resilience factor. For self-efficacy, horse ownership also resulted in a significant relationship in Spearman (rs = -.349, n = 62, p = .005), and chi square (χ² (1, n = 62) = 7.457, p = .006) tests using high/low categories. It is still unclear from these findings what aspect of horse ownership was related to higher self-efficacy scores. Table 5.3 shows that non-farm, horse-owning youth had the highest self-efficacy scores- even higher than farm-dwelling, horse-owning youth. It would be speculation to theorize that youth who navigated to horse ownership despite not living on a farm, either had more self-efficacy, or had family environments that fostered self-efficacy. Roughly the same percentage of both groups lived with their parents who drove them to club activities. Removing outliers[^36] showed that horse owning youth were involved in fewer extra-curricular activities (M

[^36]: The outlying entries were 10 and 17 (single responses). All the other member responses capped at 6. The outliers are reasonably assumed to be a misunderstanding of the question, calculation of meeting frequency, or listing of other 4-H clubs since clubs are run for a series of weeks and many can be done in a year without an impossible weekly schedule. Qualitative data supported the range of other clubs (2-4 per member, M=2.6).
=1.6 horse vs. 2.8, non-horse owning). The lower involvement of horse-owning youth in other activities makes sense given the distance of farms to other activities, and amount of time horse-owning participants indicated spending in horse care and travel. This factor relates to being over-booked, as discussed in the previous section. In the interviews, youth who owned horses indicated a preference for doing activities such as 4-H with their horses. They also indicated time and budget conflicts and the need to choose between horse activity and other activities. Youth who did not own horses indicated the desire to spend more time with horses and a tendency to fill their non-4-H time with other activities. The overall activity level of both groups was virtually the same. The fact that non-horse owning participants still had exceptionally high scores suggests that while horse ownership may provide a time and exposure advantage for self-efficacy, high levels of resilience are still fostered in the programme regardless of horse ownership.

Table 5.3 Self-Efficacy and Resilience vs. Farm and horse ownership

<table>
<thead>
<tr>
<th></th>
<th>Farm</th>
<th>No Farm</th>
<th>Spearman</th>
<th>Chi-square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Efficacy %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horse</td>
<td>78.7 (n = 17)</td>
<td>84.6 (n = 7)</td>
<td>( r_s = -.349, n = 62, )</td>
<td>( \chi^2 (1, n = 62) = 7.457, p = .006 )</td>
</tr>
<tr>
<td>No Horse</td>
<td>73.6 (n = 5)</td>
<td>76.4 (n = 18)</td>
<td>( r_s = .005, n = 62, )</td>
<td></td>
</tr>
<tr>
<td>Resilience %</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Horse</td>
<td>88.2 (n = 17)</td>
<td>88.8 (n = 7)</td>
<td>( r_s = -.160, n = 61, p = .217 )</td>
<td>( \chi^2 (1, n = 61) = .040, p = .842 )</td>
</tr>
<tr>
<td>No Horse</td>
<td>88.8 (n = 5)</td>
<td>84.3 (n = 18)</td>
<td>( r_s = .005, n = 62, )</td>
<td></td>
</tr>
</tbody>
</table>

5.1.3 Summary. A preliminary assessment of the above section would be that resilience and self-efficacy are impacted by exposure to the programme. Self-efficacy appears to be more strongly correlated to age and amount of exposure to horses, than the other seven resilience factors. Both appear to be impacted by length of time in the programme. The question still remains however: What is going on in the programme that is having the impact? Also, the facilitating elements for the outcomes other than resilience have not been addressed in the above sections.

5.2 Categories of Facilitating Features

Processes and connections identified in this section were those that emerged from participant (leader and member) data, not those that might have resulted in application of the literature review lens to researcher observation. My analytic job was to understand the patterns in the processes and process-outcome links that were expressed by the participants (leaders and members).
Findings emerging from the qualitative data regarding processes and their connection to outcomes included data from current members, leader observation of current and past members, and observations on the impact of past membership (by the adults in the study) over time. Also, several leaders were able to comment from the viewpoint of their dual role, as a leader and as a parent of a 4-H member, on life skill transfer into home life, school and other spheres. Many participants (leaders and members) were also able to comment on their experience of 4-H horse club (or their observations about member experience) in comparison with involvement (past or present/concurrent, as a leader or member) in other youth development programmes (i.e., Scouts, Guides, Cadets), other after-school activities (i.e., dance, drama, church-based clubs), and sport environments (i.e., soccer, competitive equestrian sport). Whereas leaders were in a position to speak about observations of processes across many members and across many years, members spoke mostly about their own personal experience.

Participants described many processes and elements related to their participation in 4-H horse clubs that provided for learning and growth, or resilience factors. Those that are presented here were present across interviews, or described consistently by those participants who mentioned them. Most outcomes (such as self-confidence) were linked to several facilitative processes. Much of what participants said reflected theoretical notions typical to the intersecting discipline theories.

Participant observations diverged from what could have been expected from theory on one aspect. A popular theoretical explanation in equine activity is that the size of the horse is an important factor. The explanation is that because they are big they are intimidating, and intimidating and potentially dangerous are important to self-mastery and potential sense of accomplishment when the challenge is overcome (Burgon, 2011). Consequently, the use of very tiny horses in some of the clubs begged questions about what participants thought of the idea of animal size, or intimidation based on size, as inherent to the challenge experience. Horse size turned out to be irrelevant to the outcomes from both leader and member perspectives. While horse size was not relevant, the value of the encounter as a challenge (either encountering the horse, or encountering another challenge with the horse) experience was. Many members experienced the horses as intimidating and challenging regardless of their size. Many other members experienced the horses as primarily supportive, and the tasks (not the horses) as intimidating.

As mentioned in the introduction to this chapter, the facilitative processes that participants identified can be organized into four main categories: the location, the relationships,
the 4-H activity structure, and the 4-H approaches. After developing these categories, I noticed that they have an interesting parallel structure to Lerner’s (2005) four domains of assets and resources: physical/institutional, intra and inter-human, collective activity, and factors determining accessibility (p.41). The four process categories for this study are shown with their sub-themes below in Table 5.4.

Table 5.4 Facilitating Features and Sub-themes

<table>
<thead>
<tr>
<th>Category</th>
<th>Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment</td>
<td>greenspace, farmspace / animals</td>
</tr>
<tr>
<td>Relationships</td>
<td>adult mentors, peer mentors, family involvement, friendships, horses</td>
</tr>
<tr>
<td>4-H Structure</td>
<td>public speaking, parliamentary procedure, judging, overt pledge/motto/values, community connection, experiences/outings, inter-club/region activity, variety of activity/club, mentoring structure, projects, competitions/demo</td>
</tr>
<tr>
<td>4-H Approaches</td>
<td>hands-on learning, learner-centred learning, leader freedom to interpret, debrief, ok to fail/learn at own pace, strengths focus, accessible to diverse needs, learning in group/teamwork, free time to try/with animal, encounter with challenge, fun and enjoyment, privilege of voice</td>
</tr>
</tbody>
</table>

Identifying the process themes and categories was an easier task than mapping their connection to outcomes. It proved inappropriate to limit the relationships to simple causal chains, despite critique in the animal activity literature that studies lacked empirical support for causal explanations (Pauw, 2000). Throughout the study, participant explanations moved back and forth between relationships, processes, elements and topics. They moved from brief monologue to dialogue, and sometimes to whole group simultaneous participation in the conversation. Participants described, gesticulated, mimed, offered objects and images, used words, sounds, intonations. ‘I’ and ‘we’ were never far apart, and usually together. It was frequently necessary in data analysis to follow the thread of one idea over a few pages of interview transcript to select a coherent excerpt that could then be organized by the themes and codes. When I first connected processes and outcomes, I had a messy web.

Fortunately, there are other options than determinism for observing complex systems (Hulswit, 2004). Borgatti et al., (2009) suggest that network theory may be more appropriate for understanding patterns in complex systems in the social sciences. When I categorized the outcomes and processes into their four key areas respectively, the relationships were much easier to understand and model, though they were still networked. The basic concept of network theory is that networks are multi-nodal with multiple directions of single or simultaneous movement, where action at one node may have direct, indirect, compounding or no effect on
proximal or distant nodes. The point is that the system works together, a little like the way the goodness in rich soil or the goodness in an apple cannot be broken into separate pills of synthetic ingredients to obtain the same nourishing impact to plants or people. The matricial nature of relationships and inter-relatedness of outcomes in the qualitative data of this study has already been noted.

Figure 5.8 models the interconnected and mutually reinforcing relationships between the four outcome categories from Chapter 4, and the four categories of facilitative processes and elements that will be described in this section. The Figure might be easier to understand by recalling the interconnected nature of the square model for the outcomes in Chapter 4 (Figure 4.1), and then the interconnected model for the four process categories at the beginning of this Chapter 5 (Figure 5.1). Then, combine them to form a cube using the same principle that all nodes connect with all other nodes, with the person impacted by transforming experiences at the heart of the cube.

![Figure 5.8. Outcome and Process Model for the 4-H Horse Club System](image)

This model uses structural features (the cube with internal triangular supports) to convey stability and equivalent interconnectedness. The simplification imposed by visual modeling (a ball representing a unique individual at the centre) should not be confused with the viewpoint that transformation is essentially individualistic, since it is neither the viewpoint of the resilience framework used, nor the assumption reflected by the participants in the study. Technically, the ‘person’ impacted could be individual, group (i.e., club or community), pair, human or non-
human since all the sentient beings involved in the programme learn together. However, this study is about the outcomes and experiences of the human youth members.

The person at the centre of the model is depicted with a dashed encircling line to indicate fluidity between them and their ecology. To summarize the Liebenberg and Ungar (2008) definition of resilience (p. 22) presented early in the literature review, the individual navigates, the environment provides, and both (along with all other connected relationships) create further resources. In Lerner et al.'s (2012) terminology, there is a process of mutual “adaptive developmental regulation” (p.120). The 4-H participants are at times impacted, a conduit, an actor, a recipient, an originator, a mutual partner, and a perceptual filter. They do not stand solidly between any of the elements, but are in the flow and current of the system that connects individual assets with relational and contextual resources (Liebenberg, Joubert, & Foucault, 2017). The notion of facilitative processes and elements is at the core of the assumptions of this study: resilience as protective factors rather than resilience as a trait; and the person-in-environment assumption in that people, relationships and environment are co-developing.

While individualistic views were not reflected, particularity and contextuality were. Processes and Outcomes interact with one another in a system of reinforcement within that participants experience learning, development and protective factors for resilience in ways pertinent to each participant. They also experience them in ways pertinent to their context.

The elements that influence a particular person are partially determined by the particularity of the person and their circumstance. For example, while it may have been observed that challenges experienced working with the horse facilitated self-regulation and perseverance, those outcomes may have been less or more important for particular individuals. Also, particular individuals might have been more or less influenced by the interaction with the horse, with their peers, with the adult mentor, or all three elements. The individuality of the experience is consistent with Ungar’s (2011, p.7) notion of equifinality and with the expectations in TR (Dattilio, 2015) and OEL (Gass et al., 2012) that individuals in programmes together may derive unique clusters of benefit experience (within the range of those that are possible). The processes and outcomes most salient to a participant or group may also change over time with their development and changing needs.

It is less relevant that element intersects with an individual’s development story the most, than the fact that any individual in the system has many reinforcing elements for the outcomes they experience. This section makes no attempt to quantify occurrence of processes and outcomes. It presents the processes that participants linked to the outcomes as noted in the
previous chapter, providing some examples of how these links are made. The most important finding is that there are so many processes active on multiple dimensions, such that all participants experienced multiple benefits depending on their needs and degree of exposure to reinforcement over time.

5.2.1 Where: facilitating environment. The first and simplest facilitating element was the location of the club. The space was facilitative both as a greenspace, and specifically as a farm space (with animals). While the space itself was a relatively minor element compared to other processes discussed, it was a pre-requisite to any of the processes involving horses specifically. It also had its own facilitative features once those were activated by other processes.

Green-space. As a green-space, the location facilitated an encounter with nature, that in turn facilitated other experiences and outcomes such as the nature relationship discussed in sections 4.3.4 and 4.4.3. People can encounter nature in very small urban parks, images, potted plants or indoor pets (Louv, 2006). The 4-H horse club location provided for people to gather, contributing to cultural identity and other relationships. The green environment was also a factor in attracting and stimulating learning for the youth participants for whom it was sometimes a reason for participating in the club, rather than some other activity. There was a similar appeal for many of the leaders who expressed a preference for volunteering with 4-H because they could be outdoors. Participating in this space involved leaving technology and other cultural pressures behind, that facilitated physical activity as discussed in section 4.3.1. This process is described in the leader quote below. The Figure below (5.9) depicts the 4-H farm greenspace.

We didn't walk around with cellphones...we didn't have all those distractions, and we were forced to...be involved...to get out and do something.....I've had to tell girls to put away cell phones. (L6, 465-471. Leader and former member)
**Farm space with animals.** A second environmental facilitator that emerged was the fact that the space 4-H horse club occurred in was also a farm space with other animals. As discussed, it is relatively uncommon in North America to think of farms as Green/Nature spaces. By contrast, farm spaces are a popular learning and therapeutic Green space in Europe (Berget et al., 2012). In addition to the benefits contributed to by virtue of being a greenspace, the farm space, its cast of characters (animals, particularly horses) and associated tasks facilitated a unique context for learning safety, situational problem-solving and decision-making, responsibility, care for others, encounter with differences, awareness of the field-to-table cycle, work ethic, community connections (section 4.3.5), identity (4.3.3), a distinct cultural identity (4.3.5), specific agricultural skill literacy, and development of future agri-related vocational goals for many participants raised and not raised on farms (4.4.3). Participants described challenge and constraint inherent to working in a space that has animals and is therefore not entirely predictable or controllable by participants in ways similar to the OEL learning cycle, leading to competence, confidence, and self-esteem. Animals and different farm spaces also provided a variety of opportunities to learn to encounter and accept difference, as well as different body languages and needs, and to cope with the life cycle, loss and responsibility.

While these learning experiences were arguably facilitated by the mentoring leaders and also involved peer and horse interactions, this connectivity illustrates the connection between the farm space as a facilitative element, and the other facilitating processes as depicted in the cube model (see Figure 5.8). The leaders viewed their roles as facilitating access to the learning that the farm space could provide, and peers identified the farm space as the reason they could be in contact with each other. The farms and the horses, of course, could not be consulted using the data collection methods chosen. Many leaders viewed their role as providing access to a unique space and to animals, that they saw as inherently facilitative of the outcomes discussed in ways different from other youth development settings. One leader summarized many of the participant expressions by sharing a poem she used as a computer screensaver.

They're learning compassion. They're learning about you know what I'm going to read you something, this is my mantra. I know this is going to take time, but this sums it up ok? The title is 'you act like you were raised in a barn'. 'People say you act like you were raised in a barn like it's a bad thing. I was raised in a barn and that is where I learned the most important lessons in life. I watched life begin and end in a barn. I discovered hard work builds character and kills no-one. I learned respect, love and compassion. I realized sometimes optimism is the only way to keep going. I found sometimes you have to let go, even when it breaks your heart. I dreamed and learned to never give up on those dreams. I failed and kept trying until I succeeded. I gained confidence in myself and my abilities. I
understand you have to stand for what you believe in. The next time someone tells you (that) you act like you were raised in a barn, thank them, because I can't think of a better compliment.’ (L5, 529-541)

5.2.2 Who: facilitating relationships. Participants clearly positioned relationships as a leading factor for their participation in 4-H, as well as a distinguishing feature of their involvement in 4-H. Many comments about the importance of relationships were part of explanations about why 4-H is different from other community contexts, including other sport, youth groups, family at home and other equestrian activity. The relationships consisted of both non-human (primarily horse) and human types (friends, mentors, teachers, family).

Key relationships were organized in the resilience section (4.3.4) mostly by functionality rather than role or person (other than ‘self’). They were organized this way partly because the same entities could have different functional roles. For example, peers could be mentors, teammates or friends; leaders could be parents, surrogate parents, teachers, or mentors; horses could be friends, working partners or teachers. Having presented the relationships by their functionality in the previous chapter makes the nature of relationships as facilitative much clearer in this section. Recalling that the protective factors for resilience are themselves considered processes, the outcome (relationships) becomes a facilitative element itself reinforcing the dynamic systems view underpinning the resilience perspective and illustrated by the cube model.

The relationships are connected both to other outcomes, and other processes. These connections create circumstances, possibilities and outcomes that occur outside of linear causality. One example is the ways that green spaces were facilitative. While there is research showing that passive observation of nature has therapeutic value, it is the engagement with it, facilitated in certain ways (5.2.3 and 5.2.4) and by particular people (5.2.2), which turns the experience of the farm as a nature encounter into a resource for physical activity (4.3.1) outdoor experiential learning (4.3.2, 4.4.1 and 4.4.2), agricultural literacy (4.4.2), cultural identification (4.3.3 and 4.3.6), or ecological connection (4.4.3).

Similarly, functions of the family (including surrogate family) relationships were to provide access to resources (the horses, farm, other opportunities and people, section 4.3.1) and other outcomes such as belonging (4.3.5), recognition (identity, 4.3.3) support for embracing life experience as learning (4.4.3), modelling caring and empathy (4.3.7 and 4.4.1), and creating a culture (4.3.6). The family relationship (5.2.1) functioned to impact all four areas of outcomes because it was combined with the four process categories: a particular framework
(5.2.3), particular approaches (5.2.4) and occurring in a particular kind of location (5.2.1) amenable to particular kinds of activity engagement.

The family and other human relationships (more distant mentors in the community, peer mentors, club members as friends), as well as the horse relationship (team-member, teacher, friend), were experienced the ways that they were because of intentional facilitation by the adult club leaders. Therefore, the primary human relationship that distinguishes the 4-H horse club experience from other youth development, sport or equestrian activities, is the adult club leader. The primary distinguishing animal relationship is with the horse.

Whereas both of these were already discussed as a resilience factor outcome in Section 4.3.4, their function as a facilitator of outcomes is briefly examined further in this section. Since adult leaders exist in other youth, sport and equestrian programmes, and horses exist in other equestrian programmes where similar outcomes or similar range or intensity of youth development and resilience outcomes are not necessarily experienced or documented, their roles in the unique 4-H context are important to the documented outcomes. The big question is, what was special about the adult leader and horse relationships in this context?

The answers to that question are key reasons why so many resilience, life skill and therapeutic outcomes occurred for the participants in this study, despite the fact that the horses were largely unremarkable (often backyard, rescued, mixed breed, sometimes not even rideable) and none of the leaders were trained in pedagogy, outdoor education, equestrian coaching, positive youth development theory or technique, therapeutic recreation, or equine-based activity/therapy facilitation.37

Most of the leaders’ primary experiences with leadership and facilitation were with 4-H, except for one who had only a couple of years’ experience with 4-H. The second least experienced 4-H leader expressed her introduction to 4-H as a learning curve for herself regarding leading and facilitating differently, as compared to her prior experiences in equestrianism and youth development through Guides and Cadets. This leader’s personal development and growth in becoming a ‘4-H leader’ was also volunteered by her club members in their interview. The members felt that they had trained the new leader. While the more experienced co-leader did not describe herself as training her peer, the newer leader freely described herself as having learned how to be a 4-H leader from the club members and her peers. Leaders never talked about teaching or training other leaders or the members. They

---

37 Only one leader had a formal equestrian-related certification, in a horse training technique, not a human teaching, facilitation, or intervention technique.
talked about supporting and sharing information. Members and leaders spoke about themselves as learning to be leaders.

The horses, in contrast, were never spoken of by any participant as having learned to be a 4-H horse. This is different from equestrian sport environments where discussion about training the horse to be suitable for sport is common. Instead, the horse’s prior knowledge or experience (or lack of) was an important contribution to a learning opportunity for the members. While participants did discuss training the horses, the training process was primarily discussed as an accomplishment of personal learning, rather than an achievement of making the horse perform. For example, any difficulties with the horse that members shared were primarily relayed as an illustration of what that member had learned about communication, self-control or skill working with the horse, not as a story about control or power over the horse. An example is captured in the member quote below, in that she is explaining how an incident with her pony rearing up was an opportunity to learn about the horse’s needs, her own behaviour and people.

If they rear, you know like not to put (the chain)...like that. So you learn something about the horse....people are more sneaky than horses. People can lie in ways. And like with your horse, they just show you. Like with Jack [the horse] rearing, he probably just didn't like that [what she did with the lead rope].

(C3, M6, 282-300)

What made the adult leaders and horses function the way that they did, is connected to the space (5.2.1), their relationships (5.2.2), the framework (5.2.3) and the 4-H approaches (5.2.4).

**Adult club leaders.** An important first aspect of the adult leaders is their high resilience scores. The leader vs. youth member self-efficacy and resilience scores were 87.4% vs. 78.2%, and 89.8% vs. 86.8% respectively. The leaders in this study were resilient, resourceful people, modelling behaviours and setting the tone and expectations for their club members. Their tendencies to be pro-active, engaged in community, and entrepreneurial have already been discussed (Section 4.1).

4-H Ontario officially refers to club members as leaders of their club, and to the adult leaders as volunteers that support them. This choice of terminology specific to 4-H was confusing at first. The adults are still referred to in this study as leaders. Although the leaders did not position themselves in a dominant role (their supportive leadership style was discussed earlier), the members generally referenced them as leaders, and they clearly were active agents and catalysts for the club experience. The leaders also understood their own role as being responsible for the youth and the club. Youth attested to the importance of their leaders, and
the leaders explained the processes they used. Leaders who had been members commented more readily on other leaders who had been mentors to them.

Both adult leaders and youth participants described the adult mentors as important to the experience of growth. Where youth readily talked about how great they thought their leader was, how supported they felt, or how they learned from their leader, the leaders were characteristically humble. They did not presume that they personally had such a big impact on the youth. They did, however, describe many and various ways in that their intentionality shaped the structure and tone of the club activities in an evening or over a season. They described how they found resources to create lessons based on their own strengths and the club interests, adapted activities for members with different needs, actively monitored youth interaction, and facilitated friendship intentionally through including everyone in some activities just for fun, providing opportunities to eat together, team building, building people up in front of one another, and requesting pair work and group work.

Club leaders lowered barriers to access by loaning their own equipment, such as helmets, choosing activities with minimal equipment requirements or requirements that could be met by volunteer or inexpensive resources such as a used apparel exchange, or taking a member to the local thrift store to purchase items that could suffice, such as rubber boots. Leaders also facilitated member carpooling, and personally picked up and drove members from families unable to drive them to meetings.

Individual leadership style differences were sometimes observable during the research, where it was possible to note slight differences in tone, youth response and youth/leader patterns of relating between clubs. These seemed connected to how comfortable the adult leaders were with the 4-H activities, letting youth lead, their own ability to lead, and their own leadership style (i.e., more directive vs. more of a servant-leadership/democratic style). The latter seemed characteristic of the 4-H environment.

Adult leaders were the deciding factor on how closely other 4-H structures and approaches were used, and on how well participants understood connections between their activities in the club, and skills and strengths for life in general. Also, leaders were free to choose the degree of their involvement in youth lives and stories beyond 4-H horse club, as well as the degree to that they volunteered extra time and their own resources. They have no requirement from 4-H to provide horses, space, farm-space, transport, carpooling, food or other support of the youth members or other adult leaders. Their characteristic choices in these areas shaped how they modeled community engagement, and the community that gets built around the club members.
The adult leaders had a pivotal, gateway role in shaping the nature of the member experience, and the degree of awareness the youth had about the application of their learning experience to the rest of life. The special co-operative role most leaders in the study took in working alongside the members to develop member leadership and other strengths is illustrated in the dialogue below between two leaders and two members. The leaders discuss learning to lead in 4-H. Leaders rarely appeared in photo submissions. Figure 5.10 is a rare example, depicting a leader supporting the members’ development of their project, from the side.

Dialogue:
L2: "You know it's a conversation I have with these guys [the members]. I came from a very strict and straight background, and I make a lot of mistakes and I say to them, this is a learning process...cause you can't fix the holes you've made but you can certainly explain them and understand them and learn."
L1: "Learn a different perspective."
L2: "Learn from them and do it differently. And so we're having those conversations...I think that 4-H more than everything else that I've done in the past (Guides and Cadets)..It's giving you the perspective of that because it's not professionals, cause it's not experts in their field. It's people developing..."
Y1: "People"
Y2: "Strengths" (C4b, L1, L2, Y1, 394-411)

Figure 5.10. Adult leaders supporting from the side

Horses. The horse relationship is one of the facilitating elements that is the most unique in this study. The horses' primary role as facilitators was in their unique relationship, and as a draw for participants to be involved in the club. The horses were first a magnet and a bridge to the other benefits and facilitating processes. While it is tempting to disregard this part of their role as obvious, it is still important to note that without compelling interest (either initially or developed later, and sustained) participants would not stay engaged. As discussed, time and exposure were important in resilience and self-efficacy scores, and prominent in participant comments. Also, the key ingredient for any therapy modality or learning experience, is that the participant is interested in being engaged. As an alternative physical activity, engagement of
female adolescents is particularly interesting as this is a group largely disenfranchised from mainstream sport (see also the literature review in Chapter 2).

Also, because of the horses, members of both genders accessed experiences they might not have otherwise. Horses are one of the few farm-based 4-H activities that attract a larger percentage of youth not living on farms or in rural areas. Study data show that horse clubs have a high percentage of non-farm members, and interview participants indicated that 4-H horse clubs have not had the same decline in membership as other agricultural 4-H clubs over the years. The club leaders saw the horse clubs as an important gateway to agricultural experience that members might never otherwise have. Through the horse clubs, many participants had an introduction to farms, agriculture and rural culture that they would not otherwise have experienced.

While attracting and bridging were important roles played by horses, the nature of the interactions with the horse were significant for many of the outcomes. There were differences about this horse experience when compared by participants to other equestrian experiences (i.e., sport, having a leisure horse at home). Participants who did live on farms with horses still viewed their experience of interacting with the horse and the horse relationship as qualitatively different than a relationship they would have otherwise had through sport or hanging out together at home. In the 4-H context, the horse has an opportunity to be a friend and teammate with the member human. As one member said: “The relationships that you make with...your animal too. So with horse 4-H you really learn ...a lot about how to work as a team...it really built our relationship ...it's kind of like having a best friend, that can't talk” (C4, P1, 36-45).

As animals, horses facilitated an experience of difference or novelty, challenge, negotiation and working together, learning, critical thinking, problem solving, competence development and confidence as the youth worked with the horses to accomplish tasks. These aspects were also mentioned by participants as shared in the experience some of them had with other species, such as cattle, whose size made negotiation necessary, rather than simple manual manipulation. However, members who compared 4-H with other species vs. 4-H with horses, indicated a deeper relationship with the horse.

Participants did mention an intimidation factor related to horses. Some used the words ‘fear’ and ‘terrified’; however, this phenomena did not seem as related to the size of the animal as much as to its otherness. Leaders spoke about youth who dearly wanted to be near horses, but were scared because they came from non-horse/non-farm families and had no real idea
how to read the horses’ movements when they were finally up close. Even the miniature horses inspired this reaction, when it occurred.

For youth who were comfortable with horses generally, new horses, new types of horses, or new tasks with horses all represented an equivalent challenge/intimidation experience similar to OEL that was encountered together with the horse (not merely as if the horse was the challenge to be conquered). Horses functioned as team-members, co-learners, teachers, loving nurturers, friends, and beings in need of care. While many of the other animals mentioned could also fill some of these roles, the deep emotional connections were discussed in relation to horses. The perception of a deep friendship with the horses was a factor in perceiving connection and belonging, support, primary experiences of intimacy and loss, and the ability to be successful in relationship.

The horses were also described as having more will to work with and be in relationship with their humans than the other animals. Whereas interaction with both cattle and horses was described as an opportunity to learn self-mastery, patience and focus, only horses were credited with a role in teaching the participants about body language and emotional needs. Leaders who discussed inclusion of members with diverse needs or personal struggles, explained how the horses adapted their behaviour to be more amenable and helpful to these members. It appears that the horses had an active role in the experience of relationship and learning. While some of the youth anthropomorphised some of these interactions, most did not.

The acceptance and responses by the horse toward the human in situations of human need were appreciated as supportive, and indicative of real friendship. Participants described many instances where horses taught the human to use gestures or to engage with the horse in a way with which the horse was more comfortable. By these interactions, horses facilitated self-efficacy, competence, self-regulation, co-operation, appreciation for difference and patience.

Horses were active agents in providing real-time feedback to youth participants, as they worked towards learning or completing a challenging task with the horse. In this way, the horses were teacher-assistants because all participants received instantaneous feedback during the activities in a way that one adult leader or even the several peer mentors could not have provided while working with the group.

Adult leaders and youth also mentioned being around the horses as having a calming effect on the youth participants, particularly for those with behavioural or attentional difficulties. They did not make such statements about other animals. Figure 5.11 depicts the central place members gave to the horses as the primary vector of their overall 4-H and farm experience. The leader and member quotes below capture typical explanations for how the process of doing
tasks with the horses in 4-H teaches the youth sensitivity to the other, patience, problem solving and a co-operative leadership style.

And then the interaction with the horses of course, their own self-control. With the animal, seeing how they react. And...the kids aren't often leaders so it gives them some leadership skills...as they get better at communication with the horse, the horse will respond better. Different from riding lessons because riding lessons is very structured in order to get the horse to do exercises...you don't get to really see how the animal's responding...It takes communication skills in a language, horse language, that they have to adapt their body language to make that happen. They have to influence the horse...go ok well I want the horse to go there, is the horse looking at me, can I give the signal now when it looks at me I give the signal, did it do what I wanted.....It's reasoning...but the kids don't see it as trouble shooting. They go oh, he missed. ...If...it doesn't go well, then we just explain well the horse is confused and you're frustrated so why don't we just take a moment and see what the horse is thinking....You can redirect their emotions also, and encourage them to try again...because it requires that they communicate to the horse in a language that the horse understands, using the kids' own body language....It's kind of like a game 'you're getting warmer, you're getting warmer, you're getting colder' .... They know the game of getting closer is winning, not necessarily the finished task is the win. (L7, 146-149)

Other animals is a bit more hands-on 'cause you capture them, you hold them, you FEEL [sic] them more. Let's say lambs...Lambs you have to use force to get them in pens and stuff, but horses you have to GUIDE [sic] them. (C4, Y7, 64-76)

Figure 5.11. Horses at the centre of the experience

The uniqueness of the horse relationship, and the ways that it freed the horse to be an independent contributor to the member process of life skill acquisition and transfer, was qualitatively different because it was intentionally facilitated that way. The nature of horses allowed facilitation of a certain kind of relationship that did not appear to be commonly accessible via other species. The horse relationship and experience was intentionally shaped to aid accomplishing the goals of the 4-H structure and 4-H approaches described in the next two sections. While all 4-H activities are used in this way, the horse activities involved a relationality with the horse that resulted in the horse’s ability to make specific contributions to
resilience relationship outcomes not generally attributed to other species’ relationships. The horses also engaged youth in a population profile not typically engaged as much by other agricultural topics or sport or outdoor learning options.

Summary. The ways the youth interacted with the horses, and that leaders interpreted their facilitating role, were shaped by the unique 4-H structure and approaches. These processes are discussed in the next two sections (5.2.3 and 5.2.4).

5.2.3 What: facilitating structure. Located in the green farm context (5.2.1), the relationship dynamics (5.2.2) also occurred within a framework of particular structures. To explain how they came to hold values or credit 4-H with learning or life skill acquisition, participants described elements of the learning/activity environment that were a function of the club. Many of these descriptions were offered when participants were asked to contrast how they learned or obtained benefit in 4-H with other familiar experiences such as school, Scouts/Guides, other sports, taking riding lessons at an equestrian centre, or working with their horse or other animals at home on a casual basis. Not all participants mentioned all of the structural elements, but there was general consensus on the meanings of each element by those who discussed it. Leader and youth responses corresponded with or complemented each other.

Even though participants credited their experience with these structural elements to 4-H specifically, many of them would also commonly occur in other experiential learning or youth interventions. Some examples are project-based learning, systematic and repeated exposure to challenge and difference (Lerner, 2005), outings and community connection (Benson, 2002) and opportunities for (even requirement of) a variety of activities (Durlak & Weissberg, 2007). The elements discussed in this section were more unusual when compared to other youth development, outdoor learning or animal-based activity. The structural elements more particular to 4-H, discussed in this section, include: recitation of the 4-H pledge and values; use of the Parliamentary meeting procedure; skill demonstration as a learning process, especially the judging competition; public speaking; and the built-in peer-to-peer mentoring structure encouraging learning from both more and less experienced persons and animals.

Some of these structural elements are very particular to 4-H, such as the systematic communication of values through recitation of the 4-H pledge, judging competitions, or requirement of public speaking. Judging for example, was not at all familiar to me. I had to ask many clarifying questions in order to understand the concept as separate from common usage of the word ‘judging’ (as in unfavourable social behaviours such as judgmentalism, prejudice). When participants mentioned ‘judging’, they meant a particular activity involving critical
assessment of the merits of a series of objects or animals relative to their use. This activity was practiced in the clubs, and as a serious competitive event. It is particular to 4-H North America where it is an activity featured at agricultural fairs. It is not conducted in 4-H Sweden where the North American agricultural fair structure does not exist and 4-H does not participate in fairs.

Despite the particularity of these elements to the North American 4-H formula, their features could still be adapted to other contexts with the potential to have similar outcome facilitating contributions. Other than specific technical learning and tasks with horses, the structural elements discussed in this section were typical to 4-H, not specific practices of 4-H horse. 4-H horse clubs take on their uniqueness as a horse activity from their occurrence within this specific 4-H structural framework.

**Overt pledge and values.** Values that participants considered to be 4-H or rural values have already been discussed under cultural adherence (4.3.6). Explicit and implicit communication and reinforcement of the values occurred through the mandatory recitation of the 4-H pledge and motto at each meeting.

Reciting a creed of shared value is a common technique for many fields, ranging from meeting facilitation in business settings, to religious and civic gatherings. Schools identify values and mottos. Singing a national anthem is a recitation of shared values. In 4-H, the pledge (Head, Heart, Hands, Health, shown previously) and motto (‘Learn to do by doing.’) highlight the values of ongoing learning, personal responsibility, care for others, civic engagement, healthy relational connection and hard work. Much like a team cheer or national anthem, reciting them binds the group to a coherent identity. It creates a sense of belonging. It also reinforced commitment to healthy living, perseverance, teamwork, an attitude of learning, and resourcefulness.

Many participants referenced the pledge and motto in the course of conversation, demonstrating how tied these formal values assertions are to participant awareness of the meaning of their experiences. The following quotes capture a typical member and leader perspective on the function of the required activity of reciting the pledge and motto.

We have the 4-H pledge for respect before, at the beginning of everything. I like it because it's a sign of respect and that you promise to try your hardest and not just quit. (C1, S, 365-366)

The 4-H motto is *learn to do by doing*. I think it's important not just to learn on paper but to actually go and try doing it. (L1, 146)

Dialogue: 
*Researcher:* “So, you open the meeting with the pledge, and close with the motto. Do you think there’s any way that they contribute?”

*L2:* "Absolutely. The motto is *learn to do by doing*. So they're living it each time they come out to the meetings, so...the pledge itself is encompassing the
individual as a whole, and it ties back in to the purpose of 4-H that is the development of youth: trying to create responsible actors/youth that are going to have skills they'll require in life to succeed, whether it's personal life, volunteerism, or in community. And the real proof of that is in the clubs....They're saying the values that are in it, so hearing that again, it's just reinforcing what we in 4-H are encouraging them to be and do: be thinking individuals, to be giving and kind, those types of things, to be doing more, participating, helping around the house and home whatever it is they can scale it or relate it to. We give them that experience at the club.”
(Researcher, L2 129-156)

**Parliamentary procedure.** The Parliamentary procedure is a staple of club structure in North America, though not necessarily other countries. 4-H club meetings (except for between-meeting get-togethers or practices) begin with a formal meeting structure known as Parliamentary procedure. It is an inherent and non-negotiable feature of club format, regardless of club type. The procedure requires that someone chair the meeting (the President), and that members fulfil various formal roles, such as secretary, Press-correspondent, and Vice-President. Discussions are conducted in a manner inspired by Robert’s Rules of Order. Members are elected to the roles by their peers and they are usually held throughout the season, though some clubs switch through the season. The youth in the roles do have responsibilities outside of the formal meeting. For example, the press-correspondent might write up a story for a local paper about a club activity or member’s achievement.

One purpose (and outcome) of this formal organizational structure is to facilitate knowledge about how people work on a team (different roles), not to create identity hierarchies within the club. No club member or leader referred to another person as holding any of these roles. For example, no-one referred to a specific youth member as ‘our club president’. The roles did not mean anything hierarchical within the club experience, outside of the Parliamentary procedure activity. Leaders tended to refer to the Parliamentary Procedure (though not persons in the roles) as an important element in teaching respect, responsibility, leadership and the practical skill of knowing how meetings in the workplace or civic arena should be run. The second set of outcomes of the Parliamentary Procedure seemed to be to teach meeting skills: organizing others, structuring meetings, waiting one’s turn, keeping minutes, presenting ideas to others, and making concise arguments for one’s case. A third way that the Parliamentary procedure structure facilitated the outcomes from the previous chapter is that it is the primary locus of decisional control by the youth members. The youth members learn leadership by

---

taking collective responsibility for topics, events and activities that they wish to do in a season. They also exercise self-determination, and the right to try, risk, fail and succeed collectively.

A point of interest was that the Parliamentary Procedure appeared to be mostly valued by members with more experience or those who had aged out and could see its learning value and application to life outside 4-H. Younger members tended to describe it as something they did that gave them responsibility and challenged them to speak in public, but showed less understanding of its connection to other outcomes. The following quote by a youth member who had aged out and returned as a junior leader references her personal growth through participation in the Parliamentary Procedure.

I think it helped with my public speaking skills and my maturity level. I was a little immature, and I was really shy as a kid, like CRAZY CRAZY shy. Um, and then the longer I did the 4-H group the more outgoing I became, and the better at public speaking. Like the last few years I was either President or Vice-President.

(C3, A1, 133-136)

One current member with a learning disability linked her role as press correspondent and a subsequent article published in a local paper to a sense of confidence that she could pass her driver’s exam and get into community college.

Competitions and demonstration. In 4-H Ontario (and North America), there is an expectation of excellence, balanced with a simultaneous emphasis on personal best. 4-H has historically been strongly tied to the agricultural fair as a primary opportunity for showcasing skill, as has been discussed. The main formats of competition or skill demonstration used are the fair, other 4-H aggregating competitions, and Achievement Day (required for club completion).

Some clubs interviewed did not have access to fairs or competitions for their activities. Their primary competitive or demonstration event was an activity competition of their own devising on the club site, or Achievement Day only. The drill team club persuaded fair organizers to insert their routine into entertainment show slots during competition breaks since their activity is not widely practiced in the area. Nearly all participants referenced competition or demonstration required of them as a source of challenge in advance, pride afterwards, and motivation to learn.

The inclusion of a competitive element in the North American context is hardly surprising. It might be easy to dismiss the importance of competition events as an implicit feature of sport and recreation in the North American context, except that they are not a given feature of youth development, experiential learning, or nature/animal/equine therapy programmes. The 4-H programme goal was not as much competition, as it was skill
demonstration. The expectation for competence is high, but individual improvement is more of a focus than ranking. Events were not small to participants who spent their entire season preparing for them.

International 4-H organizations in countries where there has not been an agricultural fair structure for many years, such as Sweden, have dropped this structural element of the North American 4-H experience. The participants in this study felt strongly that the competition/demonstration structure had a very important role in their learning within 4-H, and on the impact of 4-H learning for their personal development. They felt that it gave them a clear goal orientation for their season, that helped them apply effort and solve problems when encountering challenges.

Participants valued the demonstration challenge very highly, regardless of its actual scale. Apart from the way that a competition influenced the process of learning leading up to it, the value and meaning that participants placed on the experience of the event itself included: a benchmark of skill and mastery; source of sense of accomplishment/competence; special opportunity for self-regulation (focus, control one’s emotions/behaviour); meet and conquer a challenge; connect with the community; make your family proud of you; reveal the true teamwork and friendship experienced in the club; create a sense of accomplishment and sharing culture with others.

In addition to discussing the competition events and their various benefits and challenges directly, participants also showed their importance by frequently referring to them as contexts that framed their responses and comments on other topics. The quote below is a typical member description of Achievement Day as both a challenge experience, and context facilitating self-efficacy, sense of accomplishment, work ethic, experience of flow and community support, and opportunity to exhibit professionalism despite emotional challenges.

Figure 5.12 images of demonstration events and awards submitted by members.

[Achievement Day] is fun cause...like you show your horse.... last year I had a sprained wrist and my horse was really jumpy. You try and get over it and just keep going....even if there was that one bad thing, try and make the rest good....You just keep going and hope no-one notices.

You still get the nerves and that, just like, it's more of an excitement really than nerves....It's nerve-wracking to go in front of all the people.....like if you start to mess up or whatever, but everyone's really got a good vibe and energy and it helps you with the nerves and that. Once you get out there you're in the zone....until you get out of the ring, so the vibe off that and the excitement from that, it's pretty good. You have to basically be in the zone and not let anything distract you and try and keep going. It's hard work but I mean it pays off in the end, so I don't mind the work really. (C5, Y1, 70-96, 234-257)
Judging. As mentioned, when participants mentioned ‘judging’, they meant a particular activity involving critical assessment of the merits of a series of objects or animals relative to their use. This activity was practiced in all club types (not only horse) as an exercise and public speaking opportunity, and as a serious competitive event. It is particular to 4-H North America where it is an activity featured at agricultural fairs. Members engage in the activity within their own topic, as well as a variety of other topics. Completing judging tasks is a requirement of completing a club. Clubs that do not do fairs still incorporate the judging component because it is considered one of the main ways that the club builds critical thinking and public speaking skills.

Youth participants were far more inclined to talk about Judging activities, that they mentioned frequently, than Parliamentary Procedure. They clearly considered Judging fun. During the activity, members weigh the relative merits and weaknesses of several options (a minimum of 4, and out loud in front of the judge and public). They then rank the items and justify their reasoning. In a competition setting, horse club members might be asked to rank sheep, cattle or other items. Also, they are taught to think in terms of criteria relative to purpose, even when they have had no formal instruction on a subject.

This activity teaches that the important skill is not technical correctness, as much as logical thinking patterns and skills for communicating ideas. Within the club, they have ongoing opportunity presented to them to judge all manner of items from horse brushes to random items. Even when they are very young, they are taught to discriminate between options, select a reason why they might think one is better, and explain their reason to the group or to the leader. Items chosen are age and interest appropriate.

Since the processes of critical thinking, organizing ideas and public speaking are the purposes, lack of knowledge, which becomes apparent, gets treated as a group learning moment, rather than a mistake. Although there is a competitive element of the competition (summative, participants place and get ribbons), the competition judges typically provide feedback to members so that even the competition is a learning experience. By being
encouraged to take a risk (make a decision, have an opinion, speak in public/to a stranger) and apply critical thinking, they build competence and confidence in subject knowledge, self, and their ability to reason with adults and through situations. They also develop more interest in subject content learning to fill gaps that they perceive when they find they do not know how to evaluate options.

Both leaders and members were aware of the application of the skills learned through the judging exercise, to daily life. This skill transfer appears to be facilitated by the leaders, who overtly explain the value of the exercise for thinking skills and skills for life. Members indicated that learning the critical thinking skills through the judging taught them to evaluate differences as differences, rather than signifiers of intrinsic worth. This contributed to their overall approach of learning to understand that people and options have different strengths, without necessarily being objectively better or worse than the other. It seemed to contribute to an overall view of appreciating relativity, context and difference. In the following quotes, a younger and older member describe how judging facilitates life skills.

At the actual judging event, we judge everything from a grain of wheat up to a car. You have to say...'I place 2 over 1 because it's better for this and this and this...so it's kind of like a bargaining type of thing....I do kind of find myself judging things too. Like...something we'll buy it with our own money...you'll have to figure out what's the better deal...I use judging for lots of things. I'll explain it and start giving reasons...so I'm judging it. (C1, M2, 553-590)

When I got to University and had to write essays. I could DO that and I did not realize at that time that I'd been doing that most of my young adult life every summer all summer...It's basic critical thinking.... And we do this every day like with movies or books or whatever we're judging...It just allows you to articulate why you think the way you do. (C3, B1, 228-229)

Public speaking. Although participants did use public speaking in both the Parliamentary Procedure and Judging, they also discussed it on its own as an important activity with benefits for their lives in general: confidence, self-esteem, having a voice (identity), learning to control one’s emotions and stay focused. Some participants related confidence in public speaking to confidence in other areas of life, or comfort level in professional or school situations. As noted, the requirement of public speaking is embedded in several parts of the 4-H program design. Even new members are taught to practice public speaking with short exercises, such as explaining something or introducing themselves to others. The following quotes capture the value participants placed on public speaking for life skills.

It helps you to know how to be more confident in doing your shows, and just in general. Speaking in front of your group, your....Or, in public in general you're more confident in knowing what you're saying.... Like if I wanted to take it into
school and that it helps me be more confident ‘cause I’m speaking in front of other people. (C5, Y7, 49-58)

They get a chance to speak up more…. They’re not afraid to say something. They know that it’s safe. It’s ok to talk and say things. (L1, 153)

4-H has taught me. Your own opinion is yours, and you’re ENTITLED [sic] to it, that is completely awesome. (C3, M2, 165)

**Mentoring structure.** Mentoring relationships and their impact have already been discussed as an outcome in the previous chapter (4.3.4) and as a facilitator of outcomes (5.2.2) in this chapter. The *mentoring structure* is included here separately and briefly to indicate that it is an intentional, structural feature of the organization of 4-H clubs. The mentoring relationships develop because that development is intentionally facilitated. The 4-H model is about developing leaders by modeling leadership of a helping and supporting style. Leaders are mentored by senior leaders, and are expected in turn to mentor senior youth and to facilitate peer mentorship in their clubs. The explicit mentoring structure is how leaders ‘learn by doing’, and how they demonstrate teamwork to the other members. The mentoring structure was discussed by all leaders in their interviews, and was raised by youth in all of the club interviews.

Even though leaders were highly independent and self-efficacious people, they did not function in their roles independently. Parts of the mentoring structure are assumptions of accepting correction (learning what you don’t know from others), and lending a hand (care for others). The mentoring structure contributed to knowledge acquisition, feelings of support, and courage to take on unfamiliar tasks. These in turn contributed to accomplishment, goal setting, working with others, relationships and self-efficacy. The leader in the quote below describes the peer-to-peer mentoring impact on the youth members.

They had the opportunity to be senior leaders themselves and help the younger, less knowledgeable kids. And having two levels of riders...is really good because it gives the ones who aren't as experienced, gives them a sense of accomplishment, because when you help someone or teach someone something you’re also learning yourself. So it makes them better horse people as well as people. (L3, 20, 181-185)

**5.2.4 How: facilitating approaches.** Among the facilitating elements that participants discussed, some of them could be characterised more as *approaches*, or *how* participants enacted or lived out the various tasks and activities they accomplished. The approaches discussed here were ubiquitous: not dependent on specific leader preference or style, or club. Each club did seem to have its own culture and variation on equine activity, and each leader had his or her own personality and leadership style. However, they were all within the framework of the approaches in this section.
Participants characterised the approach elements discussed in this section as specific to their 4-H experience. Similarly to some of the structural elements above, some of them would actually be expected features of OEL or other youth programming. Those include opportunity to encounter challenge, privileging member voice, a strengths-based approach and emphasis on fun and enjoyment to ensure participant engagement over time. Fun and enjoyment are integral to the success of therapeutic and youth development programming (Durlak et al., 2010; Kunstler & Stavola Day, 2010).

Some of the items in this section are unique to the 4-H context. For example, many types of programmes use experiential learning. 4-H is so absolutely dedicated to learning by doing that it is their motto, and embedded in all aspects of the programme. It means that members are allowed to interact with the horses by trial and error, rather than emphasis on correct instruction as would be the case in equestrian coaching.

The elements discussed in this section are the approach counterpart of some of the structural elements above. They include the 4-H commitment to hands-on and learner-centred learning, learning as primarily a group activity, freedom for leaders to interpret programme delivery according to their own and local resources, a systemic valuing of differences as learning opportunity, and intentional debriefing to facilitate life skill acquisition and transfer. The application of the approaches in this section was also shaped by the other processes and elements: the location (5.2.1), activity structure (5.2.3) and people (5.2.2).

**Hands-on learning.** Experiential learning is the 4-H motto: ‘Learn to do by doing.’ Club meetings involve information sharing or more didactic teaching on the part of the leader or a guest speaker, however the knowledge is integrated into hands-on activities. The model of the heart made from a jug and straws shown in the previous chapter is one example. Since many examples of experiential learning have also been referenced in other sections, this section highlights the value and role of the approach.

Learning by physically doing applies to technical skills and soft skills. In the 4-H horse club, it also means that there is an inherent component of physical activity. The members move around physically with their whole body, not just with their hands while sitting at a table doing a craft. All five senses are engaged. Hands-on activities foster inclusion of more diverse learning styles. All participants are able to participate in some manner. As has been discussed, leaders routinely modify activities or present tasks in achievable steps based on individual needs to ensure active participation by all. Engaging and trying is valued more than absolute results (i.e., pride in placing 5th or taking all season to accomplish a task successfully with the horse). The process of learning by discovery and physical doing facilitates critical thinking and problem-solving.
solving, fun, responsibility for one’s own actions, self-efficacy and self-esteem, planning skills, farm/agricultural literacy, and the value of effort/work-ethic. Hands-on learning was also a means by that the members experienced other members, the horses and leaders as allies in the process of learning and achieving.

Riding lessons are more like tell you what to do, do it and teach you what to do…4-H is more like try things and they’ll like tell you what you’re doing wrong and help you fix it. (C3, M6, 30-33)

I learned it through fun and not always with somebody just constantly speaking and you know sometimes you lose focus and you just don’t understand, but in 4-H you learn hands-on with everyone else and doing fun things, and I find you learn faster that way. Well at least for me. (C3, M1, 70-76)

The hands-on approach was also characterized by a commitment to supporting learner-centred learning, and to giving space and time for learning by trial and error and for learning at one’s own pace.

**Learner-centred learning.** The project structure and experiential learning approach are accompanied by a learner-centred emphasis. Although there may be horse-related skills and knowledge content that are planned for the season, there is wide scope for members to encounter these topics and to explore other topics according to their own personal interests. The ability for choice and pursuit of goals identified by the members discussed elsewhere are enabled by the overall approach to learning that places the learner at the centre. With hands-on learning and the project-based structure, members are more engaged and interested when they are self-determining. They also practice self-determination. Leaders still nudge the members out of their comfort zone and toward challenges but these are, at some level, learner chosen.

**Ok to fail/learn at own pace.** Freedom to fail and learn at one’s own pace was a related aspect of the learner-centred approach. The freedom to be comfortable with making errors while persisting at one’s own pace fostered self-efficacy, work-ethic, persistence, sense of accomplishment, competence, and, via those things, secure self-esteem and a sense of strengths. It also fostered a mindset where error is just feedback for learning- an important lifelong skill for satisfying work and personal relationships. The following leader and member quotes illustrate the way that participants viewed failure as a step on the way to success.

The more you’re doing something, the more you can be comfortable with it, and the more you get better at it. (L1, 156-157)

The look on her face of relief that she hadn’t really messed it up that badly but it was going to take some work, was the learning part of it…that’s what she needed….To me, they learn more if they don’t win. (L8, 115-117, 531)

When you’re doing hands-on learning especially with animals, you need a lot of space to make big mistakes and not hurt anybody. (C3, B1, 21)
**Free time to try/be with an animal.** In typical equestrian sport instruction, the coach provides constant direction and input. In the 4-H environment, one of the leader’s jobs is to create space where the member can experiment and practice without instruction. Some unstructured free time to try self-directed activities and experiment on one’s own, with others or with the animal, was a consistent feature. Members needed freedom to learn problem-solving, and freedom to let relationship bonds happen. Instead of a gap in valuable time, free time is the pause between the notes. It is the part that gives members breathing space and allows them to integrate their experience. Leaders and members did sometimes refer to trouble they got into during free time, but valued the opportunity to make mistakes and learn from them. Without some scope to organize themselves, members would not have the opportunity to learn to plan and organize. One leader explained: “There’s some freedom to organize your time so long as your goals are accomplished. You’re going to need to groom your pony and practice” (L2, 215).

**Learning in groups/teamwork.** As discussed in the section in the previous Chapter on the belonging outcomes (4.3.5), members experienced 4-H horse club as a team environment, even when they were training or performing a task that appears individualistic (i.e., one person with one horse, in the arena competing against other individual persons). In this context, since the relationship with the horse is experienced as a team, conducting an activity with an animal is at minimum a teamwork exercise performed by the human and the animal. The animal is not a passive piece of insensate equipment.

Second, elements such Parliamentary procedure, the mentorship structure, and group activities at inter-regional events ensure that all participants work together regularly. In addition, there is an ethos of working together fostered by the leaders, the organization, and as they catch on, members themselves. One leader said: “My goal for the kids of our club is to work at things as a team…. you know, cheer on the person that's having a hard time. And they do” (L10, 316-318).

Learning together is experiential learning for teamwork and social skills, leadership, self-regulation, appreciation of strengths of self and others, problem solving, care of self and others. It also contributes to group identity (cohesion, belonging, friendship, cultural sharing) and efficacy (being effective expressing needs, accomplishing something with others). Participants also indicated a value of how group work allowed them to learn by proxy or modeling (others’ questions, mistakes and demonstrations of skill). Club minimum size is six, which is a number that ensures a small group experience. Clubs interviewed did not have more than about twelve members, so the sizes were small enough to ensure engagement and participation of all
members together. In the following quote a member describes how learning within the group fosters outcomes.

Leadership and confidence, because you are constantly in a group environment instead of just doing projects where you are alone, you are constantly in environments where you have to speak your opinion ....I find that I've gotten more confident that way because you don't work alone... you have to be confident in yourself in order to do those things in 4-H and you just learn automatically because of the environment....I remember getting on the horse and being confident because everybody else was confident and I thought well if they can do it, I guess I could try doing it, so I think it was easier with everyone else having faith in me too. (C3, M1, 87-110)

**Encounters with difference.** Freedom, interclub/inter-regional events, visiting speakers, group environment, outings and inclusion of members with different abilities are all expressions of an approach that prioritizes encounters with difference. Rather than develop a sense of 'right way of doing', members were encouraged through repeated exposure to differences to learn communication, negotiation, respect and other skills. This approach facilitates *intra-*personal (i.e., problem solving/critical thinking, responsibility, self-regulation, patience, desire to engage) and *inter-*personal (i.e., working with others, sense of identity as a group, social justice, care for others) benefits.

**Leader freedom.** The learner-centred approach described above is an aspect of a person-centred approach that also extends to leaders. Leaders expressed interest in volunteering to lead 4-H clubs, partly because they were allowed freedom to develop clubs that aligned with their own interests (and the horses or knowledge that they had, desire to share with others), and partly because they had scope for creativity within their club. The club seemed to attract leaders who appreciated scope for their own resourcefulness and decisions.

Many of the leaders were entrepreneurs or leaders in the community. By deciding on their own to offer the benefits of their horses to the community through 4-H, they were also socialpreneurs. Their sense of independence still worked within a formal, co-operative model, because 4-H requires that all clubs be led by at least two leaders for accountability and child safety. This meant that the leadership team (at least in the study) was constantly modeling how strong people can be mutual leaders without diminishing others.

Some leaders expressed desire for a little less freedom to interpret the club skill and knowledge training components. They wanted more framework, such as curriculum materials or training for themselves. Those who did were either newer leaders, or expressed struggle to balance the time commitment of 4-H with their professional and personal life. Others valued creative freedom, even though it meant time spent searching for teaching aids and guest
speakers on their own. Since leaders valued freedom, they modeled self-direction and initiative, and were committed to protecting member freedom and teaching the members how to exercise freedom wisely.

**Debriefing.** Some form of debriefing was practiced on a constant and ongoing basis. Debrief is a usual practice for OEL, but not for sport for development, equine-based activity or equestrian sport. While leaders did engage in specific and overt reminders of the 4-H values (such as the pledge and motto recitation), they reinforced reflection on learning moments and application to subsequent tasks or to life constantly. Member reflection and analysis of what they learned through each experience was most apparent in their volunteering of an abundance of comments on their learning experiences and meanings ascribed to them. Project books that members kept also served as a way of logging their learning progress. Journals were occasionally used, but they were not that common in the study group. One leader commented on his practice of getting the members to use journals:

> I've implemented a little journal programme, so after they work with their horses every time they have to write a little summary on what they did with the horse, what the horse did well that session, what they need to work on. So it gives them something to think about and evaluate...what they're going to work on in the next session to correct or reinforce what they did in the previous session. (L9, 311-319)

Reflection and processing of the learning experiences facilitated member appreciation for their agency in their learning process (power and control, self-efficacy) as well as psycho-emotional competencies (patience with the process, focus on goals, self-regulation, ability to take feedback and puzzle through problems). The image-elicitation exercise that was part of the research was not very different from the ways that members were encouraged to reflect on and share what they learn through different experiences. When asked what they learned in 4-H that helped them with life, youth that had experienced at least one season of the club were ready with answers because they had practice with such reflection.

### 5.3 Summary

The facilitating processes described in this chapter interacted with one another, participants, circumstances, and with resilience factors and life skill outcomes to initiate or reinforce other processes or the outcomes, resilience factors and other life skills.

Except for the recitation of the 4-H pledge and 4-H Fair competition (section 5.2.3), most of the people, place, structure or approach elements could arguably be present or adapted by other programmes. Many of them are replicated in 4-H programmes not using horses. Some are replicated in other youth and outdoor programmes. Some examples discussed in the
literature review include the practices of challenge exposure, group-based activity and debriefing in OEL. However, the 4-H formula of clustering these processes appears to be unique. The following chapter summarizes the findings from this study with its main contributions and limitations. Recommendations are also made for effective programme design.
CHAPTER 6: Conclusion and General Discussion

6.1 Summary of the Research

In concluding this research, this chapter provides a response to the follow-up questions ‘So what?’ and ‘What next?’ After briefly summarizing the findings (section 6.1), they are linked back to theoretical (section 6.2) and practical significance (section 6.3) for the main intersecting fields. Finally comments on the research strengths, limitations and recommendations (section 6.4) and concluding remarks (section 6.5) are provided.

Participants showed unusually high levels of resilience and self-efficacy. Youth members also demonstrated a wide range of other life skills and learning. The youth outcomes were facilitated by leaders who were themselves highly resilient and self-efficacious, and by learner-centred approaches, group and community interaction, challenge tasks, and intentional reflection on the application of experiential learning to other aspects of life. The outcomes and facilitating elements are further summarized in the sections below.

Collectively, participant data sources were complementary, showing a high degree of coherence. While not all participants spoke about all of the same elements, themes emerging from the data were largely shared or complemented between data types and between participants (individuals and groups). Another validation of the data was the fact that data saturation appeared to have occurred for each data type, before completion of data collection. For example, preliminary review of the first wave of survey results was not significantly different from analysis of the full set, and most themes were repeating by the fifth leader interview, and by the fourth club interview.

The advantage of continuing to collect data after apparent saturation was in confirming the importance of themes, and adding nuance or additional depth and detail. Themes presented in the findings chapters (4 and 5) were present across most interviews, with some individual participants discussing details or aspects differently from the others.

6.1.1 Resilience and life skill evidence. In answer to the first research question (is there evidence of resilience or other life skill acquisition through participation?), participants demonstrated high presence of the seven protective factors for resilience and self-efficacy through both the quantitative and qualitative data. The data also suggest the presence of a range of other youth life skill outcomes which were either developmental or therapeutic, depending on the participant. The unusually high levels of resilience factors (power and control, identity, relationships, cohesion/belonging, cultural adherence, social justice and self-efficacy) documented in the survey data were confirmed in the interviews and other data where there
was evidence across a range of participants from well supported youth, to youth with significant disabilities or adverse circumstances.

Additionally, participants identified psycho-emotional competencies (i.e., self-esteem, self-care, responsibility, self-regulation, self-calming, focus and patience), practical skills (i.e., time management, logical argument, organization, speaking, leadership, budgeting and farm literacy), and general life approaches (life-long learning, appreciation and care for nature, setting constructive life role goals). The outcomes (including resilience) are highly transferrable into the major areas leading to adult responsibility and thriving, such as school adherence and performance, family life and community contribution, personal and professional development, and enhanced ecological sensitivity.

Although resilience and self-efficacy have not been used as specific outcome lenses in S4D, therapeutic recreation, PYD programming or animal/nature based therapies, many of the resilience elements used for this study have been noted as auxiliary outcomes in these fields. Most of the other life skills that emerged in the study are similarly common either in the non-academic literature related to these other fields, or as study findings: direct outcomes or auxiliary observations. The large PYD study of 1700 4-H members and 1117 of their parents across ethnic groups and income brackets in 40 cities and 13 States in the USA by Lerner et al., (2005) found strong presence of PYD characteristics (in the form of the 5 C’s). Thus, the presence of resilience, therapeutic and other youth development life skills evidenced in the data is not surprising. Six other findings of this research were:

1. The presence of this many benefits and processes emerging from one study;

2. The fact that many of them were significant developmentally or therapeutically, even though club leaders were not trained in youth development, education, therapeutic recreation or therapy (including non-academic field training programmes such as High Five or the Canadian National Coaching Certification Programme);

3. The common phenomenon of inclusion of members with mental and physical disabilities (a therapeutic recreation aspect);

4. The intensity of agreement and depth of description by participants of all ages (10-72) and regardless of variability in local/club culture, leader style, or specific type of horse or related activity;

5. The strong expression of a distinct rural cultural identity; and

6. The ready availability of quasi-comparative/longitudinal information (through the occurrence of leader and member parallel participation in a range of other sports, recreation and youth development programmes; the ability of leaders to stay in touch with members and comment on trajectories many years after 4-H participation; and the distribution of ages of participants).
Given the richness of the data and the findings themselves, it is a surprise that most studies in the intersecting fields, other than meta-studies, have not used broader outcome ‘nets’ or resilience lenses before. The range of outcomes (resilience and other) that participants attribute to their 4-H participation (specifically, especially when asked to compare with other possible sources such as home, work, school, other clubs and activities) was also a finding. With such a range, it was clear that all participants benefited in multiple ways, uniquely experienced, and differently experienced at different times in their lives. While some benefits were very dominant (e.g., identity, belonging, confidence), others were more based on individuals- as would be expected from the literature review on the contextuality of resilience and person-centred nature of experiential learning and therapeutic recreation. An example would be comments from and about members, who were formerly shy, learning to speak up. Other members expressed an opposite need to learn to speak less to give others space.

6.1.2 How the outcomes are facilitated. The range and person-centred experience of benefits also applies to the facilitating processes and elements. Participants attributed the experience of outcome acquisition and transfer to other domains of life and to life trajectory, to a mix of factors that can be grouped into four key areas: the environment, the people (and animals), the structures of the programme, and approaches used in task accomplishment. One way to think of the dynamic and interactional relationship of these four elements is to think of them as the stage, the actors, the tasks and mood or mode those tasks are conducted in. Participants did attribute specific benefits to specific facilitating elements, as is summarized in each section of Chapter 5. For example, the task of judging objects was considered a main contributor to confidence, public speaking and ability for self-expression and idea organization. However, as with this example, most facilitating elements were connected to multiple benefits, and most benefits were connected to multiple facilitating elements. Also, as has been discussed, many of the benefits or outcomes are themselves, processes facilitating other benefits and processes. An example is the resilience factor of relationships, which in turn facilitated other outcomes.

The result is a picture of an interconnecting and positively reinforcing system of opportunities, outcomes and influences depicted in the cube model (Figures 5.8). These reinforcing relationships are far more complex than a simple causal logic model. The other factor, or third dimension, left out of traditional models (such as Holt et al.’s (2017) model in Figure 2.4), is the individual person and their system of connections, needs, learning style, life circumstance and view. The processes involved are inherently relational and co-constructive,
including the person experiencing, because neither the participants nor their environment are passive objects governed by determinism or predictable impulses.

In addition to equifinality of youth outcomes discussed in the resilience section of the literature review, the findings show a *multifinality* (Ollendick & Hirshfeld Becker, 2008) and *multi-factoriality*. Youth experience multiple possible developmental and therapeutic outcomes, through interaction with a diversity of elements and catalyzing processes, either singly or in reinforcing relationship.

In his book proposing the (now mainstream) biopsychosocial model as a paradigmatic shift for meta-theory in psychology, Melchert (2011) compares human developmental and transformational processes to chaos and complexity theory as a contrast to traditionally dominant approaches to psychology. Historical developments within psychology are underpinned by a strong effort to gain acceptance as a science by adopting one scientific method dominant in the 19th Century and honed for the industrialization of innovation in the 20th. Research is now demonstrating that the processes of human science need other methods to reflect human complexity and contextuality. Humans are complex systems with an advanced frontal cortex and evidence of emotional and spiritual, or moral dimensions.

As discussed in the various sections of the literature review, the historically recent positive psychology embedded in TR, PYD and resilience is systemic. Melchert (2001) notes, however, that traditional study of psychological intervention still uses outdated scientific models (Newtonian / linear) that were the leading scientific edge at the nascent psychology as a discipline. He notes that just as for the sciences for which these models were originally developed, they do not apply well to complex systems. Many fields of contemporary science address complex systems (i.e., human mind and body processes) with more complex calculations and approaches based on complexity theories.

Developing children make qualitatively different, discontinuous jumps in ability…Continuous linear models…do not capture the nature of these jumps.

In many areas of…science, it is not possible to model complex systemic or adaptive change processes using linear conceptualizations of change…. linear models cannot be meaningfully applied….It is important for professional psychologists to note that science began to move beyond the linear conceptualization of natural phenomena a half century ago. (Melchert, 2011, pp. 67, 72-75.)

The findings from this study would support non-linear, dynamic or complexity theory approaches. Even though the resilience and life skill findings (Chapter 4) and their relationship to processes (Chapter 5 and Figure 5.8) appear complex compared to traditional attempts at cause-effect studies for youth development and therapeutic recreation intervention studies, they
are still simplified descriptions. The process of thematic identification, analysis and modeling was a process of simplification. Four key elements that can be observed are:

1. The participants themselves;
2. The importance of the horse as a bridge;
3. Club leader freedom and willingness to create a person-centred environment and experience for participants; and
4. An assumption that experience is for learning, that is for living life better.

As described with the cube diagram (Figure 5.8) in the introduction to Chapter 5, the members are an additional facilitator of their own experience. They did not mention themselves, but observation of the data makes it obvious that members are active in their own processes. They choose initial participation, degree of engagement, open-ness, learning objectives and individual pathways to growth within their activities. They also vote with their feet regarding the leaders they choose to continue to work with, new experiences they seek, challenges and feedback they accept, and the framework they choose to view their experiences through. Lerner (Lerner, von Eye, Lerner, Lewin-Bizan and Bowers (2010), considered a founder of positive youth development, describes the youth learner as a facilitator of their process:

In short, predicated on developmental systems theory models, the links among the ideas of plasticity, adaptive developmental regulations, and thriving suggest that all young people have strengths that may be capitalized on to promote thriving across the adolescent years. For instance, one example of the emerging strengths of adolescents is their ability to contribute intentionally to the adaptive developmental regulations with their context. Such intentional self-regulation may involve the selection of positive goals (e.g., drawing from the context the resources needed for adaptive functioning), using cognitive and behavioral skills (such as executive functioning or resource recruitment) to optimize the chances of actualizing ones purposes and, when goals are blocked or when initial attempts at optimization fail, possessing the capacity to compensate effectively. (pp. 707-708)

The second basic facilitating element is the attraction of the activity for the members. In this regard, the horses are critically important since they are the reason members cite for joining a horse club- even when they are initially scared or intimidated by the horses. In this role, the horses are a bridge to the other benefits and facilitative processes and experiences for both members and leaders. Presumably, a participant in a different community with different tastes might experience another species, activity or location as a similar bridge. The horse provides the initial intrinsic motivation essential for learning and self-development (Dattilo, 2015; Maslow, 1971; Rathus, 2014). The third element, person-centredness, allows leaders to adapt
themselves and the environment to unique groups and individuals, heightening the probability of positive outcomes for members, whoever they are, and whatever they are doing. It implies an unconditional positive regard, described first by Carl Rogers (1992) as a prime ingredient for self-actualisation (Dattilo, 2015; Rathus, 2014). The fourth element, the basic assumption that learning will happen by experience and that the learning applies to life, imbues all activities and approaches such that members learn to frame experiences optimistically, and with inherent expectation of life skill acquisition. Members as young as 10 years old expressed self-mastery, awareness of self-development, and other-orientation that is not normally associated with the stage of lifespan development for their age group.

6.1.3 Youth outcome impact. Many examples of the impact of member experience and benefits on life trajectory or other aspects of life were given in the study results. Other studies show why outcomes like self-efficacy and other skills in the findings are highly significant for research and practice in wellbeing promotion and youth intervention. For example, the skill of optimistic re-framing of experiences (demonstrated by the participants) has been shown to be linked with school performance, career performance, relationship success and recovery from, or avoidance of, depression (Seligman, 2006). Self-efficacy is linked to less distress and powerlessness under stress, and healthier coping mechanisms (Bandura et al., 1988; Bandura, 1993; Bandura et al., 1999; Rathus, 2014). Self-discipline, an aspect of self-governance or internal locus of control incorporated in self-efficacy, is linked more strongly to academic and career success than IQ (Lieberman, 2013; Seligman, 2011).

In an earlier phase of resilience research, resilience was conceptualised as the personality trait of hardiness (Kobasa, Maddi, & Kahn, 1982). Hardiness language has survived within psychology where it seems to be an attractive word for certain milieu: it is often found in what are essentially resilience studies in military and organizational research (Kobasa et al., 1982; Maddi, Kahn, & Maddi, 1998; Bartone, 2006; Judkins, Reid, & Furlow, 2006). However, it also appears to have evolved, and resembles contemporary understandings of self-efficacy, that is advocated as a way to reduce anxiety and bolster the immune system (Sandvik et al., 2013) under high-performance/high-stress conditions.

Self-efficacy (agency, internal locus of control) is arguably more important than confidence or self-esteem (self-esteem and the “5 C’s” being traditional favourites for S4D research, Section 2.3.3). A person can be quite ill or behave inappropriately and still score highly in confidence or self-esteem (resulting in exteriorized anti-social behaviours). In a meta-study on presence of the ‘5 C’s’ in American 4-H members, researchers also concluded that developmental assets such as self-esteem can co-exist with risky behaviour (Hamilton, 2014).
While youth in this study were not asked about risky behaviour, the interviews did open the door to revelation of adversity or difficulty as evidenced by the data showing inclusion of members with disabilities or other socio-economic and domestic challenges. High self-efficacy did not always correspond to positive feelings about self. It seemed that the less that participants focused on themselves, the more they succeeded. The leaders were the most self-deprecating with the highest self-efficacy scores. The fact that the findings show such strong evidence of protective factors and positive life ideation, engagement and life trajectory suggests that attention to *that* assets are fostered and studied is important.

6.2 Theoretical Links

This section briefly examines the findings in light of some key theoretical frameworks that have been discussed in the literature review (OEL, RT, S4D, equine therapy), and a couple of additional lenses: the concept of flow, and structuring of therapeutic green-spaces.

6.2.1 Outdoor learning. Review of the findings suggests that participant experiences in 4-H have clear parallels with outdoor/adventure learning. The key concepts discussed in the literature review included a mastery/challenge in that a participant is supported by peers and leaders to overcome a challenge presented by the uncontrollable (nature) elements of their task, through an iterative learning experience (Kolb’s cycle). The personal developmental or transformational process is effected (triggered and then influenced) by multiple opportunities and different scenarios in that to practice new skills or use new information. The process includes active debriefing and reflection, development of relationships, and encounter with nature. All of these elements were strongly present in the participants’ horse club experience. Also, the model of mutual leadership or service leadership that is fostered in the club environment parallels a similar model developed in outdoor learning in which leadership is a shared responsibility of service, more than a hierarchical or dominating role. In conclusion, the encounter with horses, farms and other animals described by participants does qualify as a category of outdoor/adventure learning.

6.2.2 Recreation with developmental and mental health promotion goals. If the concept of PYD through sport is widened to include an understanding of ‘sport’ as physical activity (regardless of competitive nature, or Olympic sport status), then 4-H programmes that involve physical activity qualify by definition since they are conducted within a specific PYD framework or agenda. Elements discussed in the findings that correlate to discussion of life skill acquisition and developmental benefit in the literature review for S4D and PYD include: peer relationships, mentoring relationships with supportive adults, and opportunity to experience fun,
challenge and skill development. These elements were clearly linked to both the internal and external S4D processes differentiated by Holt et al., (2017). Additional elements discussed in PYD programming literature, but not as much in S4D, include connection with the wider community and a participant-centred approach to learning and topic choice. These elements were also strongly present in the study findings. The 4-H horse programme is clearly both a PYD programme (generally), as well as an S4D programme (when it involves physical activity specifically).

The elements of TR that are clearly present in the study findings include: an equifinality or multiple paths approach to benefits (an approach shared with resilience research), an experience that impacts multiple domains of wellbeing while integrating persons with developmental and therapeutic needs into the community, clear therapeutic/developmental goals and objectives, and enjoyment and pursuit of the activity in and of itself. To differentiate TR from the other therapy modalities studied: ‘therapy’ has an express treatment goal. TR may have a treatment goal, or it may regard inclusion in healthy recreation or participation in other health maintenance or development goals, as a therapeutic goal. The TR construct of the five pillars of wellbeing (PERMA: positive emotions, engagement, relationships, meaning, and accomplishments) (Dattilo, 2015) was reflected in the outcomes and process findings in this study.

A concept common to TR and S4D is that soft skills such as focus, social skills and self-control, can be practiced in physical activity with transferrable benefit to other scenarios. In addition to the mechanism of debriefing common in the PYD, OEL and TR literature, neuroscience also supports the idea that activities that promote development in specific brain areas also have a benefit for other activities using the same capacity. For example, physical training to improve self-control and timing has been shown to have a positive impact on improvements in the ability to focus on mental tasks (Lieberman, 2013). In this study, participants described a strong connection between ‘ability to keep your cool’ in life situations, and practice controlling their emotions and actions when presented with challenges while working with the animals. With regard to facilitating self-control and consideration of the other’s needs, working with the horses was more significant in the data than working with peers.

The study showed that 4-H horse club could be experienced as TR by those with therapeutic need. It is also important to remember that all human beings have therapeutic need at various times and moments of life. Therapeutic need begins long before any diagnosis happens. In the study, participants who would otherwise have been considered typical or low risk freely discussed moments of therapeutic need such as relationship stress. They expressed
ways in that their 4-H experience was therapeutically supportive (the leaders, having friends, having the horse best friend) through that need. One aspect of that support was the non-stigmatising feature of participating in a recreation programme, rather than a programme designated for persons labeled with deficits. Even the stigma of not being a horse owner or farm kid in a group of horse experienced/rural kids was overcome. In traditional therapy literature, the significance of social inclusion for developing self-identity and social capital is not usually discussed. When equine therapy is studied, the big questions revolve around whether participating in the activity is helpful, not the overarching conditions of participation. In TR, social inclusion is a legitimate objective and benefit, regardless of the details about the person experiencing it. Although equine, animal and nature therapy intervention studies based on the medical model are very important for the evidence around therapeutic benefits, the TR body of theory seems to be a better fit since it allows for the role of the individual participant as a shaper of the outcomes of their experience.

6.2.3 Flow and intrinsic motivation. The enjoyment that is a requirement of the TR experience comes from a central role of enjoyment in deriving therapeutic or educational benefit out of any experience (Dattilo, 2015). In the framework of positive psychology, the focus of therapy with a true positive psychology outlook is on flourishing, not merely overcoming or coping with illness. All persons aim at flourishing (Seligman, 2011). This idea is developed from Maslow’s hierarchy of needs placing self-actualisation at the peak (Maslow, 1971). Social context and intrinsic motivation are embedded in flourishing and self-actualization (Seligman, 2011; Lieberman, 2013). Participants in the study were clearly experiencing personal, individual growth and development in a socially connected context where the social connections (including the horse) and the tasks mediated an experience of joy and accomplishment that was intrinsically motivating.

Participant descriptions closely resembled the experience of flow prized in TR (Dattilo, 2015) and positive psychology (Seligman, 2011; Lieberman, 2013). A thorough description of the process or elements of flow is attributed to Csikszentmihalyi (2008) who describes his theory as a “phenomenology of enjoyment” (p.49). Flow explains how enjoyment becomes so intrinsically motivating. Enjoyment is contrasted to pleasure. Whereas pleasure is a nice experience, it may cost little effort (i.e., consumption of television) and becomes a filler for boredom. By contrast, enjoyment happens when boredom and anxiety are balanced: there is stimulation, challenge, hard work and even possible pain and difficulty, but the rewards are considered worth it. The eight necessary elements for an experience of flow are (Csikszentmihalyi, 2008):
1. Confront tasks that are both challenging, and for that one has support/assets that ensure a healthy chance of success (tasks can be completed.);
2. Concentration on what one is doing (in the moment);
3. Clear goals (goals are defined);
4. There is ample immediate, ongoing feedback;
5. Deep involvement that removes one from one’s regular world and worries;
6. Ability to exercise control over one’s actions;
7. A state where conscious concern for self disappears and is replaced by concern for Other; and
8. A sense of time being altered (lose track of time, or time slows down as details become hyper clear).

Many of the experiences shared by participants in the study correspond to experience of flow. Two examples are the ‘Blue and me’ and ‘shy girl’ stories shared by leaders (Appendix G). The first is a story about a boy with a physical disability, who has an experience of forgetting about his performance fears while leading a miniature horse in a competitive event. The second is a story about a little girl who forgets to be shy as she focuses in the moment on her interactions with the pony. While 4-H horse activity bears little resemblance to traditional equestrian sport, and while all participants are rewarded for growth and learning, there are strong competitive elements. As supportive as the leaders and environment appear to be, they are equally as demanding. Members commonly referenced challenge and support, having clear goals, ongoing feedback from peers, animals and leaders, self-responsibility out of concern for animal welfare or impact to Other (animal or persons), and a sense of being in a valued ‘other’ world. Based on the findings of this study, the function of the flow experience described in TR would make a valuable contribution to OEL, S4D and animal/nature based therapy.

6.2.4 Green-spaces. As discussed at length in the literature review and findings, the farm space is an alternative location of nature encounter. It is much closer to population centres than many traditional (wild) nature locations for outdoor learning and nature-based recreation (as opposed to urban recreation that can occur in a natural setting, such as jogging through an urban park). Not all farm and other green-spaces have equivalent therapeutic benefit. For example, Louv (2006) and other literature on green play spaces show distinct differences in experience of a manicured, mowed space vs. a space with more textural, interactive and species diversity. Since spaces designated for the human activity of growing things (i.e., farm, agri, horticulture) are not widely studied in North America for their therapeutic benefit, there is a scarcity of literature. In Nordic countries, where the concept of Green Care has embraced use of spaces where humans farm or work with nature (as opposed to walk/be in it in its pristine
state), the Swedish landscape architect Patrik Grahn (1991) is considered a leader in development of concepts for explaining what makes a space therapeutic.

Grahn’s model for therapeutic green environments describes human purpose there in terms of four dimensions of engagement (inward-directed, emotional, active, outward-directed) (Grahn, 1991; Stigsdotter & Grahn, 2002, 2003; Bengtsson & Grahn, 2014), rather than defining the human purpose based on deficit or disability (i.e., the space is for conducting x activities that treat y condition). An updated and adapted version is shown in Figure 6.1 (Bengtsson & Grahn, 2014). Interestingly, this thinking is developed in a climate where the term health development is more common than the North American term health promotion that emerged from the deficit-based medical model dominant in North America.

The four dimensions are placed on a continuum from low to high well-being to depict dimensions most likely to be engaged in, depending on participant wellbeing. As discussed in the literature review section on TR, wellbeing status in a single person can vary, based on the different dimensions of wellbeing (i.e., within themselves a person may have varying levels of wellbeing, rather than be defined by a level). Participants in this study described experiences within the club host farm and other rural spaces that corresponded to all four of these dimensions. Regardless of personal asset or need, participants had opportunities for experiencing any of these four dimensions as they were ready to do so.

![Diagram of Grahn’s model](image)

**Figure 6.1.** Grahn’s Supporting Elements for Therapeutic Green Environments

Other work by Grahn et al., (Stigsdotter & Grahn, 2002, 2003) details elements of a healing greenspace: serenity, wild features, rich in species, a separate other-world space, a common area, a space for play and sensory stimulation by the nature elements, space for festivity, and a link to culture.
The 4-H club spaces experienced by study participants had these features. Participants had freedom to be alone, experiment, and work together. They connected with culture in a space very different from everyday life, with animal and plant species variation. They encountered nature in the animals and spaces as both tame (i.e., the enclosed working yard with the horses, an obedient horse) and wild (i.e., the treeline or forest on or near the farm, the unpredictable self-agency of the animals). They worked, played, socialized, produced and were nourished in the club space.

6.2.5 Interspecies healing relationship. Of the various theoretical explanations for the role of the horse in equine activity with therapeutic outcome benefit (cortisol, endorphins, intimidation, various neurological and mystical explanations for horse-human interaction, biophilia), the only aspects that were clearly observable in this study data were biophilia (apparently innate love of horses), relationship characteristics, and encounter with the horse and related tasks as adventure learning. Therapeutic literature typically casts the horse as part of the therapeutic alliance (an extension of the therapist). Yorke et al. (2008) describe a reciprocal relationship in their study on equine therapy and trauma recovery. Toukonen (2011) claims a unique emphasis on the human in the relationship of being there for their horse, and the horse contributing to the human’s being a better person. In her study comparing youth in an equine therapy programme with those in a recreational sport programme, Toukonen found that both sets of participants experienced competence, personal growth and stress reduction through a connection with their horses, which was characterised by mutuality and affection.

The human-horse relationship described by study participants was clearly a two-way, nurturing, emotionally significant, partnering, at times healing, relationship that was considered as valuable to personal transformation as any other significant relationship in the experience (family, peers, mentoring adult friend, community connection). While most equine therapy studies focus on the impact of the treatment for manifested (external) problems and external behaviour observations, Sudekum Trotter’s (2006) study comparing equine therapy and classroom-based therapy groups showed that both groups experienced behaviour scale improvements, but that the equine group improved in more of the internal behavioural areas. Also, except for one area (emotional symptoms), there was no overlap in the areas of improvement. While participants in this study did discuss various observable and visible behaviour changes they attributed to participation in 4-H horse club, they positioned these observations as resulting from a process of internal transformation preceding and accompanying other changes. They mostly discussed internal processes that appeared to be working regardless of participant levels of visibly identifiable need for extra support.
6.3 Significance and Generalisability

Although this study is not statistically generalisable, there were statistically significant resilience scores. Also, both the quantitative and qualitative findings have practical and theoretical importance for the fields involved. Although conducted in Ontario, many of the rural issues and assets discussed apply across rural Canada, and in other contexts. Although conducted with a primarily English speaking female youth population, many of the core findings could be transferrable across gender and culture since they are based on elements (resilience and self-efficacy) validated cross-culturally, and emic expressions, not on etic symbols of their achievement. The participant expressions may have been uniquely contextual, but what they were expressing in terms of resilience factors, contributing processes and other benefits were common PYD, therapy, and resilience research themes that could be reinterpreted in other contexts. Although the study was on 4-H horse club, the outcome benefits and most of the contributing processes would be equally accessible in programmes with other nature elements or animals if interpreted differently in a different context. Even with some very 4-H specific items such as Judging, the basic elements of how nature, physical activity, horses and an experiential learning process were brought together fall within expected options in the intersecting fields, and could be applied elsewhere with contextual interpretation.

Aspects of this study are highly relevant to study and practice in sport and youth, youth development generally, equestrian coaching and learning, nature and animal-based therapies, therapeutic recreation generally, and 4-H broadly. The relevance of the study to informing disciplines was briefly described in the Introduction chapter and in the sections above. The sections below explore the meaning of the findings for promoting wellbeing in rural communities, Green activity, the equine industry and use of recreation and physical activity for healthy development and therapeutic benefit. I make these recommendations based on having taken several new steps in this research:

1. Applying a resilience lens to
   a. S4D
   b. Therapeutic recreation
   c. Outdoor/experiential learning
   d. Nature/animal/equine based activity
   e. 4-H

2. Applying a rural lens to
   a. S4D
   b. Therapeutic recreation
   c. The history of recreation in Canada
3. Examining non-therapy, non ‘equine-assisted learning’ equine recreational activity as
   a. Developmental
   b. Therapeutic

4. Applying outdoor learning and recreation therapy principles to
   a. S4D
   b. Equine activity

5. Discussing farm based recreation as Green Care in a Canadian context

6.3.1 Rural development, wellbeing promotion and youth intervention. In the landscape already described of rural need for human capital, salutogenic environmental design, addressing the wellbeing deficit and equipping local youth for adult thriving in urban and rural communities (OMRA, 2014; Didkowsky, 2016), this study shows that rural communities may already possess many of the resources needed to make an important difference, sustainably. Those assets are primarily people (youth and volunteers, community members), public and privately held green infrastructure, a distinct rural culture, and recreational activities that are uniquely rural. A conclusion of Didkowsky’s (2016) study on barriers to rural youth resilience was that a rural community capacity to provide “valued educational, occupational, recreational, social, emotional security and identity resources” (p. 309) increased the likelihood that youth would choose to stay and invest in their communities.

Rural youth do not necessarily want to leave, even though they do in alarming numbers (OMRA, 2014). The results of this study support the notion from positive psychology that youth want to learn, grow, develop, discover strengths, and take on challenges - and work hard at doing it. Rural communities have under-utilised resources for creating environments that make this possible. They may also need to guard against unquestioned adoption of intervention models designed for other contexts, especially since there is ample evidence that mainstream recreation and formal therapies are insufficiently meeting current wellbeing needs. A more proactive approach to creating salutogenic environments and protecting human, social and green assets would be appropriate. Rural communities (and Canada) cannot count solely on solving problems by increasing exogenous production inputs (i.e., immigrants with capital and skills) (OMRA, 2014), exporting human product (talented, energetic young people migrating to cities because they are only trained for urban employment), and reducing social and economic liability (e.g., non-producing residents falling through the socio-economic cracks, migrating out of rural areas with inadequate housing and support, to join the population of urban poor).

6.3.2 Effective green, animal and equine activity. The findings of this study broaden the ‘nature’ therapy vocabulary in Canada to include spaces that are geographically easily
accessible to more of the population (farms). The study also shows that therapeutic and developmental benefit can be powerfully present in very affordable, community-based programmes without the expense of mental health professionals. While there is certainly a place for therapists and counsellors, the population need is too great, especially among those who cannot afford professional help. There will always be situations where professional help is the appropriate response. However, much preventive and complementary intervention can be accomplished at much less expense. While this finding may be viewed as bad news for the private industry of equine therapy, it is good news for private and public health budgets.

The study also supports the idea that not all animal and nature-based programmes are equal. Specific approaches and elements are more facilitative of therapeutic benefit. Stakeholders in community intervention should be aware of the research, and not distracted by the marketing. It is arguable that some equine-therapy programmes may be LESS effective because of their segregating nature that can be experienced as stigmatising, and that does not accomplish the goal cherished in TR of enabling people to flourish in the regular community. The best nature, animal or equine activity for a community is the one that it can sustain, and that people will be interested in attending because it is fun, engaging and provides multiple benefits for participants and their relationship networks. For example, many participants in this study were involved in 4-H as a family. If the family members were not directly involved, they had space to hang around and were actively part of building the community that contributed to the relationship and belonging aspects of resilience.

Therapy programmes that only help individuals while not addressing the other stakeholders and the environments in that they operate, are only doing part of the job. Many youth programmes, sport, physical activities and therapy environments leave the rest of the person’s context literally sitting outside of the process. The images of dance-classes or therapy offices with tiny parent waiting rooms, or sports organized strictly by age group come to mind. Therapy experiences that exclude the human geographic context of the person being treated are marketing an illness treatment service, when they could be an active agent in ecological relationship, facilitating resilience. The difference lies entirely in whether the goal is to equip to thrive, or fix a deficit. As Seligman (2011) states:

The skills of enjoying positive emotion, being engaged with the people you care about, having meaning in life, achieving your...goals, and maintaining good relationships are entirely different from the skills of not being depressed, not being anxious, and not being angry (p.182).

6.3.3 Equine industry. As discussed in the introductory chapter, the equine industry is facing a challenge of relevance in North America. Those who care about having horses among
us, and about access to the benefits of spending time with horses, have a vested interest in exploring ways to continue to meet the needs of contemporary society beyond the role of marketing sport and related product to a shrinking higher-income target market. Equestrian sport facilities may have done well with their current business model, but the drop in riding schools and aging of the riding population (Evans, 2010; Sansom, 2016) indicate that the ride has an end in a majority urban culture in that most of the population born after the 1970’s has never had a personal experience with a horse (Evans, 2010) or, possibly, a farm.

The findings from this study show that it takes neither a highly skilled equestrian sport coach, nor an especially accredited mental health or youth work professional to run safe, popular, engaging programmes with horses that successfully integrate mental and social developmental needs and persons with different abilities. Initiatives at Federal and Provincial levels to collaborate between health promotion, leisure and sport are creating programmes such as High Five and physical literacy training to equip grass-roots activity facilitators to incorporate principles and approaches for building skills for lifelong mental and physical wellbeing. Equestrianism needs to join the conversation.

While activities like 4-H are not a large revenue generator, the equestrian community might benefit from diversifying their activity options, audiences and community partners. Although the entrepreneurialism of the industry does fragment it and hamper collaboration, that same entrepreneurial culture is a rural strength. Many of the study participant leaders were horse-people with exceptionally high levels of self-efficacy, as indicated by the quantitative and qualitative data. A person high in self-efficacy and practiced at economic resiliency is a good mentor for rural youth, especially as a female role model of strength-based resourcefulness and thriving. As has been mentioned, the type of activity featured in this study is suitable as a retirement or alternate activity for horses that are no longer useful to the competitive sport sectors. The activity does not need to compete with prime revenue generating activities for an equestrian sport business, but rather complement them and make the farm space more relevant to its surrounding community and its needs.

6.3.4 Therapeutic recreation and developmental sport. Many of the comments from the therapy section above apply to the incorporation of therapeutic benefit and PYD in community sport and recreation. Club leaders in this study were not trained in PYD, or therapy. However, they were fully capable of supporting development and therapeutic goals when enabled by programme structures, freedoms and a compatible culture of values and approaches. The relative lack of formal sport and therapy training may be a factor in leader ability to foster a learning-together environment, rather than replicate the more one-way
expert/novice, teacher/pupil, healer/problem relationships characteristic of other environments where therapy, teaching and skill acquisition occur.

The goal of this research is not to suggest that everyone should be involved in 4-H horse clubs or 4-H. Clearly, not every experience of 4-H is like those reflected in this study. In my own very limited experience of taking my niece to 4-H horse club for one short season, I only observed some of the benefits that emerged from the study. For example, my niece did have significant learning and behavioural challenges. She did experience inclusion, a changed attitude about learning, and a sense of accomplishment in ways that were qualitatively different from her experience of the dance classes to which I also took her. However, as a caregiver, no-one at my niece’s club ever explained to me how I could be a volunteer, involved family member, or join the 4-H community other than by paying her membership fee and driving her to meetings. Arguably, our experience corresponds to the observation that study participants who stayed with 4-H for several seasons had higher self-efficacy scores and showed more outcomes in the qualitative data, and that many processes that appeared in the data for this study were not present in my earlier personal experience. Leaders like that did not participate in the study. That particular leader actively declined to participate when invited to do so. What can be said is that this study shows that many outcomes occur for many people, and they are enabled by certain processes.

6.3.5 Practical recommendations for youth programme developers and leaders interested in fostering resilience. It is hoped that the findings are useful support for 4-H and other similar programmes, and that communities and people involved in youth development would consider partnering with 4-H for whatever topic they are interested in. There are non-physical, non-farm 4-H options. There is a current emphasis on STEM (science, technology, engineering and math) even in 4-H. However, one main goal of the study was to learn about elements that other communities or organizations could apply, within their context. It was important both to myself and my research partners (4-H and Mitacs) that the research contribute practically to community programming. As a result of this research, the following are recommendations for sustainable, contextual, low-cost, effective youth programmes with the possibility for developmental and therapeutic benefit. The recommendations are organized into four categories: leader support, club values and activities, inclusion, and community connection. There is no particular prioritization within each list.

Supporting programme leaders. The following recommendations are for programme administrators to consider, for the purpose of engaging and supporting club leaders.
1. **Allow margin for interpretation and creativity with resources within quality and approach parameters.**

Programme structure should be wide enough to allow leaders to interpret activity options and programme curriculum according to their experience, and readily available community resources. Flexibility increases the possibility for people to volunteer to become leaders, and to offer clubs that match the resources for support in an area. Resources can include items, topics (access to knowledge), locations, and people. A 4-H club can be run in a home kitchen, church basement, outdoors, with computers on a dining table. Match people with skills, with people, with spaces, with resources (donors or funders). Use the ‘stone soup’ approach. Every community has enough assets to do something. Although this study was about 4-H horse club, it confirms that many of the outcomes and processes could be accessed by clubs using other animals or activities. The goal is to increase the ways that communities can support resilience, life skill development, and inclusion. The leaders valued their freedom to interpret club requirements within their context, as well as a clear framework to do so.

2. **Make volunteering inviting and easy to start.**

4-H horse clubs, like many community programmes and non-profit agencies, depend on the skills and contributions of volunteers. Most of the leaders commented on the workload involved in leading a club, the need for more volunteers, and for support to engage and mentor volunteers. Provide a structure for leaders to mentor parents and other volunteers, and also to include them, remembering that they are developing and benefitting as much as the youth. Provide multiple levels of engagement so that people can engage as little or as much as they wish. They are more likely to engage with small requests first. Then it is easier for them to gradually engage more as they feel more confident and interested in doing so. They are more likely to remain with 4-H if they can get help, or scale back. One of the leaders interviewed stated that she would be ceasing to lead 4-H clubs after the season she was interviewed because of feeling burnt out. Younger leaders commented on the challenge of staying engaged due to hours required. Older leaders commented on their longevity with 4-H in relation to their ability to ask people for help and to engage other volunteers and resources.

**Developing club values and activities.** The following recommendations are for club leaders to consider in programme design and club facilitation.

1. **Include youth in decision-making.**

Assume everyone has leadership ability, and train them to find it and use it. Scaffold the process so that they can be successful while learning by mistakes. Youth in 4-H are formally included in the club topic planning and decisions over the season through their Parliamentary
procedure roles. The discussions involved train them in critical thinking, respect for the views of others, and the practice of inclusion in an experiential way that creates an embodied experience of the values and mottos of the organization.

2. **Stimulate executive functioning.**

Intentionally include tasks that require critical thinking, presentation of logical arguments (reasoning), public presentation of ideas and skill. In addition to the Parliamentary procedure, the 4-H club activities were constantly and consistently structured in a variety of ways that members could acquire and practice these skills.

3. **Protect free time and space to learn from trial and error.**

Ensure that in addition to technical instruction in interaction with animals and nature (or sport etc.), there is unstructured ‘play’ time with the animals or nature element in that participants can experiment, fail, create and build relationship without judgment or pressure for outcomes. The unstructured moments were intentionally offered and protected by the 4-H leaders, as an important way to ensure that members’ questions and experiments were learner-centred within the club framework. Also, the process of trial and error was recognized as a way to learn problem-solving skills, and to acquire confidence in one’s own choices and abilities.

4. **Continuously present new challenges and expect full effort.**

Ensure an opportunity for skill demonstration or competition that is challenging, but attainable with support. The task of learning and growing is influenced positively by the beneficial stress (eustress) of knowing that there is an upcoming challenge in that the learning will be applied. The leaders had high expectations of members’ effort levels and abilities, but combined it with an approach where everyone could win in some way. Competition was structured to avoid us vs. them, ‘in-group/out-group’ or ranking of worth, even when there were ranked placings. A heavy emphasis on comparative performance or technical perfection, especially for younger ages is known to reduce risk-taking and limit the growth and discovery of new strengths and interests. Members and leaders valued challenge as primarily a personal experience and opportunity for growth and learning. Members of all abilities continuously had new opportunities for growth and accomplishment that stimulated them to engage and stay engaged. Repeated experience of overcoming and of stepping out of comfort zones resulted in self-belief around abilities for learning, calculated risk-taking, and problem-solving, that translated into other life goals such as education or other life roles.

5. **Foster a strengths-focused environment.**

Leaders in the 4-H horse clubs set an example and modeled assumptions of strengths in others, curiosity and appreciation for growth within the club and surrounding community. They
also modeled how to appreciate the strengths of members with different abilities, and how to respond to difficult situations or learning moments with a focus on strengths and opportunities for growth. The strengths focus also created a climate where heterogeneity could be valued, because differences were framed as different strengths.

**Enhancing participation and inclusion.** The following recommendations are for administrators and club leaders to consider in removing barriers to joining and participating.

1. **Connect across difference.**
   
   Create inter- or extra-group opportunities for encounter and collaborative endeavour across differences: culture, gender, language, physical and mental ability and health, activity-culture (cattle folks and horse folks, road bikers and mountain bikers, techie and non-technical youth).

2. **Make the programmes financially accessible for all income brackets.**
   
   Maintain very low member costs, and cultivate sources of sponsorship for those who cannot afford it. Effective and enjoyable programmes do not need expensive infrastructure, equipment or staff. Some 4-H horse clubs are ‘horseless’ clubs. One club in the study was held on a very small hobby farm with minimal shed and yard space for animals. Two leaders interviewed space-shared at another private facility. The low fee barrier to entry resulted in members from a wider variety of socio-economic brackets than traditionally associated with equestrian or other sports. The practice of carpooling further reduced transportation barriers in the rural communities.

3. **Create team roles for everyone.**
   
   Use t-shirts or other outward signs of belonging together. Several of the clubs represented in the study interview data found affordable ways to create a team feeling by printing shirts, finding the same or similar coloured shirt for everyone, obtaining badges or pins, or other ways to signify belonging and unity when out in public. The tangible signs of belonging that were recognizable to others enhanced feelings of belonging and team-oriented behaviours. Additionally, leaders created opportunities to engage in the community as a ‘team’ (i.e., fundraising). They also encouraged a team approach to supporting individuals in their competition or demonstration events.

4. **Ask, ‘how can we make inclusion possible’?**
   
   Make programmes available on topics of interest to a diversity of youth- especially those not engaged/not interested in traditional organized sports. Ask local families what kinds of club topics their children would be interested in, if there were no barriers to participation. Assume you can include persons with different abilities before ruling it out. Ask the family members how
to support the member. Leaders used these practices to make participation possible for members with a wide variety of needs and different abilities. While all activities cannot be accessible to all abilities, many more activities can be modified in ways to make some meaningful participation possible for persons with different abilities and needs.

Creating community connection. These recommendations are for community stakeholders, regional club administration and club leaders to make clubs possible in regions with fewer resources, and to connect members to their community.

1. Foster community co-operation.

Create physical spaces and logistical frameworks to support connection and collaboration, especially in rural communities where geography is a factor of isolation and there is less public built infrastructure. The 4-H horse programme makes connections with professionals, organizations and facilities, mostly independent of schools or municipal infrastructure, with the ability to contribute knowledge, resources, or other partnerships in facilitating the youth experiences. In addition to the resources the club has access to, by connecting with the community the community awareness of the club increases.

2. Encourage participants to contribute in the community.

Expose participants to a variety of community members and civic engagement opportunities that are not related to the skill development or competition directly. Specifically, connect the club and members to volunteer and civic action experiences with other non-profit, religious or municipal organizations and needs. Leaders and clubs interviewed all spoke about fulfilling the community part of the 4-H pledge by interacting with other community needs and organizations. Participate in what is going on in the community. It is important to see one’s value and impact in a concrete way to experience belonging, self-efficacy, empathy and civic-mindset. Members and leaders commented on their community participation outside of 4-H as an important factor in their experience and appreciation for 4-H, and their sense of belonging and the worth of their strengths and contributions.

The above recommendations align well with the five principles that Liebenberg and Ungar (2008, pp. 24-30) suggest are necessary to incorporate resilience in youth intervention:

1. Resilience is nurtured by an ecological, multileveled approach to intervention.
2. Resilience shifts focus to strengths of individuals and communities.
3. Resilience research shows that multifinality, or many routes to many good ends, is characteristic of populations of children who succeed.
4. Focus on social justice is foundational to successful development.
5. Focus on cultural and contextual heterogeneity related to children's thriving.
If there is a theme in the recommendations above, it is *enabling connection*. As Seligman (2011) notes: “Very little that is positive is solitary…. *Other people* are the best antidote to the downs of life and the single most reliable up” (p. 20).

### 6.4 Research Strengths, Limitations and Recommendations

#### 6.4.1 Strengths.

The volume and variety of qualitative data that the study methods yielded exceeded expectations. It was useful to be able to triangulate multiple data sources. Combining quantitative and qualitative methods within the same resilience lens resulted in data sets that complemented one another well. The credibility of the findings was reinforced by continuing to interview, even after apparent data saturation. It was also very useful to combine external (leader interviews) with internal (youth self-descriptions) observation. While leaders and youth used different expressions and often had different points of focus, their comments complemented one another. In the cases where club members interviewed had a leader who had also been interviewed, there was an interesting correspondence between member and leader understandings of the nature of leadership, the values of 4-H and the purposes of the experience.

It was particularly effective to use visual data methods with the youth. They were asked to engage with media in a way that would facilitate personal sharing around a specific topic, and they did. It made no ethical or logical sense to exclude a participant because they wanted to present a drawing instead of a photo, or wanted the researcher to take photos or video instead of bringing one themselves. Visual methods of various kinds are frequently used in youth resilience studies, where study populations are often described by risk categories including lower literacy and education. Use of image elicitation with such a varied youth population was effective for eliciting their views, while allowing all participants to engage as if at the same level. Allowing a participant-centred interpretation of how to engage with the method was effective for gathering relevant and rich data in this study. As was expected, the method was experienced by youth participants similarly to the public speaking and accomplishment presentations normal to them in the 4-H context. The visual data generated by the youth in turn inspired leaders, and was found to be highly meaningful to 4-H staff, practitioners and other researchers when shared afterwards in presentations, conferences and knowledge translation documents. Although the youth may have lacked precise language for some of the processes and phenomena they were describing, they were not lacking in metaphors, gestures and other ways of conveying meaning. Using more open, and a wider range of data collection options with them invited a much richer expression. The contrast between the fairly narrow responses permitted by the survey, with the
interview comments illustrates the importance of qualitative methods for understanding participant experience and operative processes.

Although not designed comparatively or longitudinally, the range of participant age and experience permitted by the fairly open inclusion criteria resulted in data that did in fact address longitudinal and comparative questions. For example, several leaders and members were able to comment on several years or decades of member development trajectories, and their relationship to 4-H participation. Also, several leaders and members offered comparisons between their experience with 4-H and other youth development and sport activities such as Scouts, Guides, Cadets, dance, soccer, church youth groups and competitive equestrian sport.

The variety of locations represented by participants was an additional strength that helped avoid the problems associated with too small a case study. For example, leadership traits or cultural values emerging in the data were more likely to be characteristic of the 4-H programme, than individual leaders. If the programme has an attraction bias (leaders who identify with its values and structure), then the observations of the culture fostered by 4-H are further supported.

6.4.2 Limitations. The study can only describe outcomes and their facilitating processes from the view of the participants. There is still no way to know to what degree a self-selection bias influenced the study. Although participants did express frustrations and wishes for improvements in their 4-H experience, as well as varying degrees of engagement with the research process, no disengaged participants were interviewed. One leader interviewed indicated that she would not be continuing to lead 4-H, mostly due to personal reasons. Otherwise, there was little opportunity to learn about what did not or does not work for participants in their experience of 4-H. Other limitations include the following:

**Larger sample.** The mixed-method approach worked well, but it would have been strengthened with a somewhat larger sample for the quantitative set. Based on the correspondence between the quantitative and qualitative data, it is not expected that a larger set would have profiled differently. However, this hypothesis would best be tested with a larger data set. The study would have been enhanced by more opportunity to link the quantitative and qualitative data sets, such as through questions that asked about processes.

**More visual data.** The data would have been richer with more video, and with an option for leaders to also be invited to share visual data. As mentioned, some leaders took that initiative anyway. A more systematic inclusion of additional visual material, or material from additional sources would have added to the study richness.

**More key informant data.** Even though the leaders provided external observations on youth, more parental or other stakeholder observations would have enhanced the discussion of
transferrable skills. There were some parental observations, either because a leader was also a parent, or made by a parent who was in the vicinity of the research. Systematic inclusion of parents would have enhanced the information available about life skill transfer.

**Longitudinal information.** Even though many participants provided comparative information and commented on impact over time, the study was a cross-sectional snapshot of the status of resilience and experience of life skills for participants. A longitudinal design might establish impact more clearly. Also, a comparison group of some kind would have made specific 4-H contributions or horse contributions even clearer. Comparative studies across cultures (e.g., ethnic, rural/urban, or inter-regional) would be interesting.

**Greater participant diversity.** Fewer than 10% of the study participants were male. While the study does fill important gaps on physical activity engagement by girls, animal and equine therapy has been shown to be effective and attractive to males as well. A study including more males would help with understanding possible gender differences regarding processes, outcomes and meanings. More diversity among participants along other dimensions (i.e., culture, ethnicity, ability/disability) would have similar benefits.

**6.4.3 Research and policy recommendations.** The experience of engaging in this research, from trying to find funding, to working on logistics together with my research partner, 4-H Ontario, leads me to three recommendations for this section. The first is a call for enabling community organizations to collect the data at their fingertips, and greater academic/community partnership. The second is a call for better inter-governmental alignment for solving complex societal problems. The third is a call to frame recreation as social investment rather than either public expense or consumer product.

**More research in partnership with existing community programmes.** Due to the lack of a previous profile of youth development or resilience for 4-H horse club youth, it was necessary to include the quantitative phase of the research. That phase yielded the smallest body of results, but cost the most time in ethics approval, and approvals and editing by 4-H. If the organization were collecting similar outcome and demographic data on its own, the research could have leveraged that existing information with less time and effort. Even if some of the data were already routinely collected, such as demographic data, then the limited space allowable for the survey could have been used for more qualitative questions, or questions that examined other aspects with more depth.

The main benefit for non-profit organizations of collecting data is to inform programme development decisions- theirs, and those of their peers. There is a lot of data lying just below the surface in non-profit and youth intervention organizations and programmes. Data availability
would enhance both practical and academic knowledge about what is effective in various contexts, and also make it easier for academic communities to work more closely with existing programmes to mutual benefit. There are limited resources for non-profit organizations to provide staff time for gathering and analysing data, and there are limited resources for academics to run pilot programmes with each new study. Without effective partnership with the community, even successful research projects will have limited impact on practice because the pilot projects are not usually designed for ongoing community sustainability, the funding ends when the project ends, and the research findings are often not available outside of academic sources. Non-profits have knowledge dissemination processes for the practitioner community.

Some of these problems were highlighted in the community recreation sub-section in Section 2.3.3. For this study, I was fortunate that 4-H was a large enough organization to be able to meet the Mitacs funding criteria of contributing some money to the project. Half of 4-H's contribution portion still had to be crowd-sourced since neither 4-H, nor I had the funds. We were also fortunate that Mitacs had recently opened its criteria to non-profits. I am indebted for the successes of the project to the efforts made by 4-H staff to make the research logistically possible, despite some inconvenience and extra demand on operational capacity. This demand would have been lessened by the availability of more existing data, or the freedom for 4-H to collect in less formal ways than that required by the research process.

Organizations are much more nimble in data collection of their members and participants than are outsiders who are not intimately knowledgeable about their organization, especially if a data collection project must be approved by a research ethics board (as opposed to approval of use of data already collected by the partner organization). Everyone, especially the participants, would benefit from more of a culture of programme monitoring and evaluation. It would be a mutually beneficial arrangement because organizations would be able to achieve their mission with better understanding of their own effectiveness and impact. Academic study would be free to focus on more complex inquiry and analysis for which organizations do not have the time. Funding researchers who dive in from the outside is an expensive and inefficient way to build societal knowledge about these programmes. Enabling organizations to do so, or using the research experience for organizational capacity building would be a better return on investment, from both the academic and non-profit organizational perspectives.

Many non-profit organizations exist to address large, complex societal problems that have large social costs, and are therefore of interest to the government, and to academic research. The task of building knowledge about low cost solutions to complex social problems would be helped considerably if there was more support for research with the non-profit partners
who are in the field and have depth of experience. At least, I can make this comment with regard to sport and recreation in the community, and its use as a location for youth developmental support or therapeutic recreation. Social enterprise is a growing trend, and investments in research and social problem solving need to develop a more sophisticated range of partners. As a graduate student, the Mitacs partnership model with an organization in the community had the additional professional advantage of providing recent practical experience with a real community programme and its stakeholders. From their side, the research findings have already been of benefit to the organization for their leader training.

Better inter-jurisdictional collaboration. Another recommendation is for better alignment across government jurisdictions in Canada (Municipal, Provincial, and Federal) so that policy, funding, social spend and social benefit are harmonised. Currently, Federal and Provincial governments hold the healthcare cost and would gain the most in the short term from a mentally and physically healthy population. However, municipalities have responsibility for the immediate aspects of the environment that make it health-obstructive or salutogenic. For example, the Province of Ontario Ministry of Tourism and Recreation Act (GO, 2010) articulates the responsibility of the Province to “ensure that adequate opportunities are available to all residents of Ontario to pursue recreational, sports and fitness activities appropriate to their needs and interests” (p. 1, Objectives). However, the responsibility does not appear to translate into sufficient legislative or financial support for municipalities to ensure that there are recreational options that are financially accessible to all, and available within reasonable walking distance to residents (where possible). Since public health is both a Federal and Provincial concern, but the infrastructure supporting it is a municipal responsibility, there should be support for municipalities to enhance infrastructure (including through partnerships with organizations such as 4-H).

Municipalities have financial incentives to operate recreation programming in a cost-recovery mode, or allow it to be organized by private industry, and to manage urban development to maximize revenue. Municipalities are responsible for the practical infrastructure, the built environment that impacts daily life and patterns such as the possibility of active transport or adequate access to large or green recreational spaces for all income brackets and abilities. There are insufficient policies, funds, or both at the Provincial level to assist municipalities with their role in the collective public health problem created by structurally pathogenic environments. Since social cost is a societal problem, it makes sense that wellbeing is also collective. It is defined by the least well in a society. A calibration of policy would have to be created again where incentives, regulations and fund distribution would align better so that
the conditions for thriving (personally, socially, economically, individually, and collectively) are protected for all citizens- including rural citizens.

Journey 2050, a Canadian international agricultural development initiative (www.journey2050.com) supported by Agriculture Canada, uses a concept known as the sustainability barrel. The metaphor is a wooden wine barrel, with some slats of wood that are strong and others that have formed holes or are not as long. The barrel can only hold to the level of the shortest slats or lowest holes. In the context of Canadian rural development, we are not replacing the short/broken slats. OMAFRA (OMRA, 2014) notes that the current laissez-faire trends are unsustainable: Thriving for the fittest, the present socio-economic differentials in rural communities and flight of human capital to other regions for employment. From a national perspective, we have a need to ensure that all communities have what they need to thrive, including rural communities. Rural youth development is directly connected to thriving communities. This study highlights that healthy youth development and resilience are intentionally facilitated, not an assumed outcome of youth activity. Having programmes is not enough. It is important to have programmes and resources that do the right things, and to ensure that people who would benefit the most from them have access to them.

The 4-H horse programmes studied run on a shoe-string with volunteer leaders and a membership cost of approximately $100 or less per year, including materials. The members had rich transformative experiences without expensive sport gear, show quality horses, riding instruction or fancy facilities. Several clubs and members were engaged at some point in their 4-H experience in some more costly activities such as riding the horses in competition. However, some members were still able to participate through economies like wearing rubber boots and clothing from thrift stores, carpooling and using borrowed or shared animals. Leaders were regular people who just decided to share their horses and their life with others. They creatively recruited community members, businesses, venues and other sponsors to make the experiences happen for their group of members.

**Promote healthy development and resilience as social investment.** There are arguments for social investment approaches to providing a healthy recreation infrastructure for rural communities. Instead of viewing recreation as a consumer leisure use of time that contributes to the GDP, this study reveals that it can be a critical location for skill development that is economically important to rural regions.

For rural regions, micro (one to five employees) and very small businesses (less than twenty employees) form a large percentage of workforce options for residents (OMRA, 2014). Smaller population densities mean that urban based business models dependent on a large
consumer base are less well suited. Rural communities are negatively impacted by the creep of ‘big box’ retail undermining local businesses, under-employing residents, and reducing the opportunities for youth to learn entrepreneurship through working for a local retail or other business owner. Investment in entrepreneurial skills and human capital for endogenous economic and community development has traditionally been quite successful for rural regions in Canada. As the research shows, many entrepreneurial skills can be taught experientially, before youth are finished high school. Investment in self-efficacy, social engagement and resilience is always a good investment. As the research has shown, recreation as a location of development of these and related skills involves intentional structuring and facilitation.

From the results of this study, farm spaces, animal activities, 4-H and the people that make it work are examples of rural assets for many communities. Other communities might have their own contextually-shaped assets. Smart collaboration with existing community initiatives would be something like the Canadian context equivalent of micro business investment practiced in developing countries. Even if investment in programmes and youth training in rural areas still resulted in a percentage of youth leaving for urban centres, they would be a better equipped, more resilient asset to the nation (Brodhead, 2011).

6.5 Concluding Remarks

Investing in youth development is investing upstream. From the point of view of fostering resilience and mental health promotion, engaging with youth in ways that address issues before they become exteriorised is most effective. Perhaps PYD could be framed as a type of mental health vaccine in a situation where we have a public health pandemic. As shown by this study, experiential learning can teach many internal and external skills, such as grit, work ethic, problem-solving habits, persistent optimism, self-efficacy, hope, and skills for citizenship, leadership, social care and social resourcing, and even technical skill. The participants were developing these skills outside the classroom. Investing in youth before they enter the workforce, and before they manifest externalised problems, is a relatively low cost with high benefit. When community investments can also incorporate support for extra needs (such as youth with disability/mental health concern/risk), they reduce social costs, and give more people an opportunity to become social contributors. The study findings seem to reinforce views from positive psychology that youth want to be supported to learn how to engage and belong, regardless of their abilities, IQ, education level or social status. While the reflections on recommendations have been largely aimed at solutions for rural populations and rural development, many of them could apply to minority cultures in urban contexts. In her study on
sport for youth development for urban Indigenous youth, McRae (2012) calls for recreational programmes that are relevant and meaningful to the culture they are serving, and approaches that build relationships of equal contributors, not givers of aid and needy recipients. This study scratches the surface on any of the topics that it covers, thereby offering a good starting point for much needed further research. Further research is needed in comparative studies, longitudinal studies, and in depth qualitative inquiry that privileges participant knowledge and experience. In a constructivist framework, while the resilience factor of ‘belonging’ or ‘cultural adherence’ or ‘self-efficacy’ might be used across both groups, the researcher might find substantial differences in the ways they are articulated and experienced. The youth in this study had a particular cultural experience of resilience. Youth on a reservation or in a linguistic minority urban culture, or in another Province might express resilience or other outcomes or needs, and they might do so differently. As Geldhof (2013) states, successful programming must be contextual:

Adaptive developmental regulations emerge from the intersection of plastic, developing young people and features of their specific contexts ....As such, it is important to attend to the context-specific instantiation of the thriving process.... As the theory-predicated, context-specific research continues to evolve .... developmental science will become increasingly able to specify what sorts of individual and contextual resources need to be linked within specific settings ... in order to maximize the probability that all young people will be given a greater chance to thrive (p. 2, 4).
References


Child and Youth Health Network of Eastern Ontario (CYHNEO). (2012). Good Health in a Place Called Rural. Ottawa, ON: CYHNEO.


Unit Population Health Promotion and Innovations Division Centre for Health Promotion, Public Health Agency of Canada (PHAC).


### Appendix A: Table of Key Dates & Policy in Canada’s Recreation History

**Key Dates for Nationally Significant Milestones and Policy in Canada’s Recreation History**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1859</td>
<td>Recreation Grounds Act</td>
<td>Established guidelines for public recreation grounds</td>
<td>Karlis 2004</td>
</tr>
<tr>
<td>1871</td>
<td>Stanley Park, Vancouver</td>
<td>becomes a Federal government responsibility with British Columbia joining the Dominion of Canada</td>
<td>McKee 1982</td>
</tr>
<tr>
<td>1872</td>
<td>Yellowstone National Park</td>
<td>first major wilderness Park in North America</td>
<td>Nelson 1982</td>
</tr>
<tr>
<td>1875</td>
<td>Land Acquisition completed for Mount Royal Park</td>
<td>FL Olmstead engaged to design park that would provide city dwellers with access to natural scenery and beauty. Park at one time contained a circus and horse racing course</td>
<td>McFarland 1982</td>
</tr>
<tr>
<td>1883</td>
<td>first Public Parks Act, Canada</td>
<td>provided for establishing parks in cities and towns, with specifications for acreage cover per capita</td>
<td>McFarland 1982</td>
</tr>
<tr>
<td>1887</td>
<td>Niagara Falls Park</td>
<td>1st major nature park established in Canada, by Queen Victoria</td>
<td>Morrison 1982</td>
</tr>
<tr>
<td>1893</td>
<td>Chicago World's Fair</td>
<td>promotes idea of 'city beautiful' as urban development concept</td>
<td>McKee 1982</td>
</tr>
<tr>
<td>1904</td>
<td>Parks and Playground Association of Montreal</td>
<td>first official parks association in Canada</td>
<td>McFarland 1982</td>
</tr>
<tr>
<td>1907</td>
<td>Playground Association convention in Chicago</td>
<td>becomes a hub of distribution of ideas picked up in other cities in Canada</td>
<td>McFarland 1982</td>
</tr>
<tr>
<td>1912</td>
<td>first indoor recreation facility</td>
<td>Toronto, work of the first municipal Parks Department</td>
<td>McFarland 1982</td>
</tr>
<tr>
<td>1939</td>
<td>Youth Training Act</td>
<td>sparks Dominion Provincial Youth Training Program, providing ad hoc support to organizations such as YMCA and Boys and Girls clubs that used sport to promote citizenship virtues</td>
<td>Harvey 2001</td>
</tr>
<tr>
<td>1943</td>
<td>National Fitness Act</td>
<td>Federal government formal involvement in sport began, a National Physical Fitness Council was created in response to large numbers failing military recruitment physical exams</td>
<td>Rose 2007</td>
</tr>
<tr>
<td>1961</td>
<td>Bill C-131</td>
<td>Act to Encourage Fitness and Amateur Sport</td>
<td>Rose 2007</td>
</tr>
<tr>
<td>1968</td>
<td>task force for sport policy</td>
<td>established by Prime Minister Pierre Trudeau, that resulted in created of a Sport and Recreation Centre providing administration support to National Sport Organizations. With this support, organized sport could really grow.</td>
<td>Rose 2007</td>
</tr>
<tr>
<td>Year</td>
<td>Event</td>
<td>Details</td>
<td>Source</td>
</tr>
<tr>
<td>------</td>
<td>-------</td>
<td>---------</td>
<td>--------</td>
</tr>
<tr>
<td>1972</td>
<td>first known municipal parks and recreation plan</td>
<td>created for Thunder Bay, Ontario, by an American consulting firm</td>
<td>Gebhardt &amp; Eagles 2014</td>
</tr>
<tr>
<td>1975</td>
<td>first provincial Ministry of Culture and Recreation</td>
<td>created in Ontario</td>
<td>Gebhardt &amp; Eagles 2014</td>
</tr>
<tr>
<td>1976</td>
<td>first published standards for recreation facilities</td>
<td>at this time, many municipalities still without a parks and rec department</td>
<td>Gebhardt &amp; Eagles 2014</td>
</tr>
</tbody>
</table>

**Period 4:** failure of commodification and competitive focus; resurgence of recreation for health promotion

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
<th>Details</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980’s</td>
<td>lottery funding</td>
<td>Wintario in Ontario: lottery funds used to help build recreational infrastructure, this helps rural areas catch up somewhat</td>
<td>Gebhardt &amp; Eagles 2014</td>
</tr>
<tr>
<td>1985</td>
<td>municipal rec principles created</td>
<td>by the Ontario Ministry of Tourism and Recreation</td>
<td>Gebhardt &amp; Eagles 2014</td>
</tr>
<tr>
<td>1987</td>
<td>National Recreation Statement</td>
<td>jointly signed by Federal and Provincial/Territorial governments, putting responsibility of leisure on the individual and promoting introduction of user fee policies</td>
<td>Golob 2010</td>
</tr>
<tr>
<td>1991</td>
<td>Canadian Community Health Survey</td>
<td>Collaborative effort of Canadian Institute for Health Information (CIHI), Statistics Canada and Health Canada launch the national survey, run every two years.</td>
<td>Statistics Canada 2015</td>
</tr>
<tr>
<td>early 2000’s</td>
<td>municipal Sport Frameworks</td>
<td>multi-stakeholder vision documents mostly related to promotion of tourism and economic activity around sport competition at the major to minor level</td>
<td>Rose 2007</td>
</tr>
<tr>
<td>2001</td>
<td>Canadian Sport Policy</td>
<td>mandates increase in both participation and excellence, and multi-layer government partnerships</td>
<td>Rose 2007</td>
</tr>
<tr>
<td>2007</td>
<td>CCHS shifts to annual reporting</td>
<td>Rise in population health concern causes CCHS to be conducted annually</td>
<td>Statistics Canada 2015</td>
</tr>
</tbody>
</table>
### Period 4: Failure of Commodification and Competitive Focus, Resurgence of Rec for Health Promotion

<table>
<thead>
<tr>
<th>Year</th>
<th>Initiative/Report</th>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Pan-Canadian Healthy Living Strategy and Declaration on Prevention and Promotion</td>
<td>Signed in September by federal, provincial and territorial Ministers of Health/Health Promotion. Outlines three strategies: make childhood overweight a collective priority; coordinate efforts on supportive environments, early action, nutritious foods; measure and report progress. Framework vision “Canada is a country that creates and maintains the conditions for healthy weights so that children can have the healthiest possible lives.”</td>
<td>Tremblay 2012</td>
</tr>
<tr>
<td>2012</td>
<td>Canadian Index of Wellbeing</td>
<td>Tracks broad spectrum of wellbeing measures including education, environment, population health and leisure. Notes improvements in wellbeing do not follow robust national economic performance between 1994-2008, and then decline.</td>
<td>CIW 2012</td>
</tr>
<tr>
<td>2014</td>
<td>Active Healthy Kids Report Card</td>
<td>Broad scoring of child and youth physical activity and wellbeing, providing figures substantiating obesity epidemic and serious population problem of sedentariness, with ranking against other countries of similar wealth.</td>
<td>AHKC 2014</td>
</tr>
<tr>
<td>2015</td>
<td>ParticipACTION Report Card on Physical Activity for Children and Youth</td>
<td>Nationally funded report re-iterating findings similar to the AHKC, and emphasizing a return to outdoor recreation. Subtitled ‘The Biggest Risk is Keeping Kids Indoors’</td>
<td>Barnes 2015</td>
</tr>
</tbody>
</table>
Appendix B: Cycle of Physical Recreation and Wellbeing in Canada

Cycle in Canadian Recreation & Public Wellbeing

2005-present
Widening socio-economic gap primary of capitalistic forces, recreation for the wealthy & social squatter. Determinants of health: diminishing importance of health promotion in public discourse about physical activity. Recreation as health promotion.

1990-2005
Free-market based recreation system supersedes Welfare State approach. Formal sport industry and population health decline significantly. Economic crisis and increased focus on sport for free or subsidized recreation. Introduction of more user fees, viewed as consumerism, commodification of physical activity.

1950-1975
Municipal responsibility for recreation infrastructure. Expanding programs for citizens, still valued for role in developing citizens. Mass media & Cold War increase value of sport games, symbols of national strength, access to recreation.

1935-1950
Social change and post-war wealth broadens investments in infrastructure for access to recreation. Concern to provide healthy outlet for shell-shocked soldiers and their families. Integration.

1910-1930
Depression makes promotion of healthy use of time among the poor a major concern. Threat of civil unrest, urban and rural. Urban and rural populations have reached equal status.

1890-1915
Urban recreation for workers, factory parks & play with rise in illness & health consciousness. Expansion of railroads & necessitates new classes. War makes health and fitness of masses essential. Automobiles bring increasing numbers to the countryside.

1870-1890
Philanthropy supports outdoor recreation for urban parks & health consciousness. Early industrialization, primary of capitalistic forces, recreation for the wealthy & social squatter.

Unchecked Capitalism
Appendix C: Phase One Survey & Recruitment

Basic Questions (Introduction):

4. I am a
   a. Club member
   b. Leader
   c. Parent
   d. Other

5. Permission question (all survey responses were ‘yes’, otherwise they did not complete the survey).

6. How many other clubs (not 4-H) did you participate in, in the past 2 years?

7. What community or school activities have you been involved in over the last year?
   a. Organized physical activity
   b. Church or Religious Clubs
   c. After-School Program
   d. Scouts, Guides, Cadets
   e. Music, Arts, Drama
   f. Other riding clubs
   g. Volunteering
   h. Other/Community

8. How long have you been a 4-H horse club member?

9. The horse I use is
   a. My own/my family’s
   b. Borrowed/Leased
   c. A club horse

10. Pick the best description of where you live
    a. On a farm
    b. In the country but not on a farm
    c. In town
    d. In a city
    e. Other

11. I get to 4-H meetings and events mostly by
    a. Get a drive from parent or caregiver
    b. Get a drive from another adult
    c. I drive myself
    d. Walking or riding my bike or horse
    e. Taking public transit
    f. Other

12. My club offers extra activities and get-togethers
    a. Never
    b. Sometimes
    c. Regularly

13. About how many horse club meetings did you attend in the last season?

14. About how many other 4-H clubs (other than horse) have you participated in, in the past two years?

15. Select the best description of how you feel about this statement ‘Participation in 4-H is very important to me.’ (5 point Likert: 1= Not at all, 2= a little, 3= somewhat, 4= Mostly, 5= Definitely, 9= Don’t know)
Resilience Scales: Schwarzer and Jerusalem, and CYRM-28

Schwarzer & Jerusalem Self-Efficacy Scale  (Schwarzer & Jerusalem, 1995)
Ten questions using a five point response scale where 1= Not at all, 2= a little, 3= somewhat, 4=mostly/quite a bit, 5= Definitely/A lot, 9= Don’t Know
16. I can always manage to solve difficult problems if I try hard enough.
17. If someone opposes me, I can find the means and ways to get what I want or need.
18. It is easy for me to stick to my aims and accomplish my goals.
19. I am confident that I could deal efficiently with unexpected events.
20. Thanks to my resourcefulness, I know how to handle unforeseen situations.
21. I can solve most problems if I invest the necessary effort.
22. I can remain calm when facing difficulties because on can rely on my coping abilities or support system.* note: ‘or support system’ has been added by the researcher
23. When I am confronted with a problem, I can usually find several solutions.
24. If I am in trouble, I can usually think of a solution.
25. I can usually handle whatever comes my way.

Child and Youth Resilience Measure- 28 (CYRM-28) (Liebenberg & Ungar, 2012)
Modified with Twenty-five questions using a five point scale. 1= Not at all, 2= a little, 3= somewhat, 4=mostly/quite a bit, 5= Definitely/A lot, 9= Don’t Know
26. I cooperate with people around me.
27. I aim to finish what I start.
28. People think I am fun to be with.
29. When things don’t go my way, I can fix it without hurting myself or other people (for example, without hitting others or saying nasty things). NB: This question replaced the original question “I solve problems without drugs or alcohol.”
30. I am aware of my own strengths.
31. Spiritual beliefs are a source of strength for me.
32. I think it is important to serve my community.
33. I feel supported by my friends.
34. My friends stand by me during difficult times.
35. I feel that my parents/caregivers are there for me when I need them. NB: This question replaced two original questions “My caregivers watch me closely.” And “My caregivers know a lot about me.”
36. I feel that my caregivers/parents provide what I need. NB: this question replaced three of the original questions “I eat enough most days.” “My caregivers stand by me during difficult times.” And “I feel safe when I am with my caregivers.”
37. I talk to my caregivers / parents about how I feel.
38. I enjoy my caregivers’ cultural and family traditions.
39. Getting an education is important to me.
40. I feel I belong at my school.
41. I have people I look up to.
42. I know how to behave in different social situations.
43. I am given opportunities to become an adult.
44. I know where to go to get help.
45. I have opportunities to develop job skills.
46. I am proud of my background.
47. I am treated fairly in my community.
48. I participate in organized religious activities.
49. I enjoy my community’s traditions.
50. I am proud of my citizenship.
Closing Questions

51. I participate in 4-H mostly because…
   a. Family history
   b. Learning new things
   c. Meeting new people
   d. Friends
   e. My leader/other volunteers help me
   f. Parents/caregivers told me I had to go to 4-H
   g. Being outside
   h. Being on a farm
   i. I get to be with horses
   j. Other (open, free-form response field)

52. My thoughts about 4-H
   49a. I think the best things about 4-H are (open ended free-form response field)
   49b. I wish there were more… (open ended free-form response field)

53. How old are you?
54. What grade are you in school?
   a. Not finished high school
   b. Finished high school
   c. Community college
   d. Bachelor’s degree
   e. Graduate degree
   f. Grade: (open box)

55. How do you describe your gender (ie: boy, girl)
56. I live with
   a. At least one of my own parents
   b. Both of my parents
   c. Other family members (but neither of my parents)
   d. Independent adult
   e. Other

57. I was born in
   a. Canada
   b. Not in Canada

58. I am a Canadian Citizen
   a. Yes
   b. No

59. The nearest town or city to where I live is… (open ended response form)

60. To that of the following groups do you belong?
   a. First Nations
   b. South Asian
   c. Southeast Asian
   d. Asian
   e. Middle Eastern
   f. Black
   g. White
   h. Latin American
   i. Mixed
   j. Other
Appendix D: Club Leader Interviews & Permissions

Sport for Resilience: 4-H Horse Program Study

Semi-Structured Key Information Interview Guide

This section to be filled in by the researcher:

4-H Horse Program Leader: __________________________
Leader Contact Information: ____________________________
Date of Interview: _________________________________
Means of Interview: ___ in person ___ phone ___ skype/webinar
Recorded: __yes ___ no

Introduction to Be Read to Participant and Oral Consent
(researcher will also have received signed written consent form)

4-H is partnering in a resilience research project with the University of Guelph about rural recreation. The PhD candidate, Heather Sansom, is doing a study about participant’s experience in 4-H horse clubs in Ontario.

As part of the research, 4-H horse club leaders are asked to contribute their views and experience as a member/leader. You are asked to fill out the survey that was shared with members, and respond to some other interview topics. The survey can be emailed back, or we can go through it on the phone. The interview is expected to be approximately 30-60 minutes, and is completely voluntary and confidential. You can withdraw at any time. We can do this interview and you can decide later, or part way through that you wish to stop or withdraw your information.

Your identity will be kept confidential. Findings will be presented to 4-H and 4-H stakeholders, as well as in the PhD thesis and other presentations of the study results in a format that respects participant confidentiality. Your quotes may be shared in the study report as well as communications about the study, or about 4-H programs. Unless you specifically request to be recognized for your quotes, your identity will be confidential in all such communications. Note that under the unlikely situation where information is shared that is legally compromising, the researcher will have an obligation to report the incident to appropriate authorities.

You are making an important contribution to 4-H and rural recreation programming.

This interview will be recorded so that the researcher can double-check their notes later to make sure they have accurately reflected what you said. Just to ensure that we are collecting information with your consent, please answer the following with either a yes or a no:

Do you agree to participate in this study and this interview. Y N

This interview is divided into four parts:

Interview Structure
1. Getting to Know You
2. Details About Your Club
3. How 4-H Impacts You
4. Your Perspective on Participants’ Experiences
1. **Getting to Know You: Can you start by telling me about your experience with 4-H?**
   (Guiding questions to draw on. Specific questions may arise for clarification based on the flow of the conversation, and material generated by the participant.)
   a. How long have you been a 4-H horse club leader?
   b. Why did you decide to become a horse club leader?
   c. How long have you been a 4-H member overall?
   d. Are or have you been involved with 4-H clubs other than horse? That ones?
   e. Are or have you been involved with other youth clubs such as Scouts, Guides, church groups etc…?
   f. How old/how big is your club? How many events do you hold?

2. **Details About Your Club**
   a. How old is your club and how long have you been leading this one?
   b. Were you a member of this club before leading it?
   c. How many members are in this club?
   d. How many meetings and events happen in the season?:
      i. Regular meetings:
      ii. Other events: (describe)
   e. What percentage of your members tend to also join other clubs or sport activities? (what types)
   f. Can you describe a typical club meeting?

3. **As a 4-H leader/member, how does 4-H impact You?**
   (Guiding questions to draw on. Specific questions may arise for clarification based on the flow of the conversation, and material generated by the participant.)
   a. What are your reasons for involvement with 4-H? (What do you do this? What motivates you?)
   b. Are there ways that your 4-H involvement as a leader contributes to your life?
   c. What are some of the challenges you face as a 4-H leader?
   d. As a leader, what helps you in your role?

4. **As a 4-H leader, how do you see participants' experiences?**
   (Guiding questions to draw on. Specific questions may arise for clarification based on the flow of the conversation, and material generated by the participant.)
   a. What do you think participants learn in 4-H horse program? (what do they get out of it) Can you give me some concrete examples, such as a particular kid and something specific that you observed them learning?
   b. How do you think members learn or are impacted by 4-H? (This question is more about what they do in the program or specific parts of being in the program that. For example, if you recall a participant learning a leadership skill in part a) above, this section is more about what were they doing or who was involved that contributed)
   c. Are there particular parts of the program that participants really enjoy? Or seem to benefit from?
   d. Are there ways that 4-H programs could impact participants in positive ways even more?
e. Are there particular things that you are trying to get participants to learn or experience as part of the program?

f. Are there particular things that you have been instructed to try and get participants to learn about or experience as part of the program?

**Ending Script**

Thank you again for your participation in this interview. Your time and all this information is really appreciated. Do you have any other questions or comments? Once again, your information is kept confidential. Your real name or other identifying information will not be used in publications or reports. If you have any questions please feel free to contact me at [researcher contact info].

I will be contacting you once I have had time to analyse your information. The purpose of contacting you would be to set up a phone call in that I would share my findings, and get your feedback on whether I have accurately reflected what you said. During that call you can add, change, or request information not be used. You are free to withdraw from the study at any time.
RECRUITMENT EMAIL LETTER FOR CLUB LEADERS

Date
Subject: 4-H Horse Club Resilience Study

Dear 4-H Club Leader,

We are partnering with a University of Guelph research project to understand how members benefit from participation in 4-H horse programs.

Youth development programs such as 4-H are recognized for helping youth develop skills that can apply to the rest of life. However, there is very little research explaining how this happens. Also, equine therapy activities are widely acknowledged to be beneficial to participants, however there is very little research on programs such as 4-H that incorporate horses in youth development.

As a 4-H horse club leader, your involvement with 4-H has given you valuable experience that will help us understand the impact of participation on members. This study involves three activities: an online survey to members, a photo-based focus group interview with a small number of clubs, and interviews with horse club leaders.

If you are interested in being interviewed, the interview would likely be by phone or online with the researcher, but may be in person if it can be arranged. The interview would last approximately 30-60 minutes. You would also complete the survey (approx. 20 min. of the interview time,) as part of the interview. You would receive the survey and information about the interview in advance so that you can think about what you would like to say. Interview participant comments and information used in the study would be completely anonymous. The information will be relayed to 4-H, but it will be anonymous so that you are free to be completely honest in your reflections and to provide constructive feedback.

Overall results of this study will be shared with 4-H, and with participants. This research has been approved by 4-H Ontario and the University of Guelph. If you agree to participate, you are free to stop participating at any time.

If you would like to be interviewed or have questions about this study, you can contact the University of Guelph research student, Heather Sansom, at 613-258-8336, ext. 61404 or sansomh@uoguelph.ca.

If you have questions about the rights of research participants, you can contact the University of Guelph ethics review at: Sandy Auld, University of Guelph Research Ethics Coordinator, 519-824-4120, ext. 56606, reb@uoguelph.ca. Please reference study number REB#15DC19.

This research project is funded by 4-H Ontario in partnership with Mitacs, within the Mitacs Accelerate rural research funding program.

Thank you for your time and participation. Research like this is an important part of ongoing improvement of how 4-H can meet youth needs in the community. Once again, your participation is completely voluntary.
CONSENT TO PARTICIPATION: Key Informant (Club Leader) Interview

RESEARCH TITLE: “Sport for Resilience: Understanding Rural Youth Resilience Through Participation in 4-H Horse Programs”.

PURPOSE OF THE STUDY: The purpose of this research is to help youth development programs like 4-H better understand the life skills that participants can acquire in specific activity programs, and program elements are connected to life skills and lessons.

REASON FOR THE STUDY: Horse-based activities are commonly seen as beneficial to participants, as are nature-based or outdoor learning programs, and youth development programs. Also, public health has identified a greater need in rural areas for youth to be supported. However, the body of knowledge around actual outcomes for participants, and the participant experience is relatively small. Also, there is very little research available specifically on rural activities. This is a section of a larger study that includes an anonymous member online survey, and interviews with club leaders.

WHAT YOU WILL BE ASKED TO DO FOR THIS RESEARCH: You are being asked to participate in a 4-H horse club leader interview about your experience as a 4-H horse club leader, and your observations about what members learn in 4-H horse club. The interview has two parts:

a) A 30-60 minute phone or Skype interview in that you talk about your answers to some questions that are given to you in advance. The interview will include going through the participant questionnaire, unless you would prefer to do this in your own time and email it to the researcher. Your interview would be recorded so that the researcher can check their notes to make sure they have accurately reflected what you said. This interview may also occur in person if it is convenient to do so, in a location that you are comfortable with and can agree to, likely the 4-H office or University of Guelph campus.

b) A follow-up call to verify your information. After the researcher has processed your information, you would be invited to participate in another call in that the researcher would check their understanding of your information with you. You would have the opportunity to add, adjust or ask for information to be disregarded from the study.

POTENTIAL RISKS AND DISCOMFORTS: There is a potential risk related to your participation in this research if things you may wish to share are stressful to you. However, the nature of the questions asked is positive. 4-H does not receive your comments directly. They are shared anonymously with 4-H only as part of the final study results.

COMPENSATION: You will not be compensated (paid) for your participation in this study.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY: This research will benefit participants because studies show that taking time to reflect on your experience in a club like 4-H actually increases the benefit you get out of it, and your enjoyment. The research you are participating in could help rural communities and organizations like 4-H provide more and better programs that support rural youth. There is a need for research specifically on activities for rural youth, and on horse-based learning.

VOLUNTARY PARTICIPATION: Your participation in this study is completely voluntary. You can choose to share as much or as little as you would like to on the interview call. You do not have to do the follow-up call. These opportunities are made available to you, but they are voluntary. Also, during the interview and follow-up call, you can choose not to answer specific questions by simply indicating you’d like to skip...
that question. No-one else will know what questions you answered or didn’t. You are also free to ask the researcher questions about the study, and contribute other comments that you feel are important, but that the researcher may not have specifically asked about.

WITHDRAWAL: If you wish to withdraw at any time, you may do so. You can stop participating but still allow the information you have given to be in the study. Or, you can also ask that your information be removed from the study.

CONFIDENTIALITY: The identities of all participants will remain confidential. Participants will be assigned an ID code that will be linked to the data collected. This ID code will be used for data analysis. Your name will not be used in publication of the study results, unless you request that it should be because you want recognition for your quote. Data is always stored in a locked cabinet, or on password protected and encrypted files and backup drives. Data and original contact information would be destroyed after the study is completed and results are published. 4-H will not be aware of the identities of 4-H horse club leaders who decided to participate or not, unless you have requested specifically to be recognized for your quotes and comments. Your decision to participate or not will not impact your volunteer leadership role or future employment or volunteer roles with 4-H.

Note that under the unlikely situation where information is shared that is legally compromising, the researcher will have an obligation to report the incident to appropriate authorities.

ETHICS PROCEDURES & RIGHTS OF RESEARCH PARTICIPANTS:

This project has been reviewed by the Research Ethics Board for compliance with federal guidelines for research involving human participants.

If you have any questions regarding your rights and welfare as a research participant in this study (REB #15DC19), please contact: Director, Research Ethics; University of Guelph; reb@uoguelph.ca; 519-824-4120 ext. 56606.

You do not waive any legal rights by agreeing to take part in this study.

Researcher Contact Information: If you have other questions, you can contact the student researcher or her Advisor:

Faculty Advisor
Dr. Harry Cummings, MCIP, RPP
School of Environmental Design and Rural Development
University of Guelph
50 Stone Road East, Guelph, Ontario
N1G 2W1 Canada
Phone: (519) 824-4120 ext. 53637
Email: cummings@uoguelph.ca

Student Researcher
Heather Sansom, PhD Candidate
School of Environmental Design and Rural Development, c/o Kemptville Campus
University of Guelph
830 Prescott Street, Kemptville, Ontario
K0G 1J0 Canada
Phone: (613) 258-8336, ext. 61404
Email: sansomh@uoguelph.ca
Horse Club Leader Consent to Interview Participation:

I, _____________________________ wish to participate in this research study, in the following ways:

_____ in BOTH the phone/Skype interview and follow-up call

_____ in the phone/Skype interview ONLY, but not the follow-up call

_____ with my identity kept CONFIDENTIAL

_____ with RECOGNITION for my quotes shared in the study or 4-H communications

(Circle one) I am _____ ok                   NOT ok            with my interviews being recorded.

The name I would like used in association with my quotes is: _________________________

(Please circle one to indicate     First Name Only,       First and Last Name,       A Pen Name)

Signature: _________________________________  Date: ________________________
Appendix E: Youth Group Interviews & Permissions
Guiding Questions for Semi-Structured Photo-Based Focus Group Interview

Information Provided to participants in advance of the Photo-Based Focus Group, and at the Time of the Focus Group Interview

I’m doing a research project about young people’s experiences in 4-H horse programs. I’m trying to learn more about how your participation in 4-H horse club is part of your life. This is a different kind of interview that uses photos to help you share what you think and feel. Here is how it works:

1. You think about the topics below, then take pictures, or draw pictures, or write poems, or do something creative for each of the topics. If you prefer to do something creative, it needs to be something you can photograph. For example, topic three is about what parts of 4-H are important to you. Let’s say that driving to 4-H with your parent is an important one-on-one time in the week with your parent. What could you take a photo of to represent this meaningful time?
   Topics for photos: You can discuss anything you feel like about your participation, including people or things that happen outside 4-H but are somehow connected to your participation.
   1. What 4-H horse club means to me.
   2. What I learn in 4-H that helps me in the rest of life.
   3. What parts of 4-H participation are most important to me.
   4. Things that would make 4-H even better.

2. After you have photos or photos of your creative pieces, select photos (approx. 3, maximum 6) that you can use in your presentation to the group (usually 5-10 min, maximum 15 min including question time). You can use as many or as few as you like, but not more than six. If you cannot print them on paper to show, you can email them to your leader to get help printing them.

3. Take a few minutes to write down some notes about the picture. Your notes can be in point form, words on the page or full sentences and paragraphs. Whatever works for you. Preparing your ideas in advance will help you be more confident and ready to present. Here are some things you can write down:
   a. What is it a picture of?
   b. Why does it represent the topic for you?
   c. How does it make you feel?
   d. What do you want others to know about it?

4. When you get to the focus group interview, you can present your photos and talk about your responses to the topics in whatever order you like. You can present as many photos as you like, up to 10. Your presentation is not being judged or critiqued. The researcher and your peers may have questions for you, to help them understand your experience.

5. Give a copy of your photos and your notes for each photo to the researcher.
Guiding Themes for Researcher Questions for Photo-Based Focus Group Interview

(Participants will be asked to present their photos about the meaning and importance of 4-H horse club in their lives. Specific questions will be shaped by the material presented by the participants. Clarification on participant meaning is sought, rather than leading participants into areas that will be coded such as resilience. The researcher must also remind participants that under certain situations where information is shared that is legally compromising, the researcher will have an obligation to report the incident to appropriate authorities.)

1. How would you describe your experience overall in the 4-H horse program? (how long, general impression)
2. How do your pictures explain your experience?
3. Has your experience in the 4-H horse project been similar or different to other 4-H projects, clubs or even non-4-H activities you have been involved with?
4. What are the most important parts about 4-H horse club?
5. Do you think you learn things in 4-H horse? Tell us about it.
6. Have you ever learned something in 4-H horse club that you've used somewhere else (like at school)?
Dear Parent/Guardian and Member,

We are requesting permission for you/your son or daughter to participate in a study about the participation in 4-H horse programs.

Equine therapy activities are widely acknowledged to be beneficial to participants, however there is very little research on programs such as 4-H that incorporate horses in youth development. Also, very few studies ask participants in depth about their views and experiences.

Your/your child’s 4-H horse club has expressed interest in participating in a photo-based focus group interview that gives members an opportunity to share what 4-H means to them, while using creative skills and practicing public speaking. The interviewing technique that would be used is known as photo-voice, since participants take pictures that they then talk about in the focus group interview. This creative technique can be fun for the participants, while helping them express their ideas in their own words. The interview would be similar to a typical 4-H project meeting: participants would attend the meeting, presenting their photos to one another and to the researcher for approximately 1.5-2hrs. Pizza will be provided, and timing and details will be co-ordinated through your 4-H club leader, as with any 4-H horse club activity.

The 4-H club leader will accompany members at the start of the activity to help introduce them to the research team, so that members are as comfortable as possible. However, the club leader will not be in the room during the activity so that members are free to express themselves without worry about pleasing their club leader. The leader will be on the premises as a resource to their club members, to assist and accompany members wishing to leave the activity room or wishing support for whatever reason. A 4-H or Kemptville Campus administrative staff member not personally known by any of the participating club members, or a research assistant will be in the room to assist the researcher with note-taking and recording. These assistants will have signed confidentiality agreements.

The only risk in this research project is to privacy. Unless you and your child indicate a preference to have your child’s creative output recognized as their intellectual property, we will not use their name in the final report.

Results of this study will be shared with 4-H and used for an academic thesis. If you wish to receive a summary of the overall results, you may do so by [tell them how to do this.

This research project is approved and funded by 4-H Ontario in partnership with Mitacs, within the Mitacs Accelerate rural research funding program. If you give permission for your child to participate, they are free to stop participating at any time.

If you have questions about this study, you can contact the research student, Heather Sansom at 613-258-8336, ext. 61404 or sansomh@uoguelph.ca.

Thank you for your time and participation.
CONSENT TO PARTICIPATION: Photo-Based Focus Group Interview

RESEARCH TITLE: “Sport for Resilience: Understanding Rural Youth Resilience Through Participation in 4-H Horse Programs”.

PURPOSE OF THE STUDY: The purpose of this research is to help youth development programs like 4-H better understand the life skills that participants can acquire in specific activity programs, and program elements are connected to life skills and lessons.

REASON FOR THE STUDY: Horse-based activities are commonly seen as beneficial to participants, as are nature-based or outdoor learning programs, and youth development programs. Also, public health has identified a greater need in rural areas for youth to be supported. However, the body of knowledge around actual outcomes for participants, and the participant experience is relatively small. Also, there is very little research available specifically on rural activities. This is a section of a larger study that includes an anonymous member online survey, and interviews with club leaders.

WHAT YOU WILL BE ASKED TO DO FOR THIS RESEARCH: You are being asked to participate in a photo-based focus group interview. This is a fun activity in that you get to take photos that tell us what you think is important to you about your participation in 4-H horse club. Here are the steps involved:

1. You will have a few weeks to take the photos, select photos to present in the group (approx. 3, maximum of 6), print them out, and write down some notes about why you picked those photos.
2. Then, you talk about your experience in 4-H horse club within your group (approx. 5-10 min. maximum 15 min.), using the photos in your presentation. The focus group interview presentations would take about 1-2 hours, and be audio recorded by the researcher, Heather Sansom, who will be at the group interview. They would be at the 4-H Ontario office, the Kemptville Campus or another location agreed on with your club leader, and would include pizza. Your ideas and a copy of your photos would go to the researcher as data for the study.

You will be invited back to a webinar call within one month after your Photo project presentations to help the researcher with feedback. This call will be organized by your 4-H leader, and use webinar or conference call technology available to 4-H so that you can attend by dialing in a phone number, or logging on a computer. The researcher will also be on the call. She will have analysed your information, and need to know whether she understand what you said and meant correctly. You will also have the opportunity to add more input if you feel like it. The call would last approximately 30-60 minutes. All the members of your club who attended the Photo project presentation will be invited to participate in the follow-up call since it is an opportunity to add, change or clarify what you have said. The call is completely optional. Even if you have attended the Photo presentation, you do not have to attend the follow up call if you are not able to.

POTENTIAL RISKS AND DISCOMFORTS: There is a potential risk related to your participation in this research, since giving presentations and sharing ideas with peers can sometimes be stressful. However, the risk is no greater than you would normally feel doing regular 4-H presentations within your club meetings.
COMPENSATION: You will not be compensated (paid) for your participation in this study. You will get to keep copies of your photos and thoughts as a personal project about your experience with 4-H.

POTENTIAL BENEFITS TO PARTICIPANTS AND/OR TO SOCIETY: This research will benefit participants because studies show that taking time to reflect on your experience in a club like 4-H actually increases the benefit you get out of it, and your enjoyment. You will also have this extra opportunity to get together with your club peers and leader in the off-season. The research you are participating in could help rural communities and organizations like 4-H provide more and better programs that support rural youth. There is a need for research specifically on activities for rural youth, and on horse-based learning.

VOLUNTARY PARTICIPATION: Your participation in this study is completely voluntary. You can choose to share as many pictures (up to six) or as much (or little) information as you wish in your presentation. There is no time requirement. You do not have to participate in the presentation, or do it a certain way.

You do not have to attend the webinar follow-up. These opportunities are made available to you, but they are voluntary. This activity is meant to be voluntary and fun, in the club off-season. Not all club members may be available. Participation in this activity does not impact your progress in regular club projects and activities. If you wish to participate in the photo-based group presentations to be part of your group, but do not want your information used for the study, that is also ok.

4-H and the research team may also use material gathered from this study in communication about the study or to promote 4-H programs and participation. Such use of the photos and quotes from participants will only occur with your consent, and will not be linked to your identity unless you have requested recognition for your contribution. You can choose to allow your material to be used in other communications promoting the study or 4-H programs, or only within the study itself. You can change your mind at any time.

WITHDRAWAL: If you wish to withdraw at any time, you may do so. You can ask that your photos be removed from the study.

If you choose to withdraw, your comments and answers will be maintained within the recording, since this is a group recording, and individual comments cannot be removed from the audio recording. However, your presentation and comments can be deleted from all written records and transcripts, and your photos can be deleted from the study.

Please note that a focus group interview like this is essentially a public process (among those present in the room). Do not say anything you would not be comfortable saying in public. Respect each other’s’ privacy by not discussing who attended or what was said, once you leave. The research team will keep your identity confidential, however, we cannot guarantee complete confidentiality insofar as participants share information with one another.

CONFIDENTIALITY: From the standpoint of the researchers and 4-H, the identities of all participants will remain confidential. Participants will be assigned an ID code that will be linked to the data collected. This ID code will be used for data analysis. Your name will not be used in publication of the study results, unless you request that it should be because you want recognition for your photo or quote. Data is always stored in a locked cabinet, or on password protected and encrypted files and backup drives. Data and original contact information would be destroyed after the study is completed and results are published.

Note that under the unlikely situation where information is shared that is legally compromising, the researcher will have an obligation to report the incident to appropriate authorities.
This project has been reviewed by the Research Ethics Board for compliance with federal guidelines for research involving human participants. You do not waive any legal rights by agreeing to take part in this study. If you have questions about the rights of research participants, you can also contact the University of Guelph ethics review at: Sandy Auld, University of Guelph Research Ethics Coordinator, 519-824-4120, ext. 56606, reb@uoguelph.ca. Please reference study number REB#15DC19.

**Researcher Contact Information:** If you have other questions, you can contact the student researcher or her Advisor:

**Faculty Advisor**

**Dr. Harry Cummings, MCIP, RPP**

School of Environmental Design and Rural Development

University of Guelph

50 Stone Road East,

Guelph, Ontario

N1G 2W1

Canada

Phone: (519) 824-4120 ext. 53637

Email: cummings@uoguelph.ca

**Student Researcher**

**Heather Sansom, PhD Candidate**

School of Environmental Design and Rural Development, c/o Kemptville Campus

University of Guelph

830 Prescott Street,

Kemptville, Ontario

K0G 1J0

Canada

Phone: (613) 258-8336, ext. 61404

Email: sansomh@uoguelph.ca
PHOTO VOICE INFO AND CONSENT FORMS

Leader Consent for Photo Usage:

I understand that my photos will be used in research reports, as well as by 4-H in communicating about 4-H programs, but that my identity will be kept confidential, unless I request recognition for my photos and quotes. I want (choose those that apply)

CHECK WHERE WE CAN USE YOUR PHOTOS:

___ my photos used in the study and in communications about the study and about 4-H

___ my photos used in the study only, but not in communications (other than the actual study thesis)

CHECK WHETHER YOU PREFER RECOGNITION OR TO BE ANONYMOUS

___ my identity to be kept confidential when my photos and ideas are shared

___ to be recognized when my photos and ideas are shared. When I am recognized, I would like to use:

___ my first name only

___ my first and last name

___ a ‘pen name’ that is________________

Signature: _________________________________  Date: ________________________

SEE NEXT PAGE FOR CONSENT FORM FOR PEOPLE WHO MAY APPEAR IN YOUR PHOTOS
ADDITIONAL PHOTO CONSENT FORM (Photo-Based Focus Group: For others appearing in your photos, or whose property is in your photo) Copy and have signed by as many other people appearing in your photos (shots where identity is not clear, do not require consent form), or property belonging to farm owners or horse owners. Remember to ask people and owners if they are ok with being in your photo.

Explain that your photos will be shown to a 4-H researcher and your 4-H club, and that they might get used in reports or information about the research, or about 4-H.

PHOTO CONSENT FOR OTHER PEOPLE IN YOUR PHOTO

I, ________________________________ give permission for the photo containing images of myself/my child _________________________ (first name only, and only if under 18), and taken by a 4-H Ontario Horse Club Member to be used by the 4-H member in their photo presentation, and by 4-H, the University of Guelph, or the Researcher in communication about 4-H programs or this study.

I waive the right to inspect or approve uses of my quotes, photos and materials for such communications.

I otherwise retain copyright ownership of my quotes, photos and materials created for this study. They are used in communications and in the study with permission without time limit or media platform limit, but are not owned by 4-H or the University of Guelph.

Signature: _________________________________  Date: ________________________

_________________________
Signature of Parent/Guardian (if photo subject is under 18)         Date

PHOTO CONSENT FOR PROPERTY OWNERS (Use this section only if the owner of the farm, property or animal you may have photographed must consent before the photo can be used by 4-H, the University or the Researcher to communicate about the project, or 4-H programs).

I, ________________________________ give permission for the photo containing images of my ______________________________________________ (example: barn, farm, horse), and taken by a 4-H Ontario Horse Club Member to be used by the 4-H member in their photo presentation, and by 4-H, the University of Guelph, or the Researcher in communication about 4-H programs or the study.

Signature: _________________________________  Date: ________________________
## Appendix F: Visual Map of Process and Outcome Connection

<table>
<thead>
<tr>
<th>Material Resources</th>
<th>Resilience</th>
<th>Psycho-emotional Competencies</th>
<th>Workplace Skill</th>
<th>Life Trajectory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power and Control</td>
<td>Social Justice</td>
<td>Critical Thinking/Problem Solve</td>
<td>Organization/Planning Skills</td>
<td>Environmental Sensitivity</td>
</tr>
<tr>
<td>Identity</td>
<td>Self-Efficacy</td>
<td>Self-Esteem</td>
<td>Work with Others</td>
<td>Personal/Healthy Productive Adult Goals</td>
</tr>
<tr>
<td>Relationships</td>
<td>Responsibility</td>
<td>Responsibility</td>
<td>Plan/Achieve/Teach Others</td>
<td></td>
</tr>
<tr>
<td>Cultural Adherence</td>
<td>Self-Control</td>
<td>Self-Control</td>
<td>Farm/Ag/Industry Literacy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Focus</td>
<td>Focus</td>
<td>Desire to Engage/Learn</td>
<td></td>
</tr>
</tbody>
</table>

### 4-H Process

- Public Speaking
- Parliamentary Procedure
- Judging
- Overt Pledge/Mantra/Values
- Community Connection
- Experiences/Outings
- Inter-club/Region Activity
- Variety of Activity/Club
- Mentoring Structure
- Projects
- Competitions/Demo

### Approach Processes

- Hands-on Learning
- Learner-centred Learning
- Leader Freedom to Interpret
- Debrief (Journal, discussion)
- Encounter with Difference
- OK to fail/Learn at own pace
- Strengths Focus
- Accessible to diverse needs
- Learning in group/teamwork
- Free Time to Try/with Animal
- Encounter with Challenge
- Fun & Enjoyment
- Privilege of Voice

### Relationships

- Adult Mentors
- Peer Mentors
- Family Involvement
- Friendships
- Horses

### Environments

- Greenspace
- Farmspace/Animals
Appendix G: Inclusion of Members with Diverse Therapeutic and Developmental Support Needs

The following excerpts represent an account from each of the leader interviews, showing consistent presence of youth with a diversity of developmental and therapeutic support needs.

Learning:

I think the animals are so forgiving and so understanding, they don't care if you're popular, have the best marks, the best clothes….They just want to be with you….We've had kids that haven't had a fair shake at life….I think that's really powerful feeling for this kid that no-one else wants to be with them, and this horse does. If I was that kid I’d feel valued and worth something.

She’s a kid with what do you call it? She had trouble with letters, they were backwards, but she was able to go through and learn enough and have the stick-to-it-iveness to become an early childhood educator. She had to go to a school away from home and she did it. And she did it herself and did it her way. She wanted to be a teacher but she couldn’t get high enough marks to go to (University), so she went and finished her high school and went on to (Community College) and finished her course and she’s never been unemployed….She went in with a nice look of her skills and skillset. She had 4-H behind her and went ahead. (L1, 212-214, 676-686)

Family disruption:

I saw huge changes in her and her grandpa was telling me it. So there's a wide variance. It's really different whatever their background is. Whatever they're coming from in terms of their family, their environment and experience in the past...it's a great positive learning experience. (L2, 236-241)

Attention /behavioural:

There were times some of them would get pretty excited and I had to tell them that horses feed off your emotions so you need to be calm and relaxed….I think some of them might be hyper active. It was really good for them. Their parents even said it makes them stay calm because they know they can’t be reactive…I think if you can keep them entertained and motivated then a lot of those behavioural issues kind of disappear, as long as they're busy….There was one little girl who had a problem focusing. Her mom did approach me to tell me on the side that she had attention deficit, and (the mom) was worried about her riding….So I assured her and said if it doesn’t go well we can react accordingly. Every time she was on the horse and started to lose her concentration, I would get her to do something else….Her mom said she could focus longer….Horses are amazing for stuff like that. I think that’s why horse club is so important. (L3, 208-226)

Physical:

We had one young lad who had a handicap and there's no way we could get him on a horse, the horse would have been uncomfortable. And the boy who wasn't able to get up- he was in a terrible car accident, we noticed that he brushed the horse. He built his confidence brushing the horse….He learned to brush the horses and get them tacked up. And he was able to drive. the day that he drove he cheered and all the other kids cheered with him. It was a good experience…he brought himself slowly forward and all the other kids worked
with him. Nobody isolated him….And his speech is better and his walking is improved. You tell me what it is, but it all happened about the same time. It's just that he matured all of a sudden, or that he gained confidence and did it. But he was so happy. His speech at the start was really difficult, but you could hear him laughing and trying to tell everybody how much fun he was having....therapeutic. No fees, just us….I think we need to do more at the ground level with our kids that are just…at the bottom levels....They're not all going to be Eagle Scouts, ok. They're going to be an awful lot of the foot people, the ground people....These are the foundations and this is where we should be putting our energy and our dollars. (L4, 188-504)

Cognitive, physical and speech:
I shared about one lad that joined the club that had cerebral palsy, and what I did…so he could be a member of the club and act in the same manner as the rest of the club to fulfill all the same requirements.  
(The girl with cleft palate) had her first surgery at 13 months of age, and as she started talking we immediately went into speech therapy, but it could never fully correct the problem….you know speaking with a speech impediment and you know how cruel some kids can be...More speech therapy but still lacked a lot of self-confidence....At 12 she started into the 4-H programme and she stayed in 4-H until she aged out. When she was looking at post-secondary education, she came across a scholarship...that was not directed at the highest marks but at someone with a solid academic background, and also involvement in the community and different groups. And she went on through the interview process for that. (L5, 168, 545-555)

Developmental / attention:
(The members) learn to incorporate them.  Like I find the therapeutic riding almost singles them out. It doesn't help them….You know even (boy with autism) speaking or making jokes this kind of thing, the girls didn't shy away from him or act like he was any different. They joked around with him, they kept it going. But it was a different experience for them to learn how to handle themselves around people that are different. And that was one thing that I really loved about the 4-H programme. Like we get a lot of kids that are ADHD. Attention is nowhere. Or we get Autistic or people with Down Syndrome… that are able to participate in the programme. But be involved and not singled out like they would be in therapy riding...I don't think they're treated any differently and I think that's what they need.  I think it's a learning experience for both of them.  Like this autistic kid for example, he's had different struggles and he's fallen off, but it was no big deal.  He was treated completely normal, just as he should be. There was no singling out or anything like that. 4-H I find is very inclusive and makes each member feel like they're getting that attention…. People need to be more open to that kind of thing.  For the most part, they … don't see anyone as different. (L6, 656-682)

Physical, neurological and attention:
I have a waiver for medical conditions, because once years ago I had somebody that was epileptic but they didn't disclose that, that brings on some problems. So now the kids sign a waiver.  As far as the family situation, we just deal with them who they are that day, we just love on them. That's all…accepting them, listening to them. That's all they ever want no matter what
situation they're in. They just want somebody to not judge them, and feel comfortable and safe and whatever they have to go home to, if this is an environment that gives that to them every other week- great.

I had one that was pretty rambunctious in the group so I just gave her busy jobs. I never had a problem with a kid with ADHD or whatever label they come. I don't care what their label is. If they're 'busy' they get more to do. The ones that are busy, want to. That's why they're busy. They're not getting enough to do, so you give them more to do. The ones that are shy, you do a bit of one on one quiet talking. It's up to the leader to do that. (L7, 104-105, 338-341)

Behavioural (social):
So one girl is fairly shy in public....She excelled in her public speaking that year in school. Even today she isn't so shy amongst other groups of people that she doesn't know. If she was in a group of people that she didn't know, she would kind of cower a little bit until she found her group of friends, and now she's just fine walking straight through the crowd....she has grown. (L8, 188-191)

Attention:
We had one little boy, I think he was ADD or ADHD, usually the 4-H helps focus them a bit more. Probably because it was something he loved and wanted to do, he was a little more focused and attentive on it....We don't get a lot of special needs, but like the ADHD we just try and keep them attentive....I had one kid that I'm pretty sure was autistic. She took everything very literal. This year I have two home school kids, so they're a little bit different in their socialising aspect with other kids....It's easy to pick them out, because they have a completely different behaviour on their own. (L9, 432-437)

Developmental:
Last year we had a couple kids that...definitely two of them had Asperger's, and that was a little bit of a challenge. It was part of the reason why I didn't do what we normally do with hands-on. But by the end of it we had figured out what we need to do...They were fine. They didn't have a whole lot of exposure to horses before, so they really enjoyed them. Just being with them and stuff and actually those were the kids that listened to the stuff that you were teaching them. I think because they were just so tuned in to you and really listening. And watching when we'd be doing practicing of stuff and they would actually really listen whereas some of the other kids were busy playing in the dirt. (L10, 471-475)
Appendix H: Coding of Qualitative Survey Responses

For the following questions, participants could select as many reasons as applied, and could also fill in their own answers. There were 21 di

<table>
<thead>
<tr>
<th>Questions</th>
<th>Answer Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question 48 'I participate in 4-H mostly because …' (25 different answers, coded with 9 categories)</td>
<td>9 Codes: Family, People, Structure, Personal Skills, Learning Experience, Outdoors/Farm, Horses, Engagement, Leadership/Help</td>
</tr>
<tr>
<td>Question 49 Best 'I think the best things about 4-H are…' (24 possible answers)</td>
<td>Same 9 Codes</td>
</tr>
<tr>
<td>Question 49 More 'I wish there were more….' (21 possible answers)</td>
<td>4 Codes: Horses, Opportunity Access, People, Resources</td>
</tr>
</tbody>
</table>

Excerpt from Codebook:

<table>
<thead>
<tr>
<th>Q48</th>
<th>I participate in 4-H mostly because…(participants could check any that apply, the first 9 answers were selection boxes, the remaining were generated from free form answers to the 10th option ‘other’</th>
<th>Answers for 48, 49a are grouped into 9 themes, noted beside each: Family (Q48F), People (Q48P), Structure (Q48S), Personal Skills (Q48PS), Learning Experience (Q48LE), Outdoors/Farm (Q48OF), Horses (Q48H), Engagement (Q48E), Leadership/Help (Q48L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Family history</td>
<td>Q48fam</td>
</tr>
<tr>
<td>2</td>
<td>Learning about new things</td>
<td>Q48learn</td>
</tr>
<tr>
<td>3</td>
<td>Meeting new people</td>
<td>Q48meet</td>
</tr>
<tr>
<td>4</td>
<td>Friends</td>
<td>Q48frien</td>
</tr>
<tr>
<td>5</td>
<td>My leader/other volunteers help me</td>
<td>Q48lead</td>
</tr>
<tr>
<td>6</td>
<td>Parents/caregivers told me I had to go to 4-H</td>
<td>Q48paren</td>
</tr>
<tr>
<td>7</td>
<td>Being outside</td>
<td>Q48out</td>
</tr>
<tr>
<td>8</td>
<td>Being on a farm</td>
<td>Q48farm</td>
</tr>
<tr>
<td>9</td>
<td>I get to be with horses</td>
<td>Q48hors</td>
</tr>
<tr>
<td>10</td>
<td>Other answers here and below: giving</td>
<td>Q48Oth10</td>
</tr>
<tr>
<td>11</td>
<td>Enjoy kids</td>
<td>Q48Oth11</td>
</tr>
<tr>
<td>12</td>
<td>Teaching</td>
<td>Q48Oth12</td>
</tr>
<tr>
<td>13</td>
<td>Helping youth</td>
<td>Q48Oth13</td>
</tr>
<tr>
<td>14</td>
<td>My personal learning</td>
<td>Q48Oth14</td>
</tr>
<tr>
<td>15</td>
<td>Meet my family needs</td>
<td>Q48Oth15</td>
</tr>
<tr>
<td>16</td>
<td>Good member experience</td>
<td>Q48Oth16</td>
</tr>
<tr>
<td>17</td>
<td>Positive job/life impact</td>
<td>Q48Oth17</td>
</tr>
<tr>
<td>18</td>
<td>Give animal opportunity</td>
<td>Q48Oth18</td>
</tr>
<tr>
<td>19</td>
<td>Believe in the values</td>
<td>Q48Oth19</td>
</tr>
<tr>
<td>20</td>
<td>Opportunity to be a leader</td>
<td>Q48Oth20</td>
</tr>
<tr>
<td>21</td>
<td>I’m comfortable</td>
<td>Q48Oth21</td>
</tr>
<tr>
<td>22</td>
<td>This is my ‘family’</td>
<td>Q48Oth22</td>
</tr>
<tr>
<td>Q49</td>
<td>I wanted to</td>
<td>Q48Oth23</td>
</tr>
<tr>
<td>-----</td>
<td>-------------</td>
<td>-----------</td>
</tr>
<tr>
<td>24</td>
<td>Be with animals</td>
<td>Q48Oth24</td>
</tr>
<tr>
<td>25</td>
<td>Get a scholarship</td>
<td>Q48Oth25</td>
</tr>
</tbody>
</table>

**Q49** My thoughts and ideas about 4-H

<table>
<thead>
<tr>
<th>Q49</th>
<th>I think the best things about 4-H are/best thing is</th>
<th>See Codes for Q48 above- same but Q49</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning</td>
<td>Q49Best1</td>
<td>Q49LE</td>
</tr>
<tr>
<td>Friends</td>
<td>Q49Best2</td>
<td>Q49P</td>
</tr>
<tr>
<td>Experiences/ opportunities</td>
<td>Q49Best3</td>
<td>Q49LE</td>
</tr>
<tr>
<td>Outlet</td>
<td>Q49Best4</td>
<td>Q49E</td>
</tr>
<tr>
<td>Fun</td>
<td>Q49Best5</td>
<td>Q49E</td>
</tr>
<tr>
<td>Movement</td>
<td>Q49Best6</td>
<td>Q49E</td>
</tr>
<tr>
<td>People</td>
<td>Q49Best7</td>
<td>Q49P</td>
</tr>
<tr>
<td>Builds confidence</td>
<td>Q49Best8</td>
<td>Q49PS</td>
</tr>
<tr>
<td>Organized program/ materials available</td>
<td>Q49Best9</td>
<td>Q49S</td>
</tr>
<tr>
<td>Can contribute/ be creative</td>
<td>Q49Best10</td>
<td>Q49E</td>
</tr>
<tr>
<td>Hands-on</td>
<td>Q49Best11</td>
<td>Q49E</td>
</tr>
<tr>
<td>Horse experience/ riding</td>
<td>Q49Best12</td>
<td>Q49H</td>
</tr>
<tr>
<td>Diversity/ variety</td>
<td>Q49Best13</td>
<td>Q49LE</td>
</tr>
<tr>
<td>Specific processes</td>
<td>Q49Best14</td>
<td>Q49S</td>
</tr>
<tr>
<td>Youth/ personal development</td>
<td>Q49Best15</td>
<td>Q49PS</td>
</tr>
<tr>
<td>Teaching/ helping others</td>
<td>Q49Best16</td>
<td>Q49L</td>
</tr>
<tr>
<td>Teaches transferrable skills</td>
<td>Q49Best17</td>
<td>Q49PS</td>
</tr>
<tr>
<td>Club topic specifically</td>
<td>Q49Best18</td>
<td>Q49H</td>
</tr>
<tr>
<td>Leadership opportunity</td>
<td>Q49Best19</td>
<td>Q49L</td>
</tr>
<tr>
<td>We are family</td>
<td>Q49Best20</td>
<td>Q49F</td>
</tr>
<tr>
<td>Support</td>
<td>Q49Best21</td>
<td>Q49L</td>
</tr>
<tr>
<td>Be with animals</td>
<td>Q49Best22</td>
<td>Q49H</td>
</tr>
<tr>
<td>Be on a farm</td>
<td>Q49Best23</td>
<td>Q49OF</td>
</tr>
<tr>
<td>Be outdoors</td>
<td>Q49Best24</td>
<td>Q49OF</td>
</tr>
</tbody>
</table>

**Q49 More** I wish there were more

Answers for 49b (49More) are grouped into 4 themes: Horses (Q49H2), Opportunity Access (Q49OA), People (Q49P2), Resources (Q49R)

<table>
<thead>
<tr>
<th>Q49</th>
<th>I wish there were more</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Time</td>
<td>Q49More1</td>
</tr>
<tr>
<td>2</td>
<td>Members</td>
<td>Q49More2</td>
</tr>
<tr>
<td>3</td>
<td>Mentors</td>
<td>Q49More3</td>
</tr>
<tr>
<td>4</td>
<td>Money</td>
<td>Q49More4</td>
</tr>
<tr>
<td>5</td>
<td>Horses</td>
<td>Q49More5</td>
</tr>
<tr>
<td>6</td>
<td>Access</td>
<td>Q49More6</td>
</tr>
<tr>
<td>7</td>
<td>Competitions/places to move on (large meets/advanced skill demonstration or training)</td>
<td>Q49More7</td>
</tr>
<tr>
<td>8</td>
<td>City kids</td>
<td>Q49More8</td>
</tr>
<tr>
<td>9</td>
<td>Sharing info with other leaders</td>
<td>Q49More9</td>
</tr>
<tr>
<td>10</td>
<td>Parent involvement</td>
<td>Q49More10</td>
</tr>
<tr>
<td>11</td>
<td>Outings/activities</td>
<td>Q49More11</td>
</tr>
<tr>
<td>12</td>
<td>Volunteers</td>
<td>Q49More12</td>
</tr>
<tr>
<td></td>
<td>Horse care learning</td>
<td>Q49More13</td>
</tr>
<tr>
<td>---</td>
<td>---------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>14</td>
<td>Riding</td>
<td>Q49More14</td>
</tr>
<tr>
<td>15</td>
<td>Activities for boys</td>
<td>Q49More15</td>
</tr>
<tr>
<td>16</td>
<td>Meetings in the year/horse clubs</td>
<td>Q49More16</td>
</tr>
<tr>
<td>17</td>
<td>Other kinds of clubs (skidoo, plowing, crafts etc..)</td>
<td>Q49More17</td>
</tr>
<tr>
<td>18</td>
<td>Nice/good people</td>
<td>Q49More18</td>
</tr>
<tr>
<td>19</td>
<td>Guest speakers</td>
<td>Q49More19</td>
</tr>
<tr>
<td>20</td>
<td>Time outdoors /farm visits</td>
<td>Q49More20</td>
</tr>
<tr>
<td>21</td>
<td>Hands-on</td>
<td>Q49More21</td>
</tr>
</tbody>
</table>