



WAGENINGEN UNIVERSITY

Holistic Health Literacy

- Moving (Youth) Health Literacy Upstream -

Bridge for Health Literacy Project

Master Thesis

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Preface - Acknowledgements

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Abstract

Introduction

Current health literacy definitions are narrowly defined and often focus on individual, healthcare related skills and competences. A holistic conceptualization, congruent with modern-day health promotion principles seems to be lacking. As such, holistic health understandings, the influence of the social determinant on health and the vital importance of citizen engagement have not been fully acknowledged in the field of health literacy. Especially with regard to youth, there are significant research gaps. The Bridge for Health Literacy Project focuses on these gaps, and aims to contribute to a paradigm shift in how we perceive, measure and design (youth) health literacy interventions. In order to do so, collaboration has been sought with the existing Youth Warrior Program, providing the project with a case study on how holistic health literacy can be fostered among youth using a participatory approach (e.g. Photovoice and accompanying methods).

Aim

The aim of the Bridge for Health Literacy Project is to promote upstream thinking in the health literacy field at large, and more specifically with regard to youth, in which the need to synergize fundamental and modern-day health promotion principals and citizen engagement approaches within health literacy is acknowledged and advocated.

Method

An explorative study using a combination of a systematic literature review and a participatory research has been conducted to inform about the benefits and challenges of the use of Photovoice and accompanying methods to foster youth's holistic health literacy. The accompanying methods of a group interview, the Circle of Health puzzle, and a group discussion have been used in the Photovoice project, aimed to induce youth's critical thinking with regard to holistic health principles and providing them with a means to reflect on their fostered knowledge.

Results

The systematic literature review has been informed by 7 articles, and together with the case study the following benefits and challenges of the use of Photovoice and accompanying methods can be distilled: (i) Photovoice is a highly adaptive and flexible method, and the incorporation of accompanying methods in a Photovoice project is recommended; (ii) Photovoice can serve as a means for sharing and knowledge exchange; (iii) Photovoice has the potential to empower its participants as well as peers; (iv) time restrictions are a challenge; as well as (v) getting youth excited and motivated to actively participate and make photos.



Discussion

Practice has shown that active engagement and follow-up of the youth in the research process seems required in order to establish the full potential of Photovoice as an empowerment and advocacy tool. However, future research is needed to employ a youth Photovoice curriculum that validates the importance of the incorporation of an action component, and the effectiveness of the use of Photovoice (and accompanying methods) to engage and empower (Aboriginal) youth. Furthermore, practice has shown that it can be challenging to align the perspectives of multiple (community) partners involved in a research, and find agreement about the research approach to be taken. As such, the action component has not been aligned in the Youth Warrior Photovoice project. However, in the adjusted participatory research the youth had a crucial role in the gathering, understanding and analyzing of data. Additionally, due to the presence of the researcher at all workshops, the youth's progress and engagement could be followed, as well as the building of trust between the 'researcher' and 'participants' could develop over time. The youth appreciated their engagement in the Youth Warrior Photovoice project. Lastly, the concept of holistic health literacy touches on existing conceptualizations used in the health promotion field, where the term links to the overall concept and theory of empowerment. However, the program has provided the Bridge for Health Literacy Project with a valuable case study and needed insights with regard to identified research gaps in current academic literature.

Conclusion

This thesis has provided an answer the research question "what are the benefits and challenges of the use of Photovoice and accompanying methods to foster youth's holistic health literacy?". Results have shown that a youth Photovoice curriculum is lacking, and future research is needed to validate the effectiveness of Photovoice to engage and empower (Aboriginal) youth. What seems important in future research and the development of a Photovoice curriculum is the incorporation of action, reflection, and in-depth follow up methods in order to substantiate the potential benefits and challenges of Photovoice and accompanying methods. Methods to evaluate the use of Photovoice and accompanying methods lacked, and the effect of the youth's engagement on their holistic health literacy could not be substantiated. However, the case study has provided a first step towards identifying an approach and methods to foster youth's holistic health literacy, and move health literacy upstream.

Key Words: *Participatory Research; Photovoice; Accompanying Methods; Aboriginal Youth; Holistic Health Literacy;*





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1. Introduction

The thesis presented here is part of the Bridge For Health Literacy Project, a study that aims to contribute to the broadening of current (youth) health literacy understandings, taking into account holistic health (promotion) principles, social determinants of health, and a citizen engagement approach. In the following chapters, this aim will be further clarified in which these concepts are discussed in light of ‘moving health literacy upstream’.

In this chapter, the Bridge for Health organization is introduced as providing the context of the Bridge for Health Literacy Project and strongly influencing the assumptions made and approach taken. Next, the Bridge for Health Literacy Project is discussed, as well as the setting in which the study is conducted. As such, the Youth Warrior Program serves as a case study with regard to the problem statement and goal of the Bridge for Health Literacy Project. Furthermore, a conceptual model is provided clarifying the focus of the Bridge for Health Literacy Project and rationale for the Youth Warrior Program. Following, the research questions are formulated. Lastly, an outline of the thesis is provided.

1.1. Bridge for Health Organization

Bridge for Health is a self-organized local and global organization aimed to promote broad-based citizen engagement and participation in creating conditions that support health and wellbeing. Bridge for Health aims to foster the implementation of innovative strategies to achieve intersectoral action that promotes health and wellbeing, and strives to shift the public dialogue to promote a collective and holistic understanding of health and to advocate for its support. The organization was founded by Paola Ardiles in February 2013 as a local network in Vancouver, Canada, and is currently evolving to become an incubator of social innovation in health, with public and citizen engagement at its core. By looking at health through a holistic lens, Bridge for Health takes into consideration the broader socio-economic, political, spiritual and emotional issues that impact health and wellbeing.

Underlying the Bridge for Health organization is a constructivist approach, emphasizing the lived experiences from the perspective of those who live it (Schwandt, 1994). Rather than focusing on artificial experimental settings, it is assumed that meaningful understandings of the world come through events in naturalistic settings (Anderson & Arsenault, 1988). A focus on engagement,



empowerment and active participation follows from such a constructivist approach (Baum, MacDougall & Smith, 2006).

The vision and cornerstones of Bridge for Health can be seen in light of constructivism and modern-day health promotion understandings, in which the focus is on:

- a **holistic approach** in health promotion, emphasizing the need for a broad, holistic model of health (WHO, 1986).
- the **social determinants of health** as being part of an inclusive and holistic approach to health promotion (Meili, 2012).
- **citizen engagement and participation**, in which such an approach is perceived as crucial in modern-day health promotion practice (South & Philips, 2014).

1.2. Bridge for Health Literacy Project

The Bridge for Health Literacy Project is a collaborative effort of health promotion and literacy experts, researchers and community organizations¹, who teamed up from September 2014 – March 2015. The collaboration aimed to contribute to a paradigm shift in how we perceive, measure and design (youth) health literacy interventions.

Formed by the cornerstones of the Bridge for Health organization and principles of contemporary health promotion practices, the project aimed to incorporate a holistic approach to current health literacy conceptualizations, recognizing the importance of holistic health, the social determinants of health and a citizen engagement and participation approach. Currently, health literacy conceptualizations are narrowly defined, individually and healthcare focused, and fundamental health promotion principles seem to be insufficiently taken into account (Baker, 2006; Nutbeam, 2000). By proposing a broader concept of health literacy and discussing the term *holistic health literacy*, the Bridge for Health Literacy project aims to add an upstream component to contemporary health literacy understandings.

The Bridge for Health Literacy Project focuses on youth specific, since health literacy studies have largely focused on adults (Manganello, 2008) resulting in insufficient knowledge with regard to youth health literacy (Manganello, 2008; Bennet, Coggan & Adams, 2003; Diamond, Saintange,

¹ In Appendix I the Bridge for Health Literacy Project partners are described and information is provided for further contact.



August & Azrack, 2011). Youth health (literacy) promotion policies and initiatives have been viewed using an adult lens (Bennet et al., 2003), and it is undetermined how health literacy can be successfully applied in interventions targeting youth (Brey, Clark & Wantz, 2007; Manganello & Shone, 2013). Moreover, youth's perspectives on what constitutes health and what factors influence health are relatively unknown (Woodgate & Leach, 2010). Furthermore, the inclusion of participatory approaches among youth and recognizing their contributions is often the exception rather than the rule (Wong, Zimmerman & Parker, 2010). As such, their strengths and assets in addressing health issues have insufficiently been recognized (Wong et al., 2010). Additionally, since the Bridge for Health Literacy Project aims to complement current narrow, individual, healthcare related perspectives on health literacy, it seems important to conduct more research with regard to youth in that area, embracing the concept of holistic health literacy.

1.3. Youth Warrior Program

In order to contribute to the broadening of current youth health literacy conceptualizations and increase the knowledge with regard to the use of youth participation methods, the Bridge for Health Literacy Project teamed up with the existing Youth Warrior Program². As such, the Youth Warrior Program functions as a case study, in which the assumptions of the Bridge for Health Literacy Project and the theoretical framework (*chapter 2*) have been applied to the program.

The Youth Warrior Program supports and empowers Aboriginal and immigrant youth in Vancouver coming from lower socio-economic families who face challenges in everyday life. The main goal of the Youth Warrior Program is to engage the youth in a participatory approach by supporting them in gaining leadership and life skills. This focus on leadership and life skills stems from the notion that interventions and outcomes focusing solely on prevention have been insufficient for youth to fully prepare for healthy adulthood. Youth need to develop life, academic and vocational skills (Pittman, Irby, Tolman, Yohalem & Ferber, 2003) to cultivate their assets and strengths (Rodrigues Coser, 2010). It is assumed that in order to learn life skills, "youth need [...] ongoing support and challenging opportunities to encourage growth, healthy relationships, empathy, critical thinking, and leadership skills" (Rodrigues Coser, 2010:5). These components are considered essential for promoting healthy behavior and improving youth's health and wellbeing (Kreipe, 2006). The participating youth were already involved in community organizations and activities, and signed

² In Appendix II a flyer of the Youth Warrior Program is provided.



themselves up for their engagement in the program.

1.3.1. Partnership with Bridge for Health

The collaboration with the Youth Warrior Program arose after Paola Ardiles³ met the founder of RedFox Healthy Living Society, and they continued to stay in touch since they share a vision of active citizen participation, engagement and empowerment. In September 2014 a meeting took place to see if collaboration between both parties was possible, and a new partnership arose. As such, the Youth Warrior Program provides the Bridge for Health Literacy Project with a convenient setting in which the study has been conducted.

The Youth Warrior Program has existed since 2006, and has previously merely focused on physical health and healthy eating. By partnering with the Bridge for Health Literacy Project, the Youth Warrior Program incorporated broader perspectives on health, shifting from an individual, narrow focused view to holistic understandings of health. The goal of the Bridge for Health Literacy Project to contribute to and enlarge people's understanding of the importance of holistic health (literacy), was partially achieved by partnering with these community partners.

1.3.2. Workshops

The focus of the nine-week Youth Warrior Program are the weekly workshops, held every Wednesday evening at Strathcona community centre, East Vancouver. This is where most of the youth live, and the workshops thus take place in their so called 'hub'. From October 22nd until December 17th 2014, the Youth Warrior Program supported Vancouver inner-city youth (N=12) in the age of 15-19 years in their personal growth. All youth were Aboriginal, except for one girl. She had an immigrant background. After every workshop attended, the youth received \$20 dollars. Furthermore, the youth received honoraria at the last workshop rewarding the youth for their active engagement and participation in the Youth Warrior Program activities.

Group activities and discussions are the central component of the workshops. At every workshop, a central theme is discussed focusing on educating the youth to become healthy and active agents in

³ Bridge for Health Literacy Project research partner.



their communities⁴. Three of these themes were around the concepts of holistic health literacy and were arranged and provided by the Bridge for Health researchers.

1.3.3. Photovoice and Accompanying Methods

In the effort of the collaborative partners to foster active engagement among youth, and support them in becoming active agents in their communities, a participatory approach adhering to culturally-sensitive empowerment was sought. As such, the partners of the Youth Warrior Program jointly agreed to engage the youth in a Photovoice project supported by accompanying participatory methods. Photovoice is increasingly recognized as a participatory action and empowerment method often used to engage marginalized youth engage and increase their critical consciousness (Freire, 1970). The empowerment potential of Photovoice and accompanying methods served as a means to foster youth's understanding of holistic health and the important influence of social determinants on their health, through an active engagement and participation approach.

Photovoice is referred to as a process in which people can identify, represent and enhance their community through a specific photographic technique used as a means for the production of knowledge. Photovoice provides cameras to people enabling them to be potential catalysts for change as it promotes an effective, participatory means of sharing expertise and needs (Wang & Burris, 1997). People are given the possibility to record and catalyze change in their communities, rather than being passive subjects of other people's intentions and images. The images produced and issues addressed and framed by the participants may stimulate social action as they can "become advocates for their own and their community's wellbeing" (Wang & Burris, 1997:373). Photovoice is a highly adaptable method (Shea, Poudrier, Thomas, Jeffery & Kiskogatan, 2013), and is in this study modified to accommodate accompanying participatory methods (e.g. group interview, Circle of Health puzzle, and group discussion) as well.

1.4. Problem Statement, Goal and Research Questions

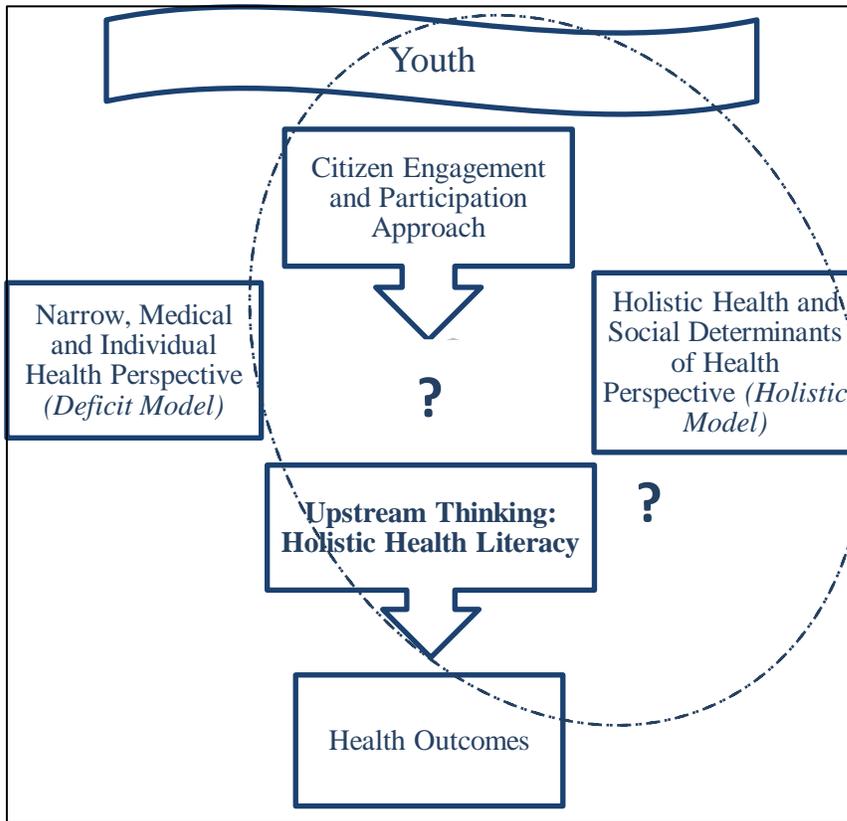
The preliminary conceptual model (*figure 1.3.*) summarizes the problem statement of the Bridge for Health Literacy Project and provides the rationale for the Youth Warrior Program. The model is based on existing and identified gaps in academic literature (Morgan & Ziglio, 2007; Nutbeam, 2008; Osborne, Batterham, Elsworth, Hawkins & Buchbinder, 2013; South & Philips, 2014;

⁴ Example of themes are: personal care; confidence & self-reflection; finding a job; connect & engage.



Rodrigues Coser, 2010) and designed by the Bridge for Health Literacy Project researchers to accentuate where focus is needed in order to move youth health literacy upstream.

Figure 1.4. Conceptual Model: Moving Youth Health Literacy Upstream



The conceptual model visualizes the existing knowledge gap within the health literacy field: there is a need to conduct research with regard to (youth) health literacy taking into account a participatory citizen engagement approach and holistic, upstream thinking. In an attempt to address this research gap, the overall aim of the Bridge for Health Literacy Project is:

“ To promote upstream thinking in the health literacy field at large, and more specifically with regard to youth, in which the need to synergize fundamental and modern-day health promotion principals and citizen engagement approaches within health literacy is acknowledged and advocated”



The collaboration with the Youth Warrior Program serves as a case study providing an example on how holistic health literacy among youth can be fostered through a participatory approach, since research centered around these topics is currently insufficient. The following main research question can be formulated from the participatory approach chosen in the case study:

“What are the benefits and challenges of the use of Photovoice and accompanying methods to foster holistic health literacy among youth?”

In order to provide an answer for the main research question, the following sub questions are addressed:

- *1. What are the benefits and challenges known in academic literature with regard to the use of Photovoice with youth in health literacy and health promotion research?*
- *2. What are the benefits and challenges of the use of Photovoice in the Youth Warrior Program?*

1.5. Outline of Thesis

In the following chapters the theoretical assumptions of the Bridge for Health Literacy Project are further explained, and applied to the Youth Warrior Program serving as a case study. Chapter two provides a theoretical framework in which the fundamental concepts of the Bridge for Health Literacy Project are discussed more in depth. Next, chapter three discusses the methodologies used to answer the main and sub-research questions of the case study. In chapter four, the results and answers to the formulated research questions are presented. Chapter five provides the discussion of the Bridge for Health Literacy Project, and more specifically of the Youth Warrior Program. Lastly, chapter six provides the conclusion.



2. Theoretical Framework: Moving Health Literacy Upstream

The Bridge for Health Literacy Project aims to broaden current understandings of health literacy in contemporary health promotion practices, and move health literacy upstream. In doing so, the project focuses respectively on holistic health principles, social determinants of health, and a citizen engagement approach. In this chapter these concepts are clarified in light of moving health literacy upstream, and the term holistic health literacy is conceptualized.

2.1. Health Promotion Definitions and Principles

In 1986, the Ottawa Charter for Health Promotion framed health as a resource for living, emphasizing the need for a broad model and understanding of health (WHO, 1986). Health is defined as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (WHO, 2001:1). As such, health does not merely refer to physical health, but entails emotional, mental, and spiritual health and influenced by more than just biological and individual markers (e.g. holistic health) (WHO, 1986; Circle of Health, 2014). In order to promote the health and wellbeing of people, it needs to be viewed in a holistic way (Dooris, 2009; WHO, 1986).

Health promotion is defined as the “process of enabling people to increase control over, and to improve their health” (WHO, 1986:6). The empowerment of people, enabling them to increase and maintain control over the determinants of health, is a key feature in the health promotion field (Nutbeam, 1986). Furthermore, health promotion calls for improving the resources needed for people in order to be active for their health and that of their families and communities, including the power to change things for the better (Kanj & Mitic, 2009). Health promotion action should be directed at improving “the skills and capabilities of individuals and actions directed towards changing social, environment and economic conditions that may have an impact on public and individual health” (Koelen & Van den Ban, 2004:37). As such, the seven principles of health promotion identified by the WHO are that health promotion should be equitable, empowering, participatory, holistic, intersectoral, sustainable, and multi-strategic (Rootman, Goodstadt, Potvin & Springett, 2001).



2.1.1. Current Challenge for Health Promotion Field

Contrary to the way that health promotion is described as being an enabling and empowering process and focusing on holistic health, reality seems to be lacking behind (Raphael, 2008; Eriksson & Lindström, 2008). As such, “longstanding biomedical and epidemiological traditions in health policy inhibit health promotion approaches to incorporate the central principles and themes as stated in the Ottawa Charter” (Raphael, 2008:483). Despite the efforts of the health promotion field to view health as a holistic concept, implementation of public policies supporting a broad understanding of holistic health has been woefully inadequate (Raphael, Curry-Stevens & Bryant, 2008). It is argued that the field needs to shift fundamentally in which more inclusive, holistic perspectives of health promotion are being adopted. There is a need for a comprehensive, inclusive model that includes multiple determinants of health such as social, cultural and environmental influences (e.g. social determinants of health) (Bourget Management Consulting for the Canadian Alliance, 2004). There seems to be a challenge for the practice of health promotion to recognize and incorporate the inclusive and fundamental principles of health (promotion), and in doing so move health promotion upstream.

2.2. Social Determinants of Health

Social determinants of health are defined as “[...] the economic and social conditions that shape the health of individuals, communities, and jurisdictions as a whole” (Raphael, 2009:2). Put more simply, social determinants are the circumstances people are born, grown up, live, work and age, and the systems put in place to deal with illness (WHO, 2008). In 2002 a Social Determinants of Health Framework (*box 2.2.*) has been developed, representing fourteen determinants (Raphael, 2009).

Box 2.2. The Social Determinants of Health Framework (Raphael, 2009)

- Aboriginal status
- Disability
- Early life
- Education
- Employment and working conditions
- Food security
- Gender
- Healthcare services
- Housing
- Income and its distribution
- Race
- Social Exclusion
- Social safety net
- Unemployment and employment security



Since the development of the framework, attention has been drawn internationally and social determinants of health are perceived crucial in determining the health of a society and found most important when it comes to understanding and addressing health (inequalities) (Mikkonen & Raphael, 2010; WHO, 2008). According to Flicker, Maley, Ridgley, Biscope and Lombardo (2008) there seems to be an increasing interest in interventions that focus on upstream thinking, embracing the social determinants of health and rejecting the focus on solely changing individual health behaviors. Poor health cannot be explained solely by germs and genes. Health is shaped by the circumstances in which people live: their access to healthcare, schools, homes, communities, towns and cities; and the individual and cultural characteristics such as social status, gender, age, ethnicity, values and discriminations (Currie, Zanotti, Morgan, Currie, de Looze, Roberts, et al., 2012).

2.2.1. Current Challenge for Health Promotion Field

A focus on social determinants of health is a vital part of an inclusive and holistic approach to health promotion, and moving health promotion upstream (Meili, 2012). However, the contrast between words and actions in health promotion has been most apparent in the area of the social determinants of health (Raphael, 2007). Current health promotion practices need to recognize the vital importance of the social determinants of health. This implies a shift from the deficit, medical model of health, to the inclusion of facets beyond individual, behavioral, and disease based concepts of health and wellbeing (Meili, 2012). There seems to lie a challenge for the health promotion field to recognize and incorporate the social determinants of health into practice, and moving health promotion upstream.

2.3. Citizen Engagement and Participation

Community engagement refers to “the process of getting communities involved in decisions that affect them, including the planning development and management of services, as well as activities which aim to improve health or reduce health inequalities” (NICE, 2008:5). Community engagement and active citizen participation are acknowledged as vital approaches in modern-day health promotion, in which empowerment-oriented approaches are being advocated (Kickbusch, 2011; Sørensen, 2013; South & Philips, 2014). In light of moving health promotion upstream, it is increasingly recognized that active participation and involvement of people affected by an intervention and/or policy, and generating ownership is a precondition for sustainable change (Lindström & Eriksson, 2011). Seeing communities as an essential part of the public health system



seems to be crucial in positively affecting population's health, and the potential for communities to play an active role in addressing the social determinants of health needs to be recognized (South & Phillips, 2014).

2.3.1. Youth Engagement and Participation

Citizen participation is an important element in the promotion of health (Rodrigues Coser, 2010), in which it is recognized that people, including youth, need to be engaged in the design of solutions to their own health problems through meaningful participation, capacity building and development (Rootman et al., 2001; WHO, 1986). Youth participation is defined as "the democratic practice of young people actively engaging with their social environment" (Wong et al., 2010:106), and seen as "the process of involving young people in knowledge development at the community level" (Checkoway & Richards-Schuster, 2004:85). In this participatory view, youth are not merely seen as subjects in health promotion initiatives, but as directors and decision-makers (Rodrigues Coser, 2010), where they have a central and meaningful participation in the process (Checkoway & Richards-Schuster, 2004). Applying a participatory approach with youth means that their "opinions and experiences are valued and recognized in the knowledge creation, by giving them decision-making power through the processes of collaboration, co-learning and capacity-building" (Rodrigues Coser, 2010:6).

Partnership efforts with youth employing strength-based approaches are acknowledged for its potential of youth's active involvement in critically analyzing and helping to address complex health and social issues (Checkoway, Dobbie & Richards-Schuster, 2003). As these youth participatory approaches actively involve youth and built on young people's intrinsic strengths, issues that they themselves identify can be addressed (Wong et al., 2010). Moreover, youth are enabled to recognize and further develop their own assets as well as to become critical thinkers and problem solvers (Cargo, Grams, Ottoson, Ward & Green, 2004). Participatory approaches have been associated with enhanced problem solving capacities, in which participants learn to critically analyze social problems and can become themselves agents for social change (Cargo & Mercer, 2008).

Participatory asset-based approaches in studies, such as youth empowerment, are emerging in empirical literature (Cargo et al., 2004). Prior to this recognition, children and adolescents were rarely asked to voice their opinions, or to participate in the development of research and programs



designed for them (Wong et al., 2010). Nygreen, Ah Kwon and Sanchez (2006) state that there is a strong need to investigate the particularities of involving youth as collaborators. In order to arrive at a deeper understanding of youth's health issues and their perceptions of health, research employing participatory procedures with youth is being advocated (Woodgate & Leach, 2010).

2.3.2. Current Challenge for Health Promotion Field

Encouraging citizens to take both personal responsibility for health and become involved as engaged and active citizens in healthcare decision-making is increasingly identified as a promising approach for modern-day health promotion (Kickbusch, 2009). Research suggests that health (literacy) interventions are more successful when adhering to participatory and engagement principles (Clement, Ibrahim, Crichton, Wolf & Rowlands, 2012; King, 2007). As argued by South and Phillips (2014), despite a consensus that community engagement should be integral to public health, making the leap from vertical programs targeted at changing specific health behaviors to approaches working in partnerships with communities, is often challenging. To date, participatory citizen engagement approaches in health promotion are insufficiently recognized, especially with regard to youth. Youth have been included only in a limited way in decisions or research affecting their lives. This particularly applies to undeserved youth whose voices are rarely heard and accounted for (Checkoway & Gutierrez, 2006).

Moving towards an approach in which citizen engagement and active participation is recognized, implies a shift from an individual towards a social and cultural model of health and health interventions. It requires a change in focus to a settings perspective acknowledging that health is influenced by individuals, culture and social context (Lindström & Eriksson, 2011). As such, there lies a challenge for the health promotion field to recognize and incorporate inclusive health promotion models and approaches that encourages citizens to actively engage and participate, and in doing so move health promotion upstream.

2.4. Health Literacy

Health literacy is defined as “ [...] linked to literacy and entails people's knowledge, motivation and competences to access, understand, appraise and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course” (Kickbusch, Pelikan, Apfel & Tsouros, 2013:4). In order to be health literate, the following competences are necessary: 1.)



access, which refers to the ability to seek, find and obtain health information, 2.) understand, which refers to the ability to comprehend the health information that is accessed, 3.) appraise, which describes the ability to interpret, filter, judge and evaluate health information that has been accessed, and 4.) apply, which refers to the ability to communicate and use the information to make a decision to maintain and improve health (Sørensen, Van den Broucke, Fullam, Doyle, Pelikan, Slonska & Brand, 2012).

The concept of health literacy is embedded in modern-day health promotion practices (Stewart et al., 2008), in which the Ottawa Health Promotion principles, such as empowerment, human rights, ethics, values and equity, are similar to the core values of health literacy (Lindström & Eriksson, 2011). In line with the health promotion perspective of enabling people to increase control over and improve their health, health literacy is recognized as being critical to empowered, active and informed participation in health and healthcare (Coulter & Ellins, 2006; Kickbusch & Maag, 2008). The importance of health literacy is established by numerous researches and increasingly recognized as an important public health goal and aspect in modern health promotion practice (Nutbeam, 2000; Mitic & Rootman, 2012).

To date, health literacy has been largely constructed through an individual, healthcare lens, in which there is a strong emphasis on preventive services, skills and competencies needed to effectively navigate through primary healthcare systems (Massey, Prelip, Calimlim, Quiter & Glik, 2012). Current health literacy understandings do not encompass broader concepts of health (Osborne et al., 2013), and fundamental factors of health are insufficiently identified and taken into account (Baker, 2006; Nutbeam, 2008). As such, Nutbeam (2008:2077) states that “improving health literacy in a population involves more than the transmission of health information, although that remains a fundamental task. [...]. If the goal of promoting greater independence in health decision-making and empowerment among the individuals and communities is to be achieved, there is a need for more sophisticated [...] efforts to ensure that the content of health communications not only focuses on personal health, but also on the social determinants of health”. With this statement, Nutbeam (2008) emphasizes the importance of active citizenship, as well as a focus on the broader (social) determinants of health in current health literacy conceptualizations.



2.4.1. Current Challenge for Health Promotion Field

Despite the efforts of the health promotion field to view health as a holistic concept, a broad, inclusive understanding of health congruent with fundamental health promotion values seems to be lacking. As such, an inclusive, holistic understanding of health and the importance of social determinants of health seem to be ignored in the evolution of health literacy definitions. Example given, the European Health Literacy Survey (HLS-EU-Q) designates 12 items (N=47) which are to a limited extent related to the social determinants of health (e.g. family/friends; neighborhood; political system(s); work; media; life and everyday behavior; housing conditions; sports club; living conditions; community). These items contrast the other 35 items that are specified to individual, medical health behaviors, such as the ability to find, understand and judge healthcare related health information. Additionally, popular health literacy screening tools such as TOFHLA and REALM are being criticized for focusing primarily on reading comprehension and numeracy. As such, these tools fail to capture the range of ideas embodied in comprehensive definitions of health (Baker, 2006; Nutbeam, 2008). There lies a challenge for the health promotion field to recognize the critical notes placed towards current health literacy definitions, acknowledging the breadth of ideas emerging in health promotion literature, and incorporating these insights in modern-day health literacy conceptualizations.

2.5. Moving Health Literacy Upstream

The conceptualization of holistic health literacy proposed by the Bridge for Health Literacy Project refers to the following dimensions: 1.) having the skills and capacity to understand that health is not merely physical health, but entails emotional, mental, and spiritual health (e.g. holistic health), and 2.) is largely influenced by the everyday circumstances in which people live (e.g. social determinants of health), as well as 3.) understanding the importance of active engagement and participation in the promotion of one's health and wellbeing.

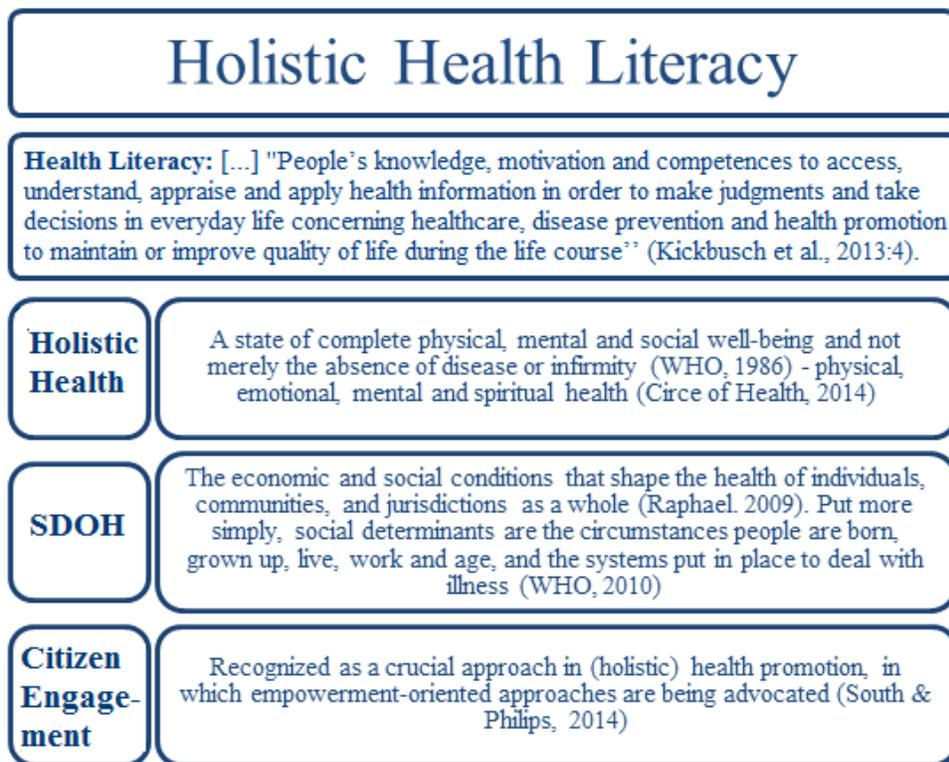
By adding a *holistic approach* into the concept of health literacy, emphasizing the importance of the *social determinants of health* and a *citizen engagement* perspective, the Bridge for Health organization aims to contribute to the critical notes placed towards current health literacy understandings and move health literacy upstream. Besides the "knowledge, motivation and competence to access, understand, appraise and apply health information [...] concerning healthcare, disease prevention and health promotion [...]", people should have the skills and capacity to



understand these aspects which are found crucial in determining people’s health and wellbeing (WHO, 1986; Circle of Health, 2014; Wilkinson & Marmot, 2003; Kickbusch, 2008; South & Philips, 2014). Moreover, these skills are needed in order to fully empower people, and having the capacity to exhibit control over their health and wellbeing.

In *figure 2.5*, the proposed conceptualization of holistic health literacy as viewed in the Bridge for Health Literacy Project is presented, based on the cornerstones of Bridge for Health and identified knowledge gaps in academic health promotion literature. The current predominating health literacy definition is not rejected, but dimensions are added to the conceptualization, recognizing fundamental health promotion principles. In doing so, it is aimed to move health literacy upstream.

Figure 2.5. Concept of Holistic Health Literacy in Bridge for Health Literacy Project



2.6. Teleconference Holistic Health Literacy

A recent teleconference⁵ with members of the Global Working Group of Health Literacy of the International Union for Health Promotion and Education (GWG-HL IUHPE) and researchers of the

⁵ In Appendix III more information is provided about the teleconference with the IUHPE Health Literacy Working Group.



Bridge for Health Literacy Project, affirmed the need to widen current health literacy understandings and incorporate holistic health promotion principles. The conference confirmed and recognized the identified research gaps, and viewed the Bridge for Health Literacy Project as an important and valuable contribution and study for the (youth) health promotion/literacy field.

2.7. Wrapping Up

The incorporation of holistic components in the concept of health literacy is promising, as to date research on this topic is still very limited. As such, the Bridge for Health Literacy Project study is recognized by leading health literacy experts represented in the IUHPE Working Group on Health Literacy. There seems to be an increasing interest in moving health promotion upstream from interventions that focus solely on changing individual healthcare related behaviors. Based on fundamental and modern-day health promotion principles and the cornerstones of the Bridge for Health organization, the Bridge for Health Literacy Project proposes upstream dimensions to the current concept of health literacy. In doing so, collaboration has been sought with the Youth Warrior Program providing the project with a case study on how upstream thinking in the youth health literacy can be promoted, adhering to the need for youth participation and incorporation of holistic health (promotion) principles.



3. Methodology

In order to provide answers to the main and sub-research questions, an explorative research is conducted using a combination of a (i) systematic literature review with (ii) participatory research. First, the systematic literature research informing sub-research question 1. is discussed. Next, the participatory research and methods used in the Youth Warrior workshops are discussed, informing sub-research question 2.

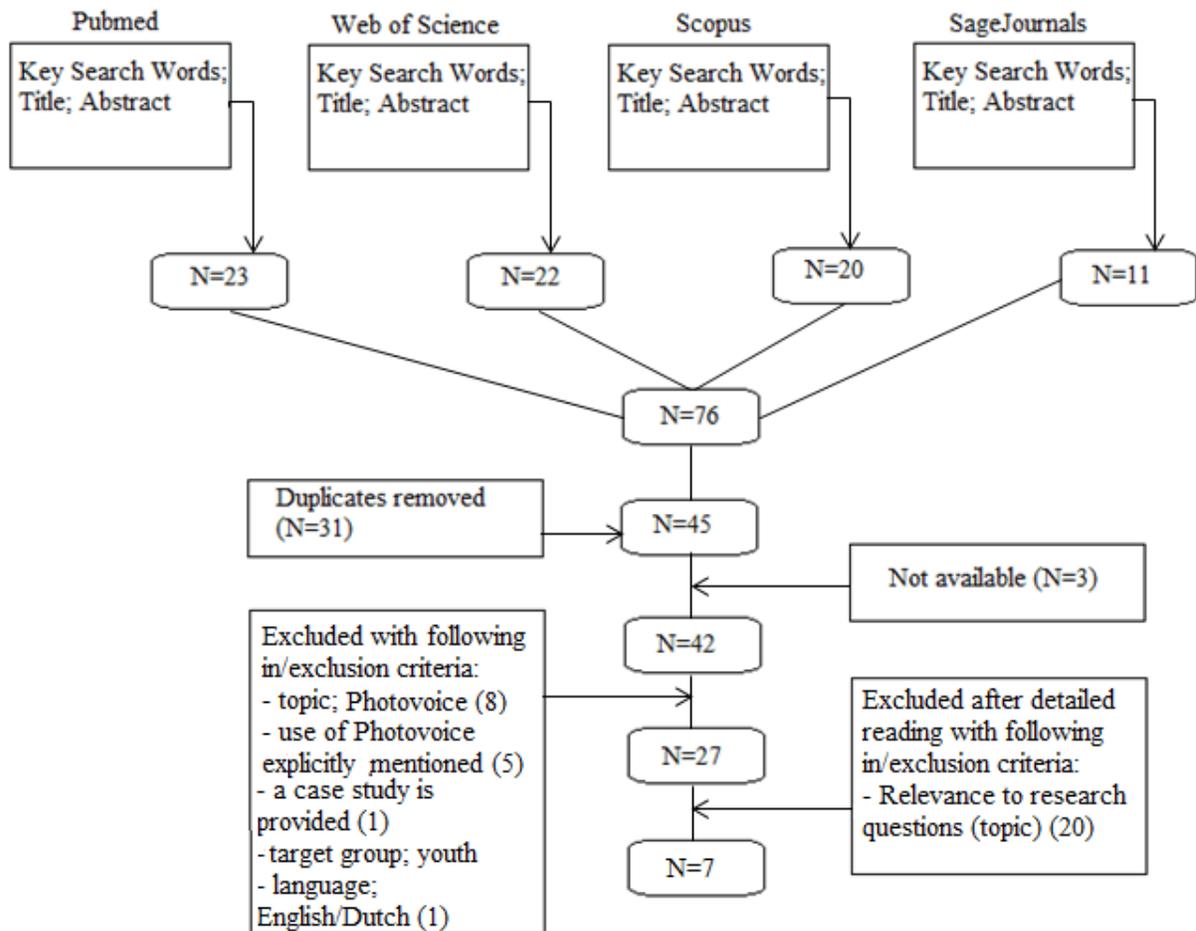
3.1. Systematic Literature Review

The systematic literature study aims to provide insight in the use of Photovoice with youth in health literacy and health promotion research, in which the perceived benefits as well as challenges of the method are identified.

A systematic review in search engines *PubMed*, *Web of Science*, *Scopus* and *SageJournals* has been performed by one researcher of the Bridge for Health Literacy Project between autumn-winter 2014. To retrieve studies, the search terms '*Photovoice*', '*youth [OR] adolescence*', and '*health literacy*' have guided the literature review. Since search results focusing solely on health literacy interventions resulted in too little results, the key search term '*health promotion*' was added, and the research question consequently adjusted. From the resulting list, studies were selected for inclusion in the review on basis of their abstracts. Eligible studies were included with the following inclusion criteria: (1) the topic needed to be relevant and discuss Photovoice; (2) the use of Photovoice needed to be explicitly mentioned in either abstract and/or key words; (3) a case study/example regarding the use of Photovoice needed to be provided; (4) the target group discussed needed to be youth/adolescents; and (5) the language needed to be in either English or Dutch. The eligible literature was further selected in the second round, based on the relevance to the research question (topic).

The results of the literature review are visualized in a flowchart (*figure 3.1.*), reflecting the inclusion- and exclusion criteria used and the selection of remaining articles.

Figure 3.1. Selection Process Systematic Literature Review



The combination of the key words with the four search engines resulted in the initial identification of 76 publications. By removing the duplicates, and based on the application of the inclusion criteria to the abstracts, 27 publications were retrieved which discussed the topic of Photovoice with youth in health literacy/promotion activities. After detailed reading, and based on the application of further inclusion criteria, 7 articles remained. Following, the selected articles were summarized in a table⁶, in which the literature was thoroughly scanned by identifying the challenges and benefits mentioned in the literature with regard to the use of Photovoice with youth in health promotion research and/or activities.

⁶ In Appendix IV a summary of the selected articles is provided.



It is important to note that due to the timeline of the study and in order to answer the main research question, it has been decided to conduct the literature review and participatory research simultaneously.

3.2. Participatory (Action) Research

Two meetings have taken place with RedFox Healthy Living Society and Big Brother Vancouver before the start of the Youth Warrior Program, in which it was jointly decided to use a participatory action research (PAR) approach to engage the youth on a community level and actively draw on their knowledge and expertise. PAR sees community members as active players joining the research team to identify the problem, needed information, preferable methods, procedures to obtain data, analysis of data, and desired action (Koch & Kralik, 2006). The use of PAR fitted the Youth Warrior Program vision of supporting youth to become active community agents for social change. As such, the photos of the youth would have functioned as a community needs assessment, in which the youth reflected on issues and needs prevalent in their communities, and the youth would have been asked to actively think *with* the researchers about potential action and change resulting from their photo analyses.

However, after a few weeks in the program RedFox Healthy Living Society raised concerns with regard to the youth's active involvement and participation in the research approach chosen. Resulting, the participatory action research approach had to be revised, implying major implications for the research design to be conducted. As such, the action component had to be adjusted: the youth could not actively participate and reflect on in the research process and analysis, and no action resulted from their analysis, leaving the research with solely a participatory research. In the revised participatory research, the aim was then to induce critical thinking and foster youth's holistic health literacy through the use of Photovoice and the accompanying methods of group interview, Circle of Health puzzle, and group discussion. As such, practice informed the research conducted and data has been gathered and analyzed. Additionally, observations and field notes have informed the youth's engagement process and provided the study with in-depth information.

The role of the researcher remained unchanged, in which an emphasis was placed on a non-hierarchical relationship between researcher and participants. The Bridge for Health researcher attended all nine workshops, ensuring that observations of the youth's engagement, participation and knowledge were possible. The first workshop has been recorded to serve as a test if the quality



was suitable, however the Youth Warrior workshops were held in a spacious theatre room making the quality of the recordings unusable. It was opted to solely use field notes reflecting the observations made. However, the youth coordinators remarked that the youth felt uncomfortable and self-conscious due to the note taking of the researcher. The youth felt as if they were being observed, and this endangered their feeling of being at ease. Instead, a summary was written after every workshop by the Bridge for Health researcher, serving as field data.

3.3. Setting: Youth Warrior Workshops

The weekly workshops are the setting used in the Youth Warrior Program and participatory research conducted. In total nine workshops were held between October 2014 and December 2014. The workshops were accommodated every Wednesday evening from 17:00 – 19:00 o'clock, in which twelve youth actively participated in group activities and discussions. Three workshops were arranged by the Bridge for Health Literacy Project researchers discussing the concepts of holistic health literacy, and took place on November 5th 2014, November 19th 2014, and December 17th 2015. The other six workshops were arranged by the youth coordinators, and themes like personal health, community engagement and physical activity were discussed. Three youth coordinators were present at every workshop; two coordinators from RedFox Healthy Living Society, and one coordinator from Big Brother Vancouver. Also one Bridge for Health researcher was present at every Youth Warrior Program workshop, adhering to the principles of participatory research and to ensure interaction and the building of trust between researcher and participants.

3.3.1. Group Interview and Circle of Health Puzzle

The Circle of Health Puzzle (*figure 3.3.1.*) is a method used in the first Youth Warrior workshop arranged by the Bridge for Health researchers to induce critical thinking towards holistic health and the many factors in life affecting one's health and wellbeing (e.g. social determinants of health). The Circle of Health puzzle is a fun, educative and interactive tool that provides a complete picture of health at a glance. The circle is used to induce critical thinking towards health with consideration of culture, environment, economic status, life style 'choices', and health behaviors (The Quach, 2009). Since the Circle of Health depicts on the complete picture of health promotion practice, special focus has been paid to the orange⁷ and blue⁸ circle.

⁷ Holistic health principles: physical, emotional, spiritual, and mental health.

⁸ Social determinants of health: culture, income and social status, gender, physical environment etc.



Visual resources to educate youth/people with regard to the holistic health and social determinants of health are limited. However, the Circle of Health puzzle offered the opportunity to foster youth's understanding of the multiple aspects of health (e.g. physical, mental, emotional and spiritual), as well as the many social determinants affecting one's health and wellbeing in a comprehensive and appropriate manner. The benefit of choosing the Circle of Health puzzle is the combination of an entertaining element, while at the same time providing the youth with a visionary tool exemplifying what has been discussed in the workshops. As such, all parties involved in the Youth Warrior Program held the believe that the Circle of Health has the potential to support and increase youth's critical consciousness by showing them what holistic health and social determinants of health are. Moreover, Paola Ardiles has worked closely with the developers of the Circle of Health Framework, and has seen first-hand what the potentials of the use of the Circle of Health are in reaching lay people like the youth involved in the Youth Warrior Program.

Figure 3.3.1. Circle of Health Tool (The Quaich, 2009)





To start off the workshop, and to serve as an icebreaker⁹, the youth were given puzzle pieces and teamwork was required in order to complete the puzzle. Every puzzle piece depicted one of the principles of holistic health (promotion). After completing the puzzle, the Circle of Health stayed in the middle and functioned as a focal point throughout the remaining workshop session. Next, the questions were asked “*what means health to you?*” and “*what did you do to improve (or affect) your health today?*”, informing how health is perceived by the youth before their active engagement in the Youth Warrior workshops and participatory methods. As such, the youth were asked to think about how they define health, and what they perceive as having a positive and/or negative influence on their health. The youth wrote their thoughts on post-its, and stuck them on a poster. In this way participants could see what was written down, ensuring dialogue between all participants. The youth were asked to share their note(s) explaining why they wrote this/these specific notes. This process ensured that the youth’s answers were analyzed correctly and in the right context.

In order to induce further critical thinking among the youth, questions were asked regarding youth’s understanding of the many aspects of and influencing health. These questions were formulated by the Bridge for Health Literacy Project researchers, and approved by the youth coordinators. The goal of these questions was to raise awareness of holistic health and the social determinants of health¹⁰: “*do you know what holistic health means?*”; “*how do you think that voting¹¹ relates to your health and wellbeing?*”; and “*have you ever considered how your education/income/social support/living and housing situation/community/neighborhood influences your health and wellbeing?*”. After the questions in which concepts of holistic health and social determinants of health were introduced, the concepts were explained more in-depth. The answers to questions raised in the group interview were written down on field notes by the Bridge for Health researcher after the workshop session, informing youth’s current knowledge with regard to holistic health and social determinants of health.

⁹ An activity that required physical activity and aimed to get the youth ready for the remaining workshop session.

¹⁰ It is important to note that in order to ensure youth’s understanding of the content discussed, the term ‘social determinants of health’ was replaced by other words describing the idiom: ‘factors’ or ‘aspects’ influencing their health and wellbeing.

¹¹ At the time of the workshop session, local city elections took place in Vancouver.



3.3.2. Group Discussion

Group discussions formed a central component throughout the Youth Warrior workshops, in which a certain theme or topic was discussed with the youth to elicit critical thinking and dialogue. The method of group discussion has also been used in the second workshop provided by the Bridge for Health researcher. The researcher only had 15 minutes of the in total 90 minutes due to time restrictions and a full agenda.

The group discussion provided the opportunity to foster further in-depth and critical thinking with regard to holistic health and social determinants of health. As such, the workshop focused on discussing the themes that required repetition, informed by field notes of the previous workshop session. Additionally, the youth were given the opportunity to ask questions about the Photovoice project and about the terms discussed. Contact information (e.g. phone number, email address, and Facebook) was provided to them in case they had any further questions.

3.3.3. Youth Warrior Photovoice Project

Following the accompanying participatory methods of group interview and discussion in which the terms holistic health and social determinants of health have been introduced and critical thinking has been induced, Photovoice was explained to the youth. As such, Wang & Burris (1997) state that it is crucial for participants to know what is expected from them, as well as how to use a camera correctly and for the right purpose. Since all youth had access to a camera through their mobile phones, there was no need to provide disposable cameras to them. Next, the Youth Warrior Photovoice project was explained to them. The youth were asked to “*walk around in your community/neighborhood and make pictures of things that remind you of health*”. In this way, the youth were provoked to put their fostered knowledge with regard to holistic health and the social determinants of health into practice. The youth had five weeks to make photos, until the end of the Youth Warrior Program (December 17th). The youth were allowed to make pictures of anything and as many as they liked, as long as it depicted their perspective on health and wellbeing. Furthermore, the youth had to write a short paragraph explaining (i) why they made this/these picture(s) and (ii) what the photo says about their perception of health and wellbeing. The youth were asked to send the images to the Bridge for Health Literacy Project researcher either by email or Facebook.

At the last workshop (December 17th), the Youth Warrior Program arranged a community event where family, friends, and community members attended. The youth were asked to present their



photos with their peers as part of their personal growth. Moreover, while presenting their photo(s) the youth were asked if the photo(s) said something about physical, emotional, mental and/or spiritual health. These answers were written down on field notes by the Bridge for Health researcher. The images produced by the youth served as data to see what their perceptions of health and wellbeing are after their active involvement in the Youth Warrior workshops and Photovoice project.

3.4. Analyzing of Data

Content analysis has been used to analyse the data, in which the approach is known as a flexible method for analyzing qualitative data (Cavanagh, 1997; Bowling & Ebrahim, 2005). The method derives from phenomenology, and requires the identification of codes to begin the categorization of data (Bowling & Ebrahim, 2005). In this study, a content analysis is used in which the selection of categories (e.g. codes) followed from the data and quantified with the purpose to understand the contextual use of the words or content (Hsieh & Shannon, 2005). A combination of top-down and bottom up coding has been used, in which the top-down coding process has been informed by the theoretical model (e.g. narrow/holistic understanding of health; social determinants of health). The bottom-up (e.g. ‘free coding’) has been informed by the field notes reflecting the youth’s perception of health and wellbeing as well as their photos produced (e.g. friends; family; culture; physical activity; physical space).

The chosen research design informed how results have been analyzed and reported. As such, the method for descriptive analysis and reporting has been informed by practice, in which a narrative approach provided adequate insight with regard to the participatory methods used and outcomes produced. Furthermore, data have been reported in chronological order ensuring full comprehension of the participatory research conducted.

3.4.1. Poster

The poster reflecting the answers to the questions “*what means health to you*” and “*what did you do today to improve (or affect) your health today?*” provided the study with data (e.g. post-its) about how health is perceived before engagement in the Youth Warrior Program activities. The post-its were analyzed top-down, in which words referring to physical activity, healthy eating or medicine/disease, were defined as a narrow understanding of health. Words referring to friends, family, culture, mental health, or (other) social determinants of health, were defined as a holistic



understanding of health¹². Field notes supported the subdivision of the post-its, ensuring that they were analyzed correctly and in the right context.

3.4.2. Photos

The photos produced by the youth were organized in overarching themes: *culture; family/friend; food; physical activity* and *physical space/nature*. Codes have been informed by the data produced by the youth and categorized by the researcher. Field notes and written captions supported the categorization of photos as they clarified the theme of their photos and the link to physical, emotional, mental and/or spiritual health: (i) *culture & health*, (ii) *loved ones & health: family/friends/pets*, (iii) *food & health*, (iv) *physical activity & health*, (v) *physical space/nature & health*.

3.4.3. Observations and Field Notes

The summaries of the field data have largely been incorporated in the reporting of the results, ensuring a chronological reporting of the data. In the analyzing phase, the field data have been carefully read through and have been interwoven in the results chapter, supporting the outcomes discussed.

Furthermore, field data and notes had several functions. They informed where attention needed to be placed in workshops that followed, as well as provide valuable insights in the thinking process and progress of the youth. Moreover, the field notes made sure that the data produced by the youth could be understood correctly and in the right context. Additionally, the field notes have provided the study with ‘citations’ of the participants, and supported the use of code words in the analyzing process.

¹² In Appendix V the analyzing process using code words is provided.



4. Results

In this chapter, the results from the methods used in the study are discussed. The results are elaborated in three sections. First, the results of the literature study are elaborated, answering sub-research question 1. Second, the results from the case study using Photovoice and accompanying methods to engage the youth in the Youth Warrior Program are discussed, which together informed research question 2. Third, the benefits and challenges of the use of Photovoice and accompanying methods in the case study are seen in light of the results of the systematic literature review. The three sections provide an answer to the main research question, which will be further discussed in chapter 5.

4.1. Systematic Literature Review

In total 7 articles have been reviewed in the systematic literature review, in which all selected articles describe a Photovoice project as a means for health promotion activities in general¹³. As such, the use of Photovoice with youth in health literacy studies was non-existent within the inclusion criteria of the systematic literature review. Six articles originate from North America, and one article from the Middle East. Four articles describe a case study, and three articles describe a descriptive research design. Three articles concern indigenous youth involved in a Photovoice project, one article Bedouin (Middle-East) youth, and three articles underserved American youth.

4.1.1. What is Photovoice?

Photovoice is described as a participatory group method and process that engages people in telling their stories through photography to increase community awareness about an issue, and potentially mobilize change (Wang & Burris, 1997; Markus, 2012). Photovoice knows three main objectives: (1) to enable people to record and reflect their community strengths and concerns, (2) to promote critical dialogue and knowledge about important community issues through large and small group discussion of photographs, and (3) to reach policymakers (Wang & Burris, 1970; Shea et al., 2013).

The following benefits and challenges of the use of Photovoice with youth in health promotion activities can be distilled from the systematic literature review.

¹³ Appendix IV provides a summary of the selected articles.



4.1.2. Benefits Use Photovoice with Youth in Health Promotion Activities

➤ ***Advocacy and empowerment method***

Photovoice is acknowledged as fostering advocacy and empowerment with regard to health issues, in which youth are encouraged to identify personal and community issues and take action on these issues (Gray, de Boehm, Farnsworth & Wolf, 2010 ; Markus, 2012; Necheles, Chung, Hawes-Dawson, Ryan, William et al., 2007; Shea et al., 2013; Wilson, Minkler, Dasho, Wallerstein & Martin, 2008). As such, Photovoice is a strength-based approach, emphasizing individual and community assets and recognizes youth as critical thinkers and problem-solvers (Markus, 2012; Wilson et al., 2008). Additionally, Photovoice as an empowerment method enables group dialogue and reflection, and elicits deeper thinking which can lead to action (Wilson et al., 2008).

➤ ***Means for sharing and knowledge exchange***

By sharing their work with community members the youth present their identified issues and gained knowledge, in which knowledge exchange and community awareness can take place (Bader Wanono, Hamden & Skinner, 2007; Gray et al., 2010; Markus, 2012; Necheles et al., 2007; Shea et al., 2013; Strack, Magill & McDonagh, 2004). By sharing their work that contains a health message with peers, family members, friends, and other community members the youth can contribute to a health promotion process that may have an impact in their communities (Gray et al., 2010; Markus, 2012). As such, photos stimulate dialogue between participants, and function as catalysts for discussion (Necheles et al., 2004).

➤ ***Fostering youth's skills***

Photovoice builds on youth's capacities and strengths as a means for health promotion activities, and increases youth's confidence in initiating social action (Markus, 2012; Necheles et al., 2004; Strack et al., 2004; Wilson et al., 2008). As such, teamwork, youth's problem-solving and leadership skills are promoted, leading to social action, perceived influence over the world and civic participation (Bader et al., 2007; Wilson et al., 2008). Furthermore, the youth develop a social morality to become active members in their communities (Strack et al., 2004). Additionally, Photovoice can be used in an associated skills building program (Necheles et al., 2004).



➤ ***(Aboriginal) youth ideal target group***

Youth have limited social capital to initiate change and action, and often feel marginalized in a world controlled by adults in which their voices go unheard and are undervalued (Shea et al., 2013; Wilson et al., 2008). Photovoice provides people with little money, power, or status (like (Aboriginal) youth) with a means to engage and advocate for change (Bader et al., 2007; Strack et al., 2004) in which their voices are heard, their wisdom and strengths integrated in health promotion initiatives, and their leadership potential acknowledged (Markus, 2012; Wilson et al., 2008). Furthermore, Photovoice is a culturally appropriate method as it engages participants through creative expression, traditionally used in indigenous communities (Gray et al., 2010; Shea et al., 2013).

➤ ***Highly adaptive method***

Photovoice is a flexible participatory method, and can be adapted to the specific needs of the project and target group (Necheles et al., 2004; Shea et al., 2013; Strack et al., 2004). As such, Photovoice can be used in a number of contexts, and can accommodate different groups, communities, and health-centered topics (Shea et al., 2013).

➤ ***Appreciation of youth***

Youth are highly receptive and enthusiastic with regard to the engagement method of Photovoice (Bader et al., 2007; Necheles et al., 2004). Youth enjoy the opportunity to express their opinions, share their stories, and thereby feel empowered (Bader et al., 2007).

4.1.3. Challenges Use Photovoice with Youth in Health Promotion Activities

➤ ***Time restrictions***

Time can be a significant constraint for the ambitiousness of the Photovoice project (Bader et al., 2007; Strack et al., 2004; Wilson et al., 2008). Time is needed for the photo taking process, as well as the development of the final product which should not be rushed (Strack et al., 2004). Furthermore, in order to enable critical dialogue and reflection, time is needed for resultant learning to occur (Wilson et al., 2008). The number of participants influences the time needed (Bader et al., 2007; Necheles et al., 2004), and a restricted number of participants affects the broader generalizations of outcomes to be made (Necheles et al., 2004).

➤ ***Exciting youth***

Getting youth excited to take pictures, as well addressing issues and facilitate group



discussion can be challenging (Strack et al., 2004). As such, the importance of guidance and structure in the Photovoice process with youth is stretched, in which some youth will need a great deal of guidance and structure (Strack et al., 2004). In order to keep youth actively engaged, hands-on activities should be incorporated into each Photovoice session (Strack et al., 2004).

➤ ***Need for flexibility***

The importance of being adaptable in the Photovoice research design is highlighted, in which room for flexibility with respect to the photographs made and also the method of Photovoice is important (Shea et al., 2013; Strack et al., 2004).

➤ ***Further research needed***

In order to substantiate the effectiveness of the Photovoice method when used with youth, further research is needed with (indigenous) youth to determine the efficacy of Photovoice (Gray et al., 2010; Markus, 2012; Wilson et al., 2008). Also, future research is needed to determine the potential of Photovoice and raise awareness for the social determinants of health and increase cultural competency in health promotion initiatives targeted at (Aboriginal) youth (Wilson et al., 2008).

4.2. Case Study: Participatory Research

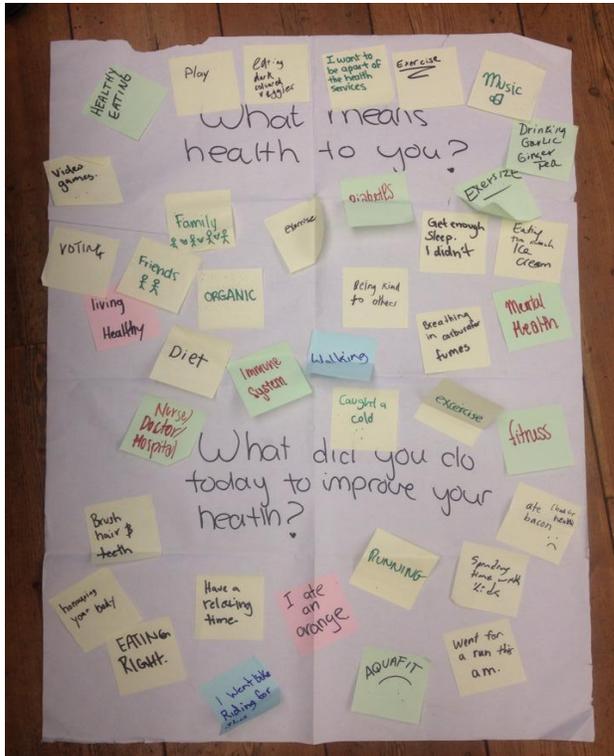
The multiple participatory methods used in the Youth Warrior Program have resulted in multiple outcomes and data.

4.2.1. Group Interview and Circle of Health Puzzle

In the first workshop accommodated by the Bridge for Health researchers (December 5th) twelve youth in the age range of 15-21 years participated in an icebreaker activity. The youth were handed multiple pieces of the Circle of Health puzzle, and the youth had to coordinate and work together in order to complete the puzzle. The puzzle was not yet explained to the youth as this was done at a later stage in the workshop. For now, the puzzle was kept in the middle of the sitting circle to function as a focal point throughout the remaining of the workshop session.

Next, the youth wrote down on post-its what health means to them, and what they did that day to improve (or not) their health. The youth were excited to write their thoughts down, and many of them stuck more than one note on the poster. The poster with the answers provided by the youth is visualized in *figure 4.2.1-1*.

Figure 4.2.1- I. Poster First Workshop



When analyzing the poster with the support of subjective free-coding, it can be stated that:

- The majority of the notes (n=30) refer to health as perceived in medical, disease focused terms and having a healthy lifestyle: presence/absence of disease/illness; eating healthy, being physical active, etc.
- A small part of the notes (n=10) refer to health as perceived in holistic terms: friends, family, mental health, etc.

In the group interview that followed, the notes were discussed in-depth with the youth. To make sure that the notes were understood and analyzed correctly and in the right context, the youth were asked why they wrote and placed their note on the poster. When discussing the narrow¹⁴ notes referring to health, all youth understood why these notes were placed on the poster. Participant M. explained that she wrote the note 'healthy eating' because without healthy eating and working out, you will get fat. When asking the other youth if they agreed that only through exercise and diet

¹⁴ It is important to note that the terms 'narrow' and 'holistic' understanding of health were not used with the youth.



health can be improved, the youth all agreed that notes like ‘exercise’, ‘diet’ and ‘healthy eating’ represented (the most) important aspects of health.

The notes referring to holistic health¹⁴ principles gave rise to a deeper conversation about spiritual, emotional and mental health. The youth were asked why the note ‘family’ was placed on the poster, and participant O. said that without her family, she would not be healthy. When asking her why this is the case, she replied that they are always there for her. Also the note ‘mental health’ was discussed, and participant D. said that in her opinion mental health is also part of health. When asking how the other youth thought about mental health as being part of health, they seemed unsure how to respond and some of them stated that they never thought of this before. When asking if and how honoring one’s body is part of health and wellbeing, participant T. responded that her Ancestor says that it is the most important aspect of health. When asking her if she could explain this, she did not feel comfortable doing so.

Next, the Circle of Health puzzle was explained to the youth in order to induce further critical thinking. The Bridge for Health researchers elaborated on the importance of the four distinct dimensions of health. The orange circle of the puzzle was explained first, depicting the four holistic health dimensions. Spiritual, emotional, and mental health were explained as being just as important for one’s health as physical health. The researchers referred to health as a balance between all these four dimensions. An example was given about not being mentally healthy, and how this has an effect on one’s emotional and physical wellbeing. When asking if the youth were familiar with the term holistic health some had heard of it before, often because their Ancestors talk about holistic health.

Next, the blue circle was explained to the youth elaborating on the social determinants of health. The example of voting was given to introduce the many determinants in life affecting one’s health and wellbeing. First, the youth were unsure how voting influences one’s health and wellbeing. After discussing how for instance community health services and policies, the building of roads, schools, playgrounds, education, employability etc. are shaped by decisions made on city/governmental-level, the youth understood that voting has an (direct/indirect) influence on the health and wellbeing of individuals and communities. Participant M. placed the note ‘voting’ on the poster, exemplifying that she/the youth understood the importance of the determinant discussed. Further questions were raised in which the youth were induced to think about how one’s education, income, social support,



living and housing situation, gender and race influences health and wellbeing. Participant J. said that rich people are often healthier. When asking him why he thinks this is the case, he replied that they have the money to go to private doctors and hospitals. When asking the youth if living in a certain neighborhood affects one's health and wellbeing, participant J. said that living in Strathcona means that you see a lot of drugs issues and homeless people. When asking him if this affects his health or that of his community, he said it did. Furthermore, the youth were asked if they thought that being a boy or girl, or a Native person influences their health and wellbeing. The youth were unsure how to respond, showing that many of them have not (often) thought of these influential determinants before.

Next, the youth were asked to place their notes on the puzzle in either the orange or blue circle, providing the youth with the opportunity to link their notes reflecting their perception of health with the Circle of Health principles discussed. Due to time restrictions, only a few notes could be placed on the puzzle. Strikingly, all notes were placed in the blue circle, depicting the social determinants of health. When asking the youth why they did not place any notes in the orange circle (e.g. holistic health principles), participant J. replied that he did not thought of it. This emitted a signal for the researchers that more attention needed to be placed on holistic health in the next workshop that followed.

4.2.2. Group Discussion

The workshop that followed provided the needed repetition with regard to holistic health. The Bridge for Health researcher asked if the youth remembered what holistic health means. Participant D. said that it meant that eating right and working out is not enough to be healthy: you also have to have some me-time and relax, like playing videogames. Participant C. said that holistic health means physical health, as well as spiritual, mental and emotional health. Like taking a bath and watching a movie are examples of mental health. Participant O. asked if spiritual health is for instance believing in God, and the researcher complemented her for sharing a good example with the group. The researcher asked if she also had examples for emotional and mental health, and she said that mental health means not having a mental disease like schizophrenia, and emotional health means having a support system, like family and friends. When asking the youth if they understood the examples provided by participant O., they nodded.



The 15-minute workshop ended with another ice-breaker. The remainder of the workshop discussed the topic of ‘self-care’, arranged by the youth coordinators. After the workshop, participant J. asked if he could have a digital copy of the Circle of Health, and this was sent to him.

4.2.3. Youth Warrior Photovoice Project

In total, eight youth (N=12) made and send their photos to the Bridge for Health researcher. The amount of photos made per youth differed. Participant K. made 15 photos, whereas others one, two or four. In total 28 photos have been send to the researcher. All youth, except two, made collages of their pictures in which they combined two/four photos with the same message/theme. The photos were presented at the community event on December 17th. Only one youth was willing to present his/her own photo. The other youth (n=7) mentioned that they did not feel comfortable presenting in front of their friends, family and community members. The Bridge for Health Literacy Project researcher presented their photos for them, supported by the short caption explaining why the youth made and chose this/these picture(s) to represent what their current perception of health is. Furthermore, some of the youth were asked if the photo(s) said something about physical, emotional, mental and/or spiritual health if this was not clear from their written paragraph.

The four participants who did not made photos mentioned that they either forgot, had no time, or just did not feel the need to do so. One participant asked if he could send his photo of him and his son after the end of the program, but he never did. During the Photovoice workshops, the youth seemed excited about the Photovoice project and when asking the youth if they were ‘up for it’, they said they were. However, when leaving the workshop sessions many of the youth seemed to forget about the Photovoice project, and did not make and any photos. In order to encourage the youth to take and send photos to the researcher, multiple Facebook messages have been send by the researcher, making sure that the youth knew what was expected from them.

The following pictures were made divided in overarching categories, based on code words derived from their presentation and written caption that accompanied the photo¹⁵: *culture; family/friends; food; physical activity; and physical space/nature.*

¹⁵ In Appendix V the analyzing process using code words is provided.

Culture



Participant K: "For me, engaging in cultural activities means health".



Participant T: "When I see this picture, I think culture and that's something I don't always get down here in the city. It's always good and healthy to know your culture and how to speak your language. So, if I've got the chance to participate in anything cultural, I'll take it!".

Family/Friends



Participant O: *‘My family is my rock, constantly stable. Without them I would be only half a person. These amazing people have contributed to my health over the past 19 years by supporting me physically and emotionally. They are always there for me when I am ill, when I go through melancholy, and when I am conflicted. They have seen me at my best and at my worst, and they have always stuck by my side. They have helped mold me into the person I am today. I am blessed immensely to have such a supporting and loving family. I thank the creator every day for what He bestowed upon me’.*



Participant K: *‘The people/animals that I keep very close to my heart: my boyfriend and my cat Sylvester’.*





Participant T: *“I chose this photo because it's a mixture between family and being outside. The bond these two have is incredible and it's something you can't break, and having something like that, you never want to lose it. Being with your family brings you happiness and stability. That's all part of being healthy!”*

Food



Participant K: *“I love foood! My favourite thing in life! (Other than family, C. and my cat)”*





Participant S: "I chose this picture, because it's a supermarket that sells only local products, that are also organic. So, it's better for the environment, and for your health".

Physical Activity

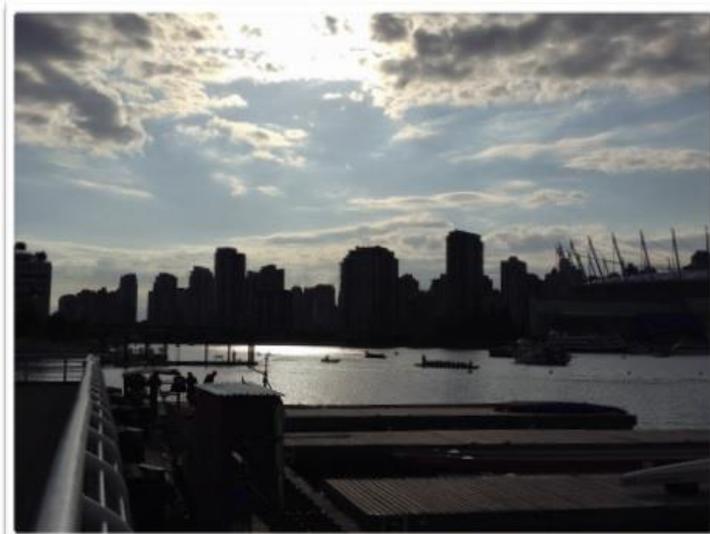


Participant C: "These two pictures are about my hobby, ice hockey. I chose these ones because that is the team I play hockey and where I have a lot of fun. The other one is of the Canucks at Rogers arena because that is where I work and also I look up to some of the player as mentors".



Participant M: *‘This gym reminds me of health because of well, it’s a gym, you stay fit. Riding bikes is another way to be healthy’.*

Physical Space/Nature



Participant MA: *‘These pictures remind me of health for my own reason because it’s a place where you can go for a walk, or even a bike ride. In the summer I would ride my bike around the seawall. On this day of the picture I rode my bike around Vancouver, took the train to Patterson and rode y bike the rest of the way to new Westminster. Riding a bike is really healthy for you mentally and physically’.*





Participant C: *'This photo is of Vancouver. I chose this one because this is where I grew up and where my life is''.*



Participant R: *'I picked this picture I love Vancouver. Because it has everything. Like oceans, rivers, lakes, mountains, city''.*



Participant M: *'A playground would be healthy for the mind because children need fun in their life and it keeps them happy. Water keeps you hydrated and is good for your health''.*



Participant K: *'My favorite month of all is fall! Winter is my second'*.



The photos produced by the youth demonstrate how the youth perceived health after their active involvement in the Youth Warrior Photovoice project. A large part of the pictures (n=9) represent the youth's families, loved-ones, and their cultural heritage and Aboriginal status, referring to emotional and spiritual health and social determinants of health (see *box 2.2.*). Also, the vital influence of physical settings on physical, mental and emotional health and wellbeing has been put forth by many pictures (n=10). As such, growing up and living in the city of Vancouver is perceived as having a major influence on one's physical health, but also on their mental wellbeing. Moreover, by denoting to the setting in which one lives, the youth refer to an important social determinant of health. Furthermore, physical activity is related to staying physically fit (n=2), but also to stay mentally and emotionally healthy (n=2). Having the ability to clear one's mind, going into nature and 'rewind' has been pointed out as very important for one's sense of wellbeing. Furthermore, the presence of healthy food stores is pointed out and perceived as being important for one's physical fitness and healthy lifestyle (n=1), in which food security also refers to an important social determinant of health. Additionally, food is related to emotional health (n=4). As such, it can be stated that the photos produced by the youth and supported by their written paragraph, represent many aspects of holistic health principles and social determinants of health.

At the end of the community event honoraria have been provided to the youth, also the youth that did not make and send pictures, in which they were acknowledged for their active engagement and



participation throughout the Youth Warrior Program. The majority of the youth approached the Bridge for Health researcher, thanking her for the opportunity to engage in “such a cool and fun experience” (participant O.). Participant R. said that if she had more time, she would have made better photos because at the end she really liked it. Participant M. expressed his gratitude that he has developed his artistic skills, while at the same time “doing something good”. A parent expressed his appreciation after the community event in which “he noticed that his girl had become wiser and more mature. And even I have now”.

4.3. Benefits and Challenges Photovoice: Literature Review and Case Study

The systematic literature review and the actual use of Photovoice in the case study have been conducted simultaneously, in which both approaches informed about the benefits and challenges of the Photovoice methods used with youth. Literature refers to Photovoice as a highly adaptive and flexible method, which can be used within multiple contexts and for different target groups (Necheles et al., 2004; Shea et al., 2013; Strack et al., 2004). Photovoice can easily be used in combination with associated programs that are targeted at advancing youth’s skills to become active leaders in their community (Necheles et al., 2004), like the Youth Warrior Program. In the case study, the Photovoice method has been applied with support of accompanying participatory methods to foster youth’s critical consciousness with regard to holistic health principles. The accompanying methods (e.g. group interview, Circle of Health puzzle, and group discussion) served as means to start and support the critical thinking process, in which the photos produced by the youth functioned as a reflection of their gained knowledge and skills throughout the Youth Warrior Program. In doing so, the use of accompanying methods ensured profundity of the Photovoice method.

Moreover, the literature informed about the potential of photos to serve as a means for sharing and knowledge exchange between peers (Bader et al., 2007; Gray et al., 2010; Markus, 2012; Necheles et al., 2007; Shea et al., 2013; Strack et al., 2004). Since the youth shared their photos at a community event with family, friends, and community members, this benefit has been identified in the Youth Warrior Program as well. As such, a parent said that the event fostered his knowledge with regard to holistic health principles. Besides a means to foster youth’s skills, Photovoice is also seen as an ideal method for targeting (Aboriginal) youth as their voices often go unheard (Bader et al., 2007; Strack et al., 2004; Shea et al., 2013; Wilson et al., 2008). Photovoice offers a culturally-



sensitive empowerment method amplifying youth's voices, and serves as a means to engage at a community-level. As such, Photovoice adhered to the target group and goal of the Youth Warrior Program.

However, the literature review as well as the case study reflect on the need for a Photovoice youth curriculum, validating the effective use and potential of the method to engage and empower (Aboriginal) youth. Photovoice is acknowledged for its potential to serve as an advocacy and empowerment method, encouraging youth to identify personal and community issues and take action on these issues (Gray, 2010 ; Markus, 2012; Necheles et al., 2007; Shea et al., 2013; Wilson, et al., 2008). However, practice has shown that it is difficult to establish advocacy and empowerment, since active engagement of the youth is required. Since no action component could be added to the Youth Warrior Photovoice project , the youth's photos did not serve as a needs assessment and no action has taken place on identified issues. Furthermore, no follow-up and reflection of the youth have taken place. A future research paradigm informing about the use of Photovoice with youth should acknowledge the importance of the incorporation of an action component in the method.

Further challenges identified in the literature and the Youth Warrior Program are time restrictions, endangering the effectiveness of the Photovoice method in which time is needed for the proper execution of the method (Bader et al., 2007; Strack et al., 2004; Wilson et al., 2008). Also the youth engaged in the Youth Warrior Program mentioned that if more time to take pictures was available, they would have made better and/or more photos. Furthermore, time limitations affected the depth of the workshops as well as the amount, and thereby potentially endangered the process of critical thinking towards the concepts explained. If more time would have been available, preferably more workshops would have taken place elaborating more frequently about holistic health principles and thereby inducing further critical thinking. The importance of flexibility in the research approach is mentioned in the literature (Shea et al., 2013; Strack et al., 2004) and underlined by the case study. As such, the goal and use of Photovoice has been altered in which the youth's active participation, engagement, and reflection in the Photovoice project have been adapted due to concerns raised by the RedFox Healthy Living Society.

Another challenge noticed in the Youth Warrior Program is the fact that it was hard to get youth excited and to make pictures. Literature informs about this challenge as well, in which the need for



more guidance and time is referred to as limiting this challenge of the use of Photovoice with (Aboriginal) youth (Strack et al., 2004). It was a challenge for the youth coordinators and researcher to figure out why the youth's involvement seemed to be lacking when leaving the workshop session. A reason mentioned by the youth coordinators is that these specific youth have a lot on their minds, and this is the reason why they are in the program: they need to be stimulated to actively engage and participate and speak up. The importance for future research to validate the Photovoice method to engage and empower (Aboriginal) youth is once more highlighted (Gray et al., 2010; Markus, 2012; Wilson et al., 2008).



5. Discussion

In this chapter, a discussion on the use of Photovoice and accompanying methods is provided. The main findings of the literature review and case study are discussed, which provide an answer to the main research question formulated. Furthermore, the theoretical model serving as a framework for the case study is discussed.

5.1. Potential Photovoice and Accompanying Methods to Foster Holistic Health Literacy

The Youth Warrior Program has provided the Bridge for Health Literacy Project with a valuable case study and needed insights with regard to identified research gaps in current academic literature. As such, the program exemplified how youth's perception with regard to health can be promoted towards more holistic understandings through a participatory approach. Furthermore, the case study supported by academic literature provided an answer to the main research question: ‘*what are the benefits and challenges of the use of Photovoice and accompanying methods to foster youth's holistic health literacy?*’.

5.1.1. Empowerment, Advocacy and Sharing

Supported by academic literature, the case study has shown the potential of Photovoice to serve as an empowerment and advocacy tool (Gray et al., 2010; Markus, 2010; Necheles et al., 2007; Shea et al., 2013). As such, the photos reflected the youth's perception of health after their active engagement in the program, and served as a means for sharing and knowledge exchange with family, friends, and community members. Furthermore, it provided the youth with an opportunity to reflect on strengths and concerns prevalent in their community, and their critical thinking towards holistic health principles has been promoted. Accompanying methods have supported this process, providing depth and repetition of the concepts discussed and fostered youth's skills and critical thinking. As such, the three objectives of Photovoice (e.g. enabling people to record community/individual strengths and concerns, promote critical dialogue, and reach policymakers) have been partially met in the Youth Warrior Program. However, since a true action component has not been incorporated in the Youth Warrior Photovoice project, the youth's photos have not reached potential people who can actually mobilize action and change. Practice has shown that it is difficult to establish advocacy and empowerment through the use of Photovoice, since active engagement and follow-up of the youth in the research process seems required. As such, future research is needed to employ a youth Photovoice curriculum that validates the importance of the incorporation



of an action component, and the effectiveness of the use of Photovoice (and accompanying methods) to engage and empower (Aboriginal) youth (Gray et al., 2010; Markus, 2012; Wilson et al., 2008).

5.1.2. Action Research

The requirement of in-depth and follow-up methods to engage the youth throughout the research process is acknowledged in academic literature. As such, Photovoice is not commonly used in isolation and often accompanied with methods supporting and providing reflection on the photos produced (Necheles et al., 2004; Shea et al., 2013; Strack et al., 2004). In doing so, accompanying methods potentially mobilize the process of action and change on issues identified and captured in the participants photos (Necheles et al., 2004). The importance of the incorporation of an action component in the Photovoice process is hereby highlighted, as action research directly contributes to and facilitates the development of capacities, learning, and empowerment (Rice & Franceschini, 2007; Wagemakers, 2010). Participatory action research is about seeing people as assets and partners in research, and holds the promise to empower people and engage them in community-level action and change (Koch & Kralik, 2006). However, in the case study the research approach taken has been accommodated by practice, in which the incorporation of a true action, reflection, and engagement component of the youth in the research process was not possible. As such, the initial participatory action research design had to be revised due to concerns raised by the director of the Youth Warrior Program, leaving the study design with solely a participatory approach. Resulting, research questions and expectations had to be adjusted, and the methods of the study and aim of the Photovoice project revised. The youth's photos no longer functioned as a community needs assessment, and the youth were no longer asked to actively think *with* the researchers about potential action and change resulting from their photo analyses.

Practice is hard to determine beforehand and it can be challenging to align the perspectives of multiple (community) partners involved in a research, and find agreement about the research approach to be taken. Even though the vital component of action research has not been incorporated in the approach taken, the case study has aimed to achieve as much as possible within the given limitations. As such, the participants had a crucial role in the gathering, understanding and analyzing of data, which assumingly benefited the critical thinking process of the youth. Furthermore, the participatory research enabled the traditional power relationship between



researcher and participants to be limited to a small extent. Additionally, due to the presence of the researcher at all workshops and throughout the process, the youth's progress and engagement could be followed, as well as the building of trust between the 'researcher' and 'participants' could develop over time (Christopher, Watts, McCormick & Young, 2008). Caution needs to be taken in such a participatory approach, in which the 'subjective' interpretation of the researcher can potentially endanger the validity of the research conducted (Finlay, 2003). As such, subjective interpretation might have resulted in observer bias (Reason & Bradbury, 2006). However, using free-coding based on data provided by the youth has enabled the research to use youth's voices and perceptions in the data analysis. Observer bias might also have occurred in the narrative approach chosen to report the results, as well as in the manner of reporting of the field notes. However, the narrative approach has also provided the research with valuable insights and information using youth's voices and perceptions of realities, and reflecting these in the reporting of outcomes.

5.1.3. Accompanying Methods

The use of accompanying methods in the Youth Warrior Photovoice project has ensured profundity of the Photovoice method. As such, the workshops preceding the community event using the group interview, Circle of Health puzzle and group discussion, induced youth's critical thinking towards holistic health principles. Additionally, it provided the youth with needed repetition and opportunity to ask questions.

Given the existing Youth Warrior Program and the limitations following from the restricted participatory research, the process of finding suitable accompanying methods supporting the Photovoice method has been challenging. Additionally, if more time and flexibility would have been provided in the case study, preferably more workshops using a range of participatory methods to accompany the Photovoice process would have taken place. However, flexibility to the practice has informed the eventual approach taken, and in doing so benefited the research conducted.

5.1.4. Youth's Appreciation and Engagement

The youth appreciated their engagement in the Youth Warrior Photovoice project. As such, some of the youth expressed their gratitude at the end of the program, and thanked the Bridge for Health researcher for the opportunity provided. Given the fact that some youth actively participated throughout the program and made multiple photos, exemplifies the youth's excitement with regard to the opportunity provided to them. However, not all youth experienced continuous excitement



towards their engagement in the program. As such, the fact that four youth did not make and send any pictures to the Bridge for Health researcher raises some concerns with regard to the youth's true appreciation of the program. The fact that the youth involved in the program received \$20 per workshop session attended, might have served as an incentive for the youth to be present but not fully engage.

Wagemakers, Corstjens, Koelen, Vaandrager, Van 't Riet and Dijkshoorn (2008) state that in some cases participants need to be taught what (active) participation entails. Participatory approaches are often unknown to participants, and clear and regular communication seems crucial in establishing and maintaining a relationship with them. As such, their role needs to be explicitly mentioned in order to keep participants involved (Wagemakers et al., 2008). It could be argued that the youth engaged in the Youth Warrior Program were unsure what behavior and role was expected from them, and unknowing of the importance of their active engagement and participation. The reason that the youth are engaged in a life and leadership skill program accounts for the fact that social skills might need to be further developed.

Throughout the program the youth's level of feeling at ease in the presence of the researcher has been promoted substantially. Where the youth at first felt unsure and uncomfortable, they were less shy and even initiated small talk and hugs with the researcher as time followed. Furthermore, a shift in perception of what health and wellbeing means to the youth has occurred. As such, where the youth initially perceived health in narrow terms, their photos show a different picture. However, methods to inform about the potential learning curve of the youth involved lacked, and the relationship between the youth's engagement in the program and Photovoice project and their fostered knowledge with regard to holistic health principles, could not be measured. Furthermore, follow-up methods (in the form of individual interviews) to unravel youth's true perception and opinion with regard to their engagement in the Youth Warrior Program and Photovoice project could not be used. However, even though methods to substantiate the effect of the youth's engagement in the Youth Warrior Program on their perception on (holistic) health lacked, and time and consent was limited to truly engage the youth, a first step has been made towards identifying an approach and methods to foster youth's holistic health literacy.



5.2. Theoretical Model

Besides findings with regard to the case study, the theoretical model used can be discussed as well. As such, the concept of holistic health literacy touches on existing conceptualizations used in the health promotion field, where the term links to the overall concept and theory of empowerment arguing that people should have the capacity and skills to have full control to improve or maintain one's health (Tengland, 2006). However, even though overlap exists between the theory of empowerment and holistic health literacy, it is the contention of the Bridge for Health Literacy Project that the holistic concept provides the field with a valuable contribution. As such, the concept of holistic health literacy reflects the critical notes placed in academic literature towards current conceptualizations (Nutbeam, 2008; Osborne et al., 2008), and adheres to the need to incorporate fundamental health promotion principles into the conceptualization of health literacy (Raphael et al., 2008).

In order for the health promotion field to acknowledge the concept of holistic health literacy, among others, instruments are needed to further measure holistic health literacy levels. As stated by Haun, Valerio, McCormack, Sørensen and Paasche-Orlow (2014), choosing a health literacy measurement which is closely aligned with the topic under consideration is very important. The measurement needs to be validated in a similar target population and should have an accurate measure of the domain being assessed. Up to now, instruments commonly used to assess health literacy mainly relate to written comprehension and fail to test other aspects of health literacy like the ability to communicate orally or think critically (Manganello, 2007), let alone assess a holistic conceptualization.

The aim of the Bridge for Health Literacy Project has been to promote upstream thinking in health literacy research and policy at large, and more specifically with regard to youth, in order to synergize fundamental and modern-day health promotion principles within health literacy. The importance and need to continuously reevaluate accepted assumptions and conceptualizations is highlighted, and it is the hope of the Bridge for Health Literacy Project that it has contributed to this critical process.



5.3. Recommendations

Several recommendations for future research follow from the discussion. First, it seems urgent to develop a youth Photovoice curriculum, depicting on the importance of the incorporation of an action component and follow- up methods in order to fully empower youth and foster their holistic health literacy. Second, more research is needed employing a participatory research (e.g. Photovoice and accompanying methods) with (Aboriginal) youth aimed to foster youth's critical consciousness towards holistic health principles (e.g. holistic health literacy). In this way, the effectiveness of participatory approaches to foster (Aboriginal) youth's holistic health literacy can be substantiated. Third, future research is needed to substantiate the term holistic health literacy in the health promotion/literacy field. In line with this, future research is needed to employ holistic health literacy measurements to contribute to the process of acknowledgement of the term holistic health literacy.



6. Conclusion

In this last chapter, a conclusion is provided in which a reflection is provided with regard to the main aim of the Bridge for Health Literacy Project. Furthermore, an answer is provided with regard to the main research question.

Within the framework provided by the Bridge for Health organization, the overall aim of the Bridge for Health Literacy Project has been to contribute to the broadening of current (youth) health literacy understandings, taking into account holistic health (promotion) principles, social determinants of health, and a citizen engagement approach (e.g. holistic health literacy). The collaboration found with a community partner functioned as a case study and provided an example how youth's holistic health literacy can be fostered through a participatory approach, contributing to an upstream movement in the (youth) health literacy field. In the case study, Photovoice supported by accompanying methods induced critical consciousness among youth with regard to the concepts reflected in holistic health literacy. In doing so, an answer has been provided to the main research question "what are the benefits and challenges of the use of Photovoice and accompanying methods to foster youth's holistic health literacy?".

Results have shown that a youth Photovoice curriculum is lacking, and future research is needed to validate the effectiveness of Photovoice to engage and empower (Aboriginal) youth, and advocate for change. The importance of action, reflection, and in-depth follow up methods is highlighted in order to substantiate the potential of Photovoice and accompanying methods to foster youth's holistic health literacy. Methods to evaluate the use of Photovoice and accompanying methods could not be incorporated in the case study, and the effect of the youth's engagement on their holistic health literacy could not be substantiated. However, the study has provided a first step towards identifying an approach and methods to foster youth's holistic health literacy. In doing so, the case study adhered to the aim of the Bridge for Health Literacy Project to add an upstream component to current health literacy conceptualization.



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Appendix I: Partners of the Bridge for Health Literacy Project

➤ **Bridge for Health Network**

- **Paola Ardiles**, MHS., Founder and network lead of Bridge for Health. Her role entails overall vision of project, conceptualization of holistic health literacy, partnership with community organizations and health literacy experts, and co-author of articles resulting from research and project.

➤ **Wageningen University and Research Centre**

- **Marlies Casteleijn**, BSc., Graduate student Health and Society and Global Partner of Bridge for Health. Her role entails conducting the qualitative research, analyzing and reporting data (phase I as part of her Master thesis), and co-author of articles resulting from research and project.

- **Dr. Annemarie Wagemakers**, Assistant Professor at Wageningen University and Research Centre. Her role entails supervising Marlies' thesis, supporting use of qualitative research and use of systematic literature review and co-author of articles resulting from the study and project.

➤ **Dr. Kristine Sørensen**

- Health literacy expert, project coordinator of the European Health Literacy Project (HLS-EU), focal point for Health Literacy Europe, and member of the Bridge for Health Global Advisory Circle. Her role entails providing expertise and advice (on health literacy measurement and tools), and co-author of articles resulting from the study and project.

➤ **PhD. Irving Rootman**

- Health literacy expert, global pioneer and leader in health promotion research and practice in Canada, and member of the Bridge for Health Global Advisory Circle. His role entails providing overall expertise and advice and co-author of articles resulting from the study and project.



➤ **Youth Warrior Leadership Program**

- Partner of the first phase of the Bridge for Health Literacy Project. The Youth Warriors Leadership program, in which Red Fox, Big Brothers and the United Way are teaming up, delivers recreation employment training to youth in Metro Vancouver. The program is designed to be a 'first step' in preparing youth to work in recreation and child care. The goal of the program is to increase leadership and employment skills among Aboriginal youth and youth who face economic barriers, so that you can become leaders in your community.

- **Red Fox** Healthy Living Society is a registered non-profit society and charity that serves Aboriginal and inner-city children and youth, youth with disabilities, and families. Our recreation, food and cultural programs foster healthy, active living, leadership and employment training. Since 2006, Red Fox youth leaders have helped 15,000 children and families a year to be active, eat healthy food, develop leadership skills, and share Aboriginal traditions. The future looks bright as Red Fox continues to provide outreach to inner-city and Aboriginal youth, youth with disabilities, and families, primarily through recreation and leadership training. Red Fox Healthy Living Society plans to expand its programming to serve a wider range of inner-city youth and families and pursue more partnerships, including corporate sponsorships.

More information: <http://www.redfoxsociety.org/about-us/>

- **Big Brothers** Vancouver is a registered charity and community-based organization that offers friendship-based mentoring programs for boys and girls and provide volunteer opportunities for men and women. The vision of Big Brother is to put a mentor in the life of every child who needs one. Their mission is to enhance children's social and emotional development by delivering and advocating for the highest quality, prevention-based mentoring programs.

More information: <http://www.bigbrothersvancouver.com/about/>

- **United Way** Lower Mainland moves families from poverty to possibility, helps kids be all they can be, and builds stronger communities for seniors. Their vision is a healthy, caring, inclusive community. Their mission is to strengthen our community's capacity to address social issues.

More information: <http://www.uwlm.ca/our-vision-and-mission>



Appendix II: Youth Warrior Program Flyer



YOUTH WARRIOR TRAINING



**GAIN
JOB
SKILLS**

**HAVE
ACTIVE FUN
OUTDOORS**

WHO: Aboriginal and Inner City Youth 16-24

WHAT: Training workshops and recreation outings

WHEN: October 8 - December 10

WHY: Become a leader in your community!
Learn job skills! Work with children!

*Honoraria and incentives offered

**CONTACT US FOR MORE INFO AND TO APPLY:
INFO@REDFOXSOCIETY.ORG 604.319.2571**

**APPLICATION
DEADLINE:
SEPTEMBER**

20

In Partnership with:





Appendix III: IUHPE Health Literacy Working Group Teleconference

In January 2015, a teleconference took place in which some of the world's most renowned academics in the health literacy field discussed the developments with regard to the need to 'move health literacy upstream'. These academics, among others Orkan Okan, Diane Levin-Zamir, and Kristine Sorenson, are part of the IUHPE working group on Health Literacy, and have emphasized their interest in the development of more holistic conceptualizations of health literacy. Since Paola Ardiles is part of this international working group, as well as co-researcher on the Bridge for Health Literacy Project, contact has been established, and regular correspondence has taken place ever since.

In the conference, several topics have been discussed. First, the need for child and adolescent health literacy models was elaborated, and current research and projects were exchanged concerning the topic of discussion. Second, participatory and community engagement approaches in health literacy conceptualizations were discussed, in which the need for more active health citizenship is acknowledged. Third, holistic health literacy was deliberated as adding a valuable contribution to the need for broadening current definitions of health literacy.

Moreover, knowledge exchange took place with regard to research that is being conducted by the German health literacy working group, in which Orkan Okan is one of the researchers. Orkan Okan discussed how their research aims to develop German specific health literacy definitions, as well as expand the definition to child and adolescent health literacy conceptualizations. In their research project, called Health Literacy in Childhood and Adolescence (HLCA), Orkan Okan and others aim to incorporate existing health theories, concepts and models within current health literacy understandings. As such, they analyze the theory of salutogenesis and population-health models, and evaluate how these different theories, concepts and models can either be combined with health literacy conceptualizations, or have to be seen in isolation. During the conversation, several commonalities between the Bridge for Health Literacy Project and the HLCA research have been elaborated. Resulting, a lively discussion took place about future directions of health literacy definitions. Moreover, collaboration opportunities were exchanged and a commitment for further knowledge exchange was expressed.



One of the outcomes of the teleconference on which all participants agreed upon, is the need to widen current health literacy conceptualizations. As such, over the last decade research and articles have been devoted to this broadening of our understandings, however, current health promotion practices have not incorporated these insights, nor have they been reflected in current health literacy definitions. Concepts that have been discussed during the conference, are ‘social ecological practices of health literacy’, ‘public health literacy perspectives’, and ‘critical theories’, all reflecting the embodiment of more inclusive health literacy understandings, such as social, cultural and environmental determinants of health; coping strategies; motivations; culture; engagement and participation; and citizenship. Evidently, there seems to be a need for an umbrella term, reflecting all these ‘new’ insights for future health literacy conceptualizations. It is here where the Bridge for Health Literacy Project suggests holistic health literacy providing such an overarching concept and term, reflecting important insights as discussed in this thesis and during the teleconference.



Appendix IV: Summary Selected Articles

Article	Subject	Target Group	Method	Benefits of Photovoice	Challenges of Photovoice
<i>Bader, Wanono, Hamden & Skinner (2007)</i>	Global Youth Voices Project	20 grade 9 youth (10 girls, 10 boys) from two Bedouin communities (Israel)	<ul style="list-style-type: none"> - Youth-driven community action program using the EIPAIRS model (for sustainable action with youth) combined with Photovoice to engage youth in health promotion - Youth documented strengths and weaknesses of their communities, created a community needs profile and took action on selected issues of importance to them 	<ul style="list-style-type: none"> - Youth can use photography to identify personal and community issues, and presented and discussed their issues identified within their community - The use of cameras in the engagement process is a very effective tool to help youth express concerns about their community - Teamwork, leadership skills, and how to engage at community level were developed - Youth often feel marginalized in a world controlled by adults, where it is difficult to get their voices heard, and are therefore an ideal target group for the engagement through Photovoice - Youth enjoyed the opportunity to express their opinions and felt empowered 	<ul style="list-style-type: none"> - Not enough time for the project, inconvenient meeting times - Difficulties at times in discussing issues raised - Wish for a greater number of students involved in the project
<i>Gray, de Boehm, Farnsworth & Wolf (2010)</i>	Integration of Creative Expression into Community-Based Research and Health Promotion with Native Americans	Indigenous American youth	<ul style="list-style-type: none"> - Youth created photos and videos, and shared their stories and work with family members, friends and community members 	<ul style="list-style-type: none"> - Photovoice used with youth is an effort to give voice to community concerns and provide a source of empowerment and advocacy - Photovoice with youth is a particularly beneficial method to use in community research and prevention interventions as it facilitates a group process that can incorporate personal and social change with behavioral skill development and community connectedness - Sharing their work with family members, friends, and other community members has disseminated their views of crucial issues facing (Native American) youth today. By showing their pictures/videos that contain a health message, the youth can contribute to a health promotion process that may have an impact in their communities 	<ul style="list-style-type: none"> - Further research is needed with indigenous communities to substantiate the benefits and potential of Photovoice as a creative expression approach (with indigenous youth)
<i>Markus (2012)</i>	Wind River UNITY Photovoice for Health Relationships Project	Native American youth community (6 youth in the age of 18-19)	<ul style="list-style-type: none"> - Participatory action research method for sharing of stories for prevention and education purposes in addressing the social determinants of health 	<ul style="list-style-type: none"> - Youth participate as co-researchers in the analysis phase of the photos in which the youth shared what meanings they connected with the photo story - Photovoice (used with youth) is an engagement method, amplifying community voices and needs, and setting directions for community-based and relevant health promotion initiatives - Youth can share their stories for disease prevention and health promotion with their peers and community members - Youth become empowered to become youth leaders in their communities as their voices are heard; their wisdom 	<ul style="list-style-type: none"> - Future research is needed to determine the efficacy of prevention and education efforts through Photovoice, and the potential to raise awareness for the social determinants of health and increase cultural competency in education and prevention initiatives



				and strengths integrated in health promotion initiatives; their leadership potential acknowledged; and opportunities for nonverbal creative expression provided	
<i>Necheles, Chung, Hawes-Dawson, Ryan, Williams, Holmes et al. (2007)</i>	The Teen Photo-voice Project	Thirteen youth from Los Angeles area community organizations and afterschool programmes	- Youth were offered the opportunity to express their concerns and perspectives on what influences their health and that of their community members	<ul style="list-style-type: none"> - Photovoice in general can be used in several, adapted versions. In this study, Photovoice is in a participatory approach in which youth selected the issue they wanted to address and made a major contribution to understanding their data. Furthermore, Photovoice can be used with an associated skills building program to engage a group of youth in a dialogue about health - Youth shared ways of thinking and talking about prevailing issues they themselves identified, educated other community members and advocated for change. Photos stimulate dialogue between participants, and as catalysts for discussion - Photovoice used with youth resulted in increased advocacy in promoting their health by sharing images and actively engaging in the identification of personal and community health issues - Youth were highly receptive and enthusiastic 	- Sample size with Photovoice projects are small, so making broader generalizations from the findings should be done with caution
<i>Shea, Poudrier, Thomas, Jeffery & Kiskogatan (2013)</i>	Reflection from a creative community-based participatory research project exploring health and body image with First Nations girls	Ten First Nations girls of the BTC region (Western Canada)	- A decolonizing community-based participatory research project looking at how First Nations girls view health and how these insights can be utilized in culturally appropriate health promotion activities	<ul style="list-style-type: none"> - Photovoice can be extremely empowering when used in connection with youth whose voices can go unheard in research -Photovoice (used with youth) is an ideal method to engage participants in a culturally appropriate manner when exploring health - Photovoice can be used in a number of contexts, and the method is flexible and has the potential to accommodate different groups, communities, and health-centered topics. As such, the Photovoice method used in this study would not have been as effective without the supplement of other data collection methods such as sharing circle. A community event is a means for the youth to share their knowledge with community members, and engage others in discussions of health in their communities - Photovoice gave youth an outcome to capture and raise their concerns and ideas with regard to health as experienced in their personal and community environment 	- The importance of being both adaptable and flexible in the research design and with respect to the images and photovoice are highlighted



<p><i>Strack, Magill & McDonagh (2004)</i></p>	<p>Baltimore Youth Photo-voice Project</p>	<p>14 adolescents attending an afterschool teen center in Southeast Baltimore</p>	<p>- The project developed and refined a youth Photovoice curriculum, aiming to adapt the method to youth participants and test the effectiveness</p>	<p>- Photovoice is a participatory action research method that entrusts cameras to persons who seldom have access to those who make decisions over their lives. - The Photovoice method can be adapted to specific target groups, such as to youth participants - Photovoice provides youth the opportunity to develop their personal and social identities and can be instrumental in building social competency. By providing an opportunity for youth to gain perspective on issues such as culture, community norms, behaviors, social structure, and desires, youth are encouraged to develop an understanding of themselves and their community - Photo exhibits provide a venue for informing policy makers on youth's concerns in the community - Group discussions are a critical aspect of the photovoice process because they create opportunities in which participants can inspire each other to take better and more pictures, develop a collective voice and mobilize for unified action - Hands-on activities should be incorporated into each Photovoice session, keeping youth actively engaged - Photovoice provides a means for young people to develop a social morality to become positive agents within their communities</p>	<p>- Getting youth to take pictures was more challenging than expected, and there was much heterogeneity in picture-taking rates and quality. Helping youth feel more comfortable with the photo-release process might be improved by more discussion, role playing, and modeling during early training and photo expeditions - Room for flexibility is important - Some youth will need a great deal of guidance and structure - Time is needed for the development of the final product, which should not be rushed</p>
<p><i>Wilson, Minkler, DASHO, Wallerstein & Martin (2008)</i></p>	<p>YES! Project - Youth Empowerment Strategies</p>	<p>122 undeserved, vulnerable youth</p>	<p>- Empowerment intervention where youth took pictures of assets and/or issues at their schools that promote health, using the photos as a starting point and trigger to facilitate critical conversations and discussions, share knowledge, and foster social action - Acronym of SHOWeD used to reflect on photos</p>	<p>- Photovoice is used as an advocacy and strength-based approach, emphasizing individual and community assets and potentials. Youth are seen as critical thinkers and problem-solvers - Young adults have limited social capital to initiate change and action, the participatory approach of Photovoice addresses this issue - Photovoice promotes (undeserved) youth's problem-solving skills, social action, perceived influence over the world and civic participation, fostering healthy behavior - Key to empowerment interventions is group dialogue and reflection, leading to action. Critical dialogue to elicit deeper thinking is crucial component (important role for facilitators)</p>	<p>-Time can be a significant constraint for the ambitiousness of a project. In order for critical dialogue and reflection to occur, time is needed to enable reflection, dialogue and resultant learning - It is difficult to assess the impact of Photovoice due to external factors. Building a self-evaluation component into the process seems crucial</p>



Appendix V: Analyzing - Code list

The analyzing of the poster and photos has been done using code words. In the following figures, this process of analyzing is visualized.

Figure I: Analyzing of Poster with Code Words

Narrow understanding of health (N=29)		Holistic understanding of health (N=12)	
Physical activity (n=14)	Exercise (4); get enough sleep; eating ice cream; living healthy; walking; fitness; running (2); bike ride; aqua fit; eating an orange;	Loved-ones: friends & family (n=2)	Friends; family;
Healthy eating (n=7)	Healthy eating; eating dark coloured veggies; drinking garlic ginger tea; organic; diet; eating bacon; eating right;	Culture (n=2)	Music; being kind to others;
Medical/disease (n=7)	Health services; diabetes; immune system; nurse/doctor; hospital; caught a cold; brush your teeth;	Mental health (n=3)	Mental health; have a relaxing time; honouring your body;
System (n=1)	Breathing in carbonate fumes;	Emotional health (n=4)	Play; have a relaxing time; spending time with friends; video-games;
		System (n=1)	Voting;

Figure II: Analyzing of Photos With Code Words

Overarching Theme

Health is perceived as..

	Culture (n=3)	Family & friends (loved-ones (n=6))	Physical activity (n=4)	Food (n=5)	Physical space/nature (n=10)
Physical health			gym; stay fit; riding bikes;	organic, local foods; environment;	riding a bike is healthy for you physically; water keeps you hydrated and good for health;
Mental health			look up to some of the players as mentors;		playground healthy for the mind; fun;
Emotional health		family is my rock, constant stable; supporting physically and emotionally; bond between family and being outside, unbreakable; being with family brings happiness and stability; the people I keep very close to my heart;	my hobby; a lot of fun;	love; my favourite thing in life;	place where you can walk or bike ride; healthy for you mentally; city where I grew up and where my life is; love Vancouver; favourite month of all is fall;
Spiritual health	engaging; speaking your language; knowing your culture;				