Didier Jourdan
Louise Potvin *Editors*

Global Handbook of Health Promotion Research, Vol. 3

Doing Health Promotion Research

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With Contributions by Valérie Ivassenko and Catherine Chabot

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Foreword

Over the five decades of my career as a social scientist in public health as professor, researcher and administrator I have been concerned with the methodology and scientific rigor of the field of health promotion. From the earlier years (1972–1982) of teaching graduate students in the behavioral sciences at the Johns Hopkins School of Public Health, Department of Behavioral Sciences, I began to realize the lack of a rigorous portfolio of research approaches to understanding the role of social and cultural factors in health and illness. At that time the field of work called "health promotion" was in its infancy. Later (1982–1992), as founding Director and Professor of the research unit in health and behavioral change at the University of Edinburgh, I had the opportunity to explore in considerable detail the need for better approaches in health promotion research. Finally, as a senior biomedical research scientist and associate director for Global Health Promotion at the CDC National Center for Chronic Disease and Health Promotion, I had two decades to explore and promote the needs for more rigorous research in health promotion. It was clear from the beginning of this exploration for the best research methods in health promotion that the field was open to a broad spectrum of research approaches drawing on all the relevant social sciences from anthropology to sociology. It was also clear that the more traditional biomedical methodologies applied in much of public health were not up to the task of being the appropriate basis for advancing the understanding of the health promotion field. It is within this context that two decades ago I met and was impressed by an up-and-coming researcher at the University of Montréal, Louise Potvin. Over the years, we collaborated on several vital research books and articles.

Now Louise Potvin and Didier Jourdan have assembled a collection of papers that address the most salient challenges in health promotion research and at the same time reflect the significant development of the field in the last 50 years. Collectively, they reflect the recognition that health promotion research needs distinctive and innovative approaches. Partly because health promotion, in my view, did not develop a strong disciplinary-based paradigm or a fundamental epistemological base, the field requires some thoughtful and versatile approaches to providing a research base. As a field of practice and research, health promotion is multidisciplinary and complex, thus demanding highly varied and sometimes novel approaches. The classical research notions of proof, evidence and rigor that have debatably informed the so-called hard sciences are a significant challenge in health promotion research but are also often inappropriate in health promotion. The field needs its own research base.

Throughout this publication, one sees the many unique approaches to research that have been applied and developed by leading researchers in health promotion. There are two broad aspects of health promotion that have been developed significantly over the past few decades, notably attention to a broader view of research strategies and a broadened view of the variables that are critical to health promotion research and development of a sound basis for a health promotion theoretical perspective. I would still assert that health promotion lacks a coherent and well-developed theoretical underpinning. However, the development of a sound research base, in my view, will lead to an emergent theoretical base.

The key research strategies that have developed significantly in past 20–30 years are the usage of critical realism, participatory-based research, mixed methods, and the realization that health promotion research requires some fundamentally different thinking from that of many other areas related to health. It is simply not cogent to just see the methods debate as one between quantitative and qualitative methods. Health promotion research has clearly shown that the appropriate methodologies arise from the practice of health promotion itself and that approaches are guided by an effort to decide how best to acquire a knowledge base for health promotion practice. This is evident in the wide range of methods discussed in this book.

The research methods that have developed in health promotion are in part because of the emergence of key variables, or what may also be thought of as the “subject matters” of health promotion. There are many that have evolved over the years, but they revolve around the key questions of what is health, what creates health, what damages health, and what can be done to change health over time. Furthermore, the answers lie in a mixture of individual and social behaviors, social context, and a complex interplay between all of the variables that make up the study of health promotion. As a result, we have seen intense concern with notions such as equity, marginalization, and policy to name just three of the many relevant concerns that are researched.

The development of research methods and the broadening field of health promotion practice have not made it easy to develop a singular recognizable and authoritative research approach to health promotion. One could probably argue that research in health promotion is still in its infancy. But, infant or not, Potvin and Jourdan have assembled a comprehensive overview of the current state of the art. Clearly, anyone who is a researcher in this area or aspires to be one has much to gain by the insights offered in this publication. Now, in partial retirement, I am most pleased to endorse and admire this new publication on research edited by Drs. Potvin and Jourdan.

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February 14, 2022

Preface

The project of creating a handbook of health promotion research was launched through an open call for proposals in March 2020. This date will resonate for most of us as the time humanity entered the unknown-but-yet-familiar world of SARS-CoV-2. It was familiar because humanity has dealt with epidemics since its infancy as its evolution has always been accompanied by viruses and bacteria. However, it was also unknown as the medical revolution of the twentieth century has led us to believe that communicable diseases were things of the past, or at least phenomena that our arsenal of vaccines, technology and protective equipment could quickly circumscribe and even eradicate before it reaches the whole population. It was also unknown because for the first time in history, humanity could watch in real time, and mostly defenseless, the progression of the epidemic towards a deadly global pandemic, leaving no one sheltered. Two years later, at the time of writing these lines, counting 13–17 million deaths to COVID-19 and watching yet another war but this time involving countries with nuclear capacity, humanity is again facing an unknown-but-still-yet-familiar situation.

During the past two years, we have witnessed how science can be harnessed to address complex problems. The development in less than a year of a range of vaccines to protect against a previously unknown virus has been celebrated as one of the great achievements of science, made possible by the general mobilisation of resources and brains. We have also witnessed that having a technical solution at hand is not the end of the story. In addition to knowledge about the virus and human and animal immune systems, the implementation of such solutions necessitates other specialised knowledge, this time about humans; about the psychological, sociological, political, economical and other impacts of organising collective life in order to live with the virus while protecting the most vulnerable among us. This is just one example of the increasing complexity of the problems we face that calls for multidimensional solutions. Health promotion research is one field of science that pursues the ambition to provide relevant knowledge to address complex population health problems from the local to the global level.

At the confluence of biomedical, education and social sciences traditions, “doing health promotion research” often means having to justify the validity of one’s epistemological, ethical and methodological choices in the contested arena of interdisciplinary research. Indeed, the challenges raised by the objects of study and by the epistemological and ethical orientations specific to health promotion research have led researchers to innovate and adapt practices from a diversity of scientific traditions to find scientifically valid and socially acceptable solutions to those challenges. Doing so often means exploring various literatures from different fields in which the specific problem at hand is rarely formulated in a way that is readily accessible. Having engaged in health promotion research on several continents for the past 40 years or so, the editors of this handbook have had a long experience of such explorations and adaptations. Combined, the total number of graduate students, postdoctoral fellows and research staff that one or the other has mentored over these years amounts to more than 200. We know how tedious and unrewarding this process can be, especially for those who are still in the early stages of their research career.

We embarked on this project of collating a unique collection of paradigms, approaches and methods relevant and specifically adapted to health promotion research, so as to support health promotion researchers of all horizons to find solutions to research-related challenges. Written by those who have designed these research innovations or introduced them in the field of health promotion, these chapters are formulated as ways to address specific issues in health promotion research. These chapters are also written as introductions to those research components so as to familiarise researchers with their fundamental concepts and the practices supporting their implementation. They constitute as many points of entry to research approaches, paradigms, designs and methods that support “doing health promotion research”. They will ease the way to more in-depth forays for those interested. This is in part why this handbook is constructed as a tool kit. Three features will help users find the right tool for their problem.

First, we organised the volume in six parts. Part I relates to the paradigms and approaches relevant to health promotion research. Parts II–V present research designs and methods that specifically address epistemological challenges in health promotion research. Part VI is the conclusion of the volume.

Second, we ask authors to provide definitions of the core concepts underlying their presentation. This is not exactly a glossary, as it is not systematic and some terms are defined in more than one chapter. It is, however, a way to quickly capture the essence of the paradigm, approach or method discussed in a given chapter. These terms were also used in the index at the end of the volume.

Third, we created an extended table of contents that can be found at the end of the book (see Appendix: Overview of the Chapters). The short summary associated with each chapter captures the health promotion research issue the chapter used as a point of entry, the essence of the approach or research design presented and why it contributes to health promotion research.

We have argued elsewhere that *health promotion research has come of age* and that it is time to claim and structure a distinct field in the scientific landscape. Because it presents epistemological and practical solutions to problems distinctive of health promotion research, this volume is a cornerstone on which to further develop tools specific to health promotion research.

Montréal, Québec, Canada Louise Potvin
Clermont-Ferrand, France Didier Jourdan

June 2022

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About the Editors

Didier Jourdan is the chair holder of the UNESCO Chair “Global Health and Education” and head of the WHO Collaborating Centre for “Research in Education and Health”. He is full professor, former dean of the Faculty of Education and vice president of University of Clermont Auvergne in Clermont-Ferrand, France. He used to be president of the “prevention, education and health promotion” commission of the French High Council for Public Health and director of the Health Promotion Division of the French National Public Health Agency. His research activities focus on the impact of health promotion interventions, particularly with regard to health inequalities, implementation mechanisms, professional activity, capacity building of professionals and ethical issues. Didier Jourdan is member of the Executive Board of the International Union for Health Promotion and Education (IUHPE) and of the governing board of UNESCO IITE.

Louise Potvin is a professor at the School of Public Health, Université de Montréal, Canada. She is the scientific director of the Centre de recherche en santé publique and holds the Canada Research Chair in Community Approaches and Health Inequalities. She is a founder of Population Health Intervention Research, a domain of research that seeks to develop a cumulative body of knowledge on public health interventions, their planning, implementation, scaling up and sustainability. She is also a leading figure in health promotion research, more specifically through her work on the role of local environments in health inequality and local intersectoral action. She is an elected member of the Executive Board of the International Union for Health Promotion and Education (IUHPE).

About the Contributors

Jens Aagaard-Hansen has a double training background as medical doctor (specialised in general medicine) and social anthropology. He has worked in the field of prevention and health promotion in relation to communicable as well as non-communicable diseases for the past four decades and on four different continents. His work encompasses practical public health programmes as well as research with a track record of more than 100 scientific publications. His double background has led to a special interest in cross-disciplinary research. He is currently working as senior researcher at Steno Diabetes Center Copenhagen with special focus on health promotion in a life-course perspective.

Gaëtan Absil is currently a professor at the Department of Social Work, HELMo – Haute Ecole Libre Mosane (Liege, Belgium). He is in charge of the coordination of the research focusing on contemporary stakes in social working (social justice, digitalisation, social ecology). He is also associated with the Cultural and Social Laboratory (LASC), University of Liege. His research fields are participatory evaluation, medical anthropology applied to mental health and health promotion. He is a member of the Belgian Association for Sociology and Anthropology, which aims to promote social use of sociology and anthropology.

Stephanie A. Alexander is a researcher at the Fondation MGEN pour la santé publique, in Paris, France, and leads the Prevention and Health Promotion research axis. Trained in health promotion and social sciences of health, she draws on qualitative and participatory methods to examine interventions on children’s leisure and physical activities and analyses their effects. Central to her work are the meanings that leisure and health practices have for children. Stephanie holds a PhD in Public Health (health promotion) from the University of Montréal, Québec, Canada, and a postdoctoral fellowship from the Collège d’études mondiales (Fondation maison des sciences de l’homme) in Paris, France. With an equity-focused lens and sociology of childhood approach, she aims to contribute to meaningful and equitable interventions for children.

François Alla is a professor of Public Health at the University of Bordeaux, where he leads a research team dedicated to prevention at the Inserm U1219 « Bordeaux Population Health » Research Centre. He is also the head of the Department of prevention of the University Hospital of Bordeaux. His research fields include health services research and population health intervention research. His research is informed by his field experience as a population health practitioner and expert at the local and national levels. He authored or co-authored more than 300 articles, books, book chapters and national reports.

Ann W. Banchoff is Director of Community Engagement for the Stanford Our Voice Initiative. She has a background in public health, social work and international human rights, as well as broad experience in developing and sustaining community-academic partnerships. She has worked extensively with migrants and other underserved populations in the California Bay Area and in Oaxaca, Mexico. Ann co-founded the Office of Community Health at the Stanford University School of Medicine in 2005 and served as its Director of Educational Programs until late 2014.

Nina Bartelink is a postdoctoral researcher at the Department of Health Promotion, Maastricht University, The Netherlands. During her PhD, she focused on the process and effect evaluation of a Dutch health-promoting school initiative, called 'The Healthy Primary School of the Future'. In this research study, she used a contextual action-oriented research approach to be able to deal with the complex and adaptive nature of school systems. Nina has presented her work at several (inter)national conferences and had several work visits abroad. She finished her PhD Cum Laude in 2019. As a postdoctoral researcher, she kept her focus on school health promotion. Currently, she is conducting and involved in several (inter)national research projects (e.g. in collaboration with the Schools of Health in Europe network foundation).

Stuart Batterman is professor in Department of Environmental Health Science, School of Public Health, and professor in Civil and Environmental Engineering, College of Engineering, both at the University of Michigan. His research and teaching interests address environmental impact assessment, human exposure and health risk assessment and environmental management, with a focus on ambient and indoor air pollutants. He has been involved with multiple community-based participatory research initiatives, including Community Action Against Asthma and Community Action to Promote Healthy Environments. He engages in international training and research projects in environmental science and engineering in Ghana, South Africa, Portugal, Russia and Finland, and directs the Center for Occupational Health and Safety Education, a NIOSH-supported Education and Resource Center at the University of Michigan.

Bjarne Bruun Jensen has been a professor and manager of Health Promotion Research at Steno Diabetes Center Copenhagen and at the Danish University of Education in Denmark. He has been the Regional Vice President of Europe in

IUHPE (The International Union for Health Promotion and Education) where he also served on its Executive Board. Bjarne was the national coordinator for health-promoting schools in Denmark for more than 10 years, and he has been coordinating many European projects on school health promotion – such as the EU-funded project "Shape Up: Towards a Healthy and Balanced Growing Up". Bjarne has published 30 books, 110 articles in journals and 98 chapters in books. He is editor of 33 books.

Linda Cambon earned a PhD in Public Health. She is a professor at Bordeaux University, holds a chair of prevention at Bordeaux School of Public Health (ISPED) and leads the "Methods for Population Health Intervention Research Team" (MeRISP) in the centre of research U1219 "Bordeaux Population Health" (Inserm - Bordeaux University). Her research fields include the exploration of the effectiveness conditions of public health interventions and the analysis of research methods in population health field. Especially, she is an expert in theory-driven evaluations of health promotion intervention and implementation research. She authored and co-authored numerous articles about these fields. She has also held responsibilities in public health institutions (advisor to the health minister, public health director in regional health agency and scientific director in non-profit organisations). She is involved in the main expertise organisations in France (Santé Publique France, French Cancer Institute, Public Health Council). She is an associate editor in *Global Health Promotion Journal*.

Nicola Cantoreggi is currently a senior lecturer and researcher at the Institute of Global Health, Faculty of Medicine, University of Geneva (Switzerland). He is also a scientific adviser of the Certificate in Health Promotion and Community Health (continuing education). For the last 15 years, he has been involved in health impact assessment (HIA) implementation in Switzerland and in France, as principal investigator, study coordinator or external expert. His research activities focus on HIA processes and urban health.

Benjamin W. Chrisinger is an associate professor of Evidence-Based Policy Evaluation in the Department of Social Policy and Intervention at the University of Oxford, and research fellow in Green-Templeton College. He conducts interdisciplinary research on the relationships between place and health, especially health disparities, and the role that place-based policies can improve health equity. His latest work focuses on relationships between individuals' neighbourhood perceptions and health disparities, as well as the lasting legacies of historical events or policies. He is also engaged with using new technologies and community-engaged methods in his research.

Derek Christie is a full professor at the HES-SO University of Applied Sciences and Arts Western Switzerland, where he is currently dean of research at the School of Health Sciences in Fribourg/Freiburg. He is an active member of the Institute of Global Health at the University of Geneva, and of the HABITAT research centre at the EPFL in Lausanne. His trans-disciplinary work over the past 25 years encompasses many areas related to public health and health promotion, combining research (mixed methods), advocacy, implementation, teaching and science communication. His main topics are tobacco cessation, prison medicine, HIV prevention, the nurse-assisted self-management of chronic diseases, environmental health, urban health, mobility and transportation, and the mainstreaming of daily walking over long distances in urban settings. He is now investigating the potential of the One Health and planetary health approaches at local level.

Susan Coan is a research officer in the Centre for Health Promotion Research. She works on a wide variety of health-related projects. Susan has a great deal of experience researching with marginalised groups of people, for example, victims of domestic abuse and people living in areas experiencing high levels of deprivation. She has expertise in using participatory and creative methods to support people's involvement in and empowerment through research. Susan also leads CommUNIty initiative. CommUNIty supports the development of sustainable partnerships between community and voluntary organisations and Leeds Beckett University, with an emphasis on activity that promotes improvements to community health and well-being. The overarching goal of community is to find new, more effective ways to improve health and reduce health inequalities in communities.

Tina Cook is an honorary professor of Education at Liverpool Hope University. Her work forefronts agency of those directly involved in a situation as a means of improving the quality of their lives or work. Her focus is on developing inclusive practice, be that as democratic approaches for research or in professional practice in health and social care. She is lead for the UK Participatory Research Network, Special Issues Editor of the international journal *Educational Action Research* and has been a long-standing member of the coordinating committee of the International Collaboration for Participatory Health Research. She has published widely on methodological issues in relation to the quality and impact of participatory research particularly with people who find themselves marginalised.

Ruth Cross is the course director for Health Promotion at Leeds Beckett, overseeing the suite of degree programmes delivered by the health promotion team in the UK and overseas. Her teaching interests are varied; she co-leads on the Health Communication module, contributes to the Research and Professional Practice modules and supervises master's students' dissertations. She teaches psychology for health, communicating health, critical public health and global health at undergraduate level. Her PhD was on the social construction of risk in health by young women and the implications of this for health promotion policy and practice. She is involved in numerous research projects within the Centre for Health Promotion Research, with vulnerable groups. Her research interests include qualitative methods of investigation and the relationship between theory and practice. Ruth has published several textbooks with colleagues including *Health Communication:*

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Evelyne de Leeuw is operating at the interface of health research, policy and practice at the University of New South Wales, the South Western Sydney Local Health District/Population Health and the Ingham Institute. She is the Director of the HUE (*Healthy Urban Environments*) Collaboratory, a Maridulu Budyari Gumal partnership, run by three universities (UNSW, UTS and WSU) and two large Local Health Districts. She has glocal roles in healthy cities development with WHO and several NGOs. She serves on the Board of IUHPE and is active in the scientific health promotion arena, as chair of IUHPE2022, and Editor-in-Chief of *Health Promotion International*. She (co)leads initiatives to establish a health political science disciplinary effort.

Praveena K. Fernes is a marshall scholar in the UK, where she studied political ecology at SOAS University of London and public health and policy at the London School of Hygiene and Tropical Medicine. As a fulbright research scholar, she curated Visible Ghosts, a virtual installation that illuminates villagers' evolving relationship to the Mun River and wetlands in Thailand over the past quarter century through objects, maps and citizen science research. Empirically, she also studies food landscapes in New Orleans, Louisiana and environments of people who use drugs in Olympia, Washington. Her diverse field experiences with Stanford's Our Voice method have highlighted the multi-layered nature of understanding lived experiences and environments of marginalised groups, and the importance of intertwining health with its economic, social, cultural and political causes. Her work strives to decrease health inequities through transdisciplinary research-to-action partnerships between scholars and rights-holders.

Linda Gibson is a professor of Public Health in the Institute of Health and Allied Professions at Nottingham Trent University. She has over twenty years of experience in health promotion and working with local communities in the UK and internationally, and her work is informed by the social model of health. She is currently involved in several research partnerships, networks and teaching projects in Europe, Eastern Africa (Uganda, Malawi, Ethiopia) and the USA. Linda's research focus is on health systems strengthening in low and middle-income countries and the community health workforce in primary care in Uganda, non-communicable diseases, antimicrobial stewardship and patient safety. Linda is the UK lead of the 10-year successful partnership between NTU and Makerere University, Uganda.

Nicole M. Glenn is a Knowledge Mobilisation and Relationship Specialist at PolicyWise for Families and Children in Edmonton, AB. Using knowledge mobilisation and communication strategies, she advocates for contextually sensitive, wise decision-making and strives to promote a resilient social-serving sector that benefits all children, youth, families and communities across Alberta. Participatory and collaborative research and evaluation are the foundation of her work. She is dedicated to amplifying the experiences, strengths and priorities of systemically excluded communities and peoples. Nicole has a PhD from the University of Alberta and a postdoctoral fellowship in public health from l'Université de Montréal. She brings critical, experiential and equity lenses to her research and practice. Her aim is to support child, youth, family and community well-being in ways that are community-led, sustainable and meaningful to the communities themselves.

Lisa G. Rosas is an assistant professor in the Department of Epidemiology and Population Health and the Department of Medicine (Division of Primary Care and Population Health) in the Stanford School of Medicine. An epidemiologist by training, Dr. Goldman Rosas leverages her expertise in patient and community engagement as well as behavioural science to address inequities in chronic diseases such as diabetes, depression and cancer. Her work is supported by the National Institutes of Health, Agency for Health Care Research and Quality, the Patient Centered Outcomes Research Institute and the California Initiative to Advance Precision Medicine among other funders. She is passionate about integrating patients, caregivers, community organisations and other key stakeholders in the research process in order to affect the greatest improvements in health equity. As a reflection of this passion, Dr. Goldman Rosas serves as the director for the School of Medicine Office of Community Engagement and associate director of Cancer Health Equity and Community Engagement in the Stanford Cancer Institute. In addition to research, she teaches at the undergraduate and graduate levels and has a special focus on increasing diversity in biomedical research.

Dan Grabowski is a sociologist and health promotion researcher currently employed as a senior researcher at Steno Diabetes Center Copenhagen in Denmark. He leads a research team that conducts health promotion research in the areas of children, young people and families living with diabetes and/or obesity. His main areas of expertise within this field are the following: 1) Family involvement: What constitutes genuine family involvement and how is it achieved in families confronted with chronic illness or serious health problems? How do we develop or motivate settings that allow for and encourage positive involvement and how do we furthermore help families develop the preconditions for mutual involvement in their everyday life? 2) Health and illness identities: Why do people understand themselves in significantly different ways in relation to health and illness and how can we develop health-promoting interventions and new ways of communicating health and illness that does not generate negative self-perceptions?

Marie-Renée Guével is currently a lecturer in Education at the Department of Human and Social Sciences, EHESP School of Public Health (Rennes, France). Her teaching activities focus on health promotion implementation and evaluation, healthy settings and mixed methods research and include the responsibility of a Health Promotion and Prevention Master's programme. These past years, she has developed three main research interests around early childhood and inequalities, implementation and evaluation of health promotion interventions within settings such as schools or “vulnerable” areas and use of mixed methods in health promotion research. She is part of ARENES – Research Centre on Policy Actions in Europe – UMR 6051, a pluridisciplinary research unit.

Penelope Hawe is an emeritus professor of Public Health at the Sydney School of Public Health, University of Sydney, and an honorary fellow of the Faculty of Public Health in the UK. She began her career as a health promotion practitioner before turning to work in health promotion research and evaluation. Her main interest is in system thinking and the theory and methods of complex interventions – theory and methods that may make otherwise weak prevention stronger. Much of her current research is on change agents in practice.

Deborah Ikhile is a research fellow at the Department of Primary Care and Public Health, Brighton and Sussex Medical School. She is the post-doctoral researcher for the National Institute for Health Research Applied Research Collaboration (NIHR ARC) for Kent, Surrey and Sussex, one of the fifteen NIHR ARCs in England. Prior to this, she worked as a research assistant at Nottingham Trent University (NTU), where she supported the international health partnership between NTU and Makerere University (Uganda), focusing on capacity building of community health workers, antimicrobial resistance and stewardship, and non-communicable diseases. Deborah coordinates, with NTU, a newly established Pan-African Network for Mental Health and Society Research comprising seven countries: Burkina Faso, Ghana, England, Uganda, Zimbabwe, Nigeria and South Africa.

Barbara A. Israel is a professor in the Department of Health Behavior and Health Education, School of Public Health, University of Michigan. She is a leading scholar in community-based participatory research (CBPR) and has extensive experience conducting CBPR in collaboration with partners in diverse communities. Since 1995, she has worked with academic and community partners to establish and maintain the Detroit Community-Academic Urban Research Center (Detroit URC). The Center supports CBPR partnerships that promote health equity in Detroit and elsewhere. She is engaged with multiple basic etiologic and intervention research CBPR partnerships and capacity-building efforts to address health inequities. In recognition of her contributions to the field, she was awarded the *American Journal of Health Promotion*’s Game Changer Designation in 2015.

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Hannah Jackson is a PhD candidate in Health Economics within the School of Public Health and Preventive Medicine at Monash University, Australia. Her current research is focussed on exploring the pharmacoepidemiology, value and cost-effectiveness of medication use in pregnancy. Hannah has a Bachelor of Pharmacy and a Master of Public Health and has an array of experience as both a clinical pharmacist and a research officer in Health Economics. She has a keen interest in the economics of public and preventive health and co-authored a report on Australia's expenditure on preventive health for Prevention 1st, a preventive health alliance led by the Foundation for Alcohol Research and Education.

Suzanne F. Jackson is an associate professor Emerita at Dalla Lana School of Public Health, University of Toronto and visiting professor at University of Brighton (2020–2023). She is director of the WHO Collaborating Centre in Health Promotion, and from 2001 to 2009, she was the director of the Centre for Health Promotion at the University of Toronto. She was editor-in-chief of Global Health Promotion from 2010 to 2019 and was chair of the Canadian Public Health Association Board of Directors from 2017 to 2018. With Ardene Vollman, she is co-editor of the fifth edition of the textbook, C*anadian Community as Partner: Theory and Multidisciplinary Practice*, published in December 2020. She taught courses at the Masters level in health promotion and global health. She has facilitated workshops all over the world on participatory health promotion planning and evaluation with community workers and health practitioners. Her current passions are community-engaged research and realist evaluation.

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Chapter 1

A Global Participatory Process to Structuring the Field of Health Promotion Research: An Introduction

Louise Potvin and Didier Jourdan

With the exception of the Bangkok Charter, which calls to anchor health promotion practice on the best available evidence (WHO, 2005), there is no mention of research and of relevant scientific knowledge in health promotion founding documents. These documents frame health promotion mostly as a discourse and a professional practice based on a set of values and principles that promotes changes at the individual, community and global levels (Potvin & Jones, 2011). There is no well-defined knowledge base and no distinctive, widely agreed knowledge production approach for health promotion research. Nevertheless, during the past decades, health promotion research has developed and gained recognition as witnessed through various signs of scientific institutionalisation (scientific journals, graduate research-oriented programmes, departments in higher education institutions and research units in universities). In many knowledge institutions, health promotion research has gained the status of 'a name on the door' (Potvin & McQueen, 2007).

Like all other research domains related to a professional practice, health promotion research has started its development following what we would call a potluck

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model. Researchers from various disciplinary backgrounds, attracted to the values and transformative vision underpinning the health promotion discourse, have used their disciplinary-based theories and methods to conduct studies about the various practices associated with health promotion (MacDonald & Bunton, 2002; Jourdan, 2013). The question arises as to whether health promotion research is still at the potluck stage or is it now a constituted, distinctive field of scientific enquiry. In other words, is health promotion research simply a crossroads where researchers from different disciplines temporarily meet, or is it a constituted field of research on its own with its specific objects, epistemological frameworks, methods and specialists? This question has been raised in all research fields founded on social practices (see, for example, Fischer & Miller, 2007, on political science or Wyse et al., 2016, on education science) and not on a specific approach to reality (physics, sociology and so on). We created this *Global Handbook of Health Promotion Research* project to make visible that health promotion research has come of age and has become a distinct field of scientific enquiry. It can be distinguished from other fields through its distinctive objects and a unique configuration of ethical and epistemological perspectives that shape the research practice of those who identify as health promotion researchers.

However, as of yet, these ethical and epistemological foundations have not been explicitly formulated and articulated into a coherent structuring framework for health promotion research. This is the project of this global handbook, for which the process of achieving the framework itself was a stepping stone for structuring the field, mobilizing a community of health promotion researchers and contributing to the capacity building of the newly minted researchers.

To our knowledge, there exist only a couple of books entirely dedicated to presenting health promotion research (Goodson, 2009; Salazar et al., 2015). Both these references discuss health promotion research mostly from the point of view of researching health behaviour changes and are blind to researching health promoting systems and policies. Neither makes extensive references to the broader perspective on health promotion as a practice aimed at influencing the social, political, environmental and economic determinants of health. Although there is room in health promotion research for researching individual practices and heath behaviours, we conceive of health promotion research as a much broader field of enquiry. To contribute to the sustainability of health promotion, health promotion research needs to encompass the entire transformative agenda proposed in the Ottawa Charter (WHO, 1986).

Developing knowledge on such a broad range of practices involving a diversity of social actors requires a pluralist view of science that makes room for and integrates diverse relevant paradigms. With this handbook, our ambition is threefold.

1. To map the various health promotion research practices, to *make visible their diversity and distinctive characteristics*
2. To provide a *reference tool and a usable resource* for researchers, practitioners and students to navigate and conduct health promotion research
3. To contribute to the creation of a *shared and recognised identity* for health promotion researchers

1.1 The Need for a Solid and Relevant Knowledge Base

Health promotion was institutionalised in the mid-1980s through a WHO-EURO effort to operationalise the goal of ‘achieving health for all in 2000’ (Kickbusch, 2003). With the recognition towards the end of the twentieth century that non-communicable diseases and modifiable lifestyle risk factors were major causes of disease and mortality in high but also low- and middle-income countries (Murray & Lopez, 1994), health promotion has become global. The Bangkok Charter for Health Promotion in a Globalised World (WHO, 2005) made this explicit. However, to survive and thrive as an intervention and political framework as well as a global professional activity, health promotion must develop a solid and relevant knowledge base to buttress other elements of professional sustainability such as training programmes, accreditation process and competency frameworks.

Parallel to this geographical expansion, health promotion has also penetrated the academic domain. The fact that a growing number of scientific journals, research infrastructure and specialised academic degrees include health promotion in their titles is a sure sign of a thriving scientific enterprise. While research teams are capable of producing scientific knowledge, the field of health promotion research is yet to be recognised as distinct and associated with a coherent body of knowledge anchored in shared paradigms, approaches and methods (Jourdan, 2019). In comparison to well-established theory-based fields of research such as psychology, sociology or epidemiology, for example, health promotion research could appear to be weak from an epistemological point of view: its objects are somewhat ill-defined and the epistemic boundaries with established fields of research are blurred (Jourdan et al., 2012). The field is still in search of a proper niche as witnessed by the fact that health promotion research infrastructure and academic degrees are associated with various scientific disciplines that range from psychology, education, social work and various allied health sciences such as public health, nutrition and others, depending on university traditions (Van den Broucke, 2017).

The key questions are then: what are the criteria to define a research field and does health promotion research meet these criteria? In reference to Bourdieu’s notion of social field (Bourdieu, 1980), a field of research is a structured space of relationships for social actors, both individual and institutional (in our case, people and organisations involved in health promotion research). It is defined by its boundaries with other related fields (such as public health research, political science or health psychology) and it defines an identity for those within. Actors in the field struggle to obtain significant shares of various types of capital from which they can position themselves favourably within this space. In the case of a science field, these capitals are mainly peer recognition, role in scientific journals or funding organisations or other authoritative instances for knowledge production and dissemination (Jourdan et al., 2012). On the basis of the volume of scientific publications, journals, research teams, graduate degrees and other metric indicators of scientific activity, we consider that health promotion research has many of the attributes of a distinct research field. What is missing is an explicit and shared structuring framework that will facilitate the development of other attributes such as a clear identity of health promotion researchers, recognition and assessment of the value of their work in their academic careers, funding processes, scholarly associations. Developing such a framework for health promotion research is the next step that will support the maturing of health promotion research and the sustainability of health promotion. Working towards a framework for the field of health promotion research does not mean imposing a universal standard. It is a matter of identifying the anchoring points that characterise research in all its diversity on the basis of existing practices and in a collaborative approach. Doing so will make visible the specific characteristics of the field. This work could only be done by mobilising the forces of the health promotion research at a global level. This is why we launched the initiative of the creation of a global handbook.

1.2 A Collaborative Process to Structuring Health Promotion Research

The overarching ambition of this global handbook is to contribute to structuring the field of health promotion research based on the actual research practices. From the work of Ludwig Fleck (2005) in the early twentieth century to that of Thomas Kuhn (1962) and Bruno Latour (1989), empirical investigations of the scientific knowledge production activity have demonstrated that science is a sociological enterprise. Over and above philosophical considerations about the thinking process foundational to all knowledge, scientific knowledge is the product of the social practices of researchers whose work cannot be reduced to applying methods. Science is a social activity. Researchers are social actors whose behaviours are shaped by structuring forces related to a community of researchers to which they belong. Scientific activity is rooted in the worldviews, paradigms, methods and tools elaborated by those recognised as contributing to the discipline in which the activity is embedded and, conversely, that shapes the discipline. Although every research project is a singular, original activity, it is related to an identifiable scientific field through a configuration of characteristics that are shared by the community of researchers in the discipline.

To structure the field of health promotion research, we opted to work from the bottom-up, i.e. to start by taking stock of the research practices of those who compose the field and who identify as health promotion researchers. After having carefully mapped these practices, their analysis should allow the identification of what underlies them and their organisation into a coherent framework. This is the first objective of the handbook.

A second objective is to help structure a distinctive community of health promotion researchers and to support its expansion by providing the next generation of researchers with a tool to situate their own contributions to the field. We also want to expose these future researchers with a coherent framework to organise the breadth and depth of valid health promotion research practices. Coming from a variety of disciplinary perspectives, those involve in health promotion research often operate at the margin of their own discipline. Providing a structured and recognised space in the form of a scientific field will strengthen and legitimate the label 'health promotion researcher' and will provide criteria and directions to further develop tools (journals, graduate programmes, funding mechanisms) adapted to the specificities of the practices of health promotion researchers. In order to ensure the relevance of the proposed structuring framework for the global community of health promotion researchers, we framed the project as a participatory enterprise in which those who identify as health promotion researchers contribute to creating the framework through sharing and discussing their own research practices. The intent is to base the handbook on the collective experience of health promotion researchers globally about how they create and share health promotion knowledge.

This is why a call for contributions was launched in February 2020. It was open to the global community of health promotion researchers, defined as individuals and groups interested in advancing health promotion research by reflecting and sharing their practices. To reach these researchers, we associated with the International Union for Health Promotion and Education (IUHPE), the only NGO with a global membership composed of decision-makers, practitioners and researchers in the field of health promotion, and posted our call on their website and in their journal *Global Health Promotion*. The call was also sent through the community of the UNESCO chair Global Health and Education. Finally, we issued personalised invitations to a number of prominent colleagues and researchers in health promotion. The call asked for outlines of potential chapters detailing research practices as implemented in specific research projects or in more comprehensive research programmes. We provided the following headings for guidance.

1. *The specific health promotion practices investigated*: Who were the actors? What were they doing? For what purposes?
2. *The purpose of the research project or programme*: What were the objectives? In which context were they defined? Who participated in their definition? Were values other than knowledge production pursued through this research? Which ones? Who defined them?
3. *The research framework*: Which research paradigm was framing the research and why? Which theories were used, and how?
4. *The relationship with those whose practices were investigated*: How were research participants involved in the planning and conduct of the research? Were research results shared with non-researchers? If yes, how and for what purpose?
5. *The methods used*: What kind of data were collected? How was it collected and analysed?
6. *Specific challenges of health promotion research enlightened by the project or programme*: How does the research contribute to advancing health promotion research?

We received 108 outlines from all continents encompassing a wide range of research practices and methods reporting on research that were clearly about issues related to health promotion. Authors were diverse as well, with some of them just graduating from a doctorate programme and some being seasoned researchers. We interpreted this very positive response to our call as a real need of the field to reflect on research practices and as a genuine willingness from researchers to contribute to shaping and structuring health promotion research. We invited 79 groups to contribute a full chapter, excluding outlines that did not report on research nor on the dissemination of research results. Concerning research objects, only outlines clearly linked to the health promotion discourse and practice as delineated by the Ottawa Charter of Health Promotion (WHO, 1986) or related documents were selected.

At this very early stage, we noted two types of outlines. The majority of outlines described a research project or programme and discussed the ways in which it contributed to address distinctive challenges in health promotion research. Taken together, these contributions would constitute the first part of the handbook aiming to answer the question: how is health promotion research conducted globally? To further guide authors in their reflexive task, we asked them to organise their chapter in a way that would provide evidence to answer four questions.

1. How are the research objects distinctive of health promotion?
2. What kind of knowledge does the research generate?
3. What makes this research approach distinctive of health promotion research?
4. How does this research contribute to advancing and structuring the field of health promotion research?

There was a second type of outline. Mostly written by more seasoned researchers, these contributions presented a high-level reflection on how a specific research approach or method, which authors had championed either as developer or main adapter from another field, was contributing to shaping health promotion research because it addresses fundamental challenges in health promotion research. We asked these authors to write a chapter for didactic purposes. These chapters would provide an overview of approaches, strategies of inquiry and methods for generating knowledge about health promotion practices. To complement these chapters, we also issued more personalised invitations to colleagues who are known for their work in a specific area. All these contributions would constitute the third part of the handbook aiming to guide researchers on doing health promotion research. This part would be more akin to a textbook in which junior researchers and graduate students could find accurate introductions to approaches used in health promotion research and to innovative practices in health promotion research. We asked authors to structure these contributions around these following questions.

1. Which general health promotion research issues does this approach address?
2. How does this approach solve that issue?
3. What are the approach's fundamentals and key references?
4. How does this approach structure the field of health promotion research?

Based on our experience with similar projects, we expected that about half the number of invitations we issued would lead to full chapters. To our amazement, almost all authors and groups of authors invited produced a full-fledged chapter. It was more than 79 complete chapters that we reviewed and commented! The chapters

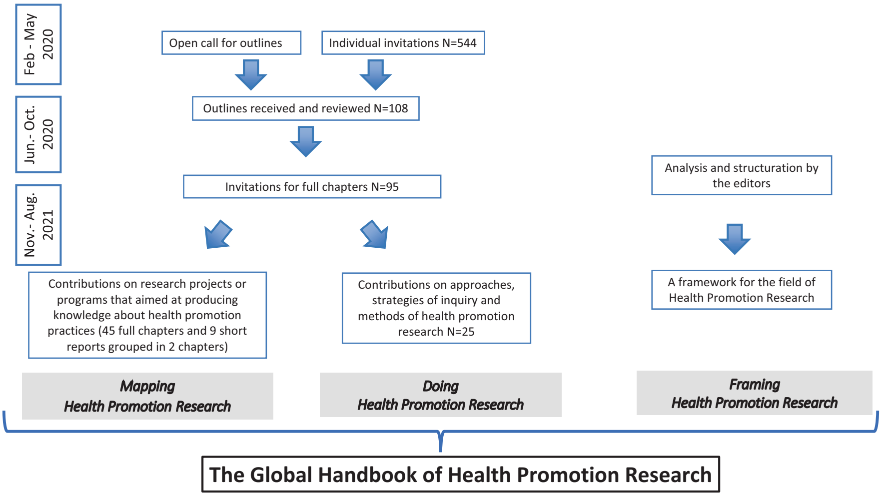

Fig. 1.1 The Collaborative process of creating the *Global Handbook of Health Promotion Research*. (Potvin & Jourdan, 2022a)

have gone through several exchanges between the authors and the editors. In addition to describing research practices, all of them include an epistemological and ethical analysis that contributes to the construction of the field of health promotion research. A genuine process of maturation occurred which enabled the authors to make more explicit the foundations of their work and the editors to acquire a global vision of health promotion research practices in all their diversity. Finally, although this is not a systematic collection, the topics, approaches, strategies of inquiry and practices, disciplines and research setting presented and discussed in this wide selection of chapters offer a valid and realist perspective on the breadth and variety of health promotion research globally. Figure 1.1 provides a schematic representation of the process.

1.3 The Content of the Global Handbook: An Open Project

Given the number of contributions received, the handbook comprises three distinct volumes. Each volume has a unique scope and format providing a unique perspective to structuring the field of health promotion research. The mapping of practices is the first phase of our work. It has led to the publication of the first volume of the handbook. Based on this material, the second part of the work consists of a systematic description of the epistemological and ethical framework of health promotion research. It constitutes the second volume of the handbook. Finally, the present book or third volume, proposes a systematic collection of approaches, strategies of inquiry and methods. Figure 1.2 illustrates the overall architecture of the Handbook.

Fig. 1.2 Structure of the *Global Handbook of Health Promotion Research*. (Potvin & Jourdan, 2022a)

Volume 1, subtitled '*Mapping Health Promotion Research'*, is composed of 53 contributions that reflect on research projects or programmes that aimed at producing knowledge about health promotion practices. These chapters offer an overview on the range of health promotion practices studied by health promotion researchers on the one hand and on the research practices enacted to do so on the other hand. Chapters are organised in four parts according to the health promotion practices studied since it is a fundamental dimension for structuring the research field. The fifth part is composed of four chapters that correspond to our analysis of this material to derive some shared elements from the actual practice in health promotion research that will inform our effort to structure the field.

Volume 2 is subtitled: '*Framing Health Promotion Research*'. It is entirely written by Jourdan and Potvin and proposes our view of what makes health promotion research a distinct field. It is composed of short chapters with a didactic aim that describe and discuss what we consider as the fundamental elements for structuring the field and their specific configurations that make this field of research distinct. The argument is organised in four parts. The first part defines what constitutes a research field and why it is relevant and useful to distinguish health promotion research from other related research fields. The second part discusses the values and the ethical framework that we consider is a main characteristic of health promotion research. The third part proposes a comprehensive epistemological framework for health promotion research. The fourth part discusses the objects that delineate the range of health promotion practices studied in health promotion research.

Volume 3 (this volume) is subtitled: '*Doing Health Promotion Research*'. It is composed of short chapters written by authors who have developed a recognised expertise with regard to either an approach, a paradigm, a research design or a method associated with health promotion research. These chapters are written as introductions to these approaches in relation to the specific health promotion research challenge they address. The book is organised in six parts. The first part presents seven examples of research approaches based on various paradigms that are prisms for understanding the mechanisms at work in health promotion practices. The second through fifth parts propose 16 examples of heuristic research designs and methods designed or adapted to address methodological and ethical challenges in health promotion research. The sixth part is the conclusion of the volume.

Recognizing that: (1) we cannot pretend to have an exhaustive coverage of all relevant paradigms, strategies of inquiry and methods for health promotion research, and (2) the field is evolving rapidly, the handbook, especially this third volume, is conceived of as an opening for the future and a stepping stone for an ongoing global initiative. In collaboration with the Editorial Board of *Global Health Promotion,* the official journal of the International Union for Health Promotion and Education, we have created a section in the journal entitled 'Doing health promotion research' (Potvin & Jourdan, 2022b). This section publishes introductory-level presentations of paradigms, approaches and methods relevant for health promotion research and written by health promotion researchers.

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Chapter 2
Doing Health Promotion Research: Approaches, Paradigms, Designs and Methods to Produce Knowledge

Didier Jourdan and Louise Potvin

2.1 Introduction

Volume 1 of the *Global Handbook of Health Promotion Research* aimed to map the field of health promotion research. Individuals and groups who self-identify as health promotion researchers reflected on their research practices, describing what they actually do, how they work, the activities they put in motion and with whom they produce, co-produce and/or share health promotion knowledge. We have shown that the research conducted is multi-faceted; it refers to a wide variety of paradigms, research designs and methods. To describe such research, the concept of configuration is more relevant than typological thinking. What defines the field of health promotion research is a set of specific configurations that could be described along three dimensions:

- The purpose or ethical references (knowledge production and contribution to social change within a well-defined ethical framework)

Reprinted by permission from Springer Nature: Springer. Conclusion: Characterising the Field of Health Promotion Research by D. Jourdan and L. Potvin. Fig. 53.2. In: Potvin, L., Jourdan, D. (eds), *Global Handbook of Health Promotion Research, Vol. 1: Mapping Health Promotion Research*. Copyright © 2022.

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- The objects of research (the research focuses on health practices)
- The nature of the knowledge generated, and the methods used to produce it (a diversity of approaches that all have in common a recognition of the complexity of the interactions at work in the creation of health by populations and individuals)

We were able to identify 11 markers that fall under these three structuring dimensions (the ethical references, the objects of enquiry and the epistemological configurations). Based on this inductive approach, Volume 2 further explores how these markers structure health promotion research. Figure 2.1 presents the different markers related to the three structuring dimensions.

Our aim in Volume 3 is to present introductory-level discussions of approaches relevant to knowledge production in health promotion research and methodological solutions designed and adapted by researchers to advance the knowledge base and solve epistemological challenges linked to the specificities of health promotion research. We use research ‘approaches to knowledge production’ as a generic term that describes the entire process of knowledge production. Approaches to knowledge production are world views, plans and procedures for research that span the range from broad assumptions to detailed methods of data collection, analysis and interpretation. Other terms are important to describe the research characteristics. A ‘research paradigm’ is a general philosophical orientation about the world and the nature of knowledge from which researchers address research issues (post-positivism, constructivism, transformative and pragmatism paradigms). ‘Research design’ corresponds to the strategies of inquiry (qualitative, quantitative and mixed methods) that are suitable for the subject matter and deemed valid in a given field. The last major element is the set of specific research methods that involve the forms of data collection, analysis and interpretation that researchers propose for their studies.

This volume is composed of short chapters written by authors who have developed a recognised expertise with regard to either an approach, a paradigm, a research

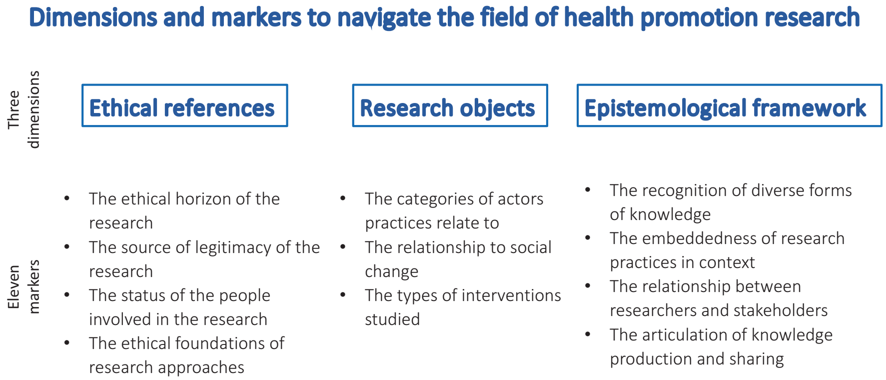

Fig. 2.1 Dimensions and markers to describe the field of health promotion research. (Jourdan & Potvin, 2022)

design, or a method associated with health promotion research. These chapters are written as introductions to these approaches in relation to the specific health promotion research challenge they address. Readers will find key bibliographical references at the end of the chapters and will be able to explore the various dimensions of the approaches described in more detail if they wish.

2.2 The Knowledge Base of Health Promotion: Networks of Questions, Concepts, Methods, Results

This volume is concerned with research practices relevant to the production and sharing of knowledge about health promotion practices. Understanding the very nature of this knowledge is a prerequisite for the description of approaches, research designs and methods.

The knowledge produced in health promotion research refers to a wide variety of paradigms. The knowledge produced by research based on post-positivist, constructivist, transformative, or pragmatic worldviews is not the same. The knowledge base produced in a field wherein such a diversity of paradigms can be found cannot be organised solely in a cumulative manner. The knowledge base in health promotion research is different from those produced in theory-based scientific fields like physics or cognitive psychology. These fields are clearly defined by problems to be dealt with, and with methods of investigation and concepts that are valid throughout the whole field. These are closed fields since, in order to be recognised as valid, knowledge must meet specific formal characteristics.

On the contrary, in health promotion research, even if the debate about what constitutes valid evidence is still ongoing, the field can be described as an open field. To be recognised as valid, knowledge must show its relevance in reference to an ethical and epistemological framework (Jourdan & Potvin, 2022). The knowledge produced is multi-faceted, therefore, formal characteristics are not what makes it considered as contributing to the knowledge base of health promotion research. In other words, the knowledge produced and the conditions of its production (with people) are more important than conformity to a specific academic tradition.

The knowledge base includes:

- Knowledge from disciplinary research that is anchored in a range of paradigms (from positivism to constructivism) and that studies health promotion practices
- Knowledge produced from a health promotion research perspective that is often based on approaches that borrow from different perspectives (usually based on transformative and pragmatic paradigms)

New knowledge interacts with existing knowledge. They weave together and create networks. Beyond the diversity of research approaches, these networks of questions, concepts, methods and results are what structures the knowledge base in health promotion. The knowledge base gains in interconnections what it loses in unicity.

Thus, we propose that two mechanisms drive the development of health promotion research. First, improved data collection and analysis techniques enrich the knowledge base. Second, since health promotion research is about complex social practices, there is openness to new theoretical frameworks, which shed light on practices in a renewed way. The research is progressing with new starting points and approaches. Advancement in knowledge production requires multiplying the perspectives.

2.3 The Organisation of this Volume

The book is organised according to these two ways of advancing knowledge in health promotion. As previously described, the knowledge base in our field increases in two different ways:

1. Through the development of research approaches rooted in various conceptual frameworks that shed new light on practice and thus advance knowledge. We propose seven examples of such approaches based on various paradigms (critical theories, political science, economics, etc.) which are all prisms for understanding the mechanisms at work in health promotion practices. This is covered in Part I.
2. By innovating and adapting research practices. We thus propose 16 examples of research designs and methods relevant to the toolbox of health promotion researchers. These examples are organised according to the health promotion research challenges they address in reference to the four epistemological markers that frame the field of health promotion research (Potvin & Jourdan, 2022). Parts II to V therefore correspond to the four markers that characterise health promotion research (recognition of the diverse forms of knowledge, embeddedness of research practice in context, relationship between researchers and other stakeholders and articulation of knowledge production and sharing); see Table 2.1.

2.4 The Contents of this Volume

The first part of this volume consists of chapters that describe approaches to knowledge production in health promotion research.

In Chap. 3, de Leeuw focusses on the use of policy theory in health promotion research. She describes four theories of policy development that have proven useful for research on health promotion policy making.

Chapter 4, written by Alan Shiell and collaborators, illustrates how heterodox economic theories account for the fact that people's preferences are shaped by their social circumstances, and can be used in health promotion research.

Table 2.1 The markers that characterise the knowledge production process in health promotion research

Markers	Definitions
The recognition of diverse forms of knowledge	In addition to scientific knowledge, health promotion research values and legitimises experiential and professional knowledge of study participants and creates the conditions for these forms of knowledge to interact productively.
The embeddedness of research practice in context	Context is conceived of as an inherent dimension of the practice studied in health promotion research. Methodological pluralism and a systems perspective facilitate embracing the complex causal mechanisms at play in context/practice interactions.
The relationship between researchers and other stakeholders	Whether a research project originates with researchers or other social actors, and whether researchers are in a leadership or an accompanying posture with regard to the practices studied, the embeddedness of research in context necessitates negotiating collaborative arrangements with other stakeholders.
The articulation of knowledge production and sharing	Solution and action-oriented, health promotion research creates an epistemic reciprocal relationship between scientific and practical knowledge; neither is directly transferable into the other, but the passage from one to the other requires translation and a methodological apparatus to effect these translations.

In Chap. 5, Louart and Ridde show how critical realism can be used in health promotion research. Critical realism is a philosophy of science that proposes that reality is composed of mechanisms and forces whose conjunctions create observable events from which those mechanisms can be theorised. Critical realism is an approach to unpacking the complexity of interventions understood as open systems operating in broader social systems.

In Chap. 6, Rodriguez and Rogéria de Andrade Nunes illustrate how critical dialogue can be used in health promotion research with marginalised groups. They discuss the principles of Freire's critical pedagogy as an epistemology: research is committed to responding to current problems; listening to people and communities so as to acquire a deep understanding of life contexts; co-creation of knowledge; critical thinking; participation and interdisciplinary collaboration and critical dialogue for action.

Written by Mattioni and Famer Rocha, Chap. 7 describes how Michel Foucault's genealogy can be used to analyse changes in practices in primary care settings. Based on content analysis of documents and interviews, this approach enables the identification of tensions among practitioners, or between practitioners and populations, and shows how these tensions relate to various discourses and narratives originating in historical events.

In Chap. 8, Kelly and Montero show how Science and Technology Studies could be a relevant approach to understanding health promotion practices. Using the concept of complex assemblage, they engage with the limits and possibilities of interventions, making explicit what is included in such interventions, and what is purposively excluded to make them work.

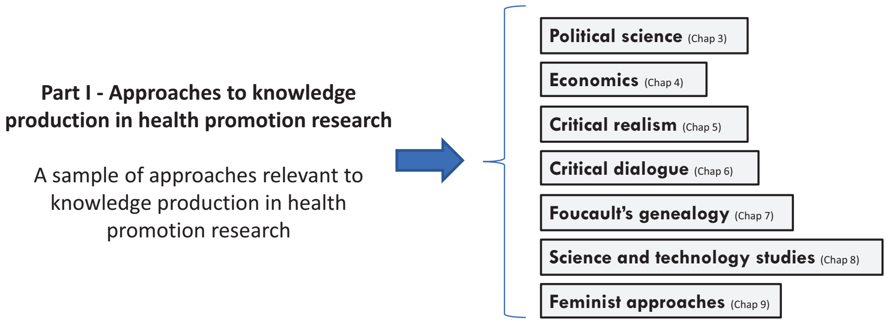

Fig. 2.2 A sample of approaches relevant to knowledge production in health promotion research

Written by Warwick-Booth and collaborators, Chap. 9 describes the contribution of feminist approaches to health promotion research with vulnerable women. The chapter illustrates feminist research practices for the evaluation of the effectiveness of interventions designed to improve women's health.

Figure 2.2 introduces the different approaches presented in this first part.

The next four parts of this volume are composed of 16 chapters that describe research designs and methods for addressing health promotion research challenges that are relevant in the toolbox of health promotion researchers.

Part II is entitled 'Enabling interactions among all relevant knowledge'. It includes three examples of research designs and methods that make it possible to value and legitimise the experiential and professional knowledge of study participants, and to create the conditions for these forms of knowledge to interact productively. Chapter 10, written by Tremblay and Martin, describes the Two-eyed seeing and shows how it could be used as a guiding principle to respectfully embrace indigenous and western systems of knowledge in health promotion research.

In Chap. 11, Alexander and collaborators present in situ methodologies. Acknowledging the lived experience of individuals, in situ data collection methods are tools for collecting data from study participants as they interact with their environment.

Written by Makoge and Maat, Chap. 12 describes qualitative methods designed to understand how people's sense of coherence (the capacity to make sense of one's environment) and use of resistance resources allow them to overcome stressors. This approach uses the salutogenesis framework; it emphasises people's actions towards their own health, despite their condition of poverty.

Part III is entitled 'Unpacking the complex context/practice interactions'. It describes five research designs and methods relevant to studying the complex causal mechanisms at play in context/practice interactions.

In Chap. 13, Hawe reprints her (and her collaborators') 2004 *BMJ* article in which they describe the way in which interventions tested in randomised controlled trials can and should be adapted to context. The idea is that it is not the activities and practices within an intervention that need to be standardised in a controlled trial, but the underlying health-promoting mechanisms that they seek to trigger.

In Chap. 14, Simos and collaborators present the contribution of health impact assessment to health promotion research. Inspired by environmental impact assessment, the method explores the potential links between policy and health.

Written by Cambon and Alla, Chap. 15 describes the use of a theory-driven approach to unpack the black box of complex interventions. The authors show how the evaluation of interventional systems highlights the intervention-context dynamics, and leads to understanding how outcomes result from the mechanisms produced through these interactions, as well as the conditions for their transferability.

In Chap. 16, Jackson deals with the use of a realist approach in qualitative research to analyse connections between context, intervention and outcome. She explains how to uncover these interconnections through an iterative process that involves a synthetic review of the literature and the content analysis of the narratives of various relevant stakeholders about their experience with the intervention.

In Chap. 17, Guével and Absil present the use of mixed methods to evaluate complex interventions. The chapter elaborates on three practices developed for mixed methods that could be transferred to health promotion research so as to better appraise complexity.

Part IV is entitled ‘Regulating stakeholders’ collaborations’. It includes four examples of research designs and methods that create the conditions for a genuine collaboration between researchers and other stakeholders.

Chapter 18, written by Springett and collaborators, describes participatory action research. This method seeks to co-produce locally relevant and actionable knowledge through an equal partnership between researchers and those who are affected by the issue under study.

In Chap. 19, Nic Gabhainn and collaborators present a method to meaningfully involve children in a participative research process leading to consensual products for advocacy or representation to decision-makers and other stakeholders.

Written by Schulz and collaborators, Chap. 20 describes the framework of community-based participatory research (CBPR). It provides examples on how the principles underlying this approach ensure that the research process contributes to reducing health inequities by addressing community-identified priorities, committing to equity in both process and outcomes and engaging all partners in research and action.

Chapter 21, written by Gibson and collaborators, deals with the key issue of North-South health promotion research partnerships. These partnerships are vulnerable to a colonial and paternalistic drift that conflicts with fundamental health promotion principles. To overcome this challenge, the authors describe an equitable, authentic and inclusive approach.

Part V is entitled ‘Bridging the knowledge/practice gap’. It includes four research designs and methods that facilitate a reciprocal relationship between scientific and practical knowledge.

Chapter 22, written by Chrisinger and colleagues, describes citizen science models. Through the involvement of lay people in data collection and analysis, citizen science furthers our understanding of how structural factors impact health behaviors while democratizing the research process.

In Chap. 23, Grabowski and colleagues describe principled health promotion research as a normative framework designed to create a common culture between all involved in action research. This approach supports health promotion researchers in implementing action-oriented and participant-friendly research projects.

Written by St.Leger, Chap. 24 shows the entanglement of knowledge production and sharing in the school setting. It presents an evolutionary perspective on the co-development of school health promotion and school health promotion research since the middle of the twentieth century.

Chapter 25, written by Bartelink and colleagues, describes a contextual action-oriented research approach to study the implementation of interventions conceived of as complex adaptive systems that aim to transform the whole system in which they are implemented. Figure 2.3 illustrates the four challenges of health promotion research and the associated methodological responses.

In order to guide the reader within the content of the chapters, we have written short summaries of each of the contributions (see Appendix: Overview of the Chapters). This will help the reader to navigate the rich material in this book.

Of course, the handbook can be read from beginning to end, but it also can be used as a working tool for researchers, students and practitioners. It is possible to read the introduction and then explore chapters according to needs and interests.

In addition, the readers are invited to follow the 'Doing health promotion' section of *Global Health Promotion*, the official journal of the International Union for Health Promotion and Education (IUHPE). This section will publish

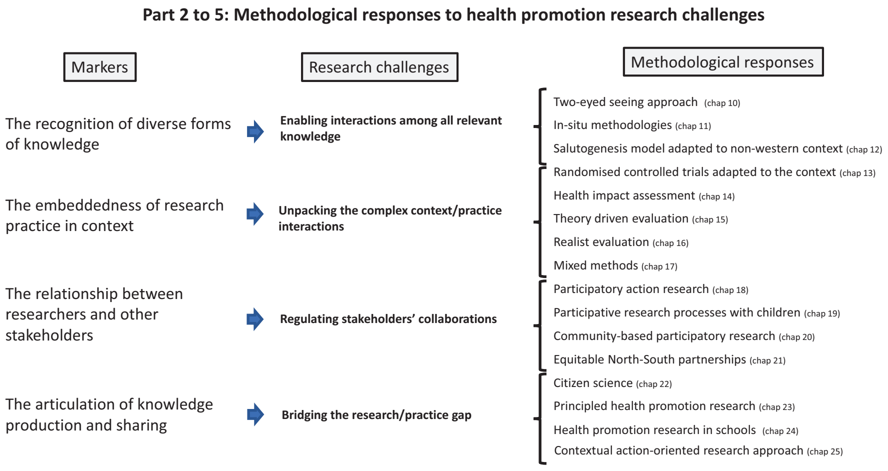

Fig. 2.3 A sample of methodological responses to health promotion research challenges

introductory-level presentations of paradigms, approaches and methods relevant to health promotion research and written by health promotion researchers.

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Part I

Approaches to Knowledge Production in Health Promotion Research

Chapter 3
Health Promotion Political Research as Policy Practice

Evelyne de Leeuw

Key Concepts Definitions

- *Policy*: '…the expressed intent of government to allocate resources and capacities to resolve an expressly identified issue within a certain timeframe' (De Leeuw et al., 2014).
- *Political science*: The study of influence and the influential (Lasswell, 1936)
- *Policy research*: The study of the development of public policy over time and the context, events and individuals surrounding this complex environment (Weible et al., 2012)

3.1 Introduction

Setting the conditions and opportunities to promote health of individuals and populations happens at many different levels. At an individual level, people and their families and communities make more or less conscious choices – what food to eat, what (psychotropic) addictions to access, choosing mobility and active transport opportunities and finding education and work that suits us. These examples also show that for many, the total exercise of 'free will' may not exist. A level playing field for making informed choices may not be accessible to everyone. If you live in what colloquially has become – wrongly – designated a 'food desert' (Cummins & Macintyre, 2002), the aspiration to eat the recommended quantities of fruits and vegetables may simply not be realistic without the need for some sort of systems

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action. In the absence of walkable and bicycle-able infrastructure or in adverse climate (e.g. because you happen to live in an urban heat island, e.g. Cutts et al., 2009), some people may be forced to use the less healthy option of owning and using a car with an internal combustion engine. It may be more convenient (and even perceived to be the only option) in the short run, but automobile ownership is associated with (a) lower social capital (Currie & Stanley, 2008; Nieuwenhuijsen & Khreis, 2016) and thus challenged health potential, and (b) carbon emissions, thus endangering planetary health.

This description of the interface between individual freedoms and choice, and collective engagement may lead to a level of frustration and asphyxiation among individuals, groups and communities in societies. They may not feel part of a world that involves policy responsiveness. There appear to be increasing levels of distrust in public policy and the political processes that drive them (OECD, 2020). In many places, people seem to disconnect from systems and processes that allow for collective action – such as democratic elections, participation in public institutions, community organisation in solidarity with 'less fortunate' members of society, etc. Policy, and the processes that create and maintain policy ('politics and Politics' – see below), is seen by many as a chaotic, ephemeral, unaccountable and an inherently suspicious enterprise. These beliefs, in fact, create a vicious cycle where those that ought to control – and be integral to, rather than just be at the receiving, pointy end of – policy processes become even more disjointed from the things and people that matter: (inequitably) affected communities and individuals.

Responsive, transparent and accountable policy making seems to be the answer to this complex situation. And research ought to be part of the answer – as it would enable us to understand why collective choice happens, how it happens and what its intended and collateral impacts and outcomes are. In the simplest of definitions of politics (who gets what, why and when – Lasswell, 1936), this research agenda is integral to the health promotion effort. It is argued that research is in fact policy practice.

A key remit of the health promotion value system is that any of its action areas can and must be supported by policy development. Creating supportive environments, reorienting health systems and shaping community action all depend on some level of direction which the Ottawa Charter identified as 'policy'. Recognising the then (1986) recent insights from emergent social epidemiology and health equity research, the Ottawa Charter for Health Promotion followed inspiration by Milio and Hancock, and called for the development of 'Healthy Public Policy' (HPP).

Interestingly, the father and mother of the term HPP argued for its development based on a retrospective inventory of the impact of (public) policy on (population) health. At the time they had no firm empirical and evidence-based perspective on how such policy was to come about. Milio documented such policies in Norway (the 'Farm-Food-Nutrition Policy', Milio, 1981) and Australia ('Making Policy: a mosaic of Australian community health policy development', Milio, 1988) and Hancock (1982) saw HPP as integral to Healthy Cities development.

In this chapter, we will do the following. First, we briefly explore what can be understood by the term 'policy'. Second, we move this concept into the health promotion space and consider the prolific presence of neologisms around the health-policy interface. Third, we endeavour to present a very scant review of theories of the policy process and how they are relevant for health policy. Finally, our analysis will land on arguing for more and better health political science research in health promotion. First suggestions how to make this happen will be formulated.

3.2 What Is (Health) Policy and How to Research It?

With its preoccupation with interventionist perspectives, the health promotion field (and associated research) would benefit from a clear conceptual grounding when we talk of 'policy'. Policy, to be brief, is not the intervention. It sets the parameters for a package of interventions and their connected context. Policies exist within a much larger societal brief that includes the notion of 'governance' (see de Leeuw, 2015, and Greer et al., 2017). The study of interventions in a policy context has its own body of literature (see, e.g. Bemelmans-Videc et al., 2011). Clear insight and guidance for policy intervention development and packaging exist. These do not always necessarily follow conventional 'evidence-based' or 'knowledge-translated' logics. The interface of governance and health has an even larger and fuzzier scope (e.g. Thomann et al., 2019). But in this chapter, we zoom in on 'policy'.

Even those that professionally ponder policy have trouble defining policy. Sometimes it is considered merely equivalent to 'the plan' ('*This is how we will get from A to B*') or a rule ('*No access to people under three feet*'). The latter is sometimes elevated to legislation or some high-level government institutional arrangement. For instance, in Australia the vast inequities experienced by Indigenous peoples (in health; housing; liveability; education; etc.) were – finally, after many years of malevolent ignorance and neglect – elevated to 'policy' level. But this happened through federal government that established, in July 2008, a *National Indigenous Health Equality Council*, and a Commonwealth arrangement called *the National Indigenous Reform Agreement.* Together, they set a number of targets which each contains series of specific policies (Gardiner-Garden, 2020). None of these, by the way, seem very effective (Dawson et al., 2020), perhaps precisely because no *real* policy has been made – only mere aspirations without mechanisms or accountabilities. The bottom line, however, is that scholars, politicians and bureaucrats can refer to any of the elements of this approach as *a*, or *the*, policy. The opacity of this realm is, indeed, confusing. Sometimes researchers simply skirt the issue. For instance, in a high-profile paper Carey and Crammond (2015) simply say that 'the policy process' is what happens 'inside government'. But in a troubling twist, in their empirical research of the 23 'policy practitioners' interviewed, *ten* are lobbyists (whom we cannot assume belong 'inside government' – Woll, 2007). That seems to be blurring the lines considerably, although the study does give some surprising insights into the roles actors play in the policy game.

De Leeuw et al. (2014) give a brief review of perspectives on 'policy'. Noteworthy is the valuable nihilism that 'no policy is also policy' and the observation that sometimes policy is made that is demonstrably ineffective, or only aims to appease certain groups of stakeholders. This is known as ‘symbolic policy’. Ultimately, though, they land on a description of policy as ‘…*the expressed intent of government to allocate resources and capacities to resolve an expressly identified issue within a certain timeframe*.’ This lens takes into account that public (government) policy concerns itself with social issues (see, for instance, Gusfield, 1984) and the (re)distribution of resources (which include both tangible – money, infrastructure – but also intangible – ideas, access – dimensions). In fairly gross terms, policies (or policy instruments) then embark on three paths of instrumentation: communication (or ‘sermons’), facilities and incentives (‘carrots’) and coercion (‘sticks’). Public policy implementation tends to follow the ‘path of least coercion’, that is, politicians prefer first sermons, then carrots, and finally the sticks, cf. Bemelmans-Videc et al. (2011). In practical health promotion terms, for example in COVID-19 control, this translates into public sector’s first preference for media campaigns (*distance yourself!*), then the establishment of facilities (e.g. plastic shields in shops, markers on floors to encourage physical distancing) and finally regulatory action that enforces lockdowns, fines, etc. This faux-logic of (temporally) escalating intervention types may well reduce policy efficacy.

There is strong evidence across social and health policies that good combinations of instrumentation in complex policy packages yield considerable synergies (Smedley & Syme, 2000). In the COVID-19 example: each of the types of instrumentations separately would have some effectiveness in reducing exposure, infection and spread, but only in their combination they reach their full potential (see, for a theoretical foundation of this assertion, Ruiter et al., 2020). This is colloquially known as the *Swiss Cheese Slices Approach* (e.g. Christakis, 2020). The development and implementation of such policies is one of the great health promotion challenges. And the research into development and advocacy of such complex policy packages (i.e. the stacks of cheese slices) should be a ‘sine qua non’.

Hygienic thinking about policy research is a challenge, which we will further dissect later on, in the *health promotion policy research* section. But at this stage, it is probably helpful to first discuss the idea of ‘policy analysis’. ‘Policy analysis’ in fact encompasses two distinct ways of assessing policy. *The first* presents an analysis of the policy achievements. If, as outlined above, public policy is to resolve social issues, it should be possible to identify whether it has been successful.

For instance, a local government Council could be troubled by the number of road injuries and fatalities in its jurisdiction. It decides (compelled by the scientific evidence) to solve this issue by managing traffic. It allocates resources and capacities (e.g. tactical urbanism involving road quality modification and speed bumps; speed limits; signage). This type of policy analysis would seek to identify whether the stated intent of the policy and its implementation yield the desired result, and if it is fine-grained enough, investigate which elements in the synergy package worked better than others and how they are best combined.

Another perspective on policy analysis is interested in how a particular policy came about and whether the most appropriate (or cost-effective; timely; socially acceptable) policy was identified. In the case of the Council’s injury policy, this type of analysis might include asking whether public resources (tax payers’ money…)

could have been spent more wisely in other areas (would more health be created through securing better access to better education; to green space; or mitigating climate change, for instance?). It could also gauge how (economically; conceptually; temporally; etc.) important the issue really is, how much pork-barrelling[1] might have been appropriate, whether various interests were served accountably, etc. This research could create arguments for different public and community priorities, and support different (and preferably superior) policy processes and policy resolutions. The second type of policy analysis would generate deeper understanding of the reasons why, and how, policy is formulated, and what the foundations for possible implementation success could be.

The first type of policy analysis does not require a critical body of policy theoretical knowledge. For the second it may be helpful to go back to Lasswell's 'who gets what' thinking and apply some conceptual insights from institutionalism or power theory (see Harris et al., 2020). There is a third view of research into and for the policy process that the remainder of the chapter explores.

3.3 Health Policy (or HPP, or HiAP)

Governments at every level, around the world, now recognise to a greater or lesser extent that they have a role to play in creating conditions for better (and sometimes more equitable) health of the populations they serve. How they do this depends on the (philosophical) foundations of their State. Esping-Andersen (1990) has outlined a few welfare state archetypes that range from a total belief in the agency of individuals at the detriment of state intervention, to full state control.

Regardless of welfare state conceptualisation, many governments have explicitly adopted the pursuit of policy development for health. This comes in many guises. There are some countries that at one point or another expressed a commitment to developing coherent whole-of-government approaches to health development rather than segmented health care industry policies (e.g. The Netherlands in the early 1980s, De Leeuw & Polman, 1995). Elsewhere, subnational regions moved towards such inclusive perspectives (e.g. North Karelia in Finland, from 1972 onward, Puska et al., 2009). Later, governments at every level embraced the Ottawa Charter call to build Healthy Public Policy (spearheaded by the international Healthy Cities movement, but also reflected in legislation mandating local government policy making for health, e.g. in South Korea, France, Denmark, The Netherlands and the Australian State of Victoria) and after the turn of the millennium, a new rhetoric of 'Health in All Policies' took hold, championed in California (Rudolph et al., 2013), South Australia (Kickbusch & Buckett, 2010) and Finland (Puska & Ståhl, 2010).

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[1] 'Pork-barrelling' is the practice of targeting expenditure (promises) to particular electoral districts based on party political considerations and opportunism. It is generally not considered 'proper' politics. Andrew Leigh (2008), an Australian Labour member of Federal Parliament, has shown its insidious effectiveness.

There is a lack of critical reflection on the core tenets of these slogans. The general consensus is that health is not made by hospitals, pharmaceuticals, care professionals and other elements of the medical-industrial complex – these entities and institutions fix disease. Health is made by people in their everyday lives, and determined by education, mobility, the food chain, workplaces, etc. (Whitehead & Dahlgren, 2006). To prevent disease, promote health and prolong life (Winslow, 1920[2]), action – and policy – must be framed around those sectors and determinants, and how society shapes them (the political determinants of health, cf. Kickbusch, 2015), rather than further agglutinating the powers of the healthcare system. To reiterate the consensus on the more philosophical dimensions of what we are discussing: current 'health policy' is hardly ever concerned with 'health' – it focusses predominantly on shaping and regulating just one field: the medical-industrial complex or 'Medical Care Services', which represents one family of determinants in the health field, the others being 'Heredity', 'Life Styles' and 'Environment' (Blum, 1974; Laframboise, 1990). This drives an almost obscene financial imbalance between such services and prevention of disease and promotion of health (Faust & Menzel, 2011 – who furthermore identify the most dire lack of investment in prevention intervention research, and utter absence of dedicated policy research funding in the realm).

So – the evidence base and ideological foundations for creating policies for health (whether labelled HPP, HiAP or simply 'health policy') are clear. But the evidence base for the creation of such policies is fragmented and mostly anecdotal (de Leeuw, 2017). Researchers in this arena tend to collect a wealth of often unstructured case material and compile (frequently very interesting and therefore compelling) narratives. Especially WHO has been doing a great effort in compiling global case studies (see the relevant WHO references in de Leeuw, 2017[3]). What communities and their representatives need, however, is a combination of good stories, strong evidence and a clear course for political action. Both the terms 'Healthy Public Policy' and 'Health in All Policies' seem to be evocative enough to have generated a considerable fan base. At the same time, the adoption of slogans is not sufficient for adequate policy advocacy. For this, a deeper understanding of the policy process and its drivers is required. And strong theories of the policies can come to the rescue.

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[2] '*Public health is the science and art of preventing disease, prolonging life and promoting mental and physical health and efficiency through the organised community efforts for the sanitation of the environment, the control of communicable infections, the education of the individual in personal hygiene, the organization of medical and nursing services for the early diagnosis and preventive treatment of disease and the development of social machinery to ensure to every individual a standard of living adequate for the maintenance of health., so organizing these benefits as to enable every citizen to realise his birthright of health and longevity*' – the original definition that remains the foundation of the shorter views that are currently in circulation.

[3] Unknown to many, there is the WHO IRIS (Institutional Repository for Information Sharing), home to over half a million WHO documents and searchable for policy case studies – some 1000 were identified at https://apps.who.int/iris/

3.4 Theories of the Policy Process

Breton and de Leeuw (2011) wondered whether the call for Healthy Public Policy in 1986 had stimulated a firm scholarly response. They performed a systematic review of the health promotion literature since the Ottawa Charter and queried to what extent theories of the policy process were rigorously applied to health (promotion) policy research. The results were disappointing. Only a tiny fraction of the (peer-reviewed!) articles that purported to do policy research applied any of the theories that have evolved over decades of political science development.

But why would you need to use theory to do (health policy) research? As we argued earlier, some analyses just need to show whether something has happened; e.g. whether measures have changed: '*we developed a policy to abolish female genital mutilation, and now we are going to see how successful we are*'. As interesting as these questions – and their answers – are, they miss an important point: this type of research will only be able to gauge *whether* there has been a change (if any), but not *why* or *how*. A simple attribution of success or failure to 'the policy' is not very insightful for the policy makers or for the community. There is no guarantee that the effect can be replicated in the same or other settings. There is no assessment or appreciation of the nature of the mechanism that has made the policy a success or failure (Birckmayer & Weiss, 2000). In short – we learn very little from theory-free research.

But what is a 'good' theory, then? This has been the subject of much debate among many philosophers of science. The scope of this chapter does not allow for a full description of this important body of work (see, for instance, Godfrey-Smith, 2009). For the policy research arena, we will take our cues from Paul Sabatier and his colleagues, who have been writing extensively about theories of the policy process and why they are important.

In short, a theory is an abstract version of reality, a kind of map, allowing navigation. There are two types of these maps, the descriptive ones and the normative ones. Descriptive theories are simplified versions of a particular area of interest and allow the astute observer to observe and predict phenomena that happen in that area. Very strong theories (that predict always and unequivocally what is going to happen) are referred to as 'laws'. For instance, Boyle's Law (on gas pressure and volume) predicts that compression of a gas into a smaller volume leads to a higher pressure.

Strong theory allows you to make projections with a particular certainty. For instance, in theories about political party coalitions forming government, the idea is that the least number of ideologically compatible parties required to make a majority will indeed make a government. To invite others does not make sense. However, there is an important condition in this 'theory' – the coalescing parties need to be 'ideologically compatible'. This may be an issue that requires further qualification in doing research – and a scholar would want to interview party ideologues to see how fuzzy the boundaries of a particular ideology are, and to what extent they might seek compatibility with others that at first sight were deemed incompatible. An example of this, in the 1990s, was the initially obvious incompatibility between the

Dutch Labour Party (PvdA) and the Liberals (VVD), seemingly coming from opposing ideologies on the notion of the welfare state. They found each other through the boundary spanning efforts of the Democrats (D66) and a joint appreciation of the political philosophy of John Rawls (De Leeuw, 2013). This 'Purple' coalition opened the door for a number of novel health promotion policies, and has stimulated new understandings (through theories on political coalitions) how previously controversial issues may be elevated to joint policy decision. Coalition theory would give the health policy researcher a good foundation to determine what to look for (and what not!) and how to understand what they see.

There are also, however, outliers to less-than-strong theory. The 2020 government formation in New Zealand/Aotearoa is a case in point. Even though Jacinda Ardern won an outright Labour majority, sufficient to form government, she invited the Green Party to join a 'cooperation agreement'. Such deviations from expectation are integral to theory-based research and evaluation as they raise questions whether the theory should become more sophisticated (or thrown out), or whether the phenomenon observed is understood appropriately. This, in our view, is precisely why research is such an exciting endeavour.

Sabatier and his colleagues have been writing about theories of the policy process for a while now. For these political scientists, a theory is a clear and logically interrelated set of propositions, some of them empirically falsifiable, to explain fairly general sets of phenomena. Sabatier finds a distinction between conceptual frameworks, theories and models, which operate on a continuum from broadly applicable to any situation, to (preferably mathematical) modelling for highly specific situations. A 'good' theory of the political process should *explain* goals and perceptions, actions and events, among potentially hundreds of stakeholders in the process, leading to specific sets of policy outcomes.

The traditional perspective of the policy process is that of the 'stages heuristic': the notion that the policy process follows clearly distinguishable steps from problem definition, through alternative specification, to resource allocation and implementation and finally assessment and feedback. This conceptual framework seems to have served a purpose (e.g. in the agenda-setting mechanistic view of Cobb and Elder (1983) applied by De Leeuw & Polman, 1995). It is a conveniently straightforward protocol for the run-of-the-mill bureaucrat or street level health promoter. But this linear stages idea has since become the subject of devastating criticism, predominantly focussing on the fact that the stages heuristic fails to address the dynamics of multiple, interacting, iterative and incremental cycles of action at many different levels of mutual and reciprocal action at the same time (deLeon & Sabatier, 1999). For the *Health in All Policies* programme of work, De Leeuw and Peters (2015) show that different 'stages' can actually happen at the same time, and even that some (e.g. 'implementation') may start to happen before necessarily preceding stages (e.g. 'resourcing') are properly concluded.

Recognising these views, Sabatier (2007) established the following parameters to assess appropriate theoretical frameworks of the policy process:

- Each must do a reasonably good job of meeting the criteria of a scientific theory; that is, its concepts and propositions must be relatively clear and internally con-

sistent, it must identify clear causal drivers, it must give rise to falsifiable hypotheses and it must be fairly broad in scope (i.e. apply to most of the policy process in a variety of political systems).
- Each must be the subject of a fair amount of recent conceptual development and/or empirical testing. A number of currently active policy scholars must view it as a viable way of understanding the policy process.
- Each must be a positive theory seeking to explain much of the policy process. The theoretical framework may also contain some explicitly normative elements, but these are not required.
- Each must address the broad sets of factors that political scientists looking at different aspects of public policymaking have traditionally deemed important: conflicting values and interests, information flows, institutional arrangements and variation in the socioeconomic environment (p. 8).

Four such frameworks, also pertinent to health policy development, were identified by Sabatier as meeting these parameters. These are the event-driven Multiple Streams Theory empirically developed by Kingdon (2002) which claims there are three fairly autonomous societal streams (Problems; Politics and Policies) that can connect to form 'windows of opportunity' for policy change; the Punctuated Equilibrium framework by Baumgartner and Jones (1993) in which long periods of policy stability are alternated by general shifts in policy perspectives and ambitions; the Advocacy Coalition Framework (Sabatier & Jenkins-Smith, 1993; Sabatier, 1988) that emphasises the importance of coalition formation of camps of proponents and opponents to new policy directions and the Policy Domains approach coming from different perspectives on network governance (e.g. Laumann & Knoke, 1987; Börzel, 1998). Other theoretical frameworks that seem applicable, but have not necessarily been extensively validated empirically, are Social Movement theory (e.g. McCarthy & Zald, 1977) arguing that disenchanted people will join social movements to mobilise resources and political opportunity, so policy is changed to serve their interests; neo-corporatism (e.g. Olson, 1986) advocating that (semi-) political organisations in the social environment can play corporate roles to maximise competitiveness, and a host of hybrid approaches that mix these perspectives. Hybrid theorising (Greenhalgh & Stones, 2010), in fact, is considered a productive way forward (see for an example of hybrid approaches between framing theories and network theories de Leeuw et al., 2018). Finally, there are theoretical perspectives from neighbouring disciplines (e.g. sociology; administrative science; political economy; international relations; political psychology; etc.) that allow the researcher to formulate strong conceptual propositions and hypotheses to study policy processes. These should not necessarily be dismissed: as framed earlier, the policy concept sits in a context of larger governance and institutional conceptualisations; as well as more applied interventionist views.

'Strong' theory as framed by Sabatier and his colleagues allows for a useful delineation of the research area (for instance, the boundaries of the policy domain under study) and the type of variables that need to be generated in order to make sense of the policy process (for instance, the number and intensity of network engagements between policy actors). The other theories that provide a more generic lens or 'gaze' are, for instance, the group of theories that see the world through a perspective on institutions and power (see Harris, 2022, basing his work a.o., on Peters, 2019). Within this generic gaze, there is an opportunity to identify the limits and opportunities of the policy research endeavour.

3.5 Health Promotion Policy Research

Health promoters and health promotion researchers tend not to be trained very well in the political and administrative sciences. Even when their appreciation is a key dimension in the globally accepted health promotion competences frameworks (Battel-Kirk et al., 2009), this does not necessarily mean that theories related to policy-making are wholly and rigorously applied in health promotion practice and policy research. The context of policy also tends to be more complex, esoteric and dynamic, perhaps, than the applied health promotion challenges in other areas of the domain.

A frustration voiced by a number of political science commentators on the interface with public health (e.g. Fafard & Cassola, 2020) is that the health operators use profound political science work superficially. For instance, an influential group of obesity researchers (Allender et al., 2012) claims to review the conditions of policy change in their field. They briefly mention Kingdon's Multiple Streams work to describe that one needs to be cognisant that '*Key learnings from these theories that underpin this research are that the impetus, intention and objectives for policy-making can be rational, but, invariably, the development and implementation of policy is subject to political and social influences*' (p. 262) – and proceed without applying any of the theories they glanced at. Admittedly, Kingdon's work is more than just a superficial description of three streams (policies; problems; politics) that need to align through the workings of a 'policy entrepreneur' to open a 'window of opportunity' for policy change (which is where most health promotion policy research reports that reference Kingdon stop).

A close reading of Kingdon's work, in our own research efforts to investigate health promotion policy in a collection of local government areas in The Netherlands (Hoeijmakers et al., 2007) led to a new appreciation of the breadth and depth of data and variables that are needed to deploy the Multiple Streams Theory. A full operationalisation of the theoretical framework would require the definition of each type of variable under study, the best way to assemble the particular data set, and an assessment of the core process one is trying to research. Figure 3.1 shows the cascade of events and actors across Kingdon's three streams as gleaned from his dozens of policy analyses. The full application of the theory would require a consideration of each box and arrow in the figure. At first glance, it may appear a chaotic field. Yet – the boxes and arrows in the schematic would neatly allow for the framing of a comprehensive, bespoke and feasible research programme. If our research ambition really is to not only show the change, but explain the change (the *how* and *why*), any researcher ought to diligently take a theory apart into its constituent elements, and

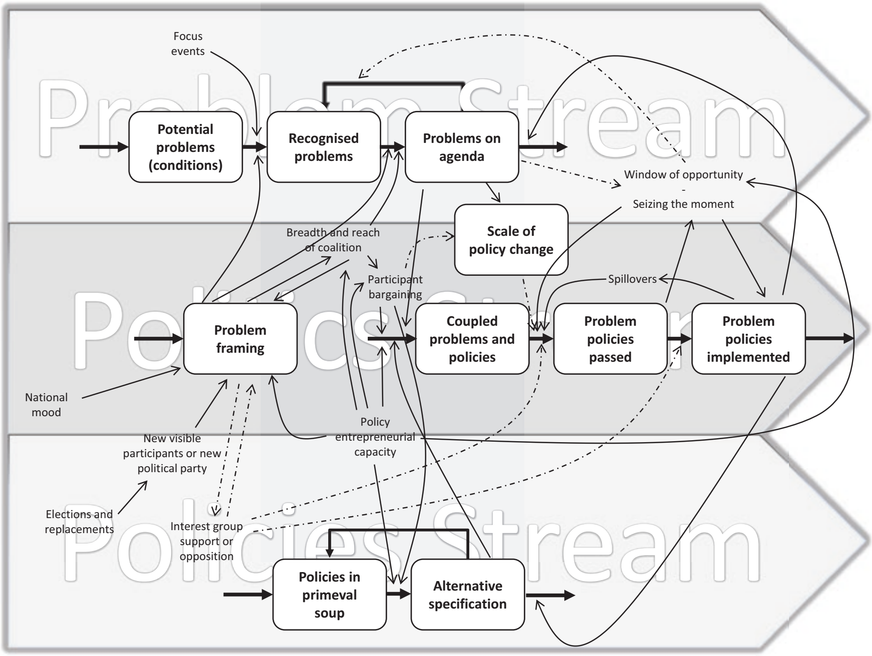

Fig. 3.1 Dimensions of Kingdon's multiple streams framework. (cf. De Leeuw et al., 2016)

formulate justifiable choices on the focus of research, or explanations why certain sets of variables and connections are, or are not, part of the research agenda. Indeed, it may be somewhat of an effort, but we contend that this is what the research enterprise entails and deserves.

It is insufficient and even damaging to claim that health policy processes are messy; that many theories have proposed and that in publications such as the work referenced above (Allender et al., 2012), authors can then can comfortably resort to a naïve narrative that is driven by simplistic and superficial case study material. Health promotion policy process research deserves much better.

3.6 Policy Research *with* Health Promotion *with* Policy

Fafard and Cassola (2020) have argued for the interface between public health and political science because the policy research and development opportunities are potentially so incredibly rewarding. The premise – validated since the emergence of 'modern' public health and Virchow's aphorism to that extent – is that public health and medicine are inherently political. The paradigmatic foundation of the scholarly tradition in the two fields, however, has rarely overlapped. Possibly worse: many health operators would claim – with good reason – that theirs is a mere technical and value-free effort. A research and practice view that would challenge those foundations and seek to apply a power lens (‘who gets what, why and how?’) is intrinsically threatening. If anything, the COVID-19 pandemic has shown more than ever before that technical evidence on reducing transmission risk is a nice fata morgana – turning the epidemiology into behavioural and political practice requires a political science transformation of ‘the facts’. Fafard and Cassola (2020) as well as others such as Greer et al. (2017) show that there are vast, untilled and rewarding opportunities for a forging of the conceptual planes of public health/health promotion and political science. They argue for the evolution (and institutionalisation) of a (public) health political science.

Clearly there are practical if not moral and ideological barriers in turning health promotion researchers into health political scientists. Therefore, we happily embrace the perspective offered by Mykhalovskiy et al. (2019) that this is an opportunity to do health promotion *with* political science rather than *on*, *in*, or *for*. And, incidentally, do political science *with* health promotion, rather than *on*, *in*, or *for*.

What would this look like? First, we contend that both fields are vast and that the scholarly gaze can rarely be wholly comprehensive. Choices have to be made, but they need to be made accountably and responsibly. The choice of health political science theory cannot be determined by a single scholarly operator. The identification of the research issue and its problems, and the delineation of its dimensions and (spatial, temporal and cognitive) parameters should be a reflexive exercise that may take substantial time and understanding – in a team.

Second, defining the research and the appropriate gaze ought to be a matter of considerable dialectic engagement. More of this work needs to be stimulated, funded and published. A critical mass of personnel, rhetoric and sound framing of the synergy of a political lens applied to health (and health promotion) issues is required. So – following Mykhalovskiy et al. (2019), there is an ample opportunity to re-appreciate the role of health political science in health promotion research. Following the success of accreditation and standard setting, globally, in public health and health promotion it is now time to move beyond the rhetoric and test real capacity of the workforce to take on a political analysis of its challenges and opportunities. Established public health competence and accreditation mechanisms (through, e.g. APHEA[4] and CEPH[5]) and IUHPE’s positions for health promotion include a requirement of policy proficiency. Health promotion with political science will mean that we elevate this ambition from mere policy analysis (what has changed) to sophisticated policy analysis (why and how) – this is the only way the health promotion field can and must evolve.

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[4] Agency for Public Health Education Accreditation – based in Europe but with global scope.

[5] Council on Education for Public Health – covering North America.

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Chapter 4
Underlying Principles of Different Schools of Economic Thought: Consequences for Health Promotion Research

Alan Shiell, Hannah Jackson, and Penelope Hawe

Key Concepts Definitions

- *Health Economics* is ‘the application of economic theory to phenomena and problems associated with health’ (Culyer, 2005). It includes topics such as how is health produced, what determines behaviours that affect health, economic evaluation of efforts to promote health and treat disease and the organisation of health services including policy responses to the social determinants of health, all examined through the lens of economic theory and method.
- *Welfare* is ‘the quality that is taken by economists to indicate the well-being of individuals’ (Culyer, 2005) and by extension of the society of which those individuals are members.
- *Welfare Economics* is ‘the branch of economics concerned with identifying the conditions that make for a good society and identifying changes in allocations of goods and services … that are better for society’ (Culyer, 2005).

4.1 Introduction

Health promotion practitioners encounter economics everyday through terms like ‘value for money’ or ‘return on investment’. More formally, practitioners and health promotion researchers may team-up with health economists to conduct evaluations

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comparing the cost-effectiveness of different programmes. The purpose of this chapter is to show how economics is both more conservative than what you might think, and more radical, even liberating. As a discipline, economics is diverse, and as the health challenges of this century unfold, it is vital that health promotion identifies and works with those economists who best understand what the field of health promotion is striving to achieve, to ensure that its value and costs are correctly assessed.

The renowned Canadian economist, Bob Evans, captured the scope of health economics in a single question. According to Evans (1984), the role of health economics is to help determine 'how much of which sorts of resources should be spent on what sorts of health care, and for whom, when and how should that care be provided'. Evans referred specifically to health care in this definition, but only to place a practical limit around the content of the text he was writing. He included clinical prevention and health education within his definition but excluded health-related social policies such as income support, where health gain was not the primary motivation for action. For our purposes, we can readily widen the scope to include any health-promoting activity including efforts to tackle the social determinants of health, whilst sidestepping the ensuing challenges.

Part of the question posed by Evans is addressed through the application of evaluation methods such as cost-effectiveness or cost-utility analysis. These techniques quantify the relative costs and outcomes of alternative ways of treating or preventing disease and provide decision-makers with some of the information they need to determine where spending will yield the biggest impact on health (Drummond et al., 2015).

Most economic evaluation is concerned with treatment services, but there is now a sizeable evidence base reporting the cost-effectiveness of efforts to prevent disease and promote health (McDaid et al., 2015; Vos et al., 2010). The results suggest that while health promotion does not always reduce health spending overall, it does often represent good value for money: as valuable as health care, if not far better (Cohen et al., 2008). Yet despite the favourable results, health economic evaluation has not had the same influence on prevention policy as it has in health care. Criticisms of the methods employed in health economics play a part in this. But we suggest another reason, namely deep-seated differences among economists from rival schools of economic thought about the principles that ought to guide their work and the conceptualisation of what are the rightful objectives of government policy. The debate among economists would be of little general interest if it was not for the possibility that economists in Treasury and Finance departments work to a different set of principles than the typical health economist. In this case, the quality of the evidence provided by the latter is secondary. Whatever its quality, the evidence will often be dismissed as irrelevant by those with the power to shape government policy.

It is important therefore that health promotion practitioners and researchers are aware of the debates within economics and how the principles adhered to by different schools of thought shape economists' views on the value of different types of health promotion practice. No amount of additional work by health economists to refine estimates of prevention's cost-effectiveness will convince those economists who believe the fundamental assumptions underlying the work are wrong.

In this chapter, we provide a brief guide to the contested principles of economics. We start with the 'textbook' model of rational choice and then describe how different schools of thought within (health) economics address its shortcomings, before looking at the consequences these all have for health promotion.

4.2 The Foundations in Rational Choice

The starting point for almost all economic thinking is the idea of rational choice. This can be reduced to just three principles (Becker, 1992). First, people are forward looking and purposive in the decisions they make. In essence, they act *as if* to maximise something important to them. That 'something' is called their 'utility': a term whose economic meaning can be a bit obscure, but which has evolved over time to refer to the satisfaction of preferences (Stigler, 1950).

Second, preferences are 'stable and complete'. Stability means that a person's preferences do not change readily over time. Completeness means that when faced with a choice, people are always able to say which option they prefer no matter how much or how little experience they have with the objects of choice, or how comparable they are. The mainstream economist is not interested in where these preferences come from: though we will argue that they should be. The rational decision-maker comes into the world "ready-formed" (England, 1993).

The third principle assumes the existence of free and competitive markets. In economics, the term 'market' is used in an abstract sense to refer to any mechanism that facilitates the exchange of goods and services. Markets bring together consumers and suppliers of goods and services and, under text-book conditions, they are the most efficient and the most equitable way of allocating scarce resources.

One profound implication for public policy follows this depiction of rational choice. If well-informed individuals can be relied upon to maximise the satisfaction of their (well-formed) preferences subject to whatever resource constraints they face, *and* there are properly functioning markets to coordinate everyone's actions, then there is nothing that government can do to improve upon the allocation of resources generated by those markets. Indeed, government intervention will usually make people worse off since bureaucracies are not as nimble as markets at recognising and responding to individual preferences. If the three assumptions hold, then the role of public policy is limited to maintaining the circumstances that allow markets to function well, and to consider the consequences when they do not. Health care and health promotion are regarded no differently from other commodities such as clothing and cars.

The market outcome is not necessarily the one that maximises health. Instead, the level of health results from people maximising their utility, even if their health is deficient in some sense. This reasoning explains why some economists assert that the prevalence of disease can be 'optimal'. It is the outcome of the rational decisions people make in relation to the prices they face in the market. For example, calories are now cheap, especially relative to the 'price' of people's time, and so people eat more (and eat more processed food) and exercise less. The consequent level of obesity is therefore optimal (Philipson & Posner, 2008). Indeed, the logic of rational choice economics dictates that it must be this way. If people really did prefer to be healthier and not so fat, then they would choose to behave in a different way! In mainstream economics, what one values is revealed in what one chooses to do, and the health outcome is simply an indication of these values and choices.

4.3 From Positive to Normative Economics: Welfarism Versus Extra-Welfarism

Yet, markets rarely work in the idealised way one finds in textbooks, and this is especially true when it comes to health and health care (Roemer, 1982). Instead, governments step in to correct instances where markets are unable to operate in the way that maximises individual utility. For instance, some governments mandate insurance to protect people against unpredictable and often catastrophic costs of health care. They prohibit competition among physicians to prevent doctors exploiting the superior information they have over a patient's need for health care. They subsidise services like vaccination where the market would provide too little, and they regulate behaviours, like smoking and drinking, where, left to its own devices, the market would provide too much. In many countries, a strong ethical imperative has led to health services, including clinical prevention, being largely removed from the market, and replaced with public funding to ensure people have access to services based on their need, not their willingness to pay. Likewise, many states have developed social policies to influence the distribution of health-related resources such as housing, income and education, to insure at least a minimal degree of access to all.

If government does supplant the market in allocating resources in health and health care, then we need to make explicit the principles or criteria that prescribe what governments can do, and what they should achieve. There are two approaches to this normative question in health economics. The first is that government should strive to achieve the outcome that the perfect market system would achieve were it able to, and so one looks at the effect that policy would have on individual utilities. This perspective is known as *welfarism* (Sen, 1979). It can be contrasted with the second approach, and the stance taken by many health economists: that of *extra-welfarism*, which takes the view that policy ought to consider a broader set of outcomes, beyond individual utility (Culyer, 1989).

Extra-welfarism differs from welfarism in at least four ways (Brouwer et al., 2008): (i) it enables policy to be based on outcomes other than individual utility; (ii) it allows the values of people other than those directly affected by their use of health services to be considered; (iii) it permits outcomes to be weighted in ways that do not rely solely on individual preferences and (iv) it allows inter-personal comparisons of well-being. Space prevents us unpacking these differences but suffice to say that utility is the subjective sense of satisfaction that someone gets from the goods they consume, and this need not bear any relationship to any objective change in how healthy a person is, or how well-nourished, or how well-housed. Extra-welfarism allows us to consider the impact that policies and services have on health, and other important outcomes, directly, irrespective of their effects on individual utility. We measure the health impact of interventions, through metrics such as quality-adjusted life-years, though broader measures of well-being, based on capabilities, are also being developed (Coast et al., 2008; Lorgelly et al., 2015). We can then judge whether health or well-being has improved because of intervention, and if it is improving more in population groups deemed to be more in need or more worthy of support, on grounds of equity.

There is also an important ethical difference between welfarism and extra-welfarism. The former assumes that the individual is the best judge of their own well-being. The latter is comfortable with a degree of paternalism, and is willing to over-ride individual preferences, if it is deemed to be in the person's own interests or in the interests of members of the society to which the individual belongs. Who gets to decide when an individual's preferences get set aside? Culyer (2008) asserts that responsibility for this decision is vested in 'someone other than the economist who possesses (usually through a political process) the ethical authority to stipulate the objective of any system, of which the health system in a jurisdiction is but one'.

4.4 Preference Formation: Scope for a New Heterodox Health Economics

One reason why an individual's utility may not reflect any objective assessment of their well-being is the tendency for people to adjust their desires and adapt their preferences to fit their economic and social circumstances (Nussbaum, 2000; Sen, 1999). This means that preferences are neither stable nor complete.

Health economists from both the welfarist and extra-welfarist schools have tended not to question the assumption that preferences are ready formed (see Ryan and San Miguel (2003) and Shiell et al. (2000) for exceptions). This is left to other schools of economic thought, including institutional, evolutionary, feminist and Marxist economics: which are all examples of heterodox economics (Lawson, 2006). More things distinguish these schools than unite them, but they share a rejection of the methodological individualism that characterises mainstream economics (Davis, 2009), and each acknowledges the socially embedded nature of human behaviour, and the contextual, socially conditioned, basis for our preferences (Urbina & Ruiz-Villaverde, 2019).

Rather than coming 'pre-formed', heterodox economists recognise that a person's preferences are the outcome of a range of inter-related factors including their upbringing, their interactions with others, the influence of social, cultural, environmental, political and economic factors and the lasting footprint of history. Structural inequalities in childhood cast a long shadow forward, contributing to gradients in adult health directly and through the effect they have on the expectations, aspirations and thence the preferences that the child takes into adulthood (Hertzman, 1999). Paraphrasing Marx, people shape their destiny in the choices that they make, but not in circumstances of their choosing (Marx & de Leon, 1914). Mainstream economics and its welfarist derivatives privilege the exercise of choice, and do not question the constraints people face. Heterodox economics calls out as unfair the social patterning of those constraints and the subsequent impact they have on how that person thinks and acts.

Adaptive preferences are reversible (Teschl & Comin, 2005), and education is key to achieving this (Watts et al., 2008). Health promotion too plays a part through community development and empowerment education (Wallerstein & Bernstein, 1988). Even if this does not improve a person's social and economic circumstances, it can help generate the resources they need to resist succumbing to adaptive preferences (like becoming a smoker), and to exercise some control over the forces that affect their lives.

4.5 Implications for Health Promotion and Health Promotion Research

We started our trek through economics with a look at the principles underpinning *rational choice and free market economics*. This model is an ideal type that serves as a point of reference against which other, more practical, approaches might be assessed. We looked at both *welfarism*, which models itself on rational choice and seeks to achieve the outcomes that free markets would secure if they could (i.e. maximising individual utility), and *extra-welfarism*, which expands the space in which we ought to evaluate policy to include considerations other than utility (such as a person's health state or the values and preferences of people other than the person using a health service). Finally, we considered how *heterodox economics* challenges the mainstream assumption that a person's preferences are well-formed, which undermines the basis for assuming that utility maximisation is a good guide for health-related policy.

Each economic approach has quite different implications for health promotion practice. In the pure free-market view of the world, there is no role for public policy beyond maintaining the conditions that enable markets to perform in the text-book way. Private providers can be relied upon to meet any individual demand for health promotion. Health economic evaluation is redundant since the price mechanism identifies the activities that generate the most benefit and does so more efficiently.

In the welfarist view of the world, markets cannot always be relied upon to allocate resources efficiently. Government intervention may be warranted but only to correct specific examples of market failure. In prevention, action is limited to insisting that certain information is provided (e.g. food labelling) or in responding to instances where one person's choices have consequences for others, perhaps by subsidising vaccination or criminalising drunk driving or regulating where people can smoke to prevent secondary exposure. Nudging, which is a response to the cognitive difficulties people have processing unfamiliar choices (Thaler & Sunstein, 2008), may also be acceptable, though some economists worry that even this is too paternalistic (Mitchell, 2005).

Policy should aim to get as close as possible to the outcomes that a perfectly functioning market would otherwise have achieved – namely the maximisation of utility. Cost-benefit analysis is the preferred economic evaluation technique, based on individual willingness to pay.

With extra-welfarism, essentially any health-promoting intervention can be justified if it is effective and consistent with the objectives of those responsible for managing the health system. This includes any response to market failure that would be supported by the welfarist economist, and nudging, and more besides.

Priority is given to actions that meet stated objectives at least cost. Cost-utility analysis (CUA) is the preferred means of evaluation, though cost-effectiveness analysis (CEA) is acceptable. Both however, perpetuate the myth that health is all that is important in the extra-welfarist approach since typically health is all that is measured (see Coast (2009) for a discussion). In theory, cost-benefit analysis can cope better with the wider array of benefits that extra-welfarism sweeps into the evaluative space, but it is looked upon with suspicion partly because of the distributional issues associated with its reliance on willingness to pay. However, this objection conveniently overlooks the claim that the same distributional concerns affect the values used in CUA (Donaldson et al., 2002).

Our foray into heterodox economics elevated concerns with inequity and powerlessness, the socially embedded nature of preferences and the politics (rather than the technical aspects) of resource allocation. Health economics has struggled to embrace such considerations, and current evaluation methods may misrepresent the nature and the value of community development and empowerment initiatives designed specifically to address inequality (Shiell & Hawe, 1996). Heterodox economics is more sympathetic to the values that inform these health promotion approaches but, examples of heterodox thinking in health economics are rare despite it being seen as an ideal candidate for 'heterodox dissent' (Blaug, 1998). Early examples include the work of Jan (2000); Mooney (2005); Mansdotter (2006) and Hodgson (2008), but none focus on the challenge of economic evaluation. There have been calls for a broader application of heterodox approaches in health economics (McMaster, 2007), which we support. The effort of the editors of this volume to structure an inter-disciplinary field of health promotion research is an important step along the road.

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Chapter 5
Critical Realism for Health Promotion Evaluation

Sarah Louart and Valéry Ridde

Key Concepts Definitions (when used within a realistic approach)

- *Programme theory*: 'The underlying assumptions about how an intervention is meant to work and what impacts it is expected to have' (Pawson et al., 2005)
- *Middle-range theories*: 'The level of theoretical abstraction that allows for the explanation of patterns and regularities in the context-mechanism-effect interactions of a set of interventions' (Ridde et al., 2012)
- *Context*: 'Contexts do not refer to places, people, time or institutions per se, but to the social relationships, rules, norms and expectations that constitute them, as well as the resources available (or not).' (The RAMESES II Project 2017). In realist research, contexts should not be analysed as a separate entity but should be thought of in relation to particular mechanism(s) (Greenhalgh and Manzano 2021)
- *Mechanism*: 'An element of reasoning and reactions of (an) individual or collective agent(s) in regard to the resources available in a given context to bring about changes through the implementation of an intervention' (Lacouture et al., 2015)

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5.1 Introduction

While there are many health promotion interventions, the outcomes observed are not always those expected. Furthermore, even if an intervention produces positive effects, the same health promotion intervention may not work at all if implemented in another context. Understanding and explaining these phenomena requires going beyond the classic evaluative question ‘does the intervention work’, to open the ‘black box’ of the intervention and of the conditions of its implementation. Carrying out a realist evaluation for health promotion intervention can be crucial to reach this deeper level of understanding. A realist evaluation will allow to apprehend interventions in all their complexity, and to enhance understanding of how an intervention works (by which mechanisms) and the necessary conditions for such effects to be observed (in which contexts). Providing such an understanding of health promotion intervention helps inform policy makers, NGOs, practitioners, intervention participants and the public in general.

In this chapter, we will first return to the main principles of critical realism, then present the specificities of the realistic approach to health promotion intervention evaluation. We will then apply it to a case study of a health promotion intervention in West Africa and present some of the opportunities and challenges associated with the use of this approach.

5.2 Critical Realism

Critical realism is a school of thought associated with Roy Bhaskar’s writings, notably in his book A Realist Theory of Science (1975). Bhaskar’s objective is to provide a new philosophy of science based on a clear distinction between epistemology and ontology in order to avoid falling into what he calls epistemic fallacy (non-distinction between ‘knowledge’ and ‘being’). He proposes a new ontology, that is, an argument that aims to answer the question ‘what must the world be like for science to be possible?’ (Bhaskar, 1975). He starts from the idea that critical realism could make it possible to overcome the weaknesses of both Hume’s classical empiricism and Kant’s transcendental idealism by proposing an alternative philosophy of science.

Bhaskar first advances that reality is stratified into three domains: (i) the real, i.e. the structures, powers and mechanisms (which he defines as ‘the ways of acting of things’) that have the potential to produce everything that exists, all the phenomena of the world; (ii) the actual, i.e. all the phenomena that occur when powers and mechanisms are activated, whether they are experienced or not and finally (iii) the empirical, i.e. all the phenomena that are experienced by humans. There is therefore a gap between what is experienced (empirical), what really exists (actual) and everything that could potentially exist (real). This is one of the main differences between critical realism and other philosophies of science such as positivism, which often reduces reality only to what is experienced.

Critical realism then considers two dimensions of knowledge: (i) the transitive dimension, which relates to the socially produced theories that exist (previously established scientific knowledge) and (ii) the intransitive dimension, which refers to the structures, mechanisms and processes, capable of producing all the potentialities of the world. The latter dimension exists and acts independently of human beings and their knowledge of it. The objective of science, from a critical realist perspective, is then to formulate theories that will be possibly incomplete, inaccurate or limited, in an attempt to understand this intransitive dimension of knowledge (Bergin et al., 2008). The objective of scientific discovery is thus to produce new or strengthened knowledge, based on empirical observations, about the mechanisms behind the realisation of the world's phenomena. 'Law-statements' are then based on the observation of the effects produced by the triggering of mechanisms and are theories that aim to identify these mechanisms and elucidate the way they act; they are 'statements about the ways things act in the world' (Bhaskar, 1975). Through a process of abduction (phase of theorising to generate hypotheses to explain a particular phenomenon) and retroduction (phase of reflection on the necessary contextual conditions which must be, for the particular phenomenon to exist as it does) (Ritz 2020); of back and forth between theory and empirical data, empirical material is redefined by mobilising theoretical concepts and theories are confronted with empirical data in order to be supported, modified or refuted. At the centre of each theory is the conception of the tendency of a mechanism or a structure belonging to the domain of the real and whose activation has, directly or not, produced effects in the empirical domain. Critical realism is thus based on a vision of causality that is generative (a mechanism is triggered and can generate a relation between A and B) and not successionist (A induces B). Finally, these 'laws' or 'tendencies' have an explanatory but not predictive aim and are context-dependent. The key question for researchers who want to conduct research based on the principles of critical realism is therefore: how do certain causal mechanisms operating in particular circumstances create certain changes? (Wilson & McCormack, 2006).

5.3 Realistic Evaluation

Based on the principles of critical realism, a particular approach to programme evaluation was introduced by Pawson and Tilley (1997). The idea is to go beyond simply answering the question 'does the intervention work or not?' but instead to try to understand how the intervention works or does not work, for whom, why and in what specific contexts. The purpose is to be able to formulate 'a theory of why an intervention may be effective and a theory of the conditions which promote this potential' (Pawson & Tilley, 1997). The objective is to 'unpack the black boxes' of interventions by elucidating how the components of a programme interact with each other and with the context. This approach and its ontological premises enable an understanding of the complexity of the open social systems in which the interventions take place and the social causalities that they can generate. It therefore makes it possible to take into account the complexity of health promotion actions.

Realistic evaluation, as advocated by critical realism, is therefore deeply rooted in theory. It begins with a programme theory and ends with the formulation of a middle-range theory (Merton, 1968) that allows to go up into abstraction and propose an explanation of the regularities observed during the occurrence of a certain type of mechanism. To do this, researchers can rely both on existing theoretical proposals (see Box 5.1) and on empirically collected data. Realistic evaluation is not based on a single type of data collection method; it is not a research technique but a 'logic of inquiry' (Pawson & Tilley, 2004).

The starting point for a realistic evaluation is the formulation of programme theory, i.e. 'the underlying assumptions about how an intervention is meant to work and what impacts it is expected to have' (Pawson et al., 2005). In order to establish this initial theory, it is often necessary to conduct both a programme document review and realistic interviews (see Box 5.2) with the designers of the intervention. This theory of intervention will then be tested and redefined against the empirical data. Indeed, interventions are social systems, they are theories (they are based on hypotheses about what is supposed to produce an effect), capable of transformation and taking place within a social system. The objective is then to investigate whether the pre-existing social structures facilitate and enable or not the activation of

Box 5.1 The Realistic Review

A realistic review can provide valuable insights to help build or test the theories behind a realistic evaluation. Conducting a realistic review is not a mandatory step in conducting a realistic evaluation, as the time and resources to do so may be lacking and the necessary grounding through theories and prior knowledge can be obtained through other means (discussions with stakeholders, standard literature review, use of suitable existing frameworks, etc.). However, the realistic review method is particularly suited to the needs of a realist evaluation and can sometimes be absolutely key at certain stages such as constructing the theory of the intervention, testing initial theories or finalising middle-range theory.

The method for conducting a realistic review differs from other types of reviews, particularly since it focusses primarily on explanation rather than judgement of the success of intervention. It is based more on the search for evidence about a type of mechanism, i.e. a particular theory, rather than a family of interventions. The idea is to provide 'findings that are theoretically transferable; ideas ('theories') that can be tested in different contexts, with different stakeholders.' (Rycroft-Malone et al., 2012). In terms of methods, a realistic review follows some of the steps of standard systematic reviews but differs in some respects: high involvement of stakeholders, theoretically driven search for evidence, inclusion of multiple types of information and evidence, iterative process, aim to formulate theories about why and in what ways the intervention works (or not) (Rycroft-Malone et al., 2012). Key steps to realise a realist review are summarised by Pawson et al. (2005).

Box 5.2 The Realistic Interview

Pawson (1996) argues that interviews can be used not only to glean information about an intervention and its effects, but also particularly to generate and challenge (for validation, modification or refutation) the theories formulated in the realistic programme evaluation. The interviewer must arrive with all his or her knowledge about the intervention and orient the conversation in order to question the interviewees about their experiences to confront them with his or her ideas and hypotheses about the programme: 'The subject matter of the interview is the researcher's theory and interviewers are there to confirm, falsify and, basically, refine the theory' (Manzano, 2016). Pawson and Tilley (1997) recommend interviewing different types of respondents depending on their 'CMO investigation potential'. For example, when formulating and testing programme theory, intervention designers can be valuable informants, particularly in understanding the mechanisms underlying the intervention. However, when investigating the effects of the intervention, the expected 'beneficiaries' will often be the main source of information. Manzano (2016) proposes a three-phase process of theoretical confrontation to guide the construction of interviews: theory gleaning (formulation of the initial theory of the programme), theory refinement (reflection on the initial theory of the programme) and theory consolidation (reflections on specific elements of an already consolidated theory).

mechanisms of change. The realistic approach to evaluation is based on the idea that it is not an intervention that works and produces effects directly. Interventions offer new resources that may or may not produce (expected or unexpected) effects, depending on participants' reactions. To analyse this, Pawson and Tilley (1997) proposed a conceptual tool: the CMO configuration (context – mechanism – outcome). The objective of researchers using this approach is to identify regularities in order to model the different configurations between mechanisms, contexts and outcomes. These configurations can be tested and redefined according to empirical observations, in order to choose between several explanatory propositions and formulate the final middle-range theory.

A mechanism can be defined as 'an element of reasoning and reactions of (an) individual or collective agent(s) in regard to the resources available in a given context to bring about changes through the implementation of an intervention' (Lacouture et al., 2015). The context is analysed as the set of rules, norms, values and social relations that prevail in the intervention. It is this contextualisation of mechanisms that influences whether or not their causal potential is transformed into an effect (Pawson & Tilley, 1997). Thus, 'programmes work (have successful 'outcomes') only in so far as they introduce the appropriate ideas and opportunities ('mechanisms') to groups in the appropriate social and cultural conditions ('contexts')' (Pawson & Tilley, 1997). These CMO configurations can be complemented by other concepts, but these must be carefully explained, and the configurations must be based on generative causality in order to respect the principles of critical realism (De Weger et al., 2020).

5.4 Case Study in West Africa: The AIRE Project

The AIRE project is being implemented by a consortium led by the NGO ALIMA. It is financed by Unitaid and aims to introduce a medical innovation, pulse oximeters, in primary health centres in two districts of four West African countries (Burkina Faso, Guinea, Mali, Niger), in order to improve the diagnosis and treatment of children under 5 years of age. These tools make it possible to detect severe cases (leading to respiratory distress) of numerous diseases, and thus to identify the need to refer children to hospitals to receive adequate care, particularly oxygen. This intervention is based on the lack of diagnostic capacity in primary health centres, which plays an important role in the high infant mortality rates that still persist in these countries (UN Inter-agency Group for Child Mortality Estimation, 2020). The objective of the project is to orient patients according to their needs, based on a holistic approach linked to directly observed needs (need for oxygenation, regardless of the disease cause) rather than a disease-specific approach, and to strengthen the relationships between the different levels of care (improving referral systems from primary health centres to hospitals and strengthening the oxygen therapy capacities of district hospitals). To do so, the intervention aimed at improving the identification of danger signs (as defined by the Integrated Management of Childhood Illness guidelines) in children at the community level in order to improve case management at the community level and their initial referral to primary health centres. It also has a component related to strengthening the individual capacities of health professionals in primary care (reminder on case management procedures, training on the use of pulse oximeters during consultations, etc.) in order to better integrate primary care within the health systems. These actions are in line with the reorientation of health care services promoted in accordance with the Ottawa Charter for Health Promotion (World Health Organisation 1986).

Over and above introducing a new tool, the AIRE project can be described as complex. It involves many stakeholders, organises numerous activities at different levels; it is implemented in different contexts and can be largely influenced by events outside the intervention, particularly in these countries which are suffering from a lot of instability. Thus, a realistic evaluation seems the most appropriate. We have also chosen to mobilise a realistic approach because it is deeply rooted in theory and makes it possible to produce knowledge in order to best inform, political decision-makers in view of scaling up the intervention.

Moreover, its anchoring in theory will allow us to reflect, based on the existing literature, on conceptual frameworks that we will be able to test in the setting of the AIRE project and that could potentially be used in other contexts. For example, we have hypothesised that one of the mechanisms that could directly influence the effects of the intervention is the acceptability of the innovation introduced. We therefore carried out a scoping review (Arksey & O'Malley, 2005) on the acceptability of medical innovations in sub-Saharan Africa, trying to understand how this acceptability was measured, but also what its determinants are. We are therefore in the process of producing a conceptual framework on the acceptability of health innovations, which we will be able to formulate in the form of theories to be tested within the AIRE project.

We will also draw on analytical frameworks found in the literature on the introduction of health technologies. We will rely for example on the framework of Greenhalgh and collaborators (2017), which aims to theorise and evaluate the non-adoption, abandonment and challenges of scaling up, spread and sustainability of health and care technologies. We will also feed our analysis with previous realistic work on the introduction of pulse oximeters and oxygen therapy in hospitals (Graham et al., 2018). All this knowledge and theories from the literature will allow us to formulate theoretical hypotheses that will then be empirically tested. To do so, we plan to rely on a wide range of data collection methods in order to produce robust analyses.

To build the initial programme theory, we will interview the programme designers as well as the coordination teams at the different levels of implementation. To measure the outcomes of the intervention, quantitative data collection methods will be mobilised to document the children's rates of referral to hospitals, children mortality, their health status, the level of acceptability of the tool by health professionals and caregivers, etc. Then, we will use qualitative data (field observations, realistic interviews with the children‘s caregivers, health professionals, people from the community or health centres involved in the intervention, etc.) to test and consolidate the hypotheses and theories that we will have previously formulated using the theoretical frameworks that we wish to mobilise and the first interviews with the implementation teams. This multitude of data sources, which will be collected in each of the four project countries, should enable us to feed into our realistic evaluation and to formulate a final middle-range theory that is as refined as possible.

5.5 Opportunities and Challenges of Using a Realistic Approach in Health Promotion

Mobilising a realistic approach for health promotion research has many benefits. Unlike other approaches, this approach makes it possible to understand the complexity of interventions (Duncan et al., 2018), as well as to take into account their outcome variations according to different contexts. It also makes it possible to provide a more adequate explanatory framework for understanding the reality of the social world as well as how these mechanisms interact with the people involved in interventions (Connelly, 2001). Moreover, the realistic approach allows to move away from a biomedical vision of health research that still too often prevails. It also encourages interdisciplinarity and collaborations between researchers and the mobilisation of a wide range of research methods (Walsh & Evans, 2014). Finally, certain structures or mechanisms such as racism or patriarchy are not 'real' in the sense of possessing materiality but are real because they have the power to shape empirical phenomena. Critical realism can then contribute to promote a construction of knowledge as power, by supporting an emancipatory approach to individuals, through the exposure of social mechanisms or structures that may be oppressive to an individual or group of individuals and whose discovery could enable action towards them (Walsh & Evans, 2014). This is consistent with the objective of strengthening community actions through a process of empowerment promoted by the Ottawa Charter (World Health Organisation 1986).

However, mobilising such an approach to conduct research projects in health promotion also raises many challenges. First, in many realistic evaluations, authors explain mobilising an approach based on critical realism, but provide very little detail about how and why they used this approach, and how it informed their data collection and analysis (Fletcher, 2017). This may be explained by journal publication policies that do not encourage giving details about the approach mobilised. As a result, few published articles clearly articulate the approach mobilised to the research process and/or results (Schiller, 2016), which makes it difficult to replicate the methods or develop a critical perspective on the studies. This can lead to difficulties for other researchers to operationalise the approach. Indeed, Pawson and Manzano-Santaella (2012) list a number of frequent mistakes made by those who undertake a research project based on the principles of critical realism. These are notably the lack of an explanatory approach (the essential purpose of a realistic evaluation is not to simply present the outcomes of an intervention, but to provide a theory to explain those outcomes), the mobilisation of a single data collection method and failure to construct CMO configurations (for a single intervention, there may be a multitude of C, M and O elements, which can make it difficult to identify causal dynamics between them).

Moreover, in order to best realise its explanatory potential, the realistic approach needs to be based on existing knowledge about a family of mechanisms; knowledge that can be derived, for example, from a realistic review. However, this necessary anchoring in pre-existing theories can be difficult for several reasons. First, there is often little context-related data in published articles. Also, there may be no similar interventions described in the literature. Scientific articles about a single intervention may also be fragmented (e.g. there may be an article on process evaluation, another on impact assessment, etc.), which can make it difficult to analyse the intervention as a whole (Ridde et al., 2012).

All these elements, as well as the time required to understand the realistic approach (difficulty in grasping complex concepts such as mechanism), which has a fairly high ‘entry cost’ and which requires a long time make using realistic evaluation challenging. For example, data collection tools must be submitted to ethics committees prior their use, while data collection should be evolutionary and iterative. In realistic interviews for example, the questions asked evolve throughout the evaluation based on research into theories and empirical testing of initial theoretical hypotheses. Operational partners, donors, scientific committees, ethics committees, etc., may also have difficulty understanding the approach, integrating it into their practices and participating in it (Robert & Ridde, 2020). We have summarised some advantages and challenges of realistic evaluation for health promotion research in Table 5.1.

Table 5.1 Advantages and challenges of realist evaluation for health promotion research

Advantages	Challenges
Taking into account the complexity of health promotion interventions and the social world in which they take place Involving stakeholders and encouraging collaborations between researchers and operational partners Anchoring in theory Providing appropriate and tailored recommendations to policy makers (understanding of how to adapt interventions to new context or how to tailor programmes to local context) Transferability of the produced evidence Enabling explanation of multiple processes and outcomes Highlighting the unintended consequences of intervention More explicit and in-depth understanding of health promotion interventions and of the context in which they take place Encouraging interdisciplinarity and the use of mixed methods	Difficult to master the approach and to explain it to lay people Time consuming Need to clearly explain to sponsors what realist evaluation can and cannot do (to avoid unrealistic expectations) Difficult to explore and test all possible C-M-O configurations Understanding of the approach by key stakeholders or collaborators (operational partners, donors, scientific committees, ethics committees) Some key concepts of the approach are subject to varying interpretations (e.g. mechanism and context are sometimes confused) Difficulties in operationalising the approach (lack of guidance at certain step)

We have seen that the mobilisation of this approach is often scientifically relevant for analysing health promotion intervention and would make it possible to put research and theories at the heart of interventions in order to produce the most useful knowledge possible for policy makers. However, it is necessary to document the challenges related to the use of this approach in order to try to develop adequate solutions. In particular, it is necessary to act both for the democratisation and popularisation of this evaluation approach among field actors; and also, on the research side, to systematically document the processes followed, for example by adhering to reporting standards for this type of evaluation (e.g. see Wong et al. 2016), and to inform on the challenges encountered in mobilising this approach.

5.6 Conclusion

In this chapter, we have seen how the realist approach can contribute to health promotion research, in particular through its grounding in theory, its consideration of complexity and its particular attention given to contexts. By focusing its attention on what is usually less explored, especially the mechanisms by which the resources disseminated by the interventions can produce effects, the realist approach has the potential to change the perspective of both health promotion evaluation practices and research. In particular, we can underline two key research principles supported by the realist approach which can help to improve health promotion research practices: the importance of encouraging interdisciplinarity and the multiplication of investigation methods (to reach the deepest level of understanding and analysis) and the idea of cumulativity and transferability of knowledge (research results should not be generalised to all contexts but seen as informative and a basis for decision-making).

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Chapter 6

Empowerment in Health Promotion of Marginalised Groups: The Use of Paulo Freire's Theoretical Approach and Community-Based Participatory Research for Health Equity

Andrea Rodriguez and Nilza Rogeria de Andrade Nunes

Key Concepts Definitions

- *Critical dialogue* helps to form critical consciousness and critical attitude for action. It is a key element to question social structures that (re) produce health inequities. Based on people's universe and the factors affecting their existence, critical dialogue for Freire produces critical knowledge that will create more effective forms of resistance and intervention in the world (Freire, 1974).
- *Participation* based in Freire's approach prioritises research 'with' and 'for' people. This means research committed to respond to current problems in society. Effective participation and social change require critical thinking (Freire, 1974, 1996). This can be achieved through participatory methodologies, deep engagement of participants and interdisciplinary collaboration.
- *Empowerment Education* proposed in Freire's theory is an effective education model that promotes personal and social change through participation in group action and critical dialogue. It involves people's efforts to enhance control over their lives by identifying their problems and critically thinking about its social and historical causes to develop strategies towards a healthier society (Wallerstein & Bernstein, 1988).

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6.1 Addressing the Needs of Groups Living in Situation of Vulnerability

Research approaches and methods are specific procedures for designing research processes and for collecting and analysing research data. The methodological choices in doing research should be aligned with the researcher world's views and values as it will become integral part of his/her personal and professional identity. The health promotion of voiceless and marginalised groups such as those affected by poverty, social exclusion and homelessness need to be a priority if we want to reduce health inequities and inequalities in society. In the attempt to build strong links with these groups to implement change and improve contexts of vulnerability is important to engage in critical research programmes that are oriented towards community empowerment and participation (Simpson & Freeman, 2004; Wallerstein, 2002; Wallerstein & Bernstein, 1988).

The understanding of health promotion as the process of enabling people to increase control over their lives, and to participate in decisions to improve their own health (WHO, 1986), places social justice as a fundamental condition for this (WHO, 2008). Thus, health promotion research must be guided by critical reflection on social structures that influence people's health with the identification of their health needs and aspirations. Freire's theoretical approach for an empowering education can be an avenue for personal and social change as it is committed to create an equal society with focus on the disadvantaged groups and communities (Ledwith, 2016). Such a process requires the direct involvement of individuals and communities in the achievement of change, combined with political action towards the creation of an environment promising to health. In addition, community-based participatory research (CBPR) seeks to create more opportunities in which people who have historically experienced oppression and lack of power can feel comfortable and safe to raise their voices on issues that are affecting their lives; Discovering and expanding their own knowledge towards the elimination of inequities. Although the most effective way to promote health and decrease health inequities is by creating fair economic, social and political conditions for all, practical strategies in which practitioners and researchers can work with communities to address poverty, stigma and lack of social participation need to be more explored (Wiggins, 2011). This chapter sustains that participatory research processes using Freire's critical pedagogy can be a vehicle for this.

6.2 Paulo's Freire Approach to Enhance Empowerment, Participation and co-Production of Health Knowledge

Paulo Freire's key concepts are perceived as foundation to any practice that has a social justice intention (Ledwith, 2016). Paulo Freire (1974) developed a popular education movement in the 1960s, in Brazil, to address a massive illiteracy in the northeast of this country. From 1962, his method was spread in all Brazilian states to reach two million of illiterates living in the most deprived regions (Paulo Freire Institute). Paulo Freire's educational approach is more than a method, it is an orientation connected to his view of the world, and his commitment to an education that must be liberating, capable of encouraging critical thinking and critical participation to intervene in different contexts (Freire, 1974). However, with the military coup in Brazil in 1964, Freire was forced into exile as the new regime considered his ideas to be subversive. Despite the Government attempts to silence Freire, his work continued to be disseminated in other countries of Latin America, Europe and in the USA, even after his death in 1997. Freire's principles of popular education and critical pedagogy have been widely used for diverse disciplines, beyond education, including health and social sciences.

Research evidence shown the potential of Freire's critical pedagogy to enhance empowerment and improve health of vulnerable and stigmatised groups (Wiggins, 2011; Wallerstein & Bernstein, 1988). The use of critical pedagogy in health promotion research has been associated with health behaviour change on several health-related factors (Wiggins, 2011). However, Freire's approach substantially extends traditional health education's emphasis on people's responsibility for their own health decisions. This dialogic approach allows for the co-creation of a new health knowledge when participants are encouraged to bring their own health definitions and experiences to achieve critical understanding about their realities (Rodriguez et al., 2019). As the impact of socioeconomic factors such as income, wealth and education are the fundamental causes of a wide range of health outcomes, Freire promoted a type of knowledge that did not come from experts passing their information into a passive audience. His focus was on the collective knowledge that emerged from a group sharing experiences and understanding on their daily lives. Instead, the emphasis and blame just on the individual health-risk behaviour, the socio-economic influences affecting his individual and societal live are linked and equally explored.

6.3 What Are the Fundamental Elements and the Key References of the Proposed Approach?

Critical pedagogy is a theory and practice that have critical dialogue and critical attitude as key elements to question social structures that (re) produce inequities (Freire, 1974). Freire's central premise is that education is not neutral and takes place in the context of peoples' lives. A critical consciousness integrated with people's realities and aspirations will form the basis of actions for change. Without a critical consciousness, according to Freire, individuals are not able to integrate themselves into a society marked by intense contradictions and power relations. They need opportunities to participate and make their own decisions reflecting on their responsibilities, and their roles in terms of social transformation (Freire, 1974, 1996). In doing this, the groups perceived as 'voiceless and powerless' would increase capacity for choice towards social justice, instead of remaining passive to the life events. When individuals begin to see themselves and their society from their own perspective, they become aware of their own potentialities: '*Society now reveals itself as something unfinished, not as something inexorably given; it has become a challenge rather than a hopeless limitation*' (Freire, 1974 p. 10).

Critical consciousness on the personal, social, economic and political factors that directly affect peoples' lives and health can be translated into a critical knowledge that will create more effective forms of resistance and intervention in the world. The formation of a critical consciousness based in the participant's universe, leads them to question structures of domination, power and social injustice. Therefore, research activities aiming to achieve meaningful understanding of wider health issues, can generate situations of collective reflection leading to social change, ethical and political positioning. This involves the creation of opportunities for individuals, groups and communities to feel comfortable and safe to elect what is relevant to their health-related discussion and debate.

6.3.1 Core Values for Participation and Social Change: The Freire Approach

The learnings from previous research and a knowledge exchange programme on youth homelessness using Freire's approach and CBPR (Rodriguez et al., 2019, 2020a, b) highlighted the following principles:

- Research impact

Research that is committed to respond to current problems in society is committed to impact on people's lives. The use of critical pedagogy of Paulo Freire in research processes can improve understanding of the links between health, poverty and health care systems for priority groups such as ethnic minorities, homelessness, people in prison, women victims of violence, people with disabilities, among others. It can also act to stimulate critical reflection towards a critical spirit for changing structures that (re) produce abrupt social inequalities/inequities.

- Deeper understanding of life contexts – listening people and communities

It starts from the assumption that if we want to be more effective as researchers and agents of social change (Freire, 1974), while doing research, teaching, or managing a health promotion service, we must be able to deep understand the context in which people are living. Otherwise, we will not create the best opportunities to listen their felt issues or themes. A wider investigation of the cultural context in which the health promotion debate is embedded is required during all stages of the research, as this context 'meaning' is not something easily exposed or accessible through academic studies. In a Freirean approach, the listening stage with community members is a continual process involving all research phases. It is conducted through an equal partnership with community members to identify problems, determine priorities and tailor programmes to local needs (Wallerstein & Bernstein, 1988).

My work experience in Brazil at third sector (Fernandes & Rodriguez, 2009, 2015) highlighted how this deep understanding is a core element for practitioners and researchers interested to work with vulnerable groups. This represents a strong foundation to further trust building relationship with participants, enabling engagement and knowledge construction. Other authors confirmed that health promotion programmes are likely to be most effective when researchers are sensitive to local social and political realities, and when they are embedded within appropriate theoretical, pedagogical and cultural frameworks (Simpson & Freeman, 2004).

- Co-creation of knowledge – Empowerment education

The critical pedagogy approach, as others approaches in Social Psychology (Moscovici, 1998) and Geography (Van Blerk & Kesby, 2013) supports the belief that there are different types of knowledge. Local communities and people can identify their own health needs and joint solutions to achieve a better life using the knowledge from experience. Thus, all people are experts on their lives, there is no hierarchies of knowledge, and everyone should be able to express their needs and opinions when safe opportunities are created to listen their voices. In practical terms, when substantial time is reserved to interact with research participants, before the research starts, during and after, and in their own territory. There is the development of a trust, that is more likely to last. From this meaningful interaction, a co-created knowledge that is collective, diverse and inclusive can flourish. Collective because we are working ‘for’ and ‘with’ people, diverse because we need to involve different people from different backgrounds, especially those with lived experience on the issues we want to address and inclusive because the way we are going to involve them should be based on their own terms and not in ours.

- Critical thinking, participation and interdisciplinary collaboration

We must develop research ‘with’ and ‘for’ people. A research based in Freire’s approach prioritises critical thinking, participatory methodologies, deep involvement of participants and interdisciplinary collaboration. Therefore, health promotion interventions in community settings should be made not only for the people, but also by the people. Effective participation and social change require people to engage in a process of self-reflection, self-discovery and consequent transformation (Wiggins, 2011).

However, critical thinking about issues does not occur spontaneously. Wallerstein and Bernstein (1988) presented 5-step questioning strategy to move discussion from the personal to the social analysis and action level. Following these steps, people are asked to (1) describe what they see and feel within their life contexts; (2) as a group, define the many levels of the problem they want to resolve; (3) share similar experiences from their lives; (4) question why this problem exists and (5) develop action plans to address the problem. This process recognises that despite social justice in health is a complex challenge in society, with no immediate solutions, this can be a nurturing way to explore possibilities of action. It requires new insights from interdisciplinary work and integrated responses from various sectors.

- Critical dialogue for action

Critical dialogue is another key element of Freire's approach. For Freire (1974), it is the practice of dialogue that helps to form critical consciousness and critical attitude for action. After the initial listening and dialogue stage, the action emerges directly from the problem-posing discussion. After a deeper cycle of critical thinking and reflection, people will fell more ready to test out their analyses in the real world. Participatory health promotion research that engages people in critical analysis of the root causes of inequalities will form the basis for action. As long the research is driven by critical dialogue and thinking, there is a powerful opportunity to make people question their realities, understanding their situation with a fresh eye. The health and social inequalities in society are not just as a result of individual failure but as a consequence of structural problems and social contradictions.

6.4 Contribution to Health Promotion Research

Freire's theoretical approach combined with CBPR has proven to help researchers, teachers and health practitioners to understand and to discuss health promotion from the perspective of the individuals they are working with. This approach in health promotion fosters the gain of control as strategy for health equity. It suggests that deeper participation of people in group action and critical dialogue must be a priority as this enhances their control and beliefs in their own ability to implement change. In the past, traditional health promotion research had mainly targeted individual behaviours change to address inequality/inequity, rather than social or environmental risks to health. A new generation of health promotion theorists, from the World Health Organisation (WHO, 1986, 2008), recognises both, the role of individual control and social action in health as well the social determinants of health.

Freire's approach applied to health promotion emphasises the need to create more opportunities for people to participate in society, achieving understanding of the environment to make healthy choices in the daily lives, especially for those living in contexts of vulnerability. In parallel, there is a need to acknowledge the tensions and continued negotiation with structures of power as an inherent part of this process of increasing people's autonomy. Strengthening communities and involving people in critical thinking through Freire's approach and community-based participatory research is not a simple task. Many people had no opportunities or experience on community participation in any level. In this case, research programmes of health promotion that use critically informed approach based in Freire's work can contribute to stimulate critical dialogue, critical thinking and a co-production of knowledge that will forge actions to bring about change.

The five core values presented in this chapter reinforce the commitment to construct a common agenda for social justice and the right to health of marginalised groups. A new knowledge in a critical and significant way emerges from the encouragement of people in being confident to express their own health needs and to value their own health knowledge and experiences. Freire's approach enables people to understand, to produce and critically use health information. The benefit of using this reflective approach goes beyond research participants and reaches to both researchers and health/education professionals. Those who are seeking to understand the complexity of health promotion issues from the perspective of people, end up revisiting their own values, comfort zones, power relations, fears and feelings that embed their practices. Being fully aware of these important elements strength their commitment to continue pursue social change in their work.

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Chapter 7
Health Promotion in Primary Care: Michel Foucault's Genealogy to Analyse Changes in Practices

Fernanda Carlise Mattioni and Cristianne Maria Famer Rocha

Key Concepts Definitions

- *Genealogy*: a research method used by Michel Foucault, in which present actions are analysed through past events. In other words, we seek to explain how what exists now was established through the details of past events in the historical discontinuities.
- *Regimes of truth*: set of statements, techniques and devices accepted as accurate by a given society.
- *Resistance*: opposition to the power exercised in a regime of truth.
- *Counter-conduct*: attitude/behaviour different from expected/foreseen in a regime of truth.
- *Snowball approach*: research technique for identifying participants, where one indicates another and so on, until data saturation.

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7.1 Introduction

Primary Health Care (PHC) is one of the favourable settings for implementing health promotion practices. Because they are inserted in the communities, the services underpinning PHC are close to the health system users, which contribute to the longitudinal follow-up of these people and the creation of bonds. Thus, health professionals can recognise the ways of life established in the communities and the health needs emerging from the life context.

Regarding the social determinants of health, health promotion can be understood as a range of strategies to improve health. It can be understood as an expansion and conceptual and operational requalification of health in its increasing complexity, endorsing new policies and interventions in the health-disease process and improved overall quality of life (Carvalho et al., 2004). Given the scope and possible practices and interpretations, health promotion (HP) is a complex concept built from different epistemological aspects and operated from multiple methods and different settings (Mendes et al., 2016).

Several HP actions are featured in PHC, ranging from educational activities to practices that stimulate participation and community organisation to claim better living conditions, such as the right to health care. However, we observed that HP actions that gain greater emphasis in PHC are related to the promotion of healthy behaviours, especially if we consider their importance in the face of demographic and epidemiological changes pointing to population ageing and disease chronicity.

The issue that emerges refers to the effectiveness of these educational activities, considering the deep-seated inequalities in the territorial scope of PHC. The expanded conception of health promotion pre-supposes the structuring of sound public policies in an intersectoral effort, whose implementation would be responsible for building favourable environments for health. However, HP actions with a purely behavioural approach seem to be hegemonic. From the neoliberal perspective, they tend to delegate to individuals and communities all the responsibility of taking care of themselves (Castiel et al., 2016).

This investigation is part of the epistemological aspect of Foucauldian studies, which allows us to say that the health promotion arena is underpinned by a field of disputes, power games and knowledge, wherein according to their power and capillarity, discourses that can build regimes of truth are triggered and can guide conduct when established. Foucault argues that regimes of truth are the set of correct and accurate discourses accepted by society. They are construed from narratives that have settled down as truths on a particular topic over time. However, Foucault believes that regimes of truth express one viewpoint among many possible ones because, from his perspective, there is no absolute truth (Castro, 2016).

The research problem that addresses HP practices in the PHC setting was formulated from this discussion. One of the authors of this chapter works as a nurse in a Primary Care service. In her professional practice, she was concerned with the incompatibility between guidelines for adopting healthy habits and the poverty situation of the targeted population. Often, people cannot adopt healthy habits in part because they do not have the conditions to do so. Moreover, from a theoretical perspective, we felt challenged to look at health promotion as an object of study from the Foucauldian theoretical framework. These concerns led to the elaboration of the research problem.

The following questions were elaborated to conduct the research: what health promotion narratives and practices are in PHC? What are their origins? How were they shaped? How do HP practices occur in PHC? What discourses, interests and power games that produce subjectivities and regimes of truth regarding HP are found in the PHC setting? Are there resistances and alternatives to hegemonic discourses? What are they?

The questions described produce paths to lead to the research's main objective: to analyse health promotion actions in PHC from a Foucauldian perspective. This chapter will detail the methodological path, showing the techniques used to produce research in HP based on the genealogically inspired Foucauldian theoretical-methodological input. We shall then present some preliminary results of the study in our closing arguments.

The option for conducting genealogical research lies in the method's power to highlight the tensions, disputes, discourses and emergence points underpinning the regimes of truth in Health Promotion. Foucauldian studies can contribute significantly to Health Promotion Research. One could construct analyses that exceed deterministic perspectives concerning Health Promotion through the genealogical method. This analysis matrix can also show the heterogeneity, tensions, power games and knowledge of HP, whose product is activities implemented in the PHC setting. Explaining how such processes occur can be a starting point for reconsidering hegemonic practices that hardly contribute to people's health and, on the other hand, strengthen other marginal actions that are more powerful in promoting the health of the population.

7.2 Notes on Michel Foucault's Genealogy

French philosopher Michel Foucault developed his work by analysing how we become subjects in different social and economic contexts in the modern world. For example, madness, sexuality and correctional institutions (such as prison and hospital) were objects of Foucault's study. Therefore, Foucault's work does not present a single theory that explains social relationships in general. The author provides us with theorisations, which he produced to analyse specific objects in specific contexts (Veiga-Neto, 2017). Thus, the author's contribution to research on contemporary themes, such as health promotion, occurs by using some of his concepts that, as he suggests, can be productive analysis tools. Foucault's work proposes to engage in a detailed perspective on factual historicity, which could reveal how such events were produced and their effects on how things are currently established and held as correct and accurate: society's current and accepted regimes of truth.

Foucault’s genealogy strategy was to look back at the historical event itself to identify the power and knowledge movements that engender and sustain it amid a tangle of living actions established by institutional/situational strategies. From this perspective, genealogy consists of valuable procedures to know the past and mainly analyse the present (Veiga-Neto, 2017). ‘Foucault’s goal is to trace a genealogy of the relations between power and knowledge, map the ontology of the present, in terms of the being-power’ (Veiga-Neto, 2017 p. 65).

A series of knowledge-power relationships are engendered for the construction of truths. These relationships are influenced by the articulation of different devices that include institutions, education systems and legal apparatus, to mention a few. These devices are closely linked to moral values, standards and norms related to the several control systems operating in society to regulate individual and social beings (Foucault, 2009).

Thus, genealogy would be the study of the forms of power ‘(...) in their multiplicity, differences, specificity, and reversibility (...)’ (Foucault, 1997 p. 71). The genealogist analyses the knowledge-power games in a given historical moment, originating in discursive practices on a particular theme (Deleuze, 2005). In health promotion, discursive practices are understood as the knowledge that supports the field and conditions the practices of those in the field. According to Foucault (2009), some discursivities gain strength and legitimacy from institutional bases. That is, at a given historical moment, the knowledge-power games established in a social context can gain institutional legitimacy and become something official, accepted as accurate and that should be adopted as a practice. Institutionally legitimised and accepted as correct, such discursivities are called by Foucault as regimes of truth on a given topic. In health promotion, we could understand that institutionally legitimised knowledge is the regime of truth that orients institutional practices in different settings. Health policies and protocols guiding health promotion practices in health services are examples of institutionally legitimised knowledge that acquires the status of a regime of truth in this setting.

Thus, discourse is an institution with a silent beginning, originating in struggles, tensions and disputes. ‘Discourse is not simply that which translates struggles or domination systems, but that of which and by which one struggles the power we want to seize’ (Foucault, 2009 p. 10). Thus, the discourse is elaborated, chosen, monitored and gains permission to circulate from the battles it has won, established in the plot of institutions where specific knowledge is allowed to be used and spoken, while others are silenced (Lemos et al., 2020).

7.2.1 Emergence and Provenance Analyses

Foucault’s work points out that emergence and provenance analyses are essential in genealogy (Lemos et al., 2020). The provenance analysis must consider the tensions caused by the correlation of forces established between mechanisms and strategies in a field. In other words, the analysis aims at highlighting the historical conditions that enabled a particular discourse which will be translated into practices. At this point, the investigation should be detailed and seek multiple sources for evidence in facts that are disregarded, devalued and even erased by the procedures of traditional history in order to confirm their hypotheses (Faé, 2004). The emergence analysis, in turn, refers to the specific moment when a particular discursive practice emerges. The emergence analysis must demonstrate the correlation of forces in the field and the disputes in establishing an object. Thus, genealogy aims to shed light on the discontinuities underlying the events and their resulting discursivities (Lemos et al., 2020) through the analysis of emergence and provenance.

7.2.2 Power and Its Productive Nature per Foucault

Thereby, it is possible to identify the productive characteristic of power. The coexistence of heterogeneous or possibly opposing forces produces discursivities that gain legitimacy and become regimes of truth, building our ways of being and living (Lemos et al., 2020), or more specifically in this research, the health promotion discourses and practices in the studied setting.

On the other hand, Foucault argues that power is not something vertical, operated in a single direction. Nor is there an absolute and sovereign power that does not find resistance. Foucault understands power as an unstable network of practices. It is operated by different devices in a capillary and diffuse fashion, producing individual subjectivation processes (Foucault, 2019). From this perspective, power is not absolute, and resistance coexists with actions of one over another. Just as there is no power centre, there is no centre of resistance either. Resistances are manifested in response to a capillary network of power and establish themselves like the other in these relationships. Thus, an irreducible interlocutor in this network of power, resistance is distributed irregularly; that is, its foci are located more or less densely in time and space. Sometimes resistance can cause the emergence of groups of individuals, interfering in the lifestyles and behaviours.

From this perspective, the genealogical activity seeks to precisely identify what is not found in the hegemonic discourse, which escapes the established, what emerges as resistance or counter-conduct to what is unique and accurate in this field. Genealogy does not intend to explain the history or the causal chain of events. Instead, it aims to show that events stem from the fluke of forces and not a preset intention or determination.

In a nutshell, regarding the genealogical method, Foucault has delimited some methodological precautions. Firstly, the power analysis occurs in its capillarity when penetrating the institutions transmuted into a set of practices. Secondly, it does not analyse the power concerning intention or decision but materiality, considering the actual and effective practice of the object, target, or field of application. Thirdly, power must be analysed as circulating and exercising in a network. Therefore, it should not be treated as someone's property. Fourthly, power must be analysed from the bottom-up, from the infinitesimal mechanisms with a history, through techniques and tactics that explain how these mechanisms of power were and still are invested and used by general domination mechanisms. Fifthly and finally, power is based on knowledge devices that ensure sustainability and make it legitimate (Lemos et al., 2020) in order to exercise it.

Having completed the task of situating genealogy in the context of Foucault's work, describing its characteristics and delimiting its possibilities of use, the next session will describe the way we use genealogy as a method in qualitative research in Health Promotion.

7.3 Health Promotion as an Object of Analysis of Genealogically Inspired Research

Starting from the premise that genealogy is the exercise of looking at the relationships and tensions produced by the different discursivities in a knowledge-power field, we identified health promotion as a potential object of analysis to be researched through genealogically inspired qualitative research.

Currently, quantitative studies predominate in public health, especially those pertaining to relating exposure to risk as in epidemiology. In this setting, the performance of qualitative research represents the possibility of in-depth investigation of the processes associated to the health of populations. Thus, not in opposition but complementarity, qualitative research contributes to other possible analyses and understandings of these processes.

Therefore, following the techniques of qualitative health research in association with the assumptions of Michel Foucault's genealogical research, the analysis of health promotion in primary care has been conducted to identify the possible conditions that originated the regimes of truth currently found in health promotion in PHC through the tensions between the different discursivities. That is, we looked at the elements at stake and the mechanisms by which specific statements have gained legitimacy to the point of becoming actual regimes. We also aimed to identify and show other, less expressive discursivities in the field of the object of study that existed or still exist and can sometimes be interpreted as expressions of resistance and counter-conduct. We emphasised that discursivities support practices and are very close to them in this research setting.

7.3.1 Study Characterisation

We propose to conduct genealogically inspired, qualitative, field, descriptive and exploratory research in the context of the Community Health Service of the Grupo Hospitalar Conceição (Conceição Hospital Group), in which the lead author acts as a nurse, in the city of Porto Alegre,[1] capital of the state of Rio Grande do Sul, Brazil, to achieve the main objective of the study, which was 'analyse health promotion practices in PHC'. This research is part of the Ph.D. in Nursing of the Federal University of Rio Grande do Sul and is in the data analysis stage.

7.3.2 Research Settings

The research is being developed in the Unified Health System (SUS) context. Currently, Brazilian public health services are entirely free and universal to every Brazilian or foreign citizen and a constitutional right. They are organised hierarchically in a network and must have coordinated action. Thus, SUS first level of care is characterised by PHC, also referred to as Primary Care in Brazil. The secondary level is intended for medical specialities, and the tertiary level consists of a hospital network and high technological density procedures.

Currently, PHC is organised in the country through health facilities installed near the territories of local communities. Such establishments are staffed with health teams that can be characterised as Family Health Strategy (ESF) teams or not. ESF teams are generally the most complete, with a greater diversity of professional cores, and receive more significant funding. This way, such teams are expected to provide differential health practices, offering quality care to the population served (Brasil, 2017).

The research is being developed in the Health Units (HU) of the Community Health Service (CHS) of the Grupo Hospitalar Conceição (GHC – Conceição Hospital Group), one of the largest Brazilian hospital institutions. The CHS is a PHC reference for people of the municipality's northern zone (about 100 thousand inhabitants). This service was established in the late 1970s in a popular mobilisation for democracy and social rights in Brazil. The Health Movement of intellectuals and civil society built the basis for what the Unified Health System would become in the following decade. Currently, it consists of 12 Health Facilities, 39 Family Health Strategy teams (ESF), four Family Health Support Centres (NASF),[2] a Street Clinic team,[3] three Psychosocial Care Centres (CAPS),[4] with one Children CAPS (CAPSi),

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[1] Porto Alegre currently has 1.4 million inhabitants. It is the capital of Rio Grande do Sul, geographically located further south of Brazil, bordering Uruguay and Argentina. It has 11.29 million inhabitants, and its economy is based on farming and industrial production (Instituto Brasileiro de Geografia e Eestatística, 2020).

[2] NASFs were established in 2008 in Brazil. They are multi-disciplinary health teams that aim to provide matrix support to Primary Health Care teams (BRASIL, 2008).

[3] Street clinic teams were established in 2011 in Brazil. They are multi-disciplinary health teams that exclusively serve the homeless population (BRASIL, 2011a).

[4] CAPS were established in 2002 in Brazil. They aim exclusively to provide comprehensive care to mentally distressed people (BRASIL, 2011b).

one Alcohol and Drugs III CAPS (CAPS AD III) and one CAPS intended for the care of users, adults and patients with severe mental disorders (CAPS II).

7.3.3 Procedures for Data Production

The research data were produced from documentary research and field research, seeking to find, in the minutia of (written and spoken) discourses, the elements and events that, placed in the field of health promotion, originated the regimes of truth and resistance and counter-conduct currently found in the studied PHC service.

The documentary research was conducted through a literature review directed to studies whose object of analysis was health promotion, with Foucauldian theorisations as the supporting theoretical framework. Also, the Brazilian National Primary Care Policies (PNAB) and National Health Promotion Policies (PNPS) were analysed, and other technical documents related to health promotion practices were identified in the fieldwork. The objective of looking at these documents was, as provided by the genealogical method, to observe how some health promotion discourses appear in the text of these policies and how they change according to the historical progress in their reissues. In other words, we sought to identify the changes in the discursivity of these documents and map the elements that could have somehow been legitimising factors of specific discourses to the detriment of others.

The discursivities not established in the legal framework of health promotion were identified by field research through semi-structured interviews with workers of the teams responsible for carrying out health promotion practices. The selection of workers to participate in the research employed the ‘snowball’ technique, adopting a non-probabilistic sample using reference chains. This specific type of sampling does not determine the probability of selecting each participant in the research, but it becomes helpful to study specific, hard-to-access groups (Vinuto, 2014).

The ‘snowball’ technique sampling started to locate some people with the necessary profile for the research within the teams participating in the research by contacting key informants, named *seeds* (Vinuto, 2014). We proceeded this way because an initial probabilistic sample would not be under the genealogical perspective, whose objective was to map the workers directly involved with health promotion. Thus, the key informants, or seeds, were participants of the research and established new contacts with potential research subjects. Since the primary author is a nurse at the service where the research was conducted, she knows the work performed by colleagues in the study setting. In the service studied, the realisation of health promotion practices is shared in a newsletter disseminated by email to all health teams, which describes the practices and the workers who perform them and which groups of people they are intended for. Thus, we could identify and recruit the research seed participants.

These workers were the first to be contacted and invited to participate in the study. From the interviews, they were asked to point out other activities they knew were conducted in their Health Units or in the Community Health Service, enabling other workers to participate in the study.

In the 'snowball' strategy, the successive indication of new potential participants can increase the sampling frame with each interview, as per the researcher's interest/need. Eventually, the sampling frame saturates, i.e. no new names are provided, or those named do not bring new information to the analysis. The 'snowball' sampling is a permanent data collection process that seeks to build on the social networks of the respondents identified to provide the researcher with an increasing set of potential contacts, and the process can be finalised by the saturation point criterion. However, we should remember that one must be attentive to field research's subtleties to avoid losing relevant information to the investigation to define the saturation point (Vinuto, 2014). This strategy was adopted in the research so that, at a given moment of data collection, the health promotion activities mapped with each new interview were repeated, suggesting data saturation and the time to end the fieldwork.

The interviews were recorded and transcribed. Also, a field diary was established, in which the researchers' impressions were recorded during the interviews. The ethical procedures provided for in Resolution No. 466/12, which regulates human research in the country, were observed throughout the study (Brasil, 2012), and the research was approved by the Research Ethics Committees of the Federal University of Rio Grande do Sul and the Conceição Hospital Group under protocol CAAE 16078319.7.3001.5530.

7.3.4 Research Participants

Workers (contractors or residents) responsible for health promotion actions in the GHC Community Health Service's twelve health units participated in the research. Considering at least one interview per Health Unit and the diversity of health promotion dimensions, the research universe consisted of 23 participants.

Inclusion criteria were: (1) being responsible for health promotion regardless of seniority in the activity; (2) being a member of the CHS/GHC FHS teams, bound by a direct contract, as a resident of the service or, also, Community Health Worker[5] and (3) accepting to participate in the study by signing the Informed Consent Form (ICF). We asked participants to choose their names within a spectrum of artistic expressions to define what art would be to ensure the anonymity of the research subjects. The participating professional groups were Community Health Worker (03), Social Work (06), Psychology (04), Medicine (02), Nursing (05), Dentistry (02), Nutrition (01).

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[5] Community Health Workers (ACS) are professionals who make up PHC teams in Brazil. They do not have specific training in the health care area, and the requirement for their function is to live in the community within their PHC team. They should establish a link between the health team and the community, strengthening the link between health education actions among peers.

7.3.5 Data Organisation and Analysis

The data from the document analysis and interviews were organised and systematised during and after the end of the collection, producing analytical categories through inferences from the theoretical approaches to the empirical data.

The data corpus was thoroughly examined according to qualitative, genealogically inspired research assumptions. At this research stage, we attempted to identify the several knowledge/discourses about health promotion in the researched setting and how the tensions produced between several knowledge/discursivities produced the setting of practices as identified in the research. Following the genealogical perspective, we looked out for the elements or the historical possibility conditions that currently underpinned the research service's set of practices.

In this sense, data analysis consists of an exercise to 'confront' (put face to face, side to side, in opposition, to mention a few) the official discourses found in the legal and technical documents of health organisations with the empirical data collected. Also, the historical elements encompassing more than 30 years of the studied service are considered. According to Foucault's genealogical perspective, they represent the possible conditions for designing practices, namely, health promotion activities in PHC.

We used the theoretical framework of Foucauldian studies in the analytical process, which provides other keys of analysis for the object we are observing. The construction of the analysis brought health promotion elements such as health education, participation, quality of life, healthy habits, inequalities, social determinants of health closer to Foucauldian concepts, such as governmentality, resistance and counter-conduct. The approximations between these two theoretical fields are this research's originality and innovation.

7.4 Main Results and Data Discussion

A heterogeneous field of health promotion practices established through the circulation of different knowledge and powers was identified (Mattioni et al. 2021; Mattioni, 2021).[6] The interviews allowed us to uncover discourses and practices that represent established knowledge found in health policies and protocols and knowledge that emerges from the individual experience of workers and popular culture. The tensions between these types of knowledge, which are sometimes opposing or exacerbated, produce the setting of practices studied. The analysis enabled us to infer that the practices are permeated by discursivities that align with neoliberal governmentality and practices that stand as a counter-conduct to such discursivities.

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[6] The research results and their respective analyses can be fully accessed in the first author's doctoral thesis, available in the theses repository of the Federal University of Rio Grande do Sul (Mattioni, 2021).

The historical events that provided the conditions for the emergence of health promotion practices were mapped and grouped into three historical periods. These were: the 1980s/1990s, period of re-democratisation and constitution of citizens with rights in Brazil; the 2000s, with the emergence of public health policies, marked by democratic neoliberal governmentality and, the period from 2016 to date, with fiscal austerity and the resurgence of public policies marked by conservative or authoritarian neoliberal governmentality (Mattioni, 2021).

Governmentality can be understood as a government type that aims to modulate individual behaviours to guide the ways of living in a society (Foucault 2008). The democratic neoliberal governmentality combines the neoliberal economic agenda with representative participation of society that can legitimise the constructed social policies (Gallo, 2017), which, in turn, induce practices that modulate individual behaviours. The establishment of the democratic rule of law in Brazil in the 1980s/1990s was succeeded by a period of intense emergence of public health policies, among them the first versions/editions of the National Primary Care Policy and the National Health Promotion Policy, which, together with other local factors, led to the expansion of the number and scope of health promotion practices in primary care.

The 1980s/1990s were marked by intense social participation in the researched setting, with community organisations to demand from the State the establishment of health services and better living conditions in their territories, which was the main feature of health promotion practices in the period. The 2000s marked the emergence of public health policies, which provided the setting researched with possibilities for expanding PHC teams. Moreover, such policies led to the implementation of health promotion practices to change lifestyles, mainly through behavioural approaches. This period also witnessed a decrease of health promotion practices characterised by social participation and community organisation (Mattioni, 2021).

From 2016 to date, the fiscal austerity measures adopted by the Brazilian State have led to a significant decrease in financial resources for the health sector. This period can be characterised by the emergence of conservative neoliberal governmentality, which reduces State investments in social inclusion policies (Gallo, 2017), including health policies. This situation affected health promotion practices; with smaller health teams, direct care to patients becomes a priority to the detriment of health promotion.

From the above, we believe that our research enables us to sustain that in Brazil (Mattioni, 2021):

1. There is no single health promotion concept/discourse or even a uniform set of health promotion practices. The field of HP is heterogeneous and polysemic, in which different knowledge circulates, generating tensions that produce practices within PHC.
2. The hegemonic discursivity (or the current regimes of truth) in health promotion refers to the neoliberal perspective that individuals must be 'empowered' to take

care of their health and that the state's role would be only to teach them through an educational-behavioural approach.

3. 'Marginal' discursivities emerge in the setting studied and escape the prevailing regimes of truth. These movements and activities refer to the collective organisation, both for realising shared care and building health policies focussing on the social determinants of health. Because they are smaller and weaker in relation to the dominant and established practices in health promotion, such activities appear as resistance and counter-conduct strategies.

7.5 Contributions of Genealogical Research to Health Promotion

This chapter presented the methodological path of research, which aimed to analyse health promotion actions in Primary Care based on Foucauldian theorisations and their preliminary results. We briefly described the characteristics of Michel Foucault's genealogical method and the techniques employed in the research. At the end of the study, we concluded that the health promotion actions in the studied setting derive from possibilities generated by different historical events in their discontinuities. We identified a heterogeneous field in which different knowledge and practices coexist. We highlighted the practices aligned with a neoliberal discourse, in which individuals and communities must be solely responsible for their health.

On the other hand, resistance was identified in practices inscribed in the social determination of health perspective, in which health promotion is understood as a collective effort involving different actors to build better community living conditions. Our study presents new methodological possibilities for health promotion when using the genealogical method techniques and the Foucauldian tool-concepts for analysis.

The main contribution of the research and the methods it adopts is identifying that some health promotion actions may be not very potent for health production in their expanded perspective, although they are hegemonic and have legitimacy. On the other hand, health promotion actions that are marginal in this knowledge-power field may represent more capacity to expand their impact on people's lives.

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Chapter 8
Health Promotion as a Complex Assemblage: Science and Technology Studies as Method

Peter Kelly and Kerry Montero

Key Concepts Definitions

- *Studies of Science, Technology and Society*: This field is chiefly concerned with examining the unequal, hierarchical, gendered, classed, raced 'social life' of science and of technology, and the knowledge, relations, processes and consequences that produce, and are produced by, the 'doing' of science, the development and uses of technology in its social, cultural, economic and political contexts. The field draws on a variety of disciplines and theories that emerge from 'critical' perspectives, including post-structuralism, feminism and versions of Marxism and, as a consequence, is characterised both by approaches and interests that are similar, but also diverse.
- *Method Assemblage*: The concept seeks to provide an innovative and critical way to understand research methodologies in the social sciences, in ways that move beyond a focus on the apparent distinctions and differences between 'quantitative' and 'qualitative' methodologies. The concept argues that any methodology 'enacts' a version of the world, of the 'real', in the knowledge practices that it deploys. From this perspective, there is a concern to explore what a method assemblage includes ('makes present'), what it deliberately excludes ('makes manifestly absent') and what it excludes without necessarily being aware that this 'exclusion' has occurred ('makes absent as Other'). This approach then requires those who do health promotion research to consider the consequences of inclusion and exclusion for the knowledge that is produced through these practices.

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- *Aesthetics and Meaning-Making*: In health promotion, like all fields and aspects of human action, the making of meaning – by teachers, young people, researchers, policy makers, health promotion professionals – is an uncertain, complex, open-ended and contingent process. Health promotion, in many different ways, operates with particular and more general understandings of how meaning is made. Often there is a focus on the rational, cognitive, logical aspects of processes of meaning-making. This focus has both possibilities and limits, and consequences – intended and unintended. The aesthetic dimensions of meaning-making, those emotional, embodied, sensual, desiring, erotic and affective aspects of what it is to be a person (young or old), should be examined, interpreted, analysed and made integral to research in health promotion.

8.1 Introduction

At the beginning of his *After Method* John Law (2004, p. 1) references The White Queen from Lewis Carroll's *Through the Looking Glass*, and her fantastical claim to believe in *impossible things*: 'There's no use in trying', [Alice said]: 'one can't believe impossible things'. 'I daresay you haven't had much practice', said the Queen. 'When I was your age, I always did it for half-an-hour a day. Why, sometimes I've believed as many as six impossible things before breakfast'.

The sociological research on school-based health promotion with young people that we introduce and report on in this chapter, is not 'make-believe'. But it is work that gets much of its energy from a sense that the orthodox, and the taken-for-granted, the possible and the im-possible, are things that need, constantly, to be topics and objects of discussion. But what can, or should guide such discussions?

In this chapter, we introduce some of the work that we have done during the last decade in the field of school-based health promotion, and the ways in which this work has been influenced, in various ways, by the work of John Law, his collaborators and his connections to the broader field of studies of Science, Technology and Society (STS). As we will suggest, Law's work is not unique, but it does provide a productive vocabulary for locating much of what interests us as we introduce and engage with the limits and possibilities of reason, risk, rationality and aesthetics in health promotion interventions that target young people, and the forms of description, analysis and critique that are able to explore and make sense of these possibilities – and impossibilities. In particular, we want to reference the research and analysis of the Fit to Drive (F2D) programme, a school-based road safety, health promotion intervention that continues to be undertaken with year 11 students across hundreds of high schools in the state of Victoria (AUSTRALIA) (see for example, Montero & Kelly, 2016, 2020).

In Chapter 43 of Volume 1, we outline in greater detail the emergence of F2D, how it works as a school-based health promotion intervention and provides a detailed example of the sort of analysis that emerges from the framework that we introduce here. In the section that follows we discuss in greater detail Law's concept of method assemblage, and the ways in which any assemblage involves the bundling of things that are made present, are made manifestly absent and which are absent as Other. As we will suggest, this explicitly sociological framework opens up the shifting relationships between reason, risk, rationality and the embodied aesthetics of meaning-making that we think are important in exploring and understanding the limits and possibilities of school-based health promotion with young people. We conclude with a discussion of the sorts of 'goods' – those things that might be considered useful, valuable, desirable – that can be produced in health promotion research if we ask the sorts of questions that become possible in this framework.

Our aim in doing this research, in part, is to ask questions about the more mainstream approaches to understanding the factors and strategies that promise to provide successful health promotion interventions in the school, and in other health promotion settings. The strategies and approaches that emerge from this analysis – including a sense of the always embodied dimensions of meaning-making, of the role of the 'audience' of young people in this meaning-making, and the limits and possibilities of mobilising morally charged emotions and storytelling (as 'tragic theatre') – offer innovative theoretical, methodological and empirical insights into the challenges of 'doing' and 'critiquing' health promotion *with* young people.

8.2 Impossible Things: Bundling Presence, Manifest Absence and Absence as Otherness

Since the 1990s, John Law's (2004) work has made a provocative contribution to ongoing discussions about what he and Annemarie Mol (Mol & Law, 2006) identify as 'knowledge practices' in the social and the hard sciences.[1] Law's work is most often associated with studies of Science, Technology and Society (STS), actor network theory and a more generalised interest in complexities, heterogeneities and knowledge practices in the natural and social sciences. In *After Method* Law (2004) makes reference to a wider intellectual debt to the challenges and possibilities posed by feminism and post-structuralism to disciplines such as sociology. At the same time, he firmly locates his project in STS.

For Law, what might be called orthodox, 'Euro-American' scientific knowledge practices craft realities that, in many instances, produce knowledge and outcomes that have been, and continue to be consequential and significant. However, if, as Law (2004, p. 2) suggests, so much of the natural, the social and the cultural is 'vague, diffuse or unspecific, slippery, emotional, ephemeral, elusive or indistinct', then can the institutionalised, even standardised, rule-bound knowledge practices of the social sciences – quantitative and/or qualitative methods such as interviews, surveys, observations; forms of representation such as reports, theses, papers, monographs; practices such as interventions, programmes, reviews, audits – capture

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[1] See, for example, Law, 1994, 2002.

or create understandings that can account for these realities? Or, do we need to 'teach ourselves to know some of the realities of the world using methods unusual to or unknown in social science'? The question is largely rhetorical, but it does point to the ways in which Law, and others, have been exploring the limits and possibilities of the ways in which we can come to know…anything.

In exploring these limits and possibilities, Law (2004, pp. 2–4) introduces a vocabulary to shape the ways in which the social sciences might *think* and *know* differently (a number of these draw on feminist and post-structuralist discourses, see for example, Latour & Woolgar, 1986, Latour, 2007, Haraway, 1989, 1997). We want to suggest that this vocabulary has much that is productive to offer those interested in health promotion with young people. For example, Law discusses knowing as *embodiment*, in which we come to know 'through the hungers, tastes, discomfort, or pains of our bodies'. Knowing as 'emotionality or apprehension' suggests, for Law, exploring 'private emotions' that bring into view the 'worlds of sensibilities, passions, intuitions, fears and betrayals'. Echoing the feminist unsettling of discourses of objectivity and generalisability, Law proposes that we need to consider 'how far whatever it is that we know travels and whether it still makes sense in other locations and if so how. This would be knowing as situated inquiry'. In a final suggestion that points to *allegory* as a key motif in his discussions, Law argues that we need to think about and embrace the sense that our ways of knowing – despite our desires to dress them up in pretensions of validity, certainty and rigour – are, always, imprecise. In this sense we need to 'find ways of knowing the indistinct and the slippery without trying to grasp and hold them tight. Here knowing would become possible through techniques of deliberate imprecision' (see, also, Kelly, 2011).

Law's work is not unique, but as we have argued elsewhere (Kelly, 2011, 2012, 2013; Montero & Kelly, 2016), it does provide a generative vocabulary for capturing and locating much of what interests us as we introduce and engage with the limits and possibilities of reason, risk, rationality and aesthetics in health promotion interventions that target young people, and the forms of description, analysis and critique that are able to explore and make sense of these limits and possibilities. A central, productive and generative idea that Law develops and introduces to this vocabulary is his notion of *method assemblage*.[2] For Law (2004, p. 144), method assemblage suggests a 'continuing process of crafting and enacting necessary boundaries' between 'presence, manifest absence and absence as Otherness'. Any methodology or assemblage (curriculum, policy, organisational) 'makes something present by making absence'. Method assemblage, as a concept, tries to make explicit and imagine the consequences of the 'crafting, bundling, or gathering of relations' between presence, manifest absence and absence as Otherness. Between what Law identifies as 'in-here or present (for instance a representation or an object)'; between what is 'absent but also manifest (it can be seen, is described, is manifestly relevant to presence)' and, finally, between what is 'absent but is Other because, while

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[2] This concept draws on the different but related work of Deleuze and Guattari (1988), and Bruno Latour (1998).

necessary to presence, it is also hidden, repressed or uninteresting'. That which is Other:

> might range from things that everyone in question knows (how to do chromatography), through mundanities that no one notices until they stop happening (the supply of electricity), to matters or processes that are actively suppressed in order to produce the representations that are taken to report directly on realities (these would include the active character of authorship or the trail of continuities between statements and the realities that they describe). (Law, 2004, p. 42)

In our work with the schools-based health promotion intervention F2D, these concepts of presence, manifest absence and absence as Otherness enable us to ask questions about what is included in such interventions; what is actively excluded to enable the included to do the work that is intended, and what cannot even be thought about because it remains unsayable. We have, for example, written about this in exploring the aesthetics and erotics of the human-car-machine-assemblage, and the ways in which the aesthetics and erotics of cars and speed, for example, are, differently, made present, manifestly absent and absent as other in F2D (Montero & Kelly, 2020). Are made, mostly, absent as other because they can find no place in school-based road safety health promotion with young people.

8.3 Science and Technology Studies as Method: Troubling Health Promotion with Young People

Social science emerges from institutionalised spaces that demand particular approaches to knowledge production. Sociologies of health, and of health promotion, as well as other approaches to health promotion, emerge in, 'do their work', and conform, more or less, to the demands of such spaces. These demands are not necessarily 'bad', as Foucault (1983) might say, but they do place limits on the methods that are considered appropriate for producing knowledge that is understood as useful. In these domains some can speak, and others can't. Some things can be said and done, and others can't. Certain ideas, stories and ways of producing knowledge are just impossible to imagine as being useful, appropriate, truthful, evidence-based. And, here, 'useful' signals something that is readily translatable and transferable, is something that is able to be operationalised by various agencies, departments, organisations. Often, in settings, processes and practices that may be remote and abstracted from the times and spaces and places where knowledge is produced.

The tensions and dilemmas we see here, and which we want to highlight and consider, relate to what those things that are absent, are Othered, are impossible, might contribute to our understanding if they could be imagined as being 'possible'. Here, we want to highlight, as Law (2004, p. 92) argues, that in our everyday, sense-making existence we are all – expert and non-expert, scientist and artist, young and old, teacher and student – 'allegorists'. As allegorists, we 'read between the lines and manifest realities that are not being spoken about in as many words'. We interfere with the 'boundaries between that which is Othered and that which is manifest'. In this way we can imagine allegory as a 'mode of discovery – so long as we understand that in a world of enactment, allegory is also crafting what it is discovering'. In addition, as allegorists we, much of the time, 'are crafting and manifesting realities that are non-coherent. That are difficult to fit together into a single smooth reality' (Kelly, 2011, 2013).

This constant bundling, unravelling, fixing and troubling of the relationships between presence, manifest absence and absence as Otherness, and the vocabulary it provides, allows a particular approach to description, discussion, analysis and critique. Over the last decade, we have argued that such an approach opens up the shifting relationships between reason, risk, rationality and the embodied aesthetics of meaning-making that we think are important in exploring and understanding the limits and possibilities of school-based health promotion with young people.

In *Young People and the Aesthetics of Health Promotion* (Montero & Kelly, 2016), we engaged with questions such as: 'What can we know?' 'How can we know?' 'How do we construct that *knowing*?' All in relation to the 'problem' of young drivers and road safety. More broadly, we explored the limits and possibilities of mobilising ideas of aesthetics, reason, risk and rationality in the doing of school-based health promotion with young people.

Health promotion and education have traditionally tended to focus on the design of programmes based on behaviour change theory to target 'unsafe', 'unhealthy' and/or 'risky' behaviours. We recognise and acknowledge that behaviour change models such as participatory (peer-led)-facilitated discussion, and the development of reasoned, rational and risk-aware personal strategies, resistance and assertiveness skills, are an integral part of the design of many health promotion interventions and programmes. The contributions that we make to thinking about the array of health promotion programmes that target young people come from identifying, then exploring and analysing, the aesthetic dimensions of programme design and delivery that create the possibilities for meaning-making. At different times throughout the book, and in different ways, we provided an analysis of the individual elements and modes of engagement in the Fit to Drive programme – the activities, the different modes of delivery, the role of stories, narratives, tragedy, emotion, reason, rationality and risk – to reveal the ways they work together in the context of the school setting to make something *meaningful*.

Our aim in doing this sort of research, in part, is to continue to unsettle, to trouble, to make problematic, approaches to understanding the factors and strategies that promise to provide successful health promotion interventions in the school, and in other health promotion settings. The strategies and approaches that emerge from this analysis – including a sense of health promotion as often 'tragic theatre', of the always embodied dimensions of meaning-making, of the role of the 'audience', and the limits and possibilities of mobilising morally charged emotions and storytelling – offer innovative theoretical, methodological and empirical insights into the challenges of 'doing' and 'critiquing' health promotion *for* young people.

8.4 Conclusion: Assemblage and Re-imagining the 'Good' in Health Promotion

This move towards the embodied, the aesthetic dimensions of meaning-making is not about the displacement of representation, of evidence, of reason, risk and rationality. Rather, it has been about what happens to what we know and how we know, when we encounter the limits and possibilities of reason, risk and rationality. What happens in the act, the process, the practice of troubling or unsettling these limits and possibilities? What happens, what is possible, in this troubling, this unsettling in the particular limits and possibilities of school-based health promotion with young people? In concluding this discussion, we will leave most of those questions open and suggestive of future possibilities. In doing health promotion research, however, we are confronted with a need to clarify, to justify, to make a case for the sort of health promotion research that we participate in, that we do. Law (2004), again, provides a means for framing these concerns more broadly than the particular ones that we identify in our analysis of F2D – and this is where will finalise this discussion.

Law (2004) suggests that in doing health promotion our *intent*, or *purpose*, or *concern* can be imagined as being a *good*. Can be imagined as being about such things as *truth*, *politics*, *justice*, *aesthetics*, or some other value that we seek to produce through the research, the description, the discussion, the analysis and the critique that we put into play in doing health promotion. As Law (2004, p. 148) suggests, any method assemblage is *performative* in as much as it *discriminates* 'by trying to enact realities into and out of being'. And in trying to enact different realities in different places and on different occasions, a method assemblage will meet different purposes, produce different effects and different affects: 'This means…that truth is no longer the only arbiter. No longer, let me stress this, the *only* arbiter'. In describing, discussing, analysing and critiquing F2D and school-based health promotion with young people, determining the *truth of the matter*, whatever *truth* and *matter* mean in different settings and practices, is something that remains important: '"Is this true?" Yes, this remains a critical question, not one that will go away' (Law, 2004, p. 148). As Law (2004, p. 148) further argues:

> method assemblage does not work on the basis of whim or volition. It needs to resonate in and through an extended and materially heterogeneous set of patterned relations if it is to manifest a reality and a presence that relates to that reality. *So truth is a good.*

However, as Law (2004) goes on to argue, in the crafting of method assemblages there are a variety of *goods* that can be prioritised. Included here are things such as 'politics': 'If politics is about better social…[and] non-social arrangements, and about the struggles to achieve these, then method assemblage and its products can also be judged politically' (Law, 2004, p. 149). There is, then, a *politics* of presence, manifest absence and absence as Otherness. Law also discusses the ways in which *spirituality* (of a non-religious form), and *justice* are also *goods* that can inform the crafting of method assemblage. Importantly, for the work we have done in relation to F2D, he also highlights the aesthetic dimensions of method assemblage, the possibility that the *aesthetic* is something that, in certain circumstances, for particular purposes, can be included in an ontological politics: 'Thus talk of 'beauty'…or 'elegance', or 'fit', or 'economy' indexes a further set of goods' (Law, 2004, p. 149). While cautioning that 'what counts as beauty can neither be determined in advance, nor out of context', and that 'elegance' and 'beauty' apparently find a more comfortable place in the talk of physics and mathematics, Law (2004, pp. 149–150) wonders whether the relative absence of a concern with the aesthetic in traditional social science method assemblages 'denies us any grounds for negotiating to enact realities that are true and politically desirable but are also beautiful'. In other words, a disregard for what is understood as the aesthetic 'denies to reality-making any responsibility for beauty, treating this instead as a category error'. As a further caution, one which builds on a sense that *beauty* is itself problematic, our use of the aesthetic continues to be deliberately ambiguous. A Fascist aesthetic, or a Stalinist aesthetic, or a consumerist aesthetic, among many, would, clearly, be suggestive of markedly different things – politically, and in terms of truth and justice – that could be made materially and symbolically present in a vast array of different practices and relations. So, in putting into play the aesthetic we do not work to define limits. Rather, we work to open ways of making-meaning that allow certain things to be made present that otherwise might remain manifestly absent, or absent as Other in descriptions, discussions, analyses and critiques of health promotion with young people.

With these possibilities, and limits, in mind we have argued that F2D, in taking up, reflecting and remaking the practices and insights of health promotion and moral education, is concerned with not only reducing driving-related risks. It is also aware of the need to build positive values and promote positive environments, including a community of shared values in relation to road safety, which support young people in making safe choices. This involves making-meanings that affirm personal safety and care for others, skills to enact safe choices, and an environment that supports this. All of these involve acting for the notion of a 'Good'. The notion of the 'Good' should always be considered problematic. A key means for troubling the 'Good', for imagining what might lay at the limits of reason, rationality and risk in health promotion with young people, is to look to the limits and possibilities that the aesthetic offers for developing and deploying health promotion interventions for young people. The work we have done, we hope, seeks to make a productive, ongoing, contribution to that 'troubling'.

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Chapter 9
The Contribution of Feminist Approaches to Health Promotion Research: Supporting Social Change and Health Improvement for Vulnerable Women in England

Louise Warwick-Booth, Ruth Cross, and Susan Coan

Key Concepts Definitions

- *Feminist*: The advocacy of women's social and political rights based upon the principle of equality for all.
- *Participatory*: An approach to research based upon the principle of sharing power between researchers and participants, emphasising their equal status and participation in the research process.
- *Reflexivity*: An approach in which qualitative researchers consider their own characteristics, role and influence within the research process.
- *Co-Production*: An approach to research that aligns with participatory goals, as it involves all participants working together on a research issue without privileging any single perspective within this process, e.g. academic or expert by experience.
- *Gendered Intervention*: An approach to interventions, support and service delivery which is tailored to gendered needs (in this instance women).

9.1 Introduction

Feminist research is a broad church that encompasses many different approaches and methods depending on the perspectives of the researchers and the issues at hand. Nevertheless, there are a number of general principles that enable us to carve out a specific research paradigm that can be labelled 'feminist'. This chapter argues the case that feminist research is closely aligned, in many ways, with health

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promotion research and that feminist approaches utilised within health promotion research have much to offer knowledge production in this field. This chapter will first outline what feminist research looks like, or how it is distinguishable from other approaches to research. Next it will argue the case for why feminist approaches are relevant to health promotion research. Following this we explore the application of feminist approaches in our own research practice drawing on real-life examples of research that we have carried out as illustrative. Finally, we consider the implications for how health promotion research is carried out and specifically discuss the roles that context, positionality and reflexivity have to play.

9.2 What Distinguishes Feminist Research?

As stated in the introduction to this chapter, feminist research is a broad church that spans many different fields and disciplines. There are several different common features of feminist research that create the ties that bind feminist researchers regardless of what issues they are investigating. Primarily feminist approaches focus on gender ideology and gendered relations of power (Litosseliti, 2006) and arose as a challenge to a male-dominated, patriarchal world. However, it is not necessarily the gendered aspect of feminist approaches that we are concerned with as discussed below, although this may feature depending on the issue of concern as we shall see later in this chapter.

Crucially feminist research is located within critical approaches to exploration and shares many features with other such approaches. Critical approaches largely reject mainstream assumptions about how knowledge is created and challenge natural science approaches to research including notions of objectivity and determinism. This includes a necessary questioning of experimental and quantitative methods of investigation and much less of a determinist focus at the individual level. Critical approaches seek to uncover the structural factors that lead to inequality and inequity in lived experiences. This inevitably means that such approaches are political in nature aiming to redress power imbalances and to hear the voices of the marginalised and disenfranchised (Bhavnani et al., 2020). Like other critical approaches, feminist research highlights the social, political and cultural dimensions of lived experience.

Feminist approaches provide three main challenges to mainstream research. Firstly, they highlight and contest male bias where, historically at least, research findings from largely male cohorts have been generalised to women; secondly, they often reject the use of quantitative methods of investigation which detract from subjective, lived experience and thirdly, they counter the positivist approaches to mainstream research that tend to promote victim-blaming (Wilkinson, 2004). In addition, feminist approaches aim to take into consideration, and acknowledge, the impact of wider factors on experience, such as the environment (Ussher, 2006). As Blaikie (2007) argues, such approaches reject grand narratives and the notion of absolute truth, critique ideas of representation and privilege discourse, relativism and subjective realities.

Feminist research therefore often means taking discursive approaches to data generation. It is difficult to hear or appreciate people's lived experiences and subjectivities without talking to people. For this reason, feminist research frequently (but not always) privileges qualitative means of discovery – discursive methods necessitating dialogue of some kind, although of course, quantitative means of investigation can also be used for feminist purposes (Leung et al., 2019). Feminist approaches to research offer opportunities to examine existing structures of power and dominant knowledge, and to challenge these.

The research 'relationship' in feminist research also distinguishes it from other, more mainstream approaches. Crucially feminist researchers recognise that the research process is permeated by issues of power, as is the relationship between the 'researcher' and the 'researched' (Fine, 2012). Power can be considered within many domains – the power of research, the power of the researcher and the power of the researched. Feminist approaches seek to privilege the latter whilst acknowledging that 'the power imbalance between the researcher and the researched is inescapable' (Cross & Warwick-Booth, 2016: 8). The research methods employed therefore have a role in minimising this imbalance through the co-production of knowledge whereby the participant(s) are positioned as co-researchers and power is shared (Fisher, 2016). Reciprocal, participant-led, collaborative means of investigation sit well within such approaches (Miller & Bolton, 2007), for example, using peer-researcher investigation (Woodall et al., 2018b).

9.3 Why Is Feminist Research Relevant to Health Promotion Research?

The rational, objective, hypothetico-deductive scientific model of investigation simply does not fit with the ethos of health promotion as we see it. In keeping with the view of Dixey (2013: xi) we view health promotion as a 'social movement' that is primarily concerned with 'bringing about greater social justice' and with people's empowerment which means working with people and challenging top-down, expert-led approaches as well as the politics that drive them. Feminist approaches provide a framework for research which is much more in keeping with the principles that guide health promotion and acknowledge that the way we understand the world is never value-free. Health promotion practice and research is underpinned by a set of values that informs what we do, how we do it and why.

Feminist approaches also challenge the notion that research is carried out 'on' or 'done to' people. The participatory, co-produced knowledge approaches that are used to align with the philosophy of empowerment are central to what health promotion is concerned with. Like health promotion, feminist approaches view power and the (re)production of it as pivotal to how the world operates. This enables a focus on issues of inequality and injustice, and the potential to challenge social norms (Lazar, 2005) which are also central to health promotion. Feminist researchers privilege women's stories and experiences exploring these in order to identify and challenge issues of gender inequality (Stainton-Rogers, 2011). Whilst health promotion research does not focus exclusively on women (although most of the authors' own research does), the attendant focus on inequality is where the commonality lies such that it is 'generally characterised by working with, and alongside, those facing inequalities or exclusion from society' (Woodall et al., 2018b: 176).

The participatory nature of feminist and health promotion research is another common feature. Our own approach to research recognises that we, as the researchers, are not playing a neutral part in the process (Ryan-Flood & Gill, 2010). We are therefore more actively involved in the research process, working alongside women and in turn giving more of ourselves in the context of our research relationships. In seeking to promote meaningful participation in the research process and to foster inclusion, our feminist stance sits alongside the core values in health promotion research (Woodall et al., 2018a).

The direct parallels with feminist research can be seen within the four areas of distinction of health promotion outlined in a paper by Woodall et al. (2018b). Firstly, the application to real-world contexts. Critical approaches to research advocate for change to happen as a result of the research rather than simply undertaking research for research's sake. The central purpose of both feminist and health promotion research is to seek to promote positive changes in society. For feminists, this is about challenging the patriarchy and transforming women's experiences and opportunities. For health promoters, this is about challenging inequalities in health and transforming people's opportunities to take control over their lives and health, as outlined in the definition of health promotion provided by the seminal Ottawa Charter (World Health Organization, 1986). Secondly, a set of clear underpinning values drive the research process, some of which align very closely in both disciplinary fields, for example, participation, empowerment and the centrality of lay perspectives. Thirdly, the nature of the research relationship where power and control are shared, lay perspectives are central and knowledge is co-produced, inform our data collection approach and techniques. Finally, the diversity of methods that are used which includes those that are more qualitative and participatory in nature. This often calls for pluralistic approaches (Leung et al., 2019) and approaches that are more socially oriented in nature such as participatory action-research which is typically designed to improve situations and provide solutions (Koshy et al., 2010). In short, feminist and health promotion research have much in common, the most vital aspect of which is aiming to bring about some kind of transformation (Kaur & Nagaich, 2019).

Much of the health promotion research on women has been dominated by positivist models which decontextualise women's experience and fail to consider the socio-cultural context in which they live their lives. We emphasise the importance of qualitative feminist approaches to data collection, attempting to give voice to those whose experiences are less visible (e.g. marginalised women experiencing domestic abuse). There is a need to privilege women's experiences, detail their own perspectives and enable them to be heard through the research process, which is essential to promote health. The next section details the application of feminist principles in our own research practice outlining how such approaches can inform health promotion research and knowledge production.

9.4 Application of Feminist Principles in Our Own Practice

We have aimed to apply feminist principles in our evaluation work which examines the effectiveness of third-sector interventions designed to improve women's health and lives. Whilst the interventions, we evaluate differ in focus in terms of their target audience (for example, the age of women included) and inclusion criteria for service support (complex needs, vulnerability and multiple disadvantages, domestic abuse and/or mental health needs), their intended outcomes are similar. We collect data from a number of sources during each evaluation, but we primarily attempt to use methods that place women's voices at the forefront of our findings by directly eliciting their experiences and perspectives. We contend that qualitative methods are best suited to exploring women's subjective experiences in a supportive and co-productive way, particularly where women have complex needs, and live in difficult circumstances (Cross & Warwick-Booth, 2016; Warwick-Booth & Cross, 2020).

We use feminist principles to enable women to be actively involved in the research and to privilege their own voices. Involving service users in evaluation can work to empower women who have experienced abuse and add to their sense of achievement (Valpied et al., 2016), and survivor voice about women's experiences of multiple disadvantage and abuse is notably missing from the evidence-base (National Commission on Domestic Violence and Multiple Disadvantage, 2019). Our feminist research done by women, for women is driven by our own political and ideological stance through which we aim towards transformation as part of accepted research practice within health promotion. Applying qualitative research techniques has enabled us to illustrate some of the 'softer' outcomes perceived as important from a service user viewpoint, but which are not possible to capture using quantitative tools. Our intention is that the views of women with experiences of complex needs can be used to guide funders and practitioners in providing evidence-based gender-specific support (Warwick-Booth & Cross, 2020).

We have used a mixture of focus group discussions, observations and individual interviews within our practice. In some instances, our tools (interview and focus group schedules) have been co-produced with service user input because we aim to design data collection activities to facilitate an inclusive, flexible and non-threatening approach, underpinned by health promotion values. Our approaches aim to provide a mechanism to generate richer data and a more meaningful experience for those being 'researched' (Cross & Warwick-Booth, 2016).

We have employed creative methods as a mechanism to enable women to explore and discuss their experiences (Warwick-Booth & Coan, 2020c). For example, we used a group activity (in which we also participated) with images from magazines, stickers and coloured pens to produce an individual storyboard during conversations with young women. We explored their journeys by asking them to report on their issues at the start of their engagement with the intervention, their present status at the time of the data collection and their future goals (Cross & Warwick-Booth, 2016). In the context of another evaluation, we asked women to participate in a creative exercise to give a message to other women in similar circumstances, following their participation in a focus group discussion. Women wrote down their advice to others using message cards to write their thoughts, with prompts on, such as 'my message to a woman in a similar situation is…'. We captured these messages in photographs and used them to produce a slide show with accompanying narrative (Warwick-Booth & Coan, 2020b).

We have also explored measures of success from the viewpoint of service-users, for example, we asked women what they thought were the important outcomes that needed to be measured within our evaluation. They highlighted outcomes such as the importance of improved sleep, feelings of positivity and their improved ability to stay safe (Warwick-Booth & Coan, 2020a).

Finally, we have trained women as peer researchers, to facilitate greater service user participation in co-production. Relinquishing researcher control is a distinctive feature of both health promotion and feminist research (Woodall et al., 2018a). However, despite our attempts to be inclusive, support participation by involving service users and relinquish some control, our evaluation data sets are based upon small sample sizes, without peer researcher data collection. This reflects that research with vulnerable, marginalised women is difficult because of the nature of their lives and their ability to engage with formalised activities (Balaam & Thomson, 2018), such as focus group discussions.

9.5 Implications for How Research Is Done

Whilst we have used feminist principles to give voice to seldom heard women, it remains that case that the wider context in which we conduct health promotion research is framed by a neoliberal imperative. Gendered interventions serve as a mechanism of neoliberal governance encouraging women to conform to what it means to be a good citizen and a good woman (defined as family-focussed, health-conscious and in control of one's self). Conformity to these expectations is taken as a measure of each intervention's success by funders, project workers and women alike (Cross & Warwick-Booth, 2018). As evaluators, we have attempted to balance the need for evidence of success against our own concerns about interventions re-inscribing the hegemonic conditions of women's circumstances and neglecting to address the social, economic and cultural context in which their lives are played out. However, funders and service providers alike remain keen to evidence quantifiable change resulting from gendered interventions supporting 'vulnerable' women

(Cross & Warwick-Booth, 2018). Brown et al. (2017: 423) note that policies designed to address vulnerabilities are 'a persuasive feature of the political landscape', with this discourse being used to support interventions with moral and ethical intentions. Brown (2014) contends that such interventions are used to manage and classify individuals and groups. The learning that we have gathered from this evaluation work is that those who do not engage with interventions can be labelled as problematic, and those in receipt of services are rarely asked about what matters to them in terms of the results of the support that they are given. Outcome measures are determined by funders and service providers, who tend to remain concerned with showing a positivist view of success such as the number of women supported by their programme, and value for money achieved through cost savings estimates.

Furthermore, the evaluation team in all instances consisted of white, middle-aged female academics, with employment status defining them as middle-class professionals. Inevitably, this positionality was present despite our attempts to co-produce knowledge via 'dialogic communication' (Blaikie, 2007: 201), and position ourselves as being alongside participants (Cross & Warwick-Booth, 2016). Power imbalances between researchers and those who we work with (the researched) are inescapable and tensions remained (Humphries et al., 2000) despite our attempts to minimise these, which included dressing in less formal ways during data collection, meeting women in places of their choice (community locations) and participating in activities with them. On one occasion, a member of the evaluation team was asked by a service user if they were a Police Officer, despite the introduction of us as a team from the university. Researcher positionality and power is an under-explored area in health promotion research and warrants further attention.

Finally, the importance of researcher self-care also needs consideration in that emotional labour has been an increasing concern for us as evaluators working with women who talk to us about their complex, harrowing and very upsetting circumstances. Reflexivity has been proposed as a mechanism to deal with the self in qualitative research, though it remains complex and debated (Delderfield, 2018). Delderfield (2018) also outlines the need for researchers to employ a myriad of strategies to support their own emotional processing and practical processing. Our strategies include debrief, writing reflective notes and self-care. However, the affective components of co-production and working with vulnerable communities need more recognition because despite the use of such strategies, the stories we hear are upsetting and uncomfortable, and cause an emotional response. Furthermore, as researchers, we align ourselves to certain theories on an emotional level: we are passionate feminists who position ourselves as gendered subjects within our research practice (Cameron, 2018). Other health promotion researchers may engage in data collection that affects their own emotional state given the focus of health promotion research on inequalities and disadvantage. Therefore, researcher self-care and the management of emotions again need on-going discussion as part of the development of the evidence base.

9.6 Concluding Comments

We have argued that feminist research is hugely varied, but that the broad principles which it encompasses are useful for us as gendered subjects researching the effectiveness of third-sector interventions designed to improve women's health and lives. We see our feminist research as closely aligned, in many ways, with health promotion research and therefore attempt to use our evaluation practice to support knowledge production in this field. Throughout this chapter, we have outlined the ways in which we have applied feminist principles in our data collection and tried to enable service user participation in the co-production of evidence. However, context serves to influence the data produced, and our own positionality remains a challenge despite our continuing attempts to minimise power dynamics. Emotional labour also remains an ongoing aspect of our work, with these wider issues being of concern more generally for health promotion researchers.

The discussion that we have presented in this chapter is important for structuring the field of health promotion research because it highlights the political nature of practice in terms of our own micro-political stance within the wider social space of a neoliberal policy climate. Therefore, we conclude that we should use health promotion research as a tool to both measure change in relation to interventions, but also to facilitate positive outcomes by creating space to hear the voice of seldom heard groups.

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Part II

Methodological Responses to Enabling Interactions Among All Relevant Knowledge

Chapter 10
Etuaptmumk/Two-Eyed Seeing: A Guiding Principle to Respectfully Embrace Indigenous and Western Systems of Knowledge

Marie-Claude Tremblay and Debbie H. Martin

Key Concepts Definitions

- *Two-eyed seeing*: Two-eyed-seeing is a guiding principle that fosters the respectful and equitable consideration of Indigenous and Western ways of knowing and understandings in order to achieve solutions that address issues of shared concern. Using both or many diverse views or eyes creates a unique and alternative vision that values the distinct contributions of Indigenous and Western ways of knowing
- *Indigenous knowledge(s)*: Indigenous knowledge(s) is knowing that is intrinsically linked to territory (land, water, air) including relationships with all things, living and non-living within their territory.
- *Relational epistemology*: Relational epistemologies propose that the knower has a connected, respectful, and reciprocal link with the object of knowing and knowledge. The relational nature of reality emphasizes the inter-connectiveness of humans with all things, both living and non-living, as well as recognition and respect to the Creator and indeed, all of creation. The relational epistemologies do not, therefore, consider individuals 'in themselves', but rather in continuous relationship with the whole of their world, human and non-human.

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10.1 Introduction

Two-eyed seeing, or *Etuaptmumk* as it is known in Mi'kmaq, is a guiding principle conceived and promoted by Mi'kmaw Elders Albert and Murdena Marshall (Eskasoni First Nation) as well as their friend and academic colleague Dr. Cheryl Bartlett (Bartlett et al., 2015; Iwama et al., 2009). Although it was introduced to the academic community nearly two decades ago, the intention behind Etuaptmumk/Two-eyed seeing has been reflected among many Indigenous communities for far longer. Etuaptmumk/Two-eyed seeing is based on the premise that there are diverse ways of knowing, each of which provides a partial understanding of the world, and that bringing together these different perspectives, respectfully, allows new understandings to be reached on how to address issues of shared concern (Bartlett et al., 2015; Iwama et al., 2009). A key feature of two-tyed seeing is that it respects and upholds the unique characteristics of diverse perspectives, creating new understandings that would not be possible through one perspective alone (Martin, 2012).

> Two-eyed seeing adamantly, respectfully, and passionately asks that we bring together our different ways of knowing to motivate people, Aboriginal and non-Aboriginal alike, to use all our understandings so that we can leave the world a better place and not compromise the opportunities for our youth (in the sense of Seven Generations) through our own inaction. (Iwama et al., 2009, p. 5)

This chapter discusses the principles and relevance of Etuaptmumk/Two-eyed seeing for health promotion research. Health promotion is an emerging discourse of public health that emphasizes a social explanation and a holistic conception of health (Robertson, 1998), which was formalized by the Ottawa Charter in 1986 (World Health Organization, 1986). It places citizens' and communities' participation as well as empowerment at the centre of health (World Health Organization, 1986) and moves public health towards research practices that recognize that alternative sources of knowledge may have critical insights for advancing the health and wellness of populations. Over the last decades, the field of health promotion research has developed true to this vision, welcoming participative approaches that give a central role to local stakeholders and communities, and promoting a variety of designs and methodologies which do not assert the superiority of one type of evidence over others. Moreover, health promotion research is committed to reducing social inequities (including power and epistemic inequities) and places a special focus on marginalized populations. We assert that acknowledging and respecting different systems of knowledge and worldviews are an imperative for the continued advancement of health promotion research.

10.2 What Is Etuaptmumk/Two-Eyed Seeing?

Two-eyed seeing stems from a willingness to reconcile Western and Indigenous ways, recognizing that each is valuable and offers important insight about the world and how to live on it. Its origins stem from a teaching from the late Mi'kmaw Chief, Charles Labrador. He offered that we need to be more like the trees, whereby distinct species of trees rely upon and nurture one another, valuing and building upon the unique features that each species of tree brings to an ecosystem. He says, 'Go into a forest, you see the birch, maple, pine. Look underground and all those trees are holding hands. We as people must do the same' (Iwama et al., 2009, p. 3). Recognizing the critical importance of sharing this teaching more broadly, Elders Albert and Murdena, as well as Dr. Bartlett, conceived of two-eyed seeing as a means to do just that.

Moving two-eyed seeing into the realm of research requires an acknowledgement that different knowledge systems are not simply merged or melded together; they are intended to occupy a space where each perspective is considered necessary for a more fulsome understanding of the issue at hand. New understandings or insights that emerge from employing two-eyed seeing must therefore be co-constructed. This encourages co-learning to take place rather than one party imparting knowledge onto another in a unidirectional manner. In speaking to many diverse audiences about two-eyed seeing, Elders Albert and Murdena Marshall and Dr. Cheryl Bartlett have often used the image of two people sitting by a sacred fire as an analogy for co-learning. A sacred fire offers space for people to be present and to listen carefully for the purpose of truly hearing what another has to say, which is very different from hearing something for the purpose of responding.

10.3 Why Do We Need Etuaptmumk/Two-Eyed Seeing?

The colonization of Indigenous lands by European explorers did not simply involve settlement. For its success to be absolute, it also required the colonization of knowledge systems, or ways of knowing. Along with the assertion of sovereignty over Indigenous lands was the simultaneous assertion of the superiority of Euro-Western knowledge systems, which have been presented as the only valid frame to produce knowledge. The Eurocentric, Western paradigm of science has long praised objectivity, separability, reduction, and logic as fundamental principles to the scientific method (Morin & Le Moigne, 1999; Denzin & Lincoln, 2005). While Western knowledge systems have allowed technical progress and scientific discoveries that have contributed to the improvement of population health, they have also participated in devaluing and dismissing Indigenous systems of knowledge, beliefs, and worldviews (Martin, 2012). Settler research in Indigenous settings rarely involved the participation of, much less the full engagement of, concerned communities, which had no control over the research methods, the results interpretation, nor any benefits that might emerge from the research (Durst, 2004). This has contributed to mistrust of the research process and a reluctance towards engagement in Western scientific research. For many Indigenous communities, Western scientific research is viewed as an instrument of oppression and colonization over Indigenous populations (Assemblée des Premières Nations Québec-Labrador, 2014; Durst, 2004).

Although Indigenous peoples globally have resisted colonial pressures to denounce their own rich systems of knowledge since contact, it can be said that since the 1990s, there have also been a growing number of Indigenous scholars and allies who are actively resisting classic Euro-western research approaches that involve Indigenous communities and cultures (Assemblée des Premières Nations Québec-Labrador, 2014; Royal Commission on Aboriginal Peoples, 1996). In tandem, there is also a resurgence of Indigenous research grounded within the very specific cultural and geographic localities of diverse Indigenous peoples. Through these movements, portions of the academic community have become more conscious of the historical irreconcilabilities and injustices associated with classic research conducted in Indigenous settings. From within academia, many initiatives have since emerged, aimed at establishing key principles of research with Indigenous communities, calling for more respect, equity, and reciprocity (Royal Commission on Aboriginal Peoples, 1996; Conseil de recherches en sciences humaines du Canada et al., 2010; Assemblée des Premières Nations Québec-Labrador, 2014; The First Nations Information Governance Centre, 2016). And from within Indigenous Nations themselves, strong research governance protocols have been developed, aimed at prioritizing their own identified needs rather than responding to the external demands of researchers. Such initiatives encourage a shift to participatory, community-based, culturally appropriate, and action-oriented research approaches (Martin, 2012; Conseil de recherches en sciences humaines du Canada et al., 2010). Many of these approaches promote or require Indigenous epistemologies and methodologies as a strategy to resist the replacement of Indigenous ways and knowledges with Western ones (Carlson, 2016).

At the same time, there is a growing recognition of the crucial importance of culture in improvement of Indigenous population health (McGavock, 2016). For instance, infusing Indigenous culture into addictions programming for Indigenous peoples is considered essential for these efforts to be successful (Rowan et al., 2015). Traditional ways of knowing might hold key insights as to how to better address health issues faced by Indigenous populations, many of whom are still experiencing important health inequalities in comparison with the rest of the population (Martin, 2012). 'Yet government solutions often focus on simplistic biomedical approaches (…) and too often ignore the cultural strategies proposed by Indigenous leaders themselves, which address Indigenous relationships with language, tradition and land'. (McGavock, 2016) In this context, foregrounding Indigenous ways of knowing and worldviews in solving health problems facing Indigenous peoples appears essential.

However, two-eyed seeing asserts that it is not enough to simply 'include' Indigenous ways of knowing when considering issues that are of direct concern to Indigenous peoples. Rather, it is incumbent upon researchers to heed the wisdom of the Indigenous peoples of their territories if they are to address some of the major ecological and health crises faced globally, including the COVID-19 pandemic and the climate crisis. Two-eyed seeing presents us with a means to re-shape our understanding of the world and to acknowledge the wealth of knowledge of those whose ears are closest to the voices of the earth that of Indigenous peoples. Although derived from Mi'kmaq culture, two-eyed seeing has resonated among many diverse Indigenous populations and other cultural minorities since they may either have already articulated similar understandings of the world through their own teachings, or they may already abide by some or all of the principles that guide two-eyed seeing (Wright et al., 2019).

10.4 How Can We Apply Etuaptmumk/Two-Eyed Seeing in Research?

Two-eyed seeing and the principles it imbues are not new; in fact, it has been argued that the very survival and means through which Indigenous peoples have thrived have hinged on the acceptance and respect of diverse and even sometimes contradictory perspectives. What *is* new about two-eyed seeing is its articulation as a guiding principle within the realm of academia and the opportunities it presents specifically for the field of health promotion.

In this regard, two-eyed seeing involves the positioning of the intuitive, the spiritual, the metaphorical, and the holistic dimensions of Indigenous ways of knowing *alongside* the linear, objectivist, and analytical dimensions of Western science (Rowan et al., 2015; Martin, 2012). Thus, this is not simply a methodological undertaking, rather it is a commitment that requires consideration within all dimensions of one's worldview – from the ontological, epistemological, methodological to the ethical levels. How these dimensions relate to each other is illustrated in the following Table 10.1.

Table 10.1 Four dimensions of knowledge paradigm

4 dimensions of a knowledge paradigm	Ontology	Epistemology	Methodology	Ethics
	Beliefs regarding the nature of the knowable reality	Beliefs regarding ways of knowing and nature of knowledge	Beliefs regarding valuable strategies to apprehend the knowable reality	Value system underlying knowledge production
Questions asked	What is there to know?	How do we know what we know?	How can we acquire knowledge?	Why is this knowledge valuable or valid?

At ontological and epistemological levels, two-eyed seeing asks us to consider knowing as a relational concept, ‘a perception or construct of interrelatedness – with a spiritual dimension’ (Iwama et al., 2009). In this respect, epistemology entails a relational, respectful, and reciprocal link with reality. The relational nature of reality brings to the fore our inter-connectiveness with all things, both living and non-living, and where the knower always recognizes, values, and gives utmost respect to the Creator and indeed, all of creation (Iwama et al., 2009). Spirituality deepens what we are able to know about the world and our place in it (Royal Commission on Aboriginal Peoples, 1996).

On a methodological level, some of the means through which Indigenous ways of knowing draw upon Indigenous knowledge systems is through narratives, stories, proverbs, metaphors, songs, dreams, and spirituality (Kwame, 2017). Indigenous methodologies have been described as ‘a weaving of patterns within nature and relationships among love, land and life’ (Wright et al., 2019). A key feature of methodologies that stem from Indigenous knowledge traditions is that they are action-oriented, whereby one is encouraged to learn by doing. In these approaches/traditions, the gap between theorizing and acting occurs in the liminal space of Storywork (making meaning with and through stories), which, in and of itself, is often tailored to the listener and the circumstances surrounding when, where, and how the story itself is being shared (Archibald, 2008). Knowledge-building processes such as storytelling engage lessons learned from the past to inform the future.

On an ethical level, the intention of two-eyed seeing is not to challenge or question the value systems underlying other distinct knowledge systems; rather, it challenges us to learn to uphold and respect the inherent value of diverse ways of seeing the world. Thus, rather than requiring other knowledge systems to ‘accommodate or change’, it, instead, requests that there is a commitment to mutual respect and co-learning (Iwama et al., 2009), based on relational accountability.

Bartlett et al. have proposed eight lessons for relevantly and respectfully ‘weaving indigenous and mainstream knowledges’ (Bartlett et al., 2012, 2015) in the context of science educational curricula. These lessons include acknowledging that we need each other and must engage in a co-learning journey; being guided by two-eyed seeing; viewing science in an inclusive way; doing thing in a creative, ‘grow forward’ way; becoming able to examine and discuss our values, actions, and knowledge; using visuals; weaving back and forth between both worldviews; being guided by an advisory council of knowledgeable stakeholders from both worlds (Bartlett et al., 2015). These principles emphasize the need to adopt a position of humility that encourages co-learning, to be reflexive by examining our own beliefs, assumptions, and values in the research process, and to be welcoming of alternative perspectives and spiritual wisdom. Honesty, openness to change, and patience from both sides are also required in the application of this principle (Wright et al., 2019).

10.5 Relevance and Examples of Two-Eyed Seeing in Health Promotion Research

Two-eyed seeing is articulated as a guide for life and was not conceived as a methodology or approach for undertaking research. However, we believe that this guiding principle has value to rethink the way we conduct research in health promotion, and informs solutions and policies concerning Indigenous and Western knowledges. In light of the previously proposed definitions and principles, two-eyed seeing appears highly relevant to promote a genuine, equitable, and respectful participation of Indigenous stakeholders in research, which is one of the core principles of health promotion research. This participation is not only articulated at a methodological level, but also from ontological, epistemological, and ethical standpoints. By so doing, two-eyed seeing can be conceived of as a strengths-based, empowering guide for researchers that acknowledges the inherent and long-standing value of Indigenous knowledges, methodologies, and worldviews. By encouraging partnership with local communities, empowerment, co-learning, and reflexivity from both sides, two-eyed seeing appears as highly relevant to achieve many of the ideals of social justice and community engagement purported to underpin health promotion research.

In recent years, some authors have reported how they have employed two-eyed seeing in health promotion research, with great diversity in strategies and principles of application. For instance, Hatala et al. (2017) have explored how Plains Cree and Métis youth experience time and conceive future, and how their conception of these ideas relates to their own resilience strategies. To do so, they used a qualitative approach based on a two-eyed seeing framework of research, bringing a modified grounded theory methodology together with an Indigenous methodological research design. Members of the research team and a community advisory research committee (involving parents, elders, and local youth) were conceived as co-creators of knowledge. The researchers enacted relational accountability by offering smudging and traditional prayers at the start of the interviews, in order to create an 'ethical space'.

Carter et al. (2017) used two-eyed seeing to explore practices that support positive cultural identity, as well as ability to live a balanced life, among Indigenous men living in Toronto. To apply two-eyed seeing, the authors engaged in self-location prior to embarking in research, used a narrative approach and storytelling in line with Indigenous ways of knowing, and worked with an advisory committee in most steps of the project. They also used the Anishinaabe symbol-based reflection method, an arts-based research method whereby the creation of symbols, crafts, artwork, poem, or song opens the door to expression and healing.

In a case study researching the impact of forced displacement of Elders in Manitoba, Martin et al. (2017) applied two-eyed seeing by adopting a critical stance, integrating the perspectives of different key informants (Elders, healthcare providers, family caregivers, community leaders) and actively analysing these perspectives with a community advisory board. In this research, two-eyed seeing provided a ‘panoramic lens’ through which to analyse the data and allowed a comprehensive understanding of how intergroup relations and multi-level government policies shaped the experiences of Elders and health outcomes.

Two-eyed seeing is consistently described by Bartlett, Marshall, and Marshall in their various teachings as a ‘guiding principle’. But as others have pointed out, when researchers have included the term in their own research, it has been used in somewhat inconsistent and sometimes even contradictory ways (Roher et al., 2021; Wright et al., 2019), and those ways are not always how the original authors may have intended. Two-eyed seeing has been considered as an ethical framework, a guiding principle, a theoretical framework and has been enacted in different ways by researchers (Roher et al., 2021). We assert that this confusion might come from the fact that two-eyed seeing has only recently entered the Euro-western lexicon of research. Therefore, there is a need for better understanding, interpretation, and refinement of this concept in the literature. In addition, if we accept two-eyed seeing as a ‘guide for life’ that is more than the sum of an ontology, epistemology, methodology, or ethical framework, we must also acknowledge that the current enterprise of health promotion research often makes it difficult to conceptualize this alternative. This is primarily because health promotion research (and indeed, much of health research) has been unfairly skewed towards non-Indigenous and most often Euro-western knowledge systems that tend to disassociate or ignore the overlapping and interconnective nature of diverse knowledges and knowledge systems. The result is that the underlying power differentials that fundamentally shape how research is undertaken are not being questioned resulting in a ‘watered down’ version of two-eyed seeing that can be tokenistic. What is concerning about this tokenistic uptake of two-eyed seeing is that it leads to further scepticism among Indigenous peoples about the level of commitment of non-Indigenous researchers towards truly engaging with Indigenous ways of knowing and, in extreme cases, the verification that Indigenous and Euro-Western knowledge systems are entirely incompatible resulting in non-participation of Indigenous peoples in research. Two-eyed seeing needs to be fully embraced as a guiding principle for undertaking research, in authentic ways that encapsulate its intention as a ‘guide for life’; otherwise, it renders obsolete the very principles and values underlying this concept. Elder Albert Marshall raised a similar concern, highlighting that the work of two-eyed seeing is not simple:

> The work can all too easily slip into a lazy, tokenistic approach in which Etuaptmumk/Two-eyed seeing and similar efforts quickly become mere jargon, trivialized, romanticized, co-opted, or used as a “mechanism” where pieces of knowledge are merely assembled in a way that lacks the S/spirit of co-learning. (Marshall, 2018)

This is why a genuine commitment to co-learning from both sides, a reciprocal trust, and equal relationships between Indigenous and Western researchers must be pursued to ensure the application of this principle in research. Bringing together Indigenous and Euro-western knowledges and worldviews is not for the faint of heart; it must be realized consciously, respectfully and thoughtfully, in order to avoid potential tokenism or deformation of cultural perspectives.

10.6 Conclusion

Health promotion aims to ensure equal opportunities to enable all people to achieve their fullest health potential and as such has a deep focus on inequities experienced within and among populations (World Health Organization, 1986). It puts forward principles such as social justice, equity, participation, empowerment, and community-based action (World Health Organization, 1986). *Etuaptmumk*/Two-eyed seeing aligns well with health promotion values and principles; it is seen as a guiding principle that could potentially 'facilitate more inclusive and socially just programs and policies with Indigenous Peoples' (Martin et al., 2017, p. 445). This guiding principle addresses the ontological, epistemological, methodological, and ethical dimensions of knowledge production. In fact, applied to research, two-eyed seeing questions power dynamics underlying science, including epistemic injustices related to race and ethnicity. By legitimating Indigenous knowledge and perspectives, two-eyed seeing offers a real opportunity for knowledge production that promotes, highlights, and asserts the empowerment and health of Indigenous populations.

This chapter has provided a thorough description of *Etuaptmumk*/Two-eyed seeing as a guiding principle, including a description of its philosophical underpinnings, as well as examples of how it has been employed within health promotion research. In so doing, we have offered a means through which health promotion, as both an academic pursuit and a profession, might consider encouraging Indigenous ways of knowing to work alongside Euro-Western science when identifying how to address the pressing health and social crises that are being faced by Indigenous populations and society.

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Chapter 11
Capturing the Lived Experience of Place in Health Promotion Research: In Situ Methodologies

Stephanie A. Alexander, Martine Shareck, and Nicole M. Glenn

Key Concepts Definitions

- *Lived experience*: Associated with phenomenological research and philosophical traditions, lived experience refers to how people live through and respond to concrete, specific moments in their lives (van Manen, 2014). It includes what they notice with all their senses – what they hear, smell, see, feel, taste, and so on. A focus on lived experiences is an attempt to understand the world as it is lived through, rather than as conceptualised, measured, or reflected on. The aim is to gain a deeper understanding of the meaning of everyday experiences, the ordinary and extraordinary.
- *Place*: Place is understood as being more than simply the physical space around us or specific locations. Place is context-specific and meaning-rich. The concept encompasses a person's life, experiences, personal memories, and associations and involves their subjective responses to the social and physical environments.
- *Situated knowledge*: Viewing knowledge as situated means acknowledging that all knowledge emerges from positional perspectives and that these positions are contingent.
- *In situ*: Literally translated from Latin it means to be 'on site' or 'in position' or also means that something is happening 'locally' or 'in place'. For research purposes, it is sometimes used interchangeably with 'place-based', 'mobile', or 'go-along' methods, all of which allow the researcher to observe and understand a participant's behaviours and experiences in the moment.

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11.1 Introduction

At its inception, the field of health promotion made a clear link between the places people 'live, work and play' and their health and well-being (World Health Organisation, 1986). As such, the development of a settings approach, whose key principles include community participation, empowerment, and equity, and which focuses on the interplay between individual, environmental, and social determinants of health, is foundational for health promotion research and practice (Shareck et al., 2013). In situ methodologies recognise that people's health and well-being are contextually situated and emergent. They are strongly aligned with health promotion principles and values because they acknowledge that lived experiences of place are essential for understanding health and well-being, and inequalities therein. The general objective of this chapter is to highlight this alignment and illustrate how in situ methods can help address existing challenges for health promotion research.

In situ methodologies broadly include 'data gathering techniques and modes of analysis carried out with research participants as they experience and move through settings that form the context of the research question' (Foley et al., 2020, p. 2). They are well-established in the fields of anthropology, ethnography, sociology, and geography – the social sciences more broadly (Bergeron et al., 2014; Carpiano, 2009; D'Andrea et al., 2011; Kusenbach, 2003) – where explorations of experiences of place are central. In situ methods are relatively novel to health promotion research although they have been gaining popularity as researchers in the field increasingly work across disciplines, acknowledge the critical role of lived experiences, and aim to more fully understand how places and local contexts are related to the population's health (Foley et al., 2020).

Using in situ methodologies generally entails the researcher and participant engaging in some form of mobility through a place while gathering data, such as walking, biking, driving, or using public transportation (Finlay & Bowman, 2017). Data collection is often done in person via interviews or discussions, or by taking photographs or videos while the participant guides the researcher through a particular place (Alexander et al., 2014; Glenn et al., 2020; Miaux et al., 2010; Wang et al., 1998). What all mobile and in situ methods have in common is the centrality of place, the real-time interaction with context, and a focus on meanings and participants' lived experience. In situ methods have been used indoors, for example in grocery stores to explore low-income earners' food shopping practices (Thompson et al., 2013), as well as outdoors, to examine, for example, pedestrians' practical and sensory experiences of mobility in an urban environment (Miaux et al., 2010), and in schoolyards to explore barriers to children's physical activity (Pawlowski et al., 2018).

Specifically relevant to one of the principle tenets of health promotion research, in situ methods involve research procedures that foster genuine participation (Foley et al., 2020). The participants act as guides leading the researcher through their worlds (Alexander et al., 2014; Carpiano, 2009; Glenn et al., 2020; Kusenbach, 2003; Miaux et al., 2010) while the researcher takes a back seat. The participants

Box 11.1 Dos and Don’ts of In Situ

- DO take a participatory approach when conducting in situ research. Think about balancing the burden of participating in such an approach with the benefits.
- DO think about the role of the researcher, the potential power imbalances and how to reduce the hierarchical divide when designing an in situ study.
- DO preserve the uniqueness of in situ methods when adapting them for use during and post-COVID-19 – i.e., consider how the sounds, smells, emotions, and playfulness of the approach can be maintained.
- DON’T use a rigid or one-size-fits-all approach. Adapt the method to the specific research question, population, and context – consider the feelings of safety, trust, and the sensitivity of the topic.
- DON’T rely on technology alone for adaptations of the in situ method – this could alienate or exclude segments of the population and exacerbate inequities. Be creative and account for the needs, skills, and interest of the target population.

choose the places they want to visit and discuss, instead of the researcher. This role reversal challenges the power dynamics that often exist between researcher and participants (Carpiano, 2009; Finlay & Bowman, 2017). This shift in power is also facilitated by centrality of the participants’ experiences and interpretations to in situ methods. Furthermore, according to Carpiano (2009), in situ methods can help us better study the specific social, cultural, or historical contexts of local areas, to develop and refine theories grounded in the lived experiences of people living in these contexts, and to generate knowledge about the relationships between place and health (see Box 11.1 for an abbreviated list of Dos and Don’ts of In situ Methods).

In this chapter, we discuss three recent health promotion projects that use diverse in situ methods across different settings and populations. Two of the projects have been completed, the third was not yet completed at the time of writing this chapter. We address some of the theoretical and epistemological currents underlying the methodologies, for instance how in situ methods embrace uncertainty in research and how this can help produce local, situated knowledge about health practices. We also draw out the connections between the in situ methodologies and various health promotion practices, values and principles, and ethical questions, such as concerns for equity, the social determinants of health, healthy settings, and the importance of lived experiences. Through this discussion, we not only highlight how in situ methodologies align with health promotion values and concerns, but also show how they can help uniquely address the emerging ethical and epistemological questions within the field and thereby contribute to its expansion.

11.2 Example Research Projects Using In Situ Methodologies

11.2.1 Study 1. Using Walking Interviews to Understand Socio-Spatial Inequalities in Smoking

This study involved go-along walking interviews (Kusenbach, 2003) with the objective of better understanding how socio-spatial inequalities in smoking arise and persist, particularly among young adults (Glenn et al., 2020). The collective lifestyles theoretical framework was used (Abel & Frohlich, 2012; Frohlich et al., 2002) to guide the investigation. The collective lifestyle framework is a heuristic device to understand the relationship between place and health and inequalities therein. Key to the framework are three concepts: social practices (i.e., our collective actions, such as how, where, and with whom we smoke), social structures (i.e., the rules, norms, and resources that govern access to power), and agency (i.e., the ability to transform the social structures through our collective practices). According to the framework, social inequalities arise due to differing structural constraints and opportunities that are available at the local level (e.g., neighbourhood) that result from the reciprocal relationship between social practices, social structures, and agency.

The participants were young adults living in five diverse urban neighbourhoods (i.e., high and low material deprivation, high and low-smoking prevalence) on the island of Montreal, Canada. During the go-alongs, the participants responded to a semi-structured interview guide focused on local social practices of smoking – who smoked, where, and how. Researchers also asked them to describe the social structures that impacted smoking practices in their neighbourhood (e.g., in/formal rules). The participants stopped during their walk to take photos of places and objects that related to smoking while describing their significance. The photos were not used as data by themselves, but instead created an opportunity to pause the walk, which elicited deeper reflections on the relationship between smoking and place.

An inductive-deductive approach was used for the analysis. Comparing findings across the neighbourhoods studied, the researchers noted how local social structures, particularly the use and meaning of resources and in/formal rules, differed in relation to neighbourhood-level deprivation and smoking prevalence. As such, potentially health-promoting practices (e.g., non-smoking, socialisation, and community) were supported by local social structures in low-deprivation, low-smoking prevalence neighbourhoods while such opportunities were constrained in high-deprivation, high-smoking prevalence places. The research team saw that through these mechanisms, socio-spatial inequalities in smoking could be re/produced. The study was designed to align with key priorities of research and community partners (i.e., local health authorities). However, these groups were not involved in the study design. Instead, the research team sought to address gaps in the larger cohort project (Frohlich et al., 2017), specifically around understanding the experiences of young adults.

11.2.2 Study 2. Understanding Experiences of Socio-Spatial Marginalisation Using Walking Focus Groups

This study involved go-along focus group discussions with youth, adults, and seniors living in two socio-spatially marginalised tower apartment buildings in Toronto, Canada. Neighbourhood-built environment resources, such as green spaces and recreational facilities, have been associated with health; however, the objective presence of such resources does not equate to access, use, and subsequent health improvements. This community-based population health intervention research project thus aimed to explore different groups' perception and use (or non-use) of resources available in the immediate vicinity of their apartment building, as well as to identify factors enabling and constraining use of the outdoor space and resources. This was to be done before and after intervening to improve the built environment, in order to assess whether interventions improved residents' perceived access to, and use of, resources, their social connectedness and well-being. The project was informed by a relational approach to place, which allows health and daily behaviours to be viewed as emerging from individual–environment interactions. It makes space not only for what people do, but also why people act the way they do, and recognises context, individuals, and the interaction between the two as objects of inquiry (Cummins et al., 2007).

Go-along focus group interview data were gathered at 6 to 8 locations scattered around participants' property. These locations were collectively identified by each group during an icebreaker session prior to the go-along and included formal places such as the community garden, and informal ones such as the 'sitting spot behind the building'. Participants then led the interviewer on a walk through the property. At each pre-identified location, they discussed experiences they had with the place, what they (dis)liked about it, and facilitators and barriers to using the resources available. The researcher performed a thematic content analysis of focus group transcripts, notes, and maps, comparing groups within a given study site, and then comparing the two sites, which differed in terms of the amenities available and wider geographical context. A range of factors influenced whether people spent time outside and used the outdoor space and resources. These included factors from the individual (e.g., preference, time), social (e.g., age, gender, employment status), physical environment (e.g., amenity quality, physical access) and community (e.g. social norms, safety) realms, which also interacted with one another. The analysis highlighted the complex and nuanced relationship between social conditions, the built environment, space and resource use, and health. The project was designed collaboratively by academic researchers, two non-profit organisations representing each of the communities who participated, and the local public health agency.

11.2.3 Study 3. Improving Children's Access to Public Spaces for Active Free Play

This study aims to improve children's access to outdoor active free play through street closures in a marginalised neighbourhood of a French city. The project will involve the participatory creation and evaluation of a play street intervention. Drawing on a sociology of childhood approach (Matthews, 2007; McNamee & Seymour, 2013), children will be involved as participants in the study, to highlight their voices in the modification of the places they inhabit, play and socialise.

The project draws on a larger Canadian research project (Alexander & Frohlich, 2019) and is divided into two parts, an intervention and an evaluation. The intervention will be developed in partnership with a local association with experience in the creation of play streets. Visual data will be collected in the form of annotated map drawings and photographs. Children will take photographs of their neighbourhoods while leading the researcher and discussing their experiences and preferences of the places. Together with their guardians, children will draw maps to point out places where they like (or do not like) to spend time, play, and socialise. For the evaluation of the play street, active free play will be examined through discussions, a play inventory (i.e., a list of play situations to examine children's forms of play), and a questionnaire about children's play activities which will be completed by children and their guardians before and after the play street is installed. Differences in children's physical activities will be measured with pedometers worn during the day for one typical week before and one typical week after the play street is installed. Observational data will be collected throughout the development of the play street to examine its overall use (i.e., who is there, how it is used, any tensions). A last set of interviews will be conducted two months after the start of the intervention to understand participant experiences of the intervention (i.e., its development and experiences of playing and socialising) and any other developments in neighbourhoods.

The researcher will maintain a close relationship with the local play street association; the intervention will be organised together with them and they will be an integral part of the evaluation. A content analysis will be conducted on the qualitative data to understand children's experiences of playing in the street (e.g., boring, fun, more spontaneous activities, no difference), the experiences of adults participating in the creation of the play street, their use of the space, and the overall impressions of it (e.g., diversity in age, gender, ethnic background, social interaction). As neighbourhoods are shaped by historical, socio-economic, and cultural contexts, the analysis will take into account how these might affect where and how children play, the physical activities they engage in, and the social activities and exchanges residents have.

11.3 In Situ Methods: Contributions to Ethical and Epistemological Challenges in Health Promotion Research

While the Ottawa Charter for Health Promotion (World Health Organisation, 1986) has inspired decades of research since its publication, some of the original commitments made by health promotion advocates and written into the Ottawa Charter for Health Promotion (World Health Organisation, 1986) remain some of its principal challenges. These challenges include the concern for equity and efforts to reduce social inequalities in health, the commitment to healthy settings and environments, the empowerment of communities through participation and by highlighting participants' lived experiences and 'voice' in matters concerning their own health, and a redistribution of power (in research and interventions) among the communities with which health promoters work.

Added to these challenges are those specifically related to the places in which populations 'live, work and play'. For instance, while health promotion research produces interventions for whole populations, it has been difficult to create locally relevant knowledge about health and to adapt this knowledge for interventions. Furthermore, while the focus of health promotion on the social determinants of health emphasises the importance of the environments and contexts in which people live, how social inequalities are (re)produced and manifest in place, and their impact on health, is more difficult to capture. This is especially true when working with underserved and marginalised populations.

Importantly, since its development as a field, health promotion has also been confronted with a significant epistemological challenge: what counts as knowledge within health promotion specifically, and, how and by what means is this knowledge re/produced? How can local, and at times marginalised, realities be honoured and prioritised as essential health promotion knowledge within a sea of biomedical 'truths' that dominate popular and 'expert'-led health discourses?

Based on our experiences of using in situ methodologies, we argue that they can uniquely contribute to addressing the existing ethical and epistemological challenges of health promotion research.

11.3.1 Addressing the Ethical Challenges

11.3.1.1 Equity and Social Determinants of Health

As we have illustrated with the example projects discussed in this chapter, in situ methodologies can provide unique insights into how people interpret and navigate familiar settings and how this relates to health and its social determinants. Compared to static research activities (e.g., traditional interviews or questionnaires), in situ methodologies prioritise the participants' perspectives and lived experiences and can shift power dynamics to minimise the hierarchical divide between researchers and interviewees (Dean, 2016). Using these methods, we move research out of the ivory tower (the domain of the researchers) and into the participants' domains: familiar places and spaces that are meaningful and significant to them. This makes in situ methods particularly well-suited to generating rich, dynamic accounts of everyday experience with members of underserved groups (Wang et al., 1998) and/or people for whom conventional interviews can be intimidating, unfamiliar, or present other challenges, such as young people (Ross et al., 2009). For example, a previous study involving children photographing their play preferences gave children the opportunity to be playful while participating (Alexander et al., 2014; Alexander & Frohlich, 2019). Indeed, the visual-tactile aspects of photo-taking were seen as an opportunity to playfully show-and-tell about the places they played and the objects with which they played. Conversations about what they were photographing during the sessions were certainly not linear, but often involved rich details about their play. The in situ photographing allowed for spontaneous 'stream of thought' associations between the places children led the researcher to and their play preferences, stories which may not have arisen during a traditional interview. In study two, despite being originally focused on the outdoor property environment, a go-along focus group discussion conducted with women predominantly revolved around their substandard housing conditions, lives as caregivers to children and ageing family members, and precarious employment, highlighting the intricate relationship between multiple social determinants of health.

11.3.1.2 Healthy Settings and Environments

In situ methods can also reveal local, place-based constraints, and opportunities for health and provide concrete information about individual and collective health-relevant practices as they are situated in different cultures and social contexts. Participants can expand their autonomy and control in relation to their future spatial capabilities by creating maps of their local play spaces, pointing out local gathering and cherished spots, or visiting new places in their neighbourhoods or other setting of interest (Eisenberg et al., 2012). During the in situ data collection in studies one and two, participants were reminded of, and sometimes discovered altogether, aspects of their neighbourhoods that they liked and felt proud of as they led the researcher through the places that were meaningful to them. This was true in neighbourhoods categorised as high and low deprivation and aligns with a strengths-based and empowerment approach to research and practice which contributes to individual capacity-building. In study two, several focus group participants discovered new places on their property where they had never been, even though they were less than 50 metres from their front door. In one study site, a small shaded area next to the community centre was already known to some participants who described it as an oasis where they could temporarily leave the hustle and bustle of the property. This same site was unknown to others who nonetheless mentioned they would happily start spending time there now that they had discovered it.

11.3.1.3 Lived Experiences and 'Voice'

Experiential perspectives are particularly relevant to health promotion research because of their ability to inform practice in a way that is sensitive to local realities. By emphasising contextually rich, situated knowledges and lived experiences (Evans & Jones, 2011), in situ methodologies are anti-oppressive and participatory. They can help to highlight the diverse lived realities of marginalised peoples and populations, which can guide research and practice to support equitable and sustainable social change (Ross et al., 2009; Wang et al., 1998). For example, when walking through their high-deprivation, high-smoking prevalence neighbourhood, many participants in study one described how the benches along the local streets were gathering places for everyone in the neighbourhood regardless of smoking or social status. Seeing the benches reminded participants that these spaces – a point of pride, community, and belonging for residents – were vital to their daily experiences of where they lived. Such insights would easily be missed or misinterpreted (e.g., benches as health damaging due to smoking rather than health promoting due to inclusion) through the use of other methods.

11.3.2 Addressing the Epistemological Challenges

11.3.2.1 Production of Knowledge

The projects we have described highlight the ways in situ methodologies can produce local, situated knowledge about the health practices being investigated to better address health promotion challenges, such as inequalities in smoking among young adults or the built environment and reduced outdoor physical activity and play. These projects also promote specific health promotion values (i.e., equity, social justice, empowerment, contextuality). In studies one and two, in situ approaches created space for different conversations to occur – contextually rich stories and memories were often sparked by interactions with the places people lived, worked, and played, which aligns with phenomenological conceptions of place as embodied and relational (Casey, 2009; Trigg, 2012). Local resources and rules were explained, their meanings explored, and reflections on who they impacted and how was discussed, which highlighted nuanced understandings rather than correlations based on assumptions of meaning (e.g., between presence/absence of tobacco retailers and smoking or between presence/absence of a basketball court and exercising). Furthermore, they provided an opportunity for participants to directly challenge preconceived notions held by the researchers or more generally among the population (e.g., the neighbourhood's bad reputation). In situ methodologies allowed participants to take ownership of their journeys and of their surroundings, situating themselves as meaningful agents in a context/place they inhabit as well as within the research.

Studies two and three are both part of evaluation studies aiming to produce actionable knowledge about built environment interventions by having participants involved in both the development and evaluation of the interventions. Mapping, participant photography, and cartography exercises that are often conducted parallel to in situ interviews are used in these projects as a way to help give participants voice in an intervention that will affect their lives. This process is also aimed to be empowering, as participants 'have a say' and take the lead in identifying problem areas, discussing experiences, and voicing preferences, while also beginning to define possible solutions that align with local needs and values.

11.3.2.2 Embracing Complexity and 'Messiness' in Research

Conducting in situ research means taking an epistemological stance that acknowledges the uncertainty and ambiguity of lived experiences, viewing them as inseparable from the social context. As such, at an epistemological level, in situ methods embrace the uncertainty involved in many research settings as a possible means of creative knowledge production. Thompson and Reynolds (2019) argue that in situ methods allow for – and indeed create – 'productive disruptions' in the research process. For instance, unlike traditionally straightforward question-answer interview exchanges, in situ methods are frequently interrupted as participants move through their environment (Brown & Durrheim, 2009; Thompson & Reynolds, 2019). These interruptions can be considered messy, distracting, and in need of editorial 'clean up'. However, an epistemological openness to the messiness of everyday lives lived in place within in situ methodologies acknowledges complexity in the production of knowledge, disrupts expectations, and encourages unexpected and truly novel knowledge to emerge (Brown & Durrheim, 2009; Thompson & Reynolds, 2019).

Thompson and Reynolds (2019) argue that 'the epistemological value of disruptive methods lies in their capacity to accommodate and illuminate the messiness and complexity of reality' (p. 2). The authors discuss one of their studies on the role of the supermarket environment in shaping the food shopping practices and food choices of residents of a deprived neighbourhood. The go-along method which was conducted in a supermarket led to several distractions and interruptions, such as suddenly stopping the conversation to examine a food display. While disrupting the flow of conversation, these excursions also produced interesting, less formal discussions in which inconsistencies in the participant's commentaries about food choices and nutritional practices surfaced. It highlighted the varying food practices participants had and the decisions that break dietary restrictions. Through this, the authors came to understand the 'food environment as a consumption environment and the practice of purchasing food as a performance that can be either "utilitarian" or "leisure"' (Thompson & Reynolds, 2019, p. 7), a distinction they suggest has implications for food purchase choices, health, and diet.

Furthermore, based on their experience of garden interviews, Hitchings and Jones (2004) noted that participants found it easier to verbalise attitudes and feelings when 'in place' and more informal and interesting interactions occurred, which produced richer data. In contrast, when the same participants were inside, they often attempted to be helpful and give the 'right' kind of answers. In study two, even when similar questions were asked during the indoor, seated icebreaker session as during the outdoor group walk, very different responses arose. The go-along walking focus groups resulted in richer, more nuanced answers when compared to the seated activity, which speaks to the possibilities for in situ methods to generate meaningful data among participants for whom conventional methods (e.g., interview, seated conversational exchange) are unfamiliar and perhaps not well-suited, such as youth.

11.3.2.3 Evoking Memories

The disruptions and interruptions inherent to in situ methods also allow for productive contradiction in participant discourses and the redirection of thoughts or the elicitation of new conversations (Thompson & Reynolds, 2019). Thompson and Reynolds (2019) suggest this is most evident when places elicit memories or associations that would not otherwise have been evoked when 'out of place'. According to phenomenological philosophy, human experience, and therein the way we know and understand the world, is inextricably tied to place (Casey, 2009). As such, place with all its sensory specificity (e.g., sights, smells, textures, sounds) can spark powerful embodied memories of events and emotions (Trigg, 2012). In situ methods can thus trigger emerging thoughts, either through visual cues, sounds, smells, or impromptu encounters, which might not otherwise emerge in a traditional interview setting (Evans & Jones, 2011; Hitchings & Jones, 2004). The interactions between researcher and participant can be shaped and even directed by the space in which they find themselves (Thompson & Reynolds, 2019).

In a previous study involving children photographing their play preferences (Alexander et al., 2019), the most interesting photographs were often taken during a secondary or unanticipated walk through a place. Children's notion of what playing was also expanded while moving through the spaces in which they played. That is, while children at first photographed rather typical play objects (e.g., balls, games) to indicate 'what play is', as they walked through their homes, yards or neighbourhoods, and were reminded of things they do 'in place', a broader and less typical conception of play emerged. For instance, passing the laundry room reminded one girl of the hide-and-seek games she played with a sibling, while a tree in the backyard reminded another child that she had risen to the challenge of climbing to the top, a recent favourite place to play for her. Similarly, while walking with a group of 7- to 12-year-old children in a neighbourhood that had very limited amenities for play, one of the focus groups in study two stumbled upon pinecones on the ground. The children automatically ran to collect some and started fighting, as this had reminded them about the pine cone fights they often had after school. The memory of the activity, and indeed the activity itself, arose from the children's interaction with and relationship to that specific place and objects found there. These examples illustrate the phenomenological idea that our experiences are not locked within our minds but instead they are found in our bodies and in relation to others and place and it is through those that they can emerge in all their rich experiential detail.

11.3.3 Critical Perspectives: Conducting In Situ Methods

In situ methods can introduce safety issues for participants and researchers (Carpiano, 2009). Moving through space while talking, interviewing, or taking photos can lead to potentially distracted encounters with busy road and footpath traffic. In some neighbourhoods, an outsider recording an interview or participants taking photographs of local places and things may be met with suspicion or altogether not be welcomed by others living there. Then, there is the privacy and confidentiality of participants to consider. They may be seen participating in the research by others in the neighbourhood, asked about their involvement, or identified later from within the findings. Although the risk is likely low for such breaches to occur, researchers need to take them into consideration when designing an in situ study and asking for informed consent. Prior discussion with one's institutional ethics review board may also be useful (Dean, 2016).

Like all methods, the use of in situ approaches also requires sufficient skills to conduct. Indeed, the method has to be adapted both to the research question (i.e., does it best answer the research question?) and to the population who will be participating (i.e., can they comfortably participate and share their experiences with the researcher?). A mis-match means using the method at the possible expense of gaining knowledge and respecting the capacity of the research team and participants (Merriman, 2014). It could also potentially exclude some people from participating due to personal challenges (e.g., mobility, hearing) and preferences, which could exacerbate existing inequities rather than contribute to their amelioration (Merriman, 2014).

Lastly, the recent COVID-19 pandemic has highlighted an additional challenge for in situ research that may be with us for some time into the future. Being present in place with participants while physically distancing and amidst fears of close contact with outsiders may prevent individuals from participating in this form of research. These challenges will have to be addressed through alternative adaptations of in situ methods to maintain the advantages of the method (Shareck et al., 2021).

11.4 Conclusion

As we have demonstrated in this chapter, in situ methods can provide unique modes of addressing some of the central challenges in health promotion research. Specifically, in situ methods can facilitate genuine participation, promote empowerment, shift power dynamics, and lead to novel understandings of social inequalities that are based on local realities and lived experiences of people in place. In situ methods are clearly worthy of a place in the health promotion research toolkit.

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Chapter 12
Using Salutogenesis to Understand People–Environment Interactions that Shape Health in a Context of Poverty

Valerie Makoge and Harro Maat

Key Concepts Definitions

- *Salutogenesis*: Salutogenesis is the study of the origins of health and assets for health (Saluto = health genesis = origin)
- *Stressors*: A stressor is a demand made on a person by the environment and for which that person does not have an immediate and readily available response (Antonovsky, 1979).
- *Generalised resistance resources*: These are factors emerging from the material environment (physical, biochemical, artefactual-material), located in the individual (cognitive, emotional, valuative-attitudinal, bodily (dis)abilities) or in the social environment (interpersonal-relational, primary group, subculture, macro socio-cultural) which enable a person to cope effectively with stressors.
- *Sense of coherence*: Sense of coherence is a social–psychological state of the individual and defined as 'a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli from one's internal and external environments in the course of living are structured, predictable, and explicable, i.e. comprehensibility; (2) the resources are available to one to meet the demands posed by these stimuli, i.e. meaningfulness; and (3) these demands or challenges are worthy of investment and engagement, i.e. manageability' (Antonovsky, 1987).

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12.1 Introduction

Much can be achieved in improving people's health situation with simple methods. Here, we present an approach and methodology, termed the Salutogenic Model of Health that focuses on how to understand and support people's health conditions through what is available. A key element of the approach is that social–psychological encouragement is as important as medical-material support.

Studies in relation to poverty and health typically argue that people in low-income countries, like countries found in sub-Saharan Africa, lack the financial, material, or mental means to prevent disease and also do not have access to quality healthcare. This is said to result in reduced health and increased disease incidence among the poor (Burtscher & Burza, 2015; WHO, 2012). There is also a general consensus that disease risks and health challenges result from conditions of poverty, such as inadequate sanitation, malnutrition, or pollution. The combination of specific health risks and limited medical means faced by the poor results in a substantial list of poverty-related diseases.[1] A daunting image of the world's poorest people suffering from misery and facing starvation is often invoked to mobilise funding and political support for development aid in the affluent parts of the world. However, such representations typically engender Western stereotypes and easily lead to counterproductive solutions for misrepresented realities. Most poverty-related diseases can be prevented or treated with existing methods and medication that are available in developing countries, although often in insufficient quantities that are also unequally distributed. Moreover, within situations of limited means and restricted access to health, people rely on alternative prevention strategies and medication that, despite imperfections, provide protection and recovery, often in combination with the official care and medication that is available. These coping strategies are central in the approach to health promotion research we present in this chapter.

The kind of health promotion research we develop here is based on the Salutogenic Model of Health (hereafter SMH). The approach is rooted in the salutogenesis concept developed by the medical sociologist, Aaron Antonovsky (Antonovsky, 1996; Koelen & Van den Ban, 2004). What makes the SMH approach interesting for poverty-related diseases and for health promotion is that it moves away from a focus on limiting factors alone (Lozano et al., 2012; Vinje et al., 2017). In public health research and medicine, the emphasis is on disease risks and causes of diseases, i.e. pathogenesis in medical jargon. In contrast, salutogenesis looks at those factors that cause and sustain health. According to Antonovsky, the crucial factors for health are related to people, their perception of the environment they live in, and the support this provides. Salutogenesis offers an interesting perspective on poverty-related diseases, unveiling hidden strengths of people living in poverty conditions, and unravelling opportunities for support in targeted health promotion strategies. This implies that people living in conditions of poverty will try to make sense of their

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[1] Poverty-related diseases are diseases for which poverty is a main reason for having the disease and also a major obstacle to cure and recovery (Makoge, 2017).

environment and find ways of support from their environment to deal with health threats. The SMH thus creates a epistemological platform for researchers, organisations, and other health providers to understand how people and societies deal with health challenges emerging from poverty, what resources they have at their disposal, the resources they themselves identify and use, and how this adds up to strategies to cope with health challenges and move towards greater well-being (Becker & Rhynders, 2013).

12.2 A Modified Salutogenesis Model of Health

Salutogenesis was conceptualised to oppose the dominance of pathogenic perspective. This leads to a new way of approaching health, looking for explanations of how people maintained and increased their health in addition to prevention and cure. Salutogenesis does not reject pathogenic model of health explanations but aims to provide a complementary perspective that includes health (ease) and dis-ease as two ends on a continuum along which people move. The focus of Antonovsky on people's environments implies that movement along the continuum is inherent in everyone's life. And aside from major injuries and severe disease, improvements are typically realised with local means. Moreover, salutogenesis puts emphasis on the mental and cognitive effects of external factors, to complement existing biophysical explanations. A movement on the continuum towards disease, therefore, is explained in terms of stressors, defined as a demand made on a person by the environment and for which that person does not have an immediate and readily available response (Antonovsky, 1979). Coping successfully with stressors will enable a person to maintain or recover a position on the health side of the ease–disease continuum. Antonovsky argued that a health-inducing environment provides moral and cognitive support to cope with the many stressors in everyday situations. People thus will more readily maintain and acquire health when they perceive their environment as orderly and somewhat predictable, have the capacity to solve problems, and see a meaningful future for themselves. These moral-cognitive factors together are called people's sense of coherence. Antonovsky and others have developed concrete and standardised methodologies to investigate people's sense of coherence (see Box 12.1).

The focus of salutogenesis studies is on how people's environments affect perceptions of health and disease. The Salutogenic Model of Health (SMH) we propose for studying poverty-related diseases is somewhat broader for two reasons. Most salutogenesis studies are situated in Western contexts which likely affects the developed methodology particularly, standardised questionnaires. Studying people's perception of health using questions in interviews, focus groups, or participant observation provides a more open outlook on people's perspectives in African and other non-Western contexts, including wider social-political structures (Richards, 2016). Another element we include in the SMH is the way people employ biophysical factors more directly for prevention and cure. The use of herbs, potions, and other alternative medication is probably universal but in situations where access to official health care and medicine is restricted due to high costs or plain absence, people more readily produce, purchase, and employ such alternatives.

This broader understanding of people's environments in our SMH overlaps with what is known as the settings approach. Health settings are generally understood as 'the place or social context in which people engage in daily activities, in which the environmental, organisational, and personal factors interact to affect health and well-being' (Bloch et al., 2014). The settings approach addresses the diverse and valuable resources which are found in local community settings and drawing out the strengths of social cohesion, support, and interaction and how local ownership of situations or circumstances can be drivers of change (Bloch et al., 2014). This is particularly relevant to poverty-related diseases as it permits the understanding of people's coping strategies for health and poverty in an integrated way.

Textbox 12.1 The SHM Methodology (Antonovsky, 1987)

Research from a salutogenic perspective often employs a methodology based on (large-scale) surveys with standardised questionnaires. Although survey design requires adjustment to specific topics and conditions, there are some central methodological components to the SHM. These are related to three key concepts: stressors, the generalised resistance resources (GRRs), and the Sense of Coherence (SOC). Stressors and GRRs are by and large similar categories of factors emerging from the material environment (physical, biochemical, artefactual-material), located in the individual (cognitive, emotional, valuative-attitudinal, bodily (dis)abilities) or in the social environment (interpersonal-relational, primary group, subculture, macro socio-cultural) which enable a person to cope effectively with stressors. Certain stressors and GRRs can be transgressive between these categories. For example, financial resources are material and social at the same time. GRRs are also dynamic. Ad hoc setbacks and opportunities set precedence to experiences people have in life that they can then build on and develop. When GRRs trump stressors, a person maintains her/his position on the salutogenic continuum or shifts towards increased health. Surveys ask people to identify stressors and GRRs along these categories. Survey questions can be closed (pre-identified Stressors and GRRS) open or a combination of closed and open questions.

The Sense of Coherence is a social–psychological state of the individual and defined as 'a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (1) the stimuli from one's internal and external environments in the course of living are structured, predictable, and explicable, i.e. comprehensibility; (2) the resources are available to one to meet the demands posed by these stimuli, i.e. meaningfulness; and (3) these demands or challenges are worthy of investment and engagement, i.e. manageability' (Antonovsky, 1987). A strong SOC implies flexibility to be able to use different strategies or find different ways to solve problems. SOC accurately reflects a person's capacity to respond to stressful situations (Eriksson & Lindström, 2011). It ensures the ability to be able to identify and employ GRRs to deal with stressors. SOC scores are measured through standardised surveys of which a few variations exist.

12.3 Understanding Poverty-Related Diseases and Other Challenges that Shape Health in Sub-Saharan Africa Using the Salutogenic Model of Health

The SMH we developed provides an innovative way of studying the way in which conditions of poverty impact people's health and how they deal with health challenges. What will be presented next is an example of a health promotion research study that uses the SMH in the sub-Saharan Africa context (Makoge, 2017). The objective of the study was to understand how people in conditions of poverty are able to overcome their challenges and create health and well-being. Focus will be on using the study as an example to illustrate elements necessary to carry out such research. To put things in perspective, poverty-related diseases present certain stressors which need to be overcome by people in order to live to the fullest. Using SMH approach was favoured because it (unlike other approaches) takes into consideration the social determinants of health and conceives of people as major actors in matters that concern their health and well-being.

The study used here as an example took place in two settings which we referred to as Camps and Campuses. The first setting is composed of camps that are dwellings built and maintained by the Cameroon Development Corporation (CDC). They are the places where the company's plantation workers live and work. CDC is an agro-industrial organisation, located in the southwest region of Cameroon. As a corporation, CDC offers its workers free healthcare services and free housing in settlements, usually found close to the plantations it runs. Most CDC labourers are of a low educational level with low-skilled jobs.

The next setting is composed of campuses which refer to students living on and around the premises of two public universities in Cameroon known as the universities of Buea and Yaoundé I. In these universities, a few students live on campus while most students live in the proximity of the university where they negotiate rental terms with the renters.

In these two settings, we used a mixed-method design to investigate respondents' stressors (including poverty-related diseases in the settings), the resources at their disposal to overcome stressors, their health-seeking behaviour patterns as well as factors associated with coping with their challenges. Our results highlight that the emphasis the salutogenic approach puts on stressors and on individuals' capacity to employ a variety of resources to overcome stressors is an efficient way to better understand poverty-related diseases and the importance of location-specific circumstances where poverty, health, and diseases are connected.

12.4 Factors to Consider in Research Using the Salutogenic Model of Health in Context of Poverty

There are three key concepts when using the Salutogenic Model of Health (SMH). These are the stressors, the generalised resistance resources (GRRs), and sense of coherence (SOC). The negative effects of stressors on respondents' health may be buffered through the SOC and the GRRs, which can be found in both the immediate and distant environment.

12.4.1 Stressors

In order to carry out research using the Salutogenic Model of Health, it is of primary importance to identify the stressors present in the lives of study participants. Stressors are demands made on people for which they do not have an immediate or readily available response. A stressor creates an imbalance which when not overcome may deter people from achieving greater health and well-being or from living fulfilling lives. It should be noted that stressors are pervasive in human lives. Everyone experiences these events or circumstances which challenge our health and well-being balance. In the study example, people were asked to identify their stressors (i.e. things which negatively influence their health and well-being) using both qualitative (interviews) and quantitative (surveys) research methods.

Stressors were identified as being health related, work/study related, family or relationship related, and well as financially related. That notwithstanding, identifying ways in which stressors can be overcome is essential for people's health and well-being. This is what the SMH is about.

In order to understand how people overcome stressors, the SMH calls for examining generalised resistance resources (GRRs) and people's sense of coherence (SOC). Information related to these variables can be obtained through in-depth interviews as well as surveys with standardised and unstandardised questionnaires.

12.4.2 Sense of Coherence

Sense of coherence forms the core of any research using salutogenesis. This is because a persons' SOC determines whether he/she is able to identify resources in his internal and external environment and put these resources into use. SOC is appraised using standardised questionnaires. This means that the internal and external validities of the SOC scale have already been established. Both GRRs and SOC are essential for overcoming stressors and creating wealth. That is why they are essential in health promotion research. They are both health-promoting factors.

In the study on camps and campuses in Cameroon, we measured SOC using the SOC-13 scale. SOC was seen to significantly promote health and well-being. People with stronger SOC in both the camps and the campuses coped better with challenges than those with weaker SOC. In the study example, two factors emerged as predictors for coping and these were the living environment and SOC (Makoge et al., 2019).

12.4.3 Resistance Resources

In his book *Health, Stress and Coping,* Antonovsky defined resistance resources as anything that would enable people to deal successfully with stressors (Antonovsky, 1979). Resistance resources are essential in the SMH as they are a variety of material or immaterial attributes found within people or in their immediate or remote environments (Lindstrom & Eriksson, 2010) necessary for movement towards optimal health. There are two types of resistance resources. Specific resistance resources (SRRs) are those that address specific stressors whereas generalised resistance resources can be used for a range of stressors. An example of an SRR in the camps/ campuses study are the 'quart-doctors' (student doctors who either have not yet completed their medical training or have graduated from medical schools but do not yet have a job) who accept collateral instead of immediate payment. Quart-doctors are therefore called upon to address the specific challenge of ill-health during financial constraints by the students. In the camps, saving schemes called 'njangi's' (A njangi is like a banking system based on trust) were used to address the specific challenge of financial constraints.

Our study identified four categories of generalised resistance resources. Those related to the context/setting, health facility, social support, and self-rated health.

Different contexts provide different opportunities as well as different challenges. A setting or context could mean either or both the physical/ geographic location of a place/people as well as the activities that are being carried out in particular locations. In our study, both settings (camps and campuses) had some similar stressors (financial constraints) and resources (relationships). Also, given the socio-demographic characteristics specific for each setting, it could be seen that respondents from the different settings showed particularities in terms of education, age, and daily activities. CDC camp-dwellers for example were older, had families, and had free housing and free medical care; factors which serve as health and well-being enablers. For the students, their health resources were the 'quart doctors' The SMH therefore permits identification of GRRs in different settings. In SMH, the setting is a GRR which facilitates coping with challenges because of the opportunities attached to it.

Health facilities were a type of GRR related to settings. In the camps, there was free medical care received from CDC. On the campuses, students were using quart-doctors. In both settings, self-medication was a rampant and personalised way of regaining health. Salutogenesis enabled us to reveal the dynamics related to health seeking in both settings. These were dependent on local perceptions about disease treatment options, perceived disease severity, and financial constraints. We used the health seeking behaviour model as a positive health model under the salutogenic umbrella to bring out ways in which people use strategies and employ resources in order to achieve better health and well-being.

Given SMH emphasis on the means and ways in which people live fulfilled live, in any research using this model it is important to acknowledge the importance of social relationships in enabling the health and well-being of people. In the study example, *alma mata* groups, church groups, neighbourhood groups, friends, and families were important resources to keep a balance in people. These relationships were also revealed as people sources of strength, thus a factor which will enable coping and should be looked into in research using the SMH.

Perceived health is another GRR that can be investigated in research using the SMH. In this study with camp-dwellers and university students, it was done by asking the single question: ‘how would you rate your health?’ This single question will reveal a lot about the person who answers. Self-rated health indicates the presence or absence of health-improving resources as stated by Antonovsky. In SMH, perceived health indicates a balance between a person’s resources and environmental demands in the form of stressors and resistance resources. In the study example, most people rated their health as good. This is an indication of a positive balance between the stressors they have to overcome and the resources they employ to do so.

12.5 Discussion

The chapter illustrates the way the Salutogenic Model of Health provides an effective and positive contribution to understanding ways in which people deal with health and diseases in resource-poor conditions. With our focus on Africa, and the example study of the health practices of agricultural workers and students in Cameroon, we do not intend to emphasise the poverty and lack of health facilities in Africa. On the contrary, one of the underlying motives of presenting the SMH is to move away from an emphasis on scarcity, deficiency, and non-access, often combined with an emphasis on high presence of diseases and health risks in high-poverty areas. Such perspectives give an unbalanced and predominantly negative understanding of health, and the way people deal with health and disease. Moreover, such perspectives have a strong Western bias, measuring African health along the yardstick of health standards in the developed global North. Looking for a balanced explanation of positive and negative health effects is what the SHM aims to provide the kind of balanced and bias-avoiding approach that is most needed for health promotion research in Africa.

Finally, the SMH approach underlines and makes clear the critical importance of social interactions. In its various forms and through regular patterns or unpredictable and ad hoc exchanges, the near and wider social networks respondents participate in provide uncertainties and stress as well as comfort and support. The way people are enabled or restricted to socialise is a key component in the SMH. One element of social interaction is what the literature calls network or social capital, providing the size, density, and quality of interactions. Positive health effects of social interaction come through support and family and neighbours typically are mentioned first as support providers. However, the same social ties may also entail negative health effects. Many of the CDC workers in our example study sensed an overload of social responsibilities (relationship-related stressors). Students also experienced relationship-related stressors (parents and partners). The examples make clear that the way social interactions affect health runs across the home situation, workspaces, and the environment. As our study shows, age, gender, and occupation create group-specific social dynamics that challenge generic approaches and services. However, a major finding from our example study is that some of the very different social characteristics of the two groups, such as age and education level, played a less prominent role as one might expect. In particular, responses to malaria were overall the same for both groups, relying on herbal medicine, and practising self-medication. Seeking health care beyond the official medical services and using informal medication was equally prominent for both groups, especially for malaria. The example also points to the more health-specific characteristics of social interactions. Health perceptions, self-diagnosis, and previous experiences make people engage in or refrain from social interaction.

12.6 Conclusion

In this chapter, we developed a Salutogenic Model of Health (SMH) to study diseases of poverty. The SMH is particularly useful for avoiding an overemphasis on disease risks and lack of access to health care and medication. We showed the relevance and importance of the SMH by presenting results from a study about poverty-related diseases among workers of a plantation company and students from two universities in Cameroon. The way we have interpreted and used the SMH differs from Antonovsky's original salutogenesis model in that we put more emphasis on the role of the environment and patterns of social interactions. Where Antonovsky primarily relies on a social-psychological epistemology, we consider it important to create a somewhat more open model that reaches out to other domains of health research, in particular environmental perspectives, anthropology, and related social studies of health and medicine. We think this is important to invoke a reflection on the way social and environmental components are best factored into health promotion research and from thereon build methodologies that are sensitive to regional differences and local characteristics. By doing so, we are aware that our approach may be limited in offering only generic methodological principles that resist preformatted research designs and directly applicable study methods. This requires students and researchers to think through carefully what elements need to go into a methodology that effectively and symmetrically investigates the way people engage with their social, material, and biological environments in order to cope with the many health challenges and stressful everyday situations.

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Part III
Methodological Responses to Unpacking the Complex Context/Practice Interactions

Chapter 13
Interventions Tested in Randomised Controlled Trials Can and Should Adapt to Context: Here's How

Penelope Hawe

Key Concepts Definitions

- *Randomised controlled trials*: a prospective study design where the act of randomisation of participants (individually or in clusters) to an intervention or non-intervention (control) group in theory evenly distributes characteristics and conditions to which any observed intervention effect might otherwise be attributed
- *Fidelity*: the extent to which the intervention is true to what was intended. Also referred to, by many, as integrity.
- *Adaptation*: the extent to which the intervention adjusts its form according to context.
- *Complexity*: rich, dynamic behaviour from simple interactions among a large number of units or parts (Rickles et al., 2007).
- *Context*: situations, circumstances, and conditions which influence the meaning or interpretation of something.
- *Complex intervention*: an intervention with many parts or processes which interact with (or are affected by) context.

13.1 Introduction

The career experience of Ann Oakley illustrates a lot about our field of health promotion. Ann Oakley is one of the UK's foremost and most respected sociologists and feminists. A leading champion of qualitative methods, in the 1990s she was

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'accused' of having undergone a 'conversion', of being 'brainwashed by medics' and 'of letting the qualitative and feminist sides down' because she became an advocate for evidence-based medicine and, notably, randomised trials (Oakley, 1999: 248). The criticism was derived from a series of reviews Oakley led which critically examined the evidence base for health promotion. The reviews concluded that, for many popular interventions, not only was there no evidence for effectiveness, but effects were the opposite to that claimed – programmes led to more falls, more delinquency, and increased risk of smoking (Oakley, 1999).

Oakley herself would argue that she merely expanded her methodological repertoire over the years, and necessarily so, as part of a duty of care to women and other minority groups who had been the victim of well-intended but nonetheless useless or harmful interventions. Yet what struck her was how vehemently her standpoint was resisted by some. Her critics yearned for 'the old Oakley' in contrast to the 'the new Oakley' (Oakley, 1999: 248). She felt that she witnessed the 'co-option of individual methodological positions by prevailing paradigm arguments' (Oakley, 1999: 248). In particular, she wondered why social scientists somehow needed to 'conceive of different research methods as opposed in the first place' (Oakley, 1999: 248). Oakley became an exemplar mixed methods researcher, equally comfortable with ethnography as with randomised trials, depending on the question being asked and the purpose being served. She is also a very successful novelist, with one of her early books (set in academia) turned into a five-part BBC television series *The Men's Room*.[1]

This chapter takes the position that randomised controlled trials (RCTs) have a place in the toolbox of a health promotion researcher because it is reasonable to ask the question: on balance overall, or on average, is 'X' effective? Policymakers often ask these types of questions because they make decisions affecting whole countries or regions. They might wish to know if they should approve a new drug, a vaccine, or a new programme in schools. But this type of question vexes those of us who work in health promotion, because anyone who works locally is frustrated by someone just telling them what works 'on average'. Also, the types of interventions evaluated in RCTs tended to be fixed or standardised in a particular way along with warnings not to tamper with 'core' components, that is, not to change/adapt them to fit better locally. Up until the idea presented below appeared in the literature people thought doing everything in exactly the same way in every place was paramount.

The paper below was published in 2004. It criticised the prevailing orthodoxy in RCTs about standardisation of interventions. It also challenged those in health promotion research who had become opposed to trials altogether. As authors, we (initially) faced push-back from some colleagues, just like Ann Oakley experienced, because making trials better seemed to go against the spirit of the paradigm war at the time (RCTS were unpopular in health promotion). But now the idea has been widely used and become part of the new Medical Research Council (UK) guidance on complex interventions and adaptation (Skivington et al., 2021; Moore et al., 2021).

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[1] *The Men's Room*. BBC television. UK. 1991

In essence, we argue that it is possible to adapt an intervention to context, as part of the cluster trial[2] design, and not lose fidelity. This does two things (1) it potentially makes the effect size stronger in the trial as every site has the opportunity to maximise fit with existing culture, infrastructure, demographics etc.; and (2) it provides guidance for what the intervention could look like in different contexts, thus helping transfer and uptake. The trick is to make intervention designers theorise the change process more thoughtfully. More on how the idea has been incorporated into trial design and intervention dissemination is presented in the concluding remarks.

Complex Interventions: How 'Out of Control' Can a Randomised Controlled Trial Be?[3]

Penelope Hawe, Alan Shiell, Therese Riley

Complex interventions are more than the sum of their parts, and interventions need to be better theorised to reflect this

Many people think that standardisation and randomised controlled trials go hand in hand. Having an intervention look the same as possible in different places is thought to be paramount. But this may be why some community interventions have had weak effects. We propose a radical departure from the way large-scale interventions are typically conceptualised. This could liberate interventions to be responsive to local context and potentially more effective while still allowing meaningful evaluation in controlled designs. The key lies in looking past the simple elements of a system to embrace complex system functions and processes.

Divergent Views

The suitability of cluster randomised trials for evaluating interventions directed at whole communities or organisations remains vexed (Nutbeam, 1998). It need not be (Oakley, 2000). Some health promotion advocates (including the WHO European working group on health promotion evaluation) believe randomised controlled trials are inappropriate because of the perceived requirement for interventions in different sites to be standardised or look the same (Nutbeam, 1998; Tones, 2000; WHO Europe, 1999). They have abandoned randomised trials because they think context-level adaptation, which is essential for interventions to work, is precluded by trial designs. An example of context-level adaptation might be adjusting educational materials to suit various local learning styles and literacy levels.

Lead thinkers in complex interventions, such as the UK's Medical Research Council, also think that trials of complex interventions must 'consistently provide as close to the same intervention as possible' by 'standardising the content and delivery of the intervention' (Medical Research Council, 2000). By contrast, however, they do not see this as a reason to reject randomised controlled trials.

These divergent views have led to problems on two fronts. Firstly, the field of health promotion is being turned away from randomised controlled trials (Nutbeam,

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[2] A cluster trial is where groups or organisations are randomly allocated to intervention or control arms, e.g. whole schools, neighbourhood centres, or workplaces.

[3] Originally published as an article in the *BMJ.* Hawe, P., Shiell, A., & Riley, T. (2004). *BMJ*, 328(7455): 1561–1563. https://doi.org/10.1136/bmj.328.7455.1561. Reprinted with permission.

1998; Tones, 2000; WHO Europe, 1999). This could have heavy consequences for the future accumulation of high-quality evidence about prevention. Secondly, when trials with organisations and whole communities do go ahead, the story is consistently becoming one of expensive failure – that is, weak or non-significant findings at huge cost (Secker-Walker et al., 2002; Susser, 1995; Thompson et al., 2003). Could one of the reasons for the interventions not working be that the components have been overly standardised?

Something has to change. The current view about standardisation is at odds with the notion of complex systems. We believe that an alternative way to view standardisation could allow state of the art interventions (and ones that might look different in different sites) to be more effective and to be meaningfully evaluated in a randomised controlled trial. First, however, we have to re-examine our understanding of the term complex intervention.

What Is a Complex Intervention?

The MRC document *A Framework for the Development and Evaluation of Randomised Controlled Trials for Complex Interventions* argues that 'the greater the difficulty in defining precisely what exactly are the 'active ingredients' of an intervention and how they relate to each other, the greater the likelihood that you are dealing with a *complex* intervention' (Medical Research Council, 2000). The document gives examples of complex interventions from the setting up of new healthcare teams, to interventions to get treatment guidelines adopted, to whole community education interventions. Setting aside the problem that this definition is also consistent with a poorly thought through intervention, we believe that the field could benefit by delving further into complexity science.

Complexity is defined as 'a scientific theory which asserts that some systems display behavioural phenomena that are completely inexplicable by any conventional analysis of the systems' constituent parts' (Casti, 1997). Reducing a complex system to its component parts amounts to 'irretrievable loss of what makes it a system' (Casti, 1997). Those of us who have decomposed interventions into components for process evaluation might feel uncomfortable at this point. Yes, we may have been able to describe an intervention, say, simply in terms of the percentage of general practitioners who attend the training workshops and the percentage of patients who report having read the leaflets. Thinking about process evaluation in this way is the norm (Flora et al., 1993; Hawe et al., 1990). But by doing so, have we really captured the essence of the intervention? We have, if all we think our intervention to be is the sum of the parts. But that is not, by definition, a complex intervention. It remains a simple one.

Standardising Complex Interventions

So, could a controlled trial design (which requires something to be replicable and recognisable as the intervention in each site) ever be appropriate to evaluate a (truly) complex intervention? The answer is yes. The crucial point lies in 'what' is standardised. Rather than defining the components of the intervention as standard – for example, the information kit, the counselling intervention, the workshops – what should be defined as standard are the steps in the change process that the elements are purporting to facilitate or the key functions that they are meant to have. For example, 'workshops for general practitioners' are better regarded as mechanisms

Table 1 Example of alternative ways to standardise a whole community intervention to prevent depression in a cluster trial*

	Type of standardisation	
Principle of intervention	**By form**	**By function**
To educate patients about depression	All sites distribute the same written patient information kit	All sites devise ways to distribute information tailored to local literacy, language, culture, and learning styles
To improve detection, management, and referral of patients in primary care	All sites hold a series of three in-service training workshops for general practitioners with preset curriculums	Local health authorities are provided with materials and resources to devise in-service training tailored to local schedules, venues, and preferred learning methods
To involve local residents and decision makers in order to increase uptake, effectiveness, and sustainability of the intervention	A local intervention steering committee is convened in each site with representatives of pre-specified organisations	Mechanisms are devised to engage local key agencies and consumers in decision making about the intervention. Suggested options: steering committee (free form), consultations, surveys, website, phone-ins
To harness and facilitate material, emotional, informational, and affirmational support across social networks of people in particular life stages	All mothers of new babies are invited to join discussion and mutual support groups. People moving into nursing homes receive three friendly visits from a designated resident	Methods to alter network size, network diversity, contact frequency, reciprocity, or types of exchanges are tailored to subgroup preferences

*Hypothetical example drawing on published studies (Llewellyn-Jones et al., 1999; Lumley et al., 2003; Paton et al., 2001; Israel, 1985) and reflecting a sample of principles depending on the intervention theory

to engage general practitioners in organisational change or train them in a particular skill. These mechanisms could then take on different forms according to local context, while achieving the same objective (Castro et al., 2004) (see Table 1).

Defining Integrity of Interventions

With most (simple) interventions, integrity is defined as having the 'dose' delivered at an optimal level and in the same way in each site (Flora et al., 1993). Complex intervention thinking defines integrity of interventions differently. The issue is to allow the form to be adapted while standardising the process and function. Some precedents exist here. For example, Mullen and colleagues conducted a meta-analysis of 500 patient education trials and showed that interventions were more likely to be effective if they met particular criteria fitting with behavioural change theory – for example, being tailored to the patient's individual learning needs, or being set up to provide feedback about a patient's progress (Mullen et al., 1985). The indicators of quality were driven by theory and concerned the functions provided by the key elements of the intervention rather than the elements themselves (such as a video).

Context-level adaptation does not have to mean that the integrity of what is being evaluated across multiple sites is lost. Integrity defined functionally, rather than compositionally, is the key.

Real-World Contexts

We are not the first to think this way. In school health, Durlak discussed non-standard interventions that ‘cannot be compartmentalised into a predetermined number and sequence of activities’ (Durlak, 1998). This sounds like complex interventions. Characterised by activities like capacity building and organisational change, these interventions have specific, theory-driven principles that ensure that non-standard interventions (different forms in different contexts) conform to standard processes. They are still evaluable by randomised controlled trials. Indeed, a randomised controlled trial of such an intervention (which is ‘out of control’ to some ways of thinking) might be exactly what is required to provide more convincing evidence that community development interventions are effective.

More studies of this type would help to reverse the current evidence imbalance when policymakers weigh up ‘best buys’ in health promotion. At present, they often have to compare traditional areas like asthma education (which usually come with randomised controlled trial evidence) with community development (which is usually supported only with case study evidence) (Hawe & Shiell, 1995). The more conservative, patient-targeted interventions backed by randomised controlled trials generally win hands down (Hawe & Shiell, 1995).

Rethinking ways to use the intervention-context interaction to maximum effect may make complex interventions stronger. The MRC document on complex intervention trials calls for standardisation but also recognises the need in the exploratory phase to ‘describe the constant and variable components of a replicable intervention’ (Medical Research Council, 2000). But it does not say how to make this distinction.

An alternative way of thinking about standardisation may help. The fixed aspects of the intervention are the essential functions. The variable aspect is their form in different contexts. In this way, an intervention evaluated in a pragmatic, effectiveness, or real-world trial would not be defined haphazardly, as it sometimes is now (McMahon, 2002), as the default option for whenever researchers were not able to accomplish the standardised components that they idealised. Instead, with lateral thinking, theorising about the real-world context would become the ideal (Bauman et al., 1991; Ottoson & Green, 1987) reversing current custom (Flay, 1986). That is, instead of mimicking trial phases which assume that the ‘best’ or the ‘ideal’ comes from the laboratory and gets progressively compromised in real-world applications, community trial design would start by trying to understand communities themselves as complex systems and how the health problem or phenomena of interest is recurrently produced by that system.

Conclusion

The shackles of simple intervention thinking may prove hard to throw off. Although an intervention may be described as complex, the signs of simple intervention thinking will be apparent in how the intervention is described and whether integrity is tied to the extent to which certain standardised forms are present. Investigators should justify the approach they take with interventions – that is, whether interventions are theorised as simple or complex. Complex systems rhetoric should not become an excuse to mean ‘anything goes’. More critical interrogation of intervention logic may build stronger, more effective interventions.

Summary Points

- Standardisation has been taken to mean that all the components of an intervention are the same in different sites
- This definition treats a potentially complex intervention as a simple one
- In complex interventions, the function and process of the intervention should be standardised not the components themselves
- This allows the form to be tailored to local conditions and could improve effectiveness.
- Intervention integrity would be defined as evidence of fit with the theory or principles of the hypothesised change process

13.2 Conclusion

The idea was designed for complex interventions, ones that interact significantly with context (Hawe, 2015). By contrast, simple interventions, e.g. vaccines, work by-and-large regardless of context/physiology although, with vaccines, the adverse reaction rate records the frequency with which the intervention still does interact with context.

The idea of constructing what some call a ‘function and form matrix’ (Perez Jolles et al., 2019) to adapt interventions to context has since been used to design or interpret RCTs in a variety of settings, such as palliative care (Hill et al., 2020), bullying in schools (Bonell et al., 2018), and homelessness among people with mental illness (Nelson et al., 2015). In metaphorical terms, this research represents attempts to make ‘what comes down the pipeline’ more suited for local use, if the RCT shows that an intervention is successful. That is, the trial asks participating sites to address the question ‘what would the intervention look like here?’ Hence, readers may have some guidance relevant to their own situation.

Researchers have also used the form and function distinction to study practice – i.e., what functions do components play (alone or together)? What different forms fulfil the same function in different places? For example, Lennox and colleagues looked at how evidence-based medication review practices are diffused and operationalised in hospitals in the UK. They found component functions to be common across all sites, but the form always required adaptation (Lennox et al., 2022). Perez-Jolles and colleagues applied a function and form matrix to make sense, retrospectively, of disparate findings of a meta-analysis of patient-centred-medical home care (Perez Jolles et al., 2019). Springer and colleagues used the idea to understand how running clubs for youth in the USA operate, using the data to synthesise the functions of interventions achieving recommended best practice. They argued that their results could support more transfer and improvement of good practice from the ground up, as opposed to the pipeline models of knowledge generation and transfer (Springer et al., 2022). Functional fidelity is now also guiding the transfer of complex interventions across sites as part of scale-up (Devlin & Wight, 2021).

All the examples illustrate one thing. Evaluators of new interventions and existing practice are being challenged to become more careful theorists of an intervention's mechanism of action.

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Chapter 14
The Ongoing Contribution of Health Impact Assessment to Health Promotion Research

Jean Simos, Derek Christie, Françoise Jabot, Anne Roué Le Gall, and Nicola Cantoreggi

Key Concepts Definitions

- *Health impact assessment (HIA)* uses quantitative, qualitative and participatory methods to estimate the health effects of a policy, programme or project on a population. Recommendations aim at minimising negative health effects and maximising positive effects, with emphasis on vulnerable or disadvantaged people and groups.
- *Health in All Policies (HiAP)* is a public policy approach that systematically considers the health implications of decisions across sectors, seeks synergies and avoids harmful health impacts to improve population health and health equity.
- *Trans-disciplinary action*. HIA is not the preserve of any disciplinary group. Instead, it draws on the experience and expertise of a wide range of stakeholders who are involved throughout the process. These may include professionals with knowledge relevant to the issues being addressed, decision-makers, relevant voluntary organisations and representatives of the communities whose lives will be affected by the policy. HIA analyses a proposal in an holistic way, through a conceptual framework and methods developed with a set of disciplines (Haire-Joshu & McBride, 2013).

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14.1 Introduction

Building healthy public policy is one of the five main means of action of the Ottawa charter for health promotion (WHO, 1986). It allows policymakers to place health firmly on the agenda in all sectors, at all levels, and raises awareness about the health consequences of decisions. Health promotion policy requires identifying obstacles to the adoption of healthy public policies in non-health sectors and finding ways to overcome these obstacles.

Health in All Policies (HiAP) was a core theme of the 8th Global Conference on Health Promotion, held at Helsinki in 2013. It is widely considered as having given a new impulse to the field of health promotion (WHO, 2014). The purpose of HiAP is to ensure that decision-makers are well informed about the consequences in terms of health, equity and sustainable development of the options available to them during the process of public policy creation. HiAP identifies the pathways by which various sectors affect health and helps suggest how better health can support the goals of those sectors. It empowers multiple actors and stakeholders to work together to promote mutual gains: for health, equity and sustainability, but also other goals such as job creation, accessibility to public transport, sustainable agriculture or quality education (Rudolph et al., 2013).

The Adelaide Statement on Health in All Policies (WHO, 2010) considers health impact assessment (HIA) to be one of the privileged means to implement HiAP. Indeed, HIA seeks to identify how a society's various public policies may influence – often unintentionally – an array of health determinants. It seeks to predict the consequences of decisions on health and to inform decision-making by recommending appropriate actions (Kemm, 2013). In this way, it meets the requirements for health promotion policy set out by the Ottawa Charter. Therefore, HIA is the legitimate outcome of the appropriation, by researchers and practitioners, of Health in All Policies (Metcalfe & Higgins, 2009), and it features prominently in its toolbox. But is HIA only an implementation tool or can it also contribute to meeting research challenges? The aim of this chapter is to investigate this question.

14.2 Overview of HIA: Definition, Principles, Values and Other Features

The Gothenburg consensus (WHO, 1999) defines HIA as a process which systematically judges the potential, including unintended, negative and positive effects of a project, programme, plan, policy, or strategy on the health of a population, as well as the distribution of the effects within the population. Using various methods, HIA generates evidence for appropriate actions to avoid or mitigate health risks and promote health opportunities. HIA helps establish a framework for monitoring and evaluating changes in health as part of performance management and sustainable development (Winkler et al., 2021).

HIA mainly serves:

- as a decision support tool, to minimise negative impacts and reinforce positive effects on health before the decision-making process is completed,
- to provide better information for decision-makers and planners,
- to improve the transparency of the decision-making process towards the public,
- to address health inequities, as it is often disadvantaged or marginalised groups who bear the burden of negative impacts on health (Simos & Cantoreggi, 2008).

HIA is a prospective approach that should occur early in the public policy evaluation process. It was developed from the 1990s (Scott-Samuel, 1996) and can be seen as originating from three distinct but related fields (Harris-Roxas et al., 2012):

- The promotion of the "healthy public policies" approach, highlighting the issue of socio-economic inequalities in health,
- The practice of risk analysis and environmental epidemiology, relying mainly on the quantitative dimension in the analysis,
- The tradition of environmental assessment, focusing mainly on the determinants of the natural environment.

From the methodological point of view, HIA takes much of its inspiration from environmental impact assessment. It typically has six stages (see Fig. 14.1 and the list below) and seeks to involve all stakeholders by promoting participation among the population affected by the project (Simos, 2015).

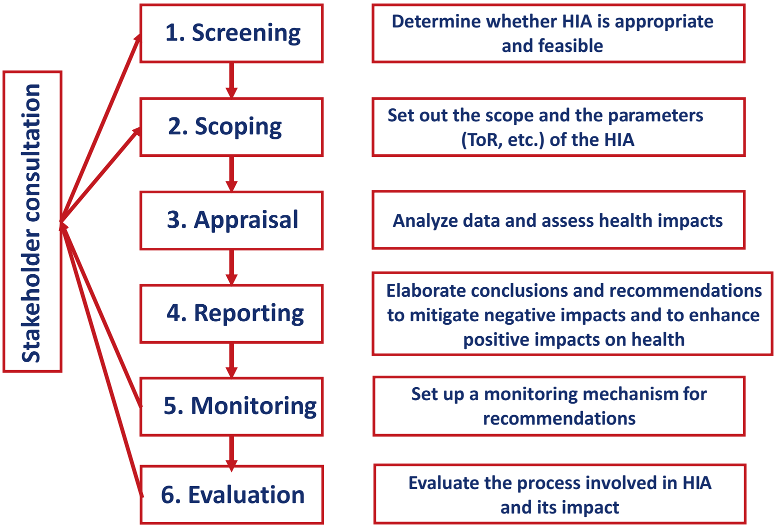

Fig. 14.1 The 6 stages of HIA methodology. (Adapted from Jabot & Roué Le Gall, 2016)

14.2.1 Stage 1: Screening

This initial stage defines whether a policy, programme or project is amenable to HIA, by looking at its relevance and usefulness. It includes a brief examination of the potential links between the projected decision and health. It is also about checking which aspects of health might be affected by a given measure and if it is possible to make changes.

14.2.2 Stage 2: Scoping

This stage determines the scope and terms of reference of the HIA: the type of assessment to be carried out, why, how, by whom, etc. It establishes boundaries for the HIA and thus its study area. It defines how the assessment should be conducted, assigns responsibilities for each task and sets out how the HIA process and its health outcomes will be monitored and evaluated. In this crucial step, the assessment methods to be used are also be identified, such as:

- collection and analysis of relevant data produced by named sources,
- interviews with key stakeholders and experts,
- focus-group discussions with stakeholders and other participatory approaches,
- direct measurements carried out in the field (bio-physical, social, etc.),
- cartographic analysis using geographic information systems,
- review of the scientific and “grey” literature to extract relevant data.

14.2.3 Stage 3: Appraisal

In this stage, the potential of the assessed project to affect health is assessed. It consists in evaluating the various positive and/or negative impacts on the health of the affected population, as well as the distribution of these impacts within the population.

14.2.4 Stage 4: Reporting

This stage sets out the results of the assessment, presents the evidence and contains recommendations that seek to minimise the negative impacts and maximise the positive impacts of the decision on health. The recommendations should be technically and economically feasible, and socially acceptable.

14.2.5 Stage 5: Monitoring

The monitoring stage consists of setting up a mechanism to follow up the implementation of the recommendations.

14.2.6 Stage 6: Evaluation

The evaluation can be undertaken by analysing the conditions under which the HIA was carried out (process evaluation) and/or compliance with HIA standards (quality assessment). It should also assess the effectiveness and impact of the HIA on decision-making, representations and practices, as well as its added value.

During stage 1 or 2, a flowchart is developed to model the most relevant causal pathways. This chart shows how various health determinants may be affected by the different elements of the projected policy. These pathways can be direct (e.g. number of additional people who will suffer from respiratory problems in the event of a peak in air pollution) or indirect (e.g. an increase in traffic which makes people avoid walking or bicycling and thus increases sedentary lifestyles).

HIA is a flexible and creative process that uses tools from the medical (epidemiology), social, economic and environmental sciences, in an inter-disciplinary and multisectoral perspective (Kemm, 2013). Types of HIA range from comprehensive to ultra-fast HIAs (desktop HIAs), with intermediate or rapid HIAs in-between. The choice of the type of HIA depends mainly on the schedule of the project to be assessed, the time allotted to implement the HIA, the resources and data that are available and to what extent stakeholder consultation is desired.

Despite a well-established methodology and typology, there is still some confusion (including among sponsors and practitioners) as to what exactly is an HIA. Because of its origins in impact assessment and in health, HIA is often mistaken with other approaches (Forsyth et al., 2010; Gulis & Paget, 2014; Jabot & Massot, 2021; Roué Le Gall & Jabot, 2017; Simos, 2015; Vanclay, 2015).

The following criteria are used for a clear definition of HIA (Jabot & Roué Le Gall, 2020; Kemm, 2013):

- HIA is carried out with a view to contributing to a decision-making process and is expected to be completed and communicated before the decision is made,
- it follows a systematic process which includes the different stages defined for an HIA (see above),
- it defines the scope of the effects on health by systematically considering all elements associated with the future decision which can potentially affect health,
- it focuses its analysis on effects that are likely to be most important for health,
- it briefly describes the state of the health of the populations that will be affected by the future decision,
- it characterises the effects on health according to their nature, direction, intensity, distribution, duration and probability of occurrence,
- it uses the best existing evidence base to analyse health impacts and their distribution,
- it seeks and reacts to inputs provided by the project stakeholders throughout the different stages of the process – in a transparent manner,
- in the context of the future decision, it recommends what actions may be taken to protect and promote health and reduce health inequalities.

HIA differs from health policy evaluation in that it focuses on potential impacts and not expected outcomes. HIA also has the unique characteristic of being based on a causal model established before analysis begins. HIA values various sources of information and data. Despite considerable operational flexibility, HIA always follows a standardised stepwise approach.

HIA seeks to influence decision processes to improve impacts on health and/or equity. The ability of HIA to achieve this goal depends on a range of factors related to the HIA process itself and to the local social, demographic, environmental and political environments (de Leeuw & Simos, 2017). Crucially, HIA practitioners must always adapt to the "lay of the land" (HCSP, 2018). In the case of large infrastructure projects, the social and political landscape often hinders the proper implementation of an HIA.

14.3 HIA and Health Promotion Research: Areas of Convergence and Mutual Growth

HIA and health promotion research have strong links. This section shows how HIA feeds into health promotion research keeping in mind that health promotion research is also a recognised source of data and insights for HIA practitioners.

Through a series of statements supported by HIA examples from the field, this section highlights frequent challenges faced by HIA practitioners. These challenges also represent opportunities for health promotion researchers. Throughout these nine points, it should be clear that the implementation of HIA contributes to producing knowledge relevant to health promotion research. All these examples are taken from HIAs in which the authors of this chapter have been personally involved, either as practitioners, researchers or evaluators.

14.3.1 Site-Specific Contexts

HIA is often used by health promotion practitioners to appraise complex projects, such as a road extension, an airport development, or an urban management plan seeking to improve sustainable development and quality of life (see below). For each case study, the HIA specifies a distinct causal model, with its causal pathways, interactions and effects. This causal model captures complexity by showing how the multiple interactions between the environment and health may be understood in context. (Woodall et al., 2018).

Case Study 14.1. Integrated Urban Projects in South-Eastern France
In the context of the European Commission's social cohesion programmes (intended to mitigate disparities between European regions), France developed regional projects integrating economic, environmental and social dimensions to overcome urban

issues in sensitive areas. These so-called integrated urban projects (PUI) were initiated in several conurbations over the 2007-2013 period. They aimed at developing and stimulating urban and suburban areas to improve quality of life focusing on enjoyable and safe living environments, accessible public services and shops, and access to employment opportunities. In south-eastern France (Provence-Alpes-Côte-d'Azur Region), the three largest conurbations were selected for integrated urban projects: Marseille, Nice and Toulon. The projects included actions in the following areas: employment/entrepreneurship, education, mobility/accessibility, infrastructure services, urban heritage, solidarity and continuity, urban regeneration, local social networks, citizen participation, environment/sustainable development. An HIA was mandated to evaluate the potential effects of these projects on health inequalities and the health of the inhabitants (Jabot et al., 2013). However, the HIA rapidly encountered three challenges. First, how to integrate a broad range of activities in three different territories into a single research project. Second, how to delineate the scope of the HIA given that the three territories interact with each other. Third, how to address equity when several of the involved areas are struggling with considerable social and economic issues.

The HIA team turned to programme evaluation methods for the appraisal of the environmental risks and to other methods used in health promotion. Ad hoc tools were constructed at each stage of the HIA. To understand the object of the HIA (the three integrated urban projects), it was necessary to analyse the official and contextual documents at the origin of these projects, to understand commonalities across the three settings and how these documents had been interpreted by local actors. Then, actions in each setting were investigated and the paths leading from each action towards health were assembled into a causal model.

Some 83 actions were identified in the three territories. The Swiss model for systematic classification of health promotion outcomes (Spencer et al., 2008) was used to assign each into one of the ten areas of the overreaching European programme, which were in turn connected to the main categories of health determinants in the model: physical environment, social environment, individual level, and from there, through pathways, to the health outcomes. Then, a subset of actions was selected for further investigation, considering the policy areas, the type of study area, the different populations in these areas and the type of action. In the next step, a causal model was created for each action in each site and an impact matrix was designed for each type of action and each site. Finally, the Swiss tool was used again to appraise the possible interactions between the impacts of each action at the level of each study site.

This research shows how HIA can demonstrate the convergence (or not) of various actions and programmes in a given area and with a given population. In such a situation, HIA can provide a global, systemic and dynamic understanding of the situation, which may stand in contrast to more segmented or sectoral approaches.

14.3.2 Flexibility of HIA Methodologies

A key feature of HIA is its ability to draw from a wide array of methodologies, which may or may not be the mainstays of specific scientific disciplines. Because it is not attached to a particular discipline, HIA may not only draw on various methods, but also adapt them to the project or programme under investigation. This fits in with the principle that health promotion research should be flexible and diverse to address the issue being explored (Woodall et al., 2018).

Case Study 14.2. Geneva International Airport Development Plan

Geneva International Airport (hereafter GA) is the second most important airport in Switzerland. It is located less than 5 kilometres from Geneva city centre. Although the only runway is oriented so that aircrafts do not fly over the downtown area, many nearby communities are impacted by flyover noise. In 2014, a projected development plan compounded pre-existing tensions between local communities and GA. To oppose this development plan and its suggested increase in daily flights, an association (termed ATCR-AIG) bringing together villages and towns affected by the noise was created in 2002.

Since 1999, GA has published an environmental report at regular intervals. In 2014, it evolved into a report on sustainable development covering economic, environmental and social aspects. The report presents many different positive and negative environmental aspects of the airport, highlighting how the management of GA is taking action to counter the most negative effects. In the view of many stakeholders, health effects were implicitly included within environmental monitoring activities, and no further action was necessary regarding impacts on health.

This approach was deemed insufficient by the ATCR-AIG association, which wanted an estimate of the health effects linked not only to noise, but also air pollution and other health determinants. In 2015, it floated the idea of carrying out an HIA on the airport's development plan. The canton of Geneva (the political authority overseeing GA) then decided to contribute 50% of the budget of the HIA, but not without ulterior motives.

The decision to award the HIA was taken within the framework of a competitive international tendering process. The selected approach was "comprehensive HIA," including the generation of novel data. The budget in the application to the tendering process was accepted by the authorities of the canton of Geneva. However, after much hackling, it was decided that the HIA would be reduced in its ambitions. The HIA team had to adapt to these contingencies (Cantoreggi & Simos, 2018).

Ultimately, the HIA focused on what the scoping exercise had highlighted as the most significant impacts: air pollution, noise pollution and economic impacts.

In terms of methods, two adjustments were made:

- Participation: instead of a survey of a representative sample of the population in the study area, residents' feelings and expectations were assessed by comparing sub-samples depending on their level of exposure to airport nuisances.
- Instead of disability-adjusted life years (DALYs), losses in rental value were used as a proxy to estimate costs due to annoyance and sleep disturbances in the impacted population.

14.3.3 Trans-disciplinarity

HIA is inherently trans-disciplinary, reaching beyond inter-disciplinarity or multi-disciplinarity. Domains such as health, environmental science and political science are merged with each other. In HIA, trans-disciplinary knowledge is produced not only by the coming together of experts from different disciplines, but also through interactions with local stakeholders and citizens. It follows that HIA teams tend to come from different scientific backgrounds, with diverse knowledge and skills. This aligns neatly with health promotion research principles that require the "trans-disciplinary blending of methods and theories" (Green, 2006).

Case Study 14.3. A New Motorway in Strasbourg, France

In eastern France, the idea of building a ring road (dual carriageway) around the west of Strasbourg first appeared in 1973. During the following decades, there were several projects, studies, discussions and controversies which tended to concentrate on environmental rather than public health aspects. Through the years, the project generated a resistance group linking local politicians, environmental militants, farmers and citizens, some of whom physically occupied part of the area slated for construction to "defend" it.

HIA came into the picture in 2016, when a group of local politicians had piloted a successful HIA on an urban redevelopment project unrelated to the ring road. The following year, they asked for information to be gathered about the road project's effects on public health. To handle the multiple health determinants related to such a project, a team of seven researchers was set up, with groundings in political science, urban planning, geography, engineering, urban studies, natural sciences, transportation and HIA practice. After working together over several meetings, the team decided on a single trans-disciplinary methodological approach combining inputs from each field.

Whereas multi-disciplinarity implies that each discipline works in a self-contained manner, inter-disciplinary goes one step further by approaching an issue from several perspectives which are integrated with each other to provide an outcome. In trans-disciplinary research, however, the focus is on organising knowledge around a complex and heterogeneous subject rather than thinking about the disciplines whereby knowledge is commonly subdivided. The difference between inter-disciplinary and trans-disciplinary stems from "trans" a Latin prefix that suggests transgressing boundaries, in this case those defined by traditional modes of enquiry. The objective is that the final knowledge produced will be much more than the sum of its disciplinary components. Inter-disciplinary approaches can be compared to mixing disciplines, while trans-disciplinary ones have more to do with the fusion of disciplines. Trans-disciplinary approaches can only succeed if there is a significant shift away from disciplinary thinking (Lawrence & Després, 2004).

14.4 Participation

HIA has long pioneered the idea of participatory research and citizen science related to public health. Although names and definitions have shifted over time, participation has always been a key value of HIA (Rococo et al., 2021). It is necessary not only to identify the health impacts of a project or programme, but also to estimate the extent of these impacts and formulate recommendations that will be useful and realistic at local level in a reasonable timeframe. This implies that the populations concerned must participate in the HIA process. They must be included in the collective thinking process and some should sit on the HIA's steering committee (den Broeder et al., 2017). This aligns with the "community-driven, rather than expert-driven, nature of action research and its focus on participatory learning." Indeed, it may be sometimes necessary to relinquish control over the research process to leave it in the hands of the affected individuals and communities (Woodall et al., 2018).

Case Study 14.4. Noirmoutier Island Flood Prevention Programme

The HIA carried out on a flood prevention programme in Noirmoutier, on the north-western coast of France (Galland et al., 2017), is an example of data from the field complementing the scientific literature. Here, the practical experience of HIA practitioners helped move the insights of the HIA.

The HIA team first investigated the programme (construction of dykes and dune ridges, flood surveillance, vulnerability assessments, risk awareness…) and its influence on economic life, living conditions, as well as the social climate and well-being of local inhabitants. A comprehensive analysis of the literature was carried out, focusing on risk communication, risk perception and anxiety linked to the prospect of inundation by the sea. Results showed that knowledge and accurate representation of risks were conducive to useful preventive behaviours and high self-efficacy: people felt confident that they could handle adverse events and manage stress.

In contrast to these findings, stakeholders investigated during this HIA (local inhabitants, school children) had very positive perceptions of their immediate environment and very low feelings of vulnerability linked to possible inundations.

Although they recognised the existence of the risk, its potentially damaging effects, as well as their very limited ability to influence its occurrence and severity, most stakeholders still did not feel threatened and tended to downplay the risk.

By associating hard data and hands-on surveys about residents' perceptions, HIA brought together different and complementary practices. The scientific literature was a useful starting point from which to approach people concerned by the project and anticipate what might happen in the future. Their practical, real-world experience remains at the heart of HIA. As much as possible, HIA practitioners use scientific data in context, according to the values, beliefs and representations of local stakeholders.

14.5 Construction of Hybrid Knowledge

A core principle of HIA is to co-construct with local stakeholders a common vision of the project under discussion and its impact on health. The causal model helps to articulate this vision, so that the expected pathways and impacts can be tested for their plausibility and risk of occurrence. Each pathway needs to be investigated in its own sake, from the actions initiated by the project to the expected effects on health determinants and, ultimately, on the health of the population. HIA enables the confrontation of representations between professional and institutional actors from different fields and with those of local citizens. Through this process, stakeholders progressively shift their focus, going beyond administrative or disciplinary barriers to adopt a common vision of the project under consideration. In this way, HIA forms an experimental field for the co-construction of hybrid knowledge.

> Unintended consequences are inherent to human activity in complex systems. However, an increase in health inequalities is often an unintended consequence (Potvin et al., 2005).

Case Study 14.5. Port du Rhin urban development in Strasbourg.
Port du Rhin is an industrial district in Strasbourg. Because of its location and history, it is isolated, concentrates poor housing and lacks shops and services – especially healthcare facilities. The suggested urban development project has three main objectives: rehabilitate the neighbourhood, connect it to the city centre and increase social diversity. Social issues were major concerns for decision-makers who considered social diversity as the catalyst for social cohesion, despite a lack of evidence about this association (Kleinhans, 2004). Thus, they had high expectations about the capacity of an HIA to provide knowledge on how the project would improve social cohesion. When confronted by such questions, HIA practitioners often use extensive literature review techniques, including the grey literature, to identify and describe the links between the built environment, social cohesion and health (Jabot et al., 2017). These results are then used to confront the political, geographic and

social context of the project (Romagon & Jabot, 2020). This leads to the deconstruction of prevailing representations, which often prove to be imprecise, lacking a basis in facts and/or out of context (Dardier & Oberlé, 2019). Afterwards, it should become possible to build a new knowledge base for the specific project, founded on both scientific evidence and local knowledge.

14.6 Power Relationships

Decision-makers who are convinced of the value of their project may find it difficult to consider other perspectives. Power relationships may then come into play. Various constituencies may try to use HIA to further their vision and their interests. It is essential for HIA practitioners and researchers to be able to recognise power relationships when they are at play in real-life situations.

Power games between stakeholders can form a significant obstacle to the successful completion of an HIA. Practitioners should identify these power games as soon as possible, to work out how to neutralise or avoid them. "Consensus is not possible or desirable, because it masks power struggles and restricts the development of innovative solutions through informed dialogue and compromise" (Potvin et al., 2005); "Storyboards, or other creative research methods, may be used to neutralise power relations" (Woodall et al., 2018).

Case Study 14.6. A New Motorway around Strasbourg City Centre
During the Strasbourg ring road HIA process (see previous sections), information related to the opinions of stakeholders proved difficult to obtain. In this case, the HIA process was actually impeded by local authorities, who did not let the HIA practitioners consult local stakeholders although this had been agreed upon during the scoping phase. This obstacle was avoided by using data from the public consultation whose collection was related to the environmental impact assessment process, and whose results were freely available.

Over 1400 responses by various members of the public were submitted to an ad hoc secondary analysis. Based on this information, a model showing how the project was perceived – often negatively – by the public was created and confronted to the model which had previously been designed by the HIA team based on a literature review. Using data generated for another purpose (environmental impact), the HIA nevertheless succeeded in identifying the needs of the population. The results provided evidence that consensus around this project was unattainable and that decision-makers had to imagine other solutions to fulfil the expectations of the population, especially around the value (far higher than anyone had expected) that citizens attributed to nature and agricultural land. This secondary analysis proved to be a real trove of information and was completely unplanned.

14.7 Partnerships and Collaborations Within a Community

HIA not only brings a public health mindset to other sectors, it also encourages discussions and influences across sectors. HIA often brings together different departments from the same jurisdiction who have never or very rarely worked together. In such cases, the challenge is to go beyond punctual collaborations and try to foster long-term collaborations.

> New collaborations and partnerships which live on beyond the end of the HIA itself are a frequent – and very positive – side effect of the HIA process. This helps other sectors to include health in their planning processes and has the potential to be sustained over time. This has often been observed by the authors of this chapter. Experience shows that such partnerships often extend well beyond the duration of the HIA itself: "The purpose is to establish lasting partnerships with all actors in a community who are concerned with issues that affect health" (Potvin et al., 2005).

Case Study 14.7. An Urban Development Plan in Jura, Switzerland
In the early 2000s, the Jura canton in French-speaking Switzerland decided to make public health a key element of its local Agenda 21. As the Agenda 21 programme was based in the land use planning department and not the health department, HIA was chosen to help integrate health into the wider-ranging Agenda 21. To do this, an interdepartmental committee was set up with representatives from health, land use planning, and the environmental, economic and public finance sectors (Spina-Litzistorf, 2006; Diallo et al., 2010). Several other HIAs were carried out over the following years in canton Jura, leading to a community of practice around HIA (see next point).

14.8 Acting for Sustainable Inter-Sectoral Collaborations

Conducting HIAs has the potential to promote knowledge and facilitate collaboration between scientists, practitioners and decision-makers. At the very least it establishes and reinforces links between them. The iterative HIA model provides a shared space in which a large range of stakeholders, experts and practitioners can meet and interact with each other. In this way, HIAs strengthen relationships and trust among stakeholders (Sohn et al., 2018). Thus, as well as being a set of quantitative and qualitative tools seeking to anticipate the health impacts of policies, programmes or projects, HIA is also a relationship enabler and enhancer and may therefore play a significant role in influencing different sectors (Haigh et al., 2013).

The implementation of an HIA can lay the foundations for trusting relationships between stakeholders from different sectors and later have ripple effects such as the establishment of sustainable inter-sectoral collaborations (Jagosh et al., 2015; Deloly et al., 2021). In particular, thanks to methodological similarities between the two fields, HIA can bring together professionals from the public health and environmental sectors (Arrizabalaga & Simos, 2006).

Case Study 14.8. A Railway Station in Rennes

In Rennes, the capital of Brittany in north-western France, the municipality decided to launch an HIA in 2012 to legitimise the inclusion of health in urban projects and to pursue existing efforts to reduce health inequalities. The public authorities (city and conurbation) then approached an academic partner, a civil society partner involved in sustainable development and several institutional partners, all of which shared the same values and objectives, i.e. a better integration of health and environmental issues into public decision-making, in particular related to urban policies.

After 1 year of close collaborative work to set up the HIA, the partners had built up enough mutual trust leading to the emergence of useful synergies (Tollec et al., 2013). At the end of the HIA, the partners wanted to continue their collective work on healthy urban planning and signed a collaboration agreement to do so. More than 10 years after the initial HIA, this local collaborative network is still working across disciplines and across sectors. It has co-opted new members, has had several meetings each year and has been involved in a range of local initiatives leading to a better integration of environmental and health projects.

14.9 Methodological Pluralism

Scientific research – and practice – has often been held hostage to certain methods being considered as “natural” to the process or scientific area under consideration. HIA approaches methods and data with an open mind. Mixed methods have always been part of HIA, even before such a term became mainstream.

HIA is a process which allows the use of many different methods, from systems thinking to mathematical modelling. Lively debates are therefore likely to occur – for which we must be prepared – with the potential of leading to methodological innovations (Green, 2006).

Case Study 14.9. Controversy about the Scope of an HIA
The HIA process applied to the GA development plan discussed earlier in this chapter (case study 2) was submitted to an *ex-post* analysis (Cantoreggi & Simos, 2018) which produced strong reactions from some stakeholders. Such conflicts are fully representative of current discussions on the credibility and relevance of various methods, theories and approaches used in HIA (Legendre & Remvikos, 2018).

Here are some of the issues that were raised:

- *Quantitative* versus *Qualitative Approaches*

  In Geneva, decision-makers had an understandable desire for a quantified and monetarised assessment of their project. Such an approach is often poorly accepted by HIA practitioners, out of an aversion to monetisation biases (Kemm, 2013). In this case, the HIA practitioners were able to explain the limitations of quantitative approaches as well as the usefulness of qualitative approaches to capture the population's experience of the disturbances produced by the airport's activities. Of course, qualitative and quantitative approaches are complementary and not antagonistic – this goes hand in hand with the recognition of the existence of different forms of knowledge.

- *Risk Factors* vs. *Health Determinants*

  Risk factors are at the basis of the epidemiologic approach, while health determinants play a similar role for health promotion. However, their ontological nature is not different: it is the way of approaching the issue which will make the same physical parameter a risk factor or a health determinant. Likewise, the causal chains or logical pathways use health determinants or risk factors without drawing a distinction between them (Jabot & Massot, 2021). The cause-and-effect pathways have a multitude of ramifications and connections.

- *A Focus on Certain Health Determinants* vs. *a Systemic* Approach

  Some authors claim that working on a selection of health determinants is the opposite of the very definition of the scoping stage, which is an essential prior for the HIA approach. While health determinants should be considered a system and not be reduced to a linear sequence, the very basis of scientific modelling legitimates the isolation of some segments of the system so that they can be analysed. The GA HIA steering group asked for a comprehensive scoping stage, but afterwards decided to focus on specific health determinants, considered as most relevant. In HIA, it is precisely the validation by the steering group that legitimises the move from a systemic approach to an analytical approach.

- *Social Responsibility of the Researcher*

  The goal of HIA implementation is to promote the health of the affected population, particularly the most vulnerable groups, by improving the proximal and distal factors that determine their health. Nevertheless, believing that an expert's primary responsibility lies with the populations who risk suffering the consequences of a bad decision is a classic confusion of roles. The expert's role is to support decision-makers and inform the decision-making process (Roy, 1985). Experts do not have the legitimacy of elected officials, to guide the process according to their own preferences. In Geneva, the HIA team remained firm on the delimitation of the roles of each stakeholder, clearly detailing the health implications of the planned development scenario and translating this into the proposed recommendations, which the HIA steering group was then asked to validate.

14.10 Conclusion

HIA is an efficient implementation tool for healthier policies, in addition to being an important contributor to health promotion research. The eight case studies in this chapter represent just as many challenges that a team of seasoned HIA practitioners have come across in the field. The "lessons learned" are relevant to health promotion researchers – and HIA researchers and practitioners. The experience acquired by the authors during some 25 years of HIA research and implementation and explained through the examples above, shows that health promotion research and HIA are intimately related.

HIA is both an evaluation and an action-oriented research activity, following principles shared with health promotion. As research embedded in action, HIA seeks to understand the mechanisms that link the components of an intervention to health determinants and further downstream to the health of a population. The causal model on which the method is based integrates within a single analytical framework the multiplicity of effects of a project, their antagonisms, or their synergies in a specific context. As a result, HIA fully takes into account the complex nature of health issues and is part of the complexity science perspective advocated for in health promotion (Keshavarz Mohammadi, 2020). Moreover, it maintains close links with other forms of impact assessment, which provides opportunities to enrich its methodological toolbox, as well as its understanding of the interactions between various environments and health. Finally, HIA builds upon an ever-evolving partnership between researchers, decision-makers and public health practitioners, as well as local stakeholders.

Due to these characteristics, HIA can also be considered part of intervention research, as defined by the Canadian Institute of Population and Public Health (Hawe & Potvin, 2009). Many health promotion research challenges can be approached through HIA. In particular, HIA can help to grasp complexity and make existing health promotion models evolve to better consider and protect ecosystems and the environment without exacerbating health inequalities. By running the extra mile and suggesting changes in the relevant projects or programmes, HIA is indeed what has been described as "une science des solutions" (Potvin et al., 2013).

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Chapter 15
A Theory-Driven Approach to Unpack the Black Box of Complex Interventions: Assessing Interventional Systems

Linda Cambon and François Alla

Key Concepts Definitions

- *Population health intervention research (PHIR)*: the use of scientific methods to produce knowledge about policy and programme interventions that operate within or outside of the health sector and have the potential to impact health at the population level (Hawe & Potvin, 2009)
- *Interventional system:* a set of inter-related human and non-human contextual agents within spatial and temporal boundaries generating mechanistic configurations – mechanisms – which are prerequisites for change in health (Cambon 2019).
- *Theory-driven evaluation*: any evaluation strategy or approach that explicitly integrates and uses stakeholder, social science, some combination of, or other types of theories in conceptualizing, designing, conducting, interpreting and applying an evaluation.

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15.1 Background

Population health intervention research (PHIR) involves the use of scientific methods to produce knowledge about policy and programme interventions that operate either within or outside the health sector and have the potential to impact health at population level (Hawe & Potvin, 2009). Therefore, PHIR shares objectives with health promotion research and contributes to the latter with a focus on interventions. It should be noted that this type of research differs from evaluation in its heuristic scope. Indeed, while the methods adopted by PHIR may be the same as those used in evaluation, the main purpose of evaluation is generally to make a judgement on a single intervention, whereas the main purpose of research is the accumulation of knowledge and can thus be considered as a science (Rootman et al., 2017).

PHIR has been described as the "science of solutions," complementary to the science of problems (Potvin et al., 2014). This expression emphasizes that the goals of research are to help field practitioners and policymakers to make decisions, in turn raising the issue of the transferability and scalability of these interventions.

Moreover, population health interventions (PHIs) are generally considered as complex, especially as their results depend on the interaction between their components and the contextual components inherent to their implementation. In other words, it is these interactions that produce the outcomes. This observation raises a number of questions on how to evaluate complex interventions' effectiveness. Within the biomedical framework, an experiment must follow an "all things being equal" principle (e.g. population characteristics and external factors), based on intervention standards that are remote from real-life conditions (e.g. delivery modalities, stakeholder compliance and patient selection). This possibly leads to universal laws that are free from contextual influences that are considered as confounding factors/bias (Victora et al., 2004). Such a model is not without merit. However, if the outcome depends on the context, how should an outcome produced in an experimental context be implemented in practice? Moreover, this framework requires a well-delineated intervention. In practice, though, the boundaries between the intervention and the context are not clear-cut (Shiell et al., 2008; Cambon et al., 2019; MRC, 2012). We thus consider (i) an "interventional system" (Cambon et al., 2019; Cambon & Alla, 2019), including contextual parameters, that could be within or outside the control of intervention developers and implementers and (ii) some evaluative designs that consider the way an intervention works by examining the implementation, the impact mechanisms and the contextual factors.

These factors call for different designs and research methods, allowing the evaluation of each element of the interventional system as such, as well as their combined effect. With this in mind, such evaluation assumes that (12):

- the contribution of all components as well as their combined effect on the interventional system must be evaluated,
- the conclusions of the study/trial are context-based,
- some of the conclusions could be transferable to other settings.

Therefore, the question is not so much "is this intervention effective," but rather, "how does each component of the interventional system as well as their combination produce the outcome?". This analysis is needed to define the conditions of intervention transferability (i.e. the extent to which the measured effectiveness of an applicable intervention could be achieved in another setting) and scalability.

The present chapter attempts to answer in part this question by describing what is known as the interventional system and specifying how such evaluations can be drawn up using a specific paradigm, i.e. the theory-based paradigm. We illustrate this through two research examples, the Ocaprev study and the TC-REG (for "*Transfert de connaissances en régions*") study.

15.2 The Relevance of Interventional Systems

In PHIs, context is a major factor in the production of outcomes (Craig & Dieppe, 2008), as important as the intervention components or the modalities of implementation. Context is defined as a "spatial and temporal conjunction of events, individuals and social interactions, generating causal mechanisms that interact with the intervention and possibly modifying its outcomes" (Poland et al., 2008). The intervention components have also been addressed in different ways. For Hawe et al. (2004), certain basic aspects of an intervention should be prioritized in studies since they are key factors in producing an outcome. The author distinguishes between an intervention's theoretical processes ("key functions") and the aspects of the intervention that are contingent on context (the form). Moreover, she and her colleagues introduced a more systemic approach to the intervention (Hawe et al., 2009; Shiell et al., 2008), defined as "a series of inter-related events occurring within a system where the change in outcome (attenuated or amplified) is not proportional to the change in input. Interventions are therefore considered as ongoing social processes rather than fixed and bounded entities" (Hawe et al., 2009). Both interventions and context are thus defined as being dynamic over time and interacting with one another.

Consequently, the fundamental question concerns how these interactions are characterized. Some authors have stressed the importance of effective mechanisms, as in a realistic evaluation (Pawson & Tilley, 1997). These mechanisms become crucial to understanding the interactions (Cambon & Alla, 2019) and act as the key functions in interventions as mentioned by Hawe. While the notion of mechanism has been defined variously (Machamer et al., 2000) (Lacouture et al., 2015; Ridde et al., 2012) (Michie et al., 2013), all these definitions position them as prerequisites to the outcome.

To address these specific characteristics of interventions as complex systems (the role of mechanisms and the blurred boundaries between context and intervention), we propose the concept of "interventional system" (Cambon et al., 2019), which includes both interventional and contextual components and highlights the role of mechanisms. An interventional system is "a set of inter-related human and non-human contextual agents within spatial and temporal boundaries, generating mechanistic configurations – mechanisms – which are prerequisites for changes in health **(…).** The intervention could in fact be an arrangement of pre-existing contextual parameters influencing their own change over time." Fig. 15.1 illustrates such an interventional system.

The interventional system is generated by successive changes over a given period and in a specific setting. In this case, we simply define mechanisms as to "what characterizes and punctuates the process of change and, hence, the production of outcomes." These mechanisms could be psychological (motivation, self-efficacy, self-control, skills, etc.) in behavioural intervention, or social (e.g. values shared in a community, power-sharing perception, etc.) in socio-ecological intervention (Cambon et al., 2019). Box 15.1 below presents a fictitious example of an interventional system.

Assuming the "reality" of interventional systems, the next question concerns the use of this concept in evaluations. In other words, how can an interventional system be evaluated? How can we assess each of these components, as well as their combination?

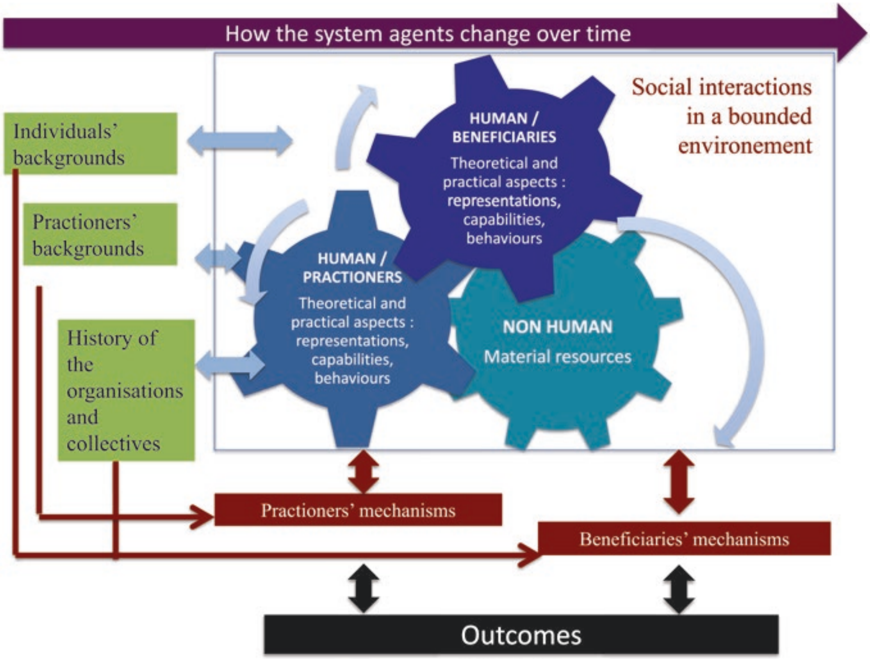

Fig. 15.1 Interventional system. (Source: Reprinted from Cambon et al. (2019), Figure 1, licenced under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0/))

Box 15.1 Illustration of a Tobacco-Smoking Cessation Interventional System

- Individuals' background: previous experience of tobacco cessation, facilitation of, or barriers to, smoking cessation in immediate surroundings, etc.
- Practitioners' background: previous experience of tobacco cessation intervention delivery, perceptions of facilitation or barriers to act, prior training on intervention delivery, etc.
- Practitioners' characteristics: self-confidence, experience in delivery of smoking cessation interventions, skills, prior motivation, etc.
- Beneficiaries' characteristics: intrinsic or extrinsic motivation, prior knowledge of health risks, perception of self-vulnerability, willingness to take part in the intervention, gender, health status, confidence in the intervention efficacy, level of dependency, etc.
- Non-human: nature of the intervention (information, education, incitation, restructuring of the environment, etc.), implementation conditions, resources, other existing synergic or antagonistic interventions, acceptability of the interventional components, etc.
- History of the organizations and collective entities: organizational care centre's capacity to implement intervention, resources, experience of working in a network, etc.
- Practitioners' mechanisms: motivation to deliver the interventional components, emulation, persuasion skills, adaptability to the public.
- Beneficiaries' mechanisms: incentive to stop smoking, ability to find social support, ability to ask for help, resistance to the consequences of withdrawal, ability to implement advice to avoid relapse, etc.
- Outcomes: quitting smoking and maintaining smoking cessation over time.

Social interactions in a bounded environment are all combinations of these elements, for example:

- "previous experience of tobacco cessation intervention delivery" and "training" (practitioners' background)
- practitioners' "self-confidence" (practitioners' background)
- "feasible implementation," "agonist interventions" (non-human)
- improving practitioners' "ability to deliver the intervention" and their "ability to adapt it to the public" (practitioners' mechanisms)
- which help to improve beneficiaries' "motivation to stop smoking" and their "resistance to the consequences of withdrawal" (beneficiaries' mechanisms)
- which improve the "smoking cessation" outcomes

15.3 From Attribution to Contribution: The Interest of Theory-Based Evaluation

To understand how each element, whether taken individually or in or in combination with others, produces an outcome, we need to "untangle" the interventional system. One way of doing this is to elucidate and validate the causal hypotheses it reveals. In other words, the aim is to understand how the intervention works (what are the combinations of conditions that support effective mechanisms?) and the conditions of their transferability (which mechanisms are to be reproduced in another context?). In practice, this means that the evaluation opens the "black box" of the intervention-context dynamics and the resulting mechanisms, in addition to demonstrating effectiveness in context (Cambon et al., 2019; Cambon & Alla, 2019).

This amounts to theorizing the way the system works, then validating the theory, which is the aim of theory-driven evaluation (TDE). Indeed, a TDE (Chen, 1990; De Silva et al., 2014; Weiss, 1997) is based on a contribution analysis (Mayne, 2001) which assesses issues inferring causality in real-life programme evaluations (Mayne, 2010), reducing uncertainty about the contribution of all the input that can contribute to the outcome. A TDE may itself be an evaluation design as an alternative to a trial (e.g. a realist evaluation) and/or could be combined with/integrated into a classic experimental design (Bonell et al., 2012; G. Moore et al., 2019; Thabane et al., 2010). It adopts a contributory understanding of an intervention through a mechanistic interpretation, focusing on the exploration of causal chains (Mayne, 2010). Instead of "Does the intervention work?", the question becomes "Given the number of parameters influencing the result, how did the intervention meaningfully contribute to the result observed?"(Cambon & Alla, 2019).

The most widely used TDE frameworks in health research are realist evaluation (Pawson & Tilley, 1997) and the theory of change (De Silva et al., 2014). First, in realist evaluation, intervention effectiveness depends on the underlying mechanisms at play within a given context. Evaluation consists in identifying context-mechanism-outcome configurations (CMOs) that explain how (M) a phenomenon (O) appears within a specific context (C). These configurations are called middle-range theories. Their recurrence is observed in successive case studies or in hybrid protocols, such as in a realist trial (Bonell et al., 2012; Jamal et al., 2015). Second, in the theory of change framework, the intervention components or ingredients mentioned earlier are fleshed out and examined separately from those of context in order to study how they contribute to producing outcomes. As with realist evaluations, the initial hypothesis (the theory) is based on empirical (i.e. from earlier evaluations) or theoretical assumptions (i.e. from social or psycho-social theories). What is validated (or not) is the extent to which the explanatory theory, including implementation parameters (unlike realist evaluation), corresponds to observations. It is a framework that squares better with the positivist approach. In both frameworks, the aim is to hypothesize combinations of components by formulating a preliminary theory based on scientific evidence and the expertise of multidisciplinary experts, together with empirical testing. If the theory is confirmed by the empirical evidence, there are grounds for establishing a causality inference.

With regards to an interventional system, the central elements characterized by TDE may well be the mechanisms. Hence, evaluating an interventional system requires the earliest possible definition of the different causal hypotheses concerning the mechanisms in which effectiveness is grounded: E.g. what actions are needed? how should they be implemented? who would act in what way in this and other contexts? using what criteria? This is a prerequisite in order to conduct the data collection and analysis methods as accurately as possible. The hypotheses made stem from rigorous interdisciplinary work involving the TDE frameworks, since they require a cross section of experiential, contextual, scientific and thematic knowledge.

Despite the shared interest in TDE, such evaluations are underused in population health interventions (Minary et al., 2019) due to failures in defining the so-called "theory" and the lack of clear, practical guidelines for designing and validating such a theory.

15.4 Defining the "Interventional System Theory"

Various studies have acknowledged the theory-based approach as crucial (Moore et al., 2019; Moore & Evans, 2017). At the same time, we are reminded of the importance of scientific arguments when selecting a theory (Moore & Evans, 2017) and call for clarification of what is meant by theory (Moore et al., 2019).

Indeed, the term "theory" could be defined as "a set of analytical principles or statements designed to structure our observations, understanding, and explanation of the world."(Nilsen, 2015). The term generates confusion between different concepts, notably "models" and "frameworks" as described by Nilsen (Nilsen, 2015). According to the latter, some of these "explain" phenomena as classic theories, while others only "describe" potential determinants of actions as frameworks, but without explanation. Yet others deliberately "simplify" phenomena (Nilsen, 2015).

In TDE specifically, the theory is expected to explain how a programme produces outcomes (why and how the intervention works) by defining a set of explicit or implicit assumptions (Chen, 1990, 2005; Fitz-Gibbon & Morris, 1996). Thus, the key question is which of these approaches – theories, models, frameworks – should be used in the theory of TDE, especially when the approach is viewed as a component of the interventional system? Indeed, the interventional system concept assumes some level of ambiguity between the context and the intervention components (Cambon et al., 2019; Minary et al., 2017). Consequently, as suggested earlier, the theory of an interventional system "should integrate some implementing process, contextual elements, links between activities and the mechanisms they trigger, links between mechanisms and contextual elements, etc." "Interventional system theory" (ISyT) should include different elements from other theories, models and frameworks as it (i) is explanatory, considering expected causal pathways to produce outcomes, like classical theories, (ii) hypothesizes which specific actions and sequences of implementation contribute to this pathway, such as a process model and (iii) considers contextual elements and their influence (Cambon & Alla, 2020). Indeed, “a single theory will not tell the whole story because it could place weight on some aspects (e.g. certain causal factors) at the expense of others” (Moore & Evans, 2017). In line with the interventional system concept, we (Cambon & Alla, 2020) define ISyT as a combination of:

- Causal theory (the term “theory” was chosen because of its explanatory aspect, but it differs from a classical theory). Causal theory involves *explanatory and mechanistic aspects*, but also considers all the determinants, such as barriers or enablers, likely to be involved, as well as the actions that trigger the expected mechanisms.
- Action model (the term “model” was chosen because of its sequential pattern, like a process model). The action model is handled by developers and implementers. It provides concrete elements of action and implementation to guide the process and thus correspond to the stated goals. The main point of the action model is to highlight the activities involved in outcomes, but also the sequences, the resources and the prerequisites needed to implement them. Figure 15.2 describes this ISyT (Cambon & Alla, 2021).

It should be noted that ISyT is resolutely different from classic theories (e.g. social cognitive theory, health belief model, motivation theories, etc.) given its grounded nature (in the context). Table 15.1 sets out the main characteristics of the theory.

Thus, all generalist frameworks, process models, implementation theories and classic theories can inform the ISyT. The causal theory can be informed by explanatory theory/ies such as the classic theory/ies (e.g. mechanisms and causal

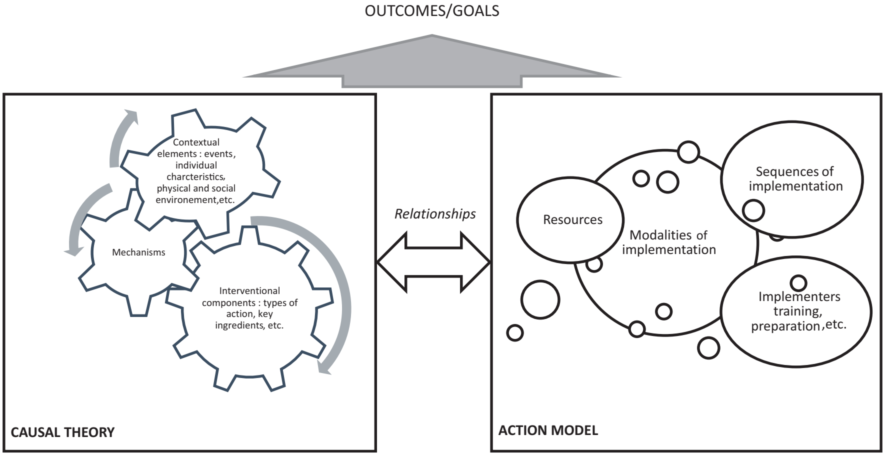

Fig. 15.2 Interventional system theory (IsyT). (Source: Reprinted from Cambon and Alla (2021), figure 1, licenced under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0/))

Table 15.1 Characteristics of Interventional system theory

Characteristics	
An explanatory purpose	Hypothesizes how intervention in the context works
A pragmatic role	Guides how to act for success
A broad understanding of each element likely to influence outcomes	Includes a systemic intervention/context approach
Context-based	Conceived as a grounded theory describing all the parameters involved in a specific context
Has the potential to be generalizable	Highlights the mechanisms of effect, conceived as the key functions of the intervention

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relationships between variables) or determinant frameworks (contextual influencing parameters), while action models can be informed by implementation theories or process models. The table below describes all the theoretical generalist approaches in public health that can inform ISyT (Cambon & Alla, 2020) (Table 15.2).

Box 15.2 below illustrates a fictitious scenario that could constitute an ISyT.

Box 15.2 Fictitious Example

- One of the mechanisms involved in behavioural change is motivation *(a mechanism – causal theory)*
- Enhanced by self-efficacy *(another mechanism – causal theory).*
- Both motivation and self-efficacy and their influence on behaviour (*goal – causal theory)* are documented in numerous classical theories.
- One of the ways to increase self-efficacy is to provide positive feedback on the change process *(interventional component – action model)*, documented by numerous implementation theories.
- This positive feedback can be provided by professionals *(another interventional component – action model)*, but also by relatives or communities around the person who need to be involved and sensitized to support the person in the change process *(another interventional component – action model)*. Some experiments have described how to mobilize these communities: training or supporting processes *(another interventional component and implementing component – action model).*
- The ability to do this could be dependent on multiple contextual elements that act as barriers or enablers *(contextual elements – causal theory)*. For example, the motivation to change may be impeded or favoured by the opportunity for change *(individual contextual component – causal theory)*, due to a lack of or the provision of resources to support the change *(resources – action model)*. The roles of these contextual factors have been documented by numerous socio-ecological determinant frameworks.

Table 15.2 Table describing all the classic theories, frameworks and models in health promotion that can inform ISyT

Terms	Definition	Constructs	Purpose	Specificities	Examples in public health	Interest for understanding intervention system
Determinant framework	An overview of determinants and categories presumed to account for a situation by acting as barriers and enablers	✓ Environmental determinants ✓ Sociological determinants ✓ Psychological determinants ✓ Organizational determinants	Provides cues on the way the micro–meso–macro context can influence a health issue	✓ Multilevel, ✓ With multiple influences, ✓ Provides no explanation, only cues ✓ Comes from empirical studies of barriers and enablers.	✓ Social determinant frameworks (Health et al., 2016).	Identifies all the elements to be considered for an understanding of the system with multilevel viewpoints
Classic theory	An explanatory definition of relationships between variables and the specific results of their combination	✓ Psycho-social constructs ✓ Structural constructs, ✓ Relationships between them all and specific predictions, especially formulated as mechanisms	Explains how and why specific relationships between a set of constructs lead to specific events	✓ Focuses on the mechanisms of effects ✓ Provides some explanations ✓ Derived from fundamental research in various disciplines (psychology, sociology, policy sciences, etc.)	✓ Behavioural: social cognitive theory (Bandura, 1989) ✓ Organizational/ social: social capital theories (Bourdieu, 1980)	Identifies the mechanisms of effects and the factors potentially involved in their activation

Terms	Definition	Constructs	Purpose	Specificities	Examples in public health	Interest for understanding intervention system
Process model	A deliberate simplification of a process describing how different resources can be combined to produce change in a specific context.	✓ Variables relating to implementation aspects (training, communication, decisions, revision, etc.) ✓ Which may include some contextual elements influencing the delivery	Describes and/or guides a process	✓ Recognizes a temporal sequence and conditions of progress in implementation endeavours ✓ With more or less emphasis on the context and the way it influences delivery ✓ Derived from field expertise and experimentation	✓ The PRECEDE-PROCEED model (Green & Kreuter, 2005).	Identifies the combination of resources and activities as well as their sequence, needed to produce change
Implementation theories	A combination of classic theories and activities, with or without a temporal sequence	✓ Implementation aspects ✓ Constructs involved in triggering mechanisms ✓ Mechanisms of effects	Explains how and why specific relationships between a set of constructs and interventional elements leads to specific events.	✓ Derived from field expertise and experimentation ✓ Derived from fundamental research in various disciplines (psychology, sociology, policies science, etc.)	The behavioural change wheel (Michie et al., 2011)	Links mechanistic hypotheses and the resources and activities potentially influencing them to design or understand the way interventional input could work

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In the Ocaprev Study, Aromatario et al. (2019) drew an ISyT for a health application focusing on diet and physical activity behaviours. Box 15.3 and Fig. 15.3 below present this example.

Box 15.3 Ocaprev Theory in the Ocaprev study (Aromatario et al., 2019)
The theory conceptualized in the Ocaprev study hypothesizes 50 causal chains linking behavioural sources – capacity, motivation, opportunity to change – with specific behavioural change techniques and effect mechanisms.

Some technical recommendations (implementation processes or contextual elements) were added to these chains to improve accessibility, acceptability and contribution to reducing health inequalities. One of these 50 causal chains is presented in Fig. 15.3 below.

The use of different frameworks, models and theories in this work:

- The behavioural change techniques were informed by the taxonomy drawn up by Michie et al. (2013),
- Technical recommendations to express these techniques in apps come from process or implementation models: E.g. a specific framework dealing with health inequity and prevention intervention criteria (Guichard & Ridde, 2009)
- The sources of behaviour come from the behaviour change wheel (Michie et al., 2011) (an implementation theory)
- The mechanisms from the theoretical domain framework (Atkins et al., 2017).

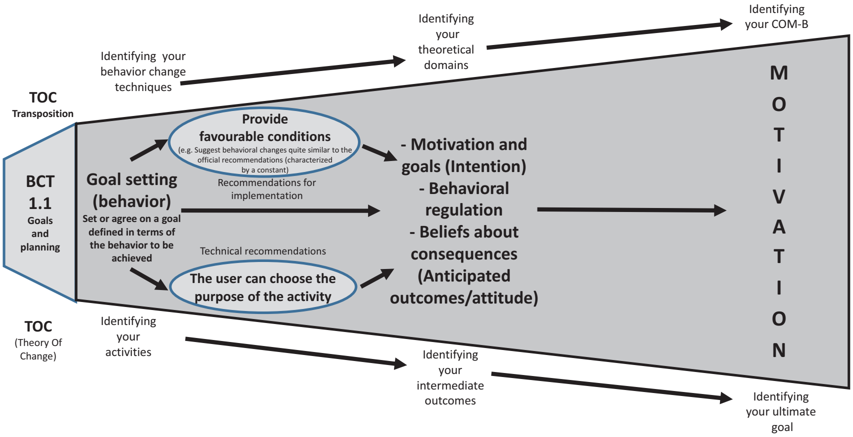

Fig. 15.3 Part of the intervention theory in the Ocaprev study: one of the 50 causal chains. (Source: Reprinted from Aromatario et al. (2019), figure 4, licenced under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0/))

15.5 Using ISyT in the Evaluation Process

Regardless of the frameworks used, the process follows different key stages in a theory-driven paradigm. Adopting a pragmatic approach, we summarize this process as articulating two major steps, namely, defining and redefining the theory, and collecting data to inform and hone this theory. Indeed, we argue that, whatever the number of steps, the core principles are as follows: "(i) the process is set in a *participative way,* combining experiential and scientific knowledge, involving different stakeholders – populations targeted by the intervention, field professionals setting the intervention and knowing the context, researchers providing a global and multidisciplinary analysis of the phenomenon studied; (ii) an *evidence-based and rigorous consensus building process* is adopted, including, for example, literature reviews, workshops, exploratory studies; (iii) a *hybrid approach* is taken that is both hypothetico-deductive and inductive; (iv) *quantitative and qualitative data* is collected using mixed method designs" (Cambon & Alla, 2020). This can be summarized simply as in Fig. 15.4 below.

In Box 15.4 below, the theory-driven process in the TC-REG study is presented using this sequence (Cambon et al., 2017; Martin-Fernandez et al., 2021).

The ISyT process is compatible with other theory-driven frameworks, such as the theory of change framework or realist evaluation if adjustments are made. For example, according to the theory of change (TOC), the interventional components

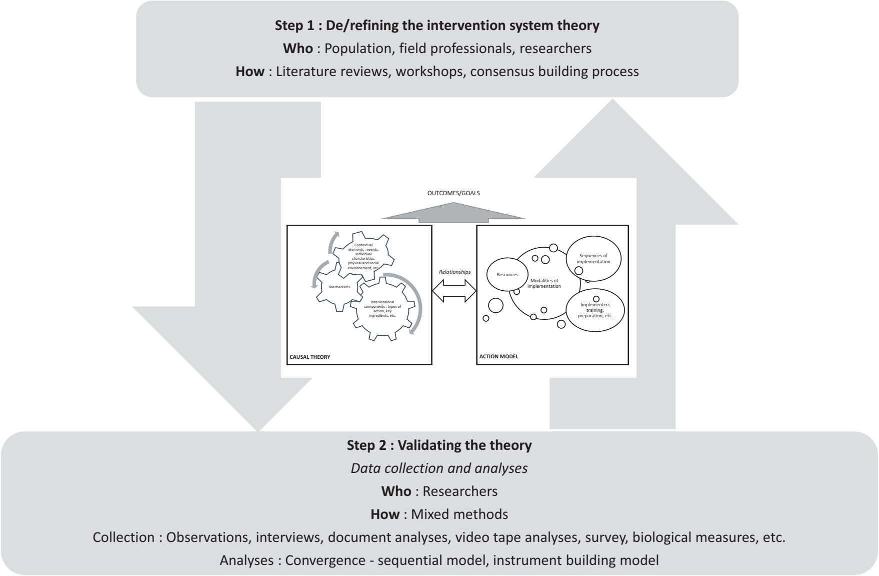

Fig. 15.4 Using ISyT in the evaluation process. (Source: Adapted from Cambon and Alla (2021), figure 2, licenced under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0/))

Box 15.4 Example of the Theory-Driven Process in a TC-REG

In a TC-Reg project, the theory is developed in two key stages:
Step 1 – Defining the initial middle-range theory and the knowledge transfer scheme through:

- A literature review of evidence-based knowledge transfer strategies and mechanisms to enhance evidence-based decision-making (e.g. perceived usefulness of scientific evidence)
- A qualitative exploratory study in the four regions to collect existing actions and resources to implement knowledge transfer strategies
- A workshop with experts in knowledge transfer, field professionals from the four regions and TC-REG researchers in order to define the strategies to be implemented and hypothesize the mechanisms potentially activated as a result, along with any contextual factors potentially influencing the strategies selected (e.g. availability of scientific data),

Step 2 – Validating/refining the initial middle-range theory by:

- A qualitative study to identify specific actions implemented in the regional knowledge transfer plan (one series of interviews)
- A qualitative study to identify Context(C)-Mechanisms(M)-Outcome (O) configurations (two series of interviews)
- A workshop with the same stakeholders to define the theory that combines the strategies, contextual factors and mechanisms to be activated

This process resulted in the creation of 8 previously elicited middle-range theories and the final ISyT.

or ingredients are fleshed out and examined separately from those of the context. This explains how inputs, activities and outcomes are linked, and how the various interventional components work together in a causal way to achieve the impact involving causal inferences and implementation considerations (De Silva et al., 2014). The difference with our approach is the lack of mechanisms and context components clearly included in the matrix. Indeed, in TOC frameworks, the focus is on the links between intervention, implementation and outcomes. According to the ISyT concept, contextual elements and outcome mechanisms are simply included in the matrix (Cambon et al., 2019). As indicated earlier in the paper, this is the case in the Ocaprev study, where mechanisms have a central place in theory, and contextual elements are also included.

In realist evaluation (Pawson & Tilley, 1997), contextual elements and mechanisms are considered as core elements in middle-range theories. No interventional or implementation components are included in the ISyT. Some authors propose to include these interventional components, called “resources,” in the definition of mechanisms (Dalkin et al., 2015). They argue that “resources and reasoning are mutually constitutive of a mechanism.” We do not share this perspective preferring

Box 15.5 Intervention Components and Realist Evaluation: The Hybrid CeCiMO in the TC-REG

In the TC FREG study, the final middle-range theories comprised of:

- external factors, called Ce = Context external: E.g. initial training of implementers, interest in knowledge transfer scheme dissemination, leadership profile, political support in the organizations, time to study evidence-based data, team size
- interventional components, called Ci = Context interventional: E.g. access to evidence-based data, training courses, seminars, knowledge brokering, etc.
- mechanisms (M) triggered by the combination of both: utility perception of EIDM, motivation to make evidence-based decisions, self-efficacy to analyse and adapt evidence in practices, etc.
- outcomes (O): the use of evidence in practices and decision-making

that of a mechanism as suggested by Lacouture et al. (2015) which focused strictly on the reaction of stakeholders situated in the context (including interventional input). Thus, according to our definition, what Dalkin called resources should be part of the contextual (pre-existing resources) and interventional components (resources provided by creators and implementers), rather than part of the triggering mechanisms. Other authors have distinguished intervention and context by referring to ICAMO configurations (Intervention, Context, Actors, Mechanisms, Outcomes) (Mukumbang et al., 2018). However, following the interventional system approach, we do not share this postulate, in part because it supposes a clear distinction between intervention and context, and because we consider actors to be part of the context.

In line with the ISyT concept, we prefer to keep the tryptic C (Context)–M (mechanism)–O (Outcome) by adapting it as follows: Ce (Context external from the intervention)–Ci (interventional context)–M (mechanism)–O (Outcome). We used this configuration in the TC-REG study as presented in Box 15.5 below (Cambon & Alla, 2020).

15.6 Conclusion

Population health intervention research raises major conceptual and methodological issues. One of these is to assume that it is possible to combine paradigms and research approaches. Indeed, a multidisciplinary approach is often called for, but it can only be effective if each discipline agrees to take a step towards the other. What we have tried to demonstrate in this chapter is the need to move away from dogma, including that stemming from the philosophy of science, to collectively embrace a pragmatic and useful vision of evaluation.

We believe that this approach to research is particularly appropriate in the field of health promotion. Indeed, this field is characterized by the fact that people are both targets and stakeholders of action, and it is not the action that causes an outcome but the people who respond, in an expected or unexpected way, through reactionary mechanisms in a particular context. These characteristics are particularly in line with this notion of interventional system and call, as proposed in this chapter, for a research that is more exploratory of the interventional phenomenon under study than productive of universal results.

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Chapter 16
Using a Realist Approach in Qualitative Research to Analyse Connections Among Context, Intervention and Outcome

Suzanne F. Jackson

Key Concepts Definitions

- *Realism* posits that there is a real world interpreted through our human senses and cultures that result in imperfect interpretations, but over time, with research, we can get closer to approximating what is real.
- *Qualitative analysis* uses the researcher or analyst's judgement or a theory to organize, code or categorize phrases in narratives produced in documents, interviews or focus groups. In a realist approach, this analysis focuses on identifying context, mechanism and outcome aspects and how they are connected in each coded segment of the narratives.
- *Programme theory* for an intervention in realist terms describes the causal linkages between the circumstances/resources/context, the programme elements and the outcomes that give an understanding of what works for whom under what circumstances.

16.1 Introduction

Research that evaluates health promotion interventions faces some key challenges. One is that health promotion strategies work together at multiple levels – researchers need to understand the interactive effects of policies, communications, individually oriented programmes and community actions operating in a particular setting. These settings can be as small as a school or community programme to as large as a municipality or region. It is a real challenge to identify successful strategies when

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there are so many different interactions and different populations affected. Another challenge is that, imbedded in its definition, health promotion fosters individual and collective agency and control. One sign of success is that programme participants become change agents in their own lives and affect policies and plans in their communities. The context does not remain static and is changed by health promotion practitioners and their programme participants. At one level, for practitioners transferring interventions from one setting to another, they need to adapt health promotion programmes with a record of success to fit differing contextual conditions which can alter the programme components or actions and even the possible outcomes. At another level, the participants in any setting become actors and alter the contexts and outcomes even further (Craig et al., 2018; Poland et al., 2008).

The issue is then how to evaluate programmes which inevitably need to adapt some or all of their elements to the changing local circumstances or contexts in order to achieve results. Most research protocols try to control for context by keeping it constant or try to ensure fidelity in intervention implementation in order to test the value of a new health promotion programme. However, implementation of any programme "proven" to be effective in one setting then has issues when it needs to adapt to different contexts. When researchers want to ask "what works for whom under what circumstances," Pawson and Tilley's (1997) realist evaluation approach comes to mind. This chapter describes what the realist evaluation approach is, some unique aspects of this approach adapted for use in qualitative field research, how it can contribute to health promotion practice and how it can shape health promotion research in general.

16.2 What Is a Realist Evaluation Approach?

Realistic evaluation (Pawson & Tilley, 1997) looks for the connections between the context (or setting) (C), the mechanisms (or programme reasoning) (M) and the outcomes (O). Pawson and Tilley gave examples of how this method can generate middle-level hypotheses of what is really going on when some programmes are successful in some settings and not in others. The most common method of generating these middle-range hypotheses is to review published research using a realist synthesis perspective (Wong et al., 2013).

In order to do a realist synthesis review, the review team needs to identify possible contexts, mechanisms and outcomes and develop one preliminary middle-range hypothesis that connects the various CMOs (Wong et al., 2013; Groot et al., 2017; Jagosh, 2019). This requires some content expertise up front to help develop the focus for the review, often in the form of an advisory committee (Gilmer et al., 2016; Tyler et al., 2019).

The literature is then examined for both quantitative and qualitative studies that can show the connections between some or all the elements of the tentative theory. Unlike a systematic review where the quality of each study is key for inclusion, in a realist review, research articles of differing qualities and grey literature are included to provide insight about how an intervention works (Gilmer et al., 2016; Pawson, 2006). The process is iterative allowing for further refinement of the initial hypothesis or programme theory and identification of new CMOs and their interrelationships. The initial programme theory is in effect "tested" and refined by examining how robust the CMO relationships are in the literature.

It is important that health promotion practitioners develop theories of change underpinning their interventions in order to understand what can and cannot be altered during programme implementation as the context and audiences for the intervention change. In addition, these theories of change form the basis for designing programme evaluations. All programmes have theories underpinning their design but many times these theories are implicit and the focus of the realist synthesis is to make these implicit theories explicit (Jagosh, 2019).

The drawbacks of the realist synthesis are the lack of detailed programme descriptions and contexts in the literature, poor quality evaluations relying on process outcomes rather than changes in behaviour or policy and no consistent protocol on how to conduct a realist synthesis (Jagosh, 2019). In addition, adequate implementation research that describes the mechanisms at play is less common (Tyler et al., 2019), there may be gaps in literature for certain populations, and this method relies on a retrospective review of literature, of which the most recent may represent research that took place 5 to 10 years prior.

Taking the same realist approach to link the CMOs, there is emerging research that empirically explores the connections between contexts, mechanisms and outcomes during programme implementation in the empirical domain (what is observable) (Lacouture et al., 2015; Willis et al., 2018). In general, most of these studies have used qualitative methods through interviews or focus groups with practitioners or programme participants to ground their theories in the stakeholders' experiences and collected data on both macro- and microcontextual factors (Punton et al., 2020). It is in the analysis phase that there can be two approaches. The more common approach is to organize contexts, mechanisms and outcomes separately into themes, using a standard qualitative analysis approach, and then, the researchers or evaluation team derive the possible connections between the CMOs towards developing plausible hypotheses or CMO configurations (Priest & Waters, 2007; Kennedy et al., 2005). The second approach is to identify CMO linkages raised in the interviews or focus groups in the form of dyads and triads during the coding process (Jackson & Kolla, 2012; Willis et al., 2018). These links give insights into the connections implicitly understood by those with lived experience. Being able to tap into these insights is important for health promotion practitioners who want to build better hypotheses about the change processes that their programmes are based on.

Building on this second approach, I have been engaged in two studies to analyse qualitative interviews for the implicit connections various intervention stakeholders (in these instances programme implementers and participants, community leaders) make between the conditions they faced, their actions and reasoning and the results they observed. The next sections describe how this kind of research can be conducted using two case examples and why this approach is relevant to health promotion.

16.3 Two Cases that Illustrate How to Conduct a Realist Approach to Qualitative Analysis

In both of these cases, the research was conducted in close collaboration with a community-based partner. In the first case, programme coordinators in two local children's mental health agencies wanted to examine the role of community parents in their early parenting programmes. In the second case, an existing partnership between university researchers and the Centre for Connected Communities (C3) examined the circumstances affecting the work of grassroots leaders in six neighbourhoods of Toronto in relation to their response to the first wave of COVID-19 in 2020.

Case 16.1: Role of Community Parents in Early Parenting Programmes

Two early parenting programmes were run by Toronto Public Health based on a best practices systematic literature review which did not include a role for Community Parents (CP). Programme leaders in one part of the city had a hypothesis that CPs were necessary when risk conditions such as low income, unemployment or underemployment, lack of knowledge of community services and few social supports existed. This was a CMO hypothesis perfect for using a realist evaluation approach to explore when CPs were most appropriate towards achieving which results.

In this study, 25 semi-structured interviews were completed with 13 programme participants, 5 community parents (CPs) and 7 public health nurses (PHNs). The interviews ranged from 30–60 minutes and were tape-recorded and transcribed verbatim into Dedoose. Ethics approval for this study was received from the Health Sciences Ethics Board at the University of Toronto (Protocol #26066). It was important to interview PHNs who worked with and did not work with CPs and talk to programme participants to get their views of both PHNs and CPs. The three different perspectives on the role of CPs were important to maximize finding the differences between roles in different contexts and with respect to different outcomes.

We used the linked coding of CMO relationships method for data analysis (Jackson & Kolla, 2012). Coding of the interviews through linked Context-Mechanism-Outcome (CMO) dyads and triads used the interviewees' own words to identify the contexts where the community parents' role (the mechanism) led to outcomes facilitating or hindering the success of the early parenting programmes. Each sentence or set of sentences corresponding to one idea was given a numbered code for the context(s) (C), the mechanism(s) (M) and the outcome(s) (O) identified in the sentence(s). These codes were linked together into "strings" (e.g. CMO, CMMO) for each sentence or chunk.

Given the narratives generated through the interviews and the detailed information in linked CMO relationships, over 700 different CMO coded strings were generated for 748 interview excerpts. There were 24 different outcomes identified across all strings. For each outcome, we examined the associated strings to find the mechanisms and contexts that were responsible (Jackson & Kolla, 2012; Punton et al., 2020). Strategies or actions (mechanisms) that involved CPs were separated from mechanisms that did not involve them for each outcome. Tables were developed to analyse the linked codes for each outcome of interest, identifying the contexts associated with different mechanisms, the type of interviewee and whether the mechanisms were attributed to CPs or not.

Interviewees associated Community Parents with participant recruitment and retention as outcomes, with a weaker link to participant satisfaction. CMO dyads and triads with these outcome codes were then analysed for the specific mechanisms or strategies used by CPs and the situations or contexts where they were most useful. CMO dyads and triads identifying non-CP mechanisms for the same outcomes were also analysed in order to distinguish differences in conditions that might be significant for the CP role. For details of the analysis procedures, which are quite complex, please see Jackson and Kolla (2012).

We were interested to find that similar roles for CPs were perceived by all three types of interviewees (participants, CPs and PHNs) and that they so clearly fell into fairly exclusive categories. The key outcomes linked to the CP role were recruitment and good attendance. The key outcome linked to the PHN (and not the CP) was acquisition of parenting knowledge and skills.

This realist approach revealed a distinct role for CPs under certain circumstances and related to certain outcomes, supporting the initial hypothesis of the programme coordinators. The key connections between contexts, mechanisms and outcomes in the form of plausible mid-range hypotheses related to this case are summarized in Box 16.1.

Box 16.1 Contexts, Mechanisms, Outcomes and Hypotheses Related to the Role of Community Parents in Early Parenting Programmes

Overall Hypothesis: If Mothers living in high-risk circumstances can be recruited to and attend early parenting programs, they can benefit from the socialization, parenting knowledge and infant attachment skill development given by parenting experts.

OUTCOME: Recruitment

1. When mothers are isolated in the community (C), CPs use their shared immigrant experience, their cultural understanding and their ability to connect to women one on one in the community (M) to recruit these Moms into Early Parenting Programs (O). [Distinct role for CP]
2. When Mothers attend other programmes in any agency (C), PHNs, CPs and programme staff all promote the early parenting programmes (M) to recruit Moms into the programmes (O). [No special role for CPs]

OUTCOME: Frequent Attendance

3. When Moms are shy, isolated, afraid to speak and faced with new circumstances as a newcomer with different cultural expectations (C), the CPs are friendly, build trusting relationships, help with babies in the programme and work in a culturally sensitive way (M) in order to keep these Moms coming to the Early Parenting Programs (O). [Distinct role for CP]

4. When Moms want to get out of the house and meet other parents, want to learn to be a good parent and have questions about parenting (C), the opportunity to socialize with other Moms and the PHN expertise in parenting (M) keeps them coming to the Early Parenting Programs (O). [No role for CP]

OUTCOME: Parenting Knowledge and Infant Attachment

5. Mothers from all backgrounds (C) learn how to relate to their infant and gain knowledge about child development (O) through songs, information, handouts, reassurance and interactive activities given in early parenting group programmes (M). [No special role for CPs]

Case 16.2: The Response of Grassroots Leaders to COVID-19

When Toronto locked down in mid-March 2020 to limit the spread of COVID-19, challenges were immediately created for people living in neighbourhoods facing conditions of low income, precarious employment, precarious and crowded housing, lack of access to Internet and digital technology, and isolation (many of which were exacerbated by COVID-19 and the responses to it). As a consequence of the pandemic, many agencies and organizations providing meal programmes and other kinds of community programmes in these neighbourhoods were closed down. Although the City of Toronto (the City) and other major service providers wanted to provide resources such as food, it was difficult in many neighbourhoods to connect to those who needed help the most because these service providers did not have a way to contact individuals. Grassroots leaders stepped into this gap and connected to those in need through their networks and contacts, acting as a bridge between goods and services that were available and residents who needed them.

The partnership between U of T researchers and the Centre for Connected Communities (C3) was created in 2018 to explore community resilience and climate change. We took advantage of this relationship to develop a qualitative research project to explore the pre-conditions for grassroots work in six neighbourhoods in Toronto, the facilitators and barriers affecting their work during COVID, and the actions they took to mitigate the determinants of health (such as food and housing) faced by their communities because of the pandemic. One of the initial hypotheses of C3 was that grassroots leaders with a history of community organizing (mechanism) are able to overcome the challenges presented by the COVID-19 pandemic (context) and connect community members in need to services and resources (outcome). Like the previous case, this hypothesis that connected certain contextual conditions with certain actions and results was ideal for exploration using a realist approach.

In this case, 46 interviews were conducted over Zoom or the telephone with grassroots leaders in six neighbourhoods of Toronto with different histories of community organizing in the summer of 2020. Ethics approval for this study was received from the Health Sciences Ethics Board at the University of Toronto (Protocol #39393). Interviewees were asked what happened in their neighbourhood in response to the pandemic, who did what, and what helped and hindered their actions. Among the neighbourhoods, four were thought to have active community organizations and two were not.

The analysis focused on identifying the CMO connections in each paragraph of the interview. The contexts, mechanisms and outcomes mentioned by each interviewee were summarized in a document along with one to seven mid-range implicit hypotheses for each interview. These mid-range hypotheses were grouped into themes in another document for further discussion and analysis by the research partnership and in a sense-making workshop over zoom with a quarter of the interviewees. This added step was different from the one used in the early parenting programme case in order to more fully engage our community partners in the research process. (Details of this method are in Jackson et al., 2022.)

For this chapter, the focus is on the factors affecting the ability of the grassroots leaders to connect to residents to identify their needs and communicate this back to the organizations and service providers who could meet those needs. In all neighbourhoods, regardless of their context, individuals and grassroots leaders stepped in to connect to their neighbours, especially seniors, to collect information about their needs and pass on information about the pandemic. They also acted as connections between resources and residents who needed help the most.

The main contextual challenges faced by everyone trying to alleviate problems during the pandemic were that (a) most of these neighbourhoods were multicultural with English as a second language for many residents, (b) there was a digital divide where many residents did not use digital technologies (e.g. seniors) or could not afford the Internet fees and (c) some residents were relatively isolated and used physical gathering and service provider programme spaces to communicate with others and get their information. On top of this, information flowed in one direction from the top down and was largely in English, transmitted using all forms of social media (including radio and television) and not communicated in person. In addition, people were scared, many lost their employment, and people were told they had to stay inside their homes for those who were still employed, their children were now at home while they went to work in essential but unsafe work as grocery clerks and personal support workers. Despite these challenges, grassroots leaders were able to connect to residents, especially seniors, gather information about their needs and connect that information to the resources available.

The realist approach taken in this research clearly identified the importance of the pre-existing relationships of grassroots leaders with community residents as a mechanism of value during a pandemic. The typical top-down pandemic response was unable to reach those whose lives were most affected by the lockdown in terms of access to food and social support without the support of grassroots leaders. These leaders were able to provide the necessary two-way flow of communications and

Box 16.2 Mid-Range Hypotheses Related to the Role of Grassroots Leaders during COVID-19

1. For seniors isolated in their homes with little or no access to digital technologies (C), grassroots leaders used their contact lists to telephone seniors, and talk to them about their needs (M), in order to get them food and medications, and give them emotional and social support (O).
2. In communities where people do not know one another well (C), grassroots leaders who listened well, had a positive approach, built friendships and responded to needs (M) were able to pass on information, identify needs and build trust (O).
3. In a multicultural community where many people do not understand English well and English-only messages about the pandemic had limited reach (C), grassroots leaders from various cultural and faith groups (M) were able to ensure information reached their groups, especially seniors, as well as to glean information about their needs (O).

resources through a variety of mechanisms. Box 16.2 shows a few of the mid-range hypotheses developed in this research. The realist approach was able to show that grassroots leaders could play this two-way connector role in a range of different community contexts. The role as a broker for a two-way flow of information and resources during the pandemic was an essential added value to the typical top-down response to an emergency.

16.4 Why Is a Realist Approach to Research Relevant for Health Promotion?

Health promotion is about making change happen and improving health at multiple levels. Evaluation is one of the big challenges in the health promotion field, in terms of the many layers of action, the interactive effects of strategies between layers, and because one of the goals of health promotion is to improve peoples' living conditions (the outcomes) and their ability to control the factors that affect their health (contexts and mechanisms). Much research and evaluation try to compare interventions assuming similar or irrelevant contexts ("controlled for" in positivist terms), which does not serve health promotion well. In any intervention, a programme theory of change needs to articulate the mechanisms that can be adapted and/or which outcomes change if the same mechanisms are applied in a different context. It is important to understand the links between these three aspects (context, mechanism and outcome) to understand how the programme is operating and what successes can be expected.

A realist approach has been successfully used to conduct literature reviews and syntheses but it has been less frequently applied to qualitative research and evaluation during programme implementation. This chapter provides examples of the realist approach applied to the analysis of qualitative interviews. When health promotion programme practitioners and participants are interviewed about the value (or not) of the health promotion programme to them, they provide insights into what works for whom, under what circumstances. This has the potential to contribute to evaluating health promotion programmes for a range of circumstances and different populations.

In applying this approach in research, the biggest challenge is discerning the differences between contexts, mechanisms and outcomes. A context is defined in various ways to be specific circumstances and factors that are pre-existing (Groot et al., 2017; Craig et al., 2018) or elements in the background environment of a programme (Jagosh, 2019). Outcomes are intended or unintended effects of the context-mechanism interactions (Jagosh, 2019). Mechanisms can be the most difficult to understand. They are the "resources offered through a programme and the way people respond to those resources" (Jagosh, 2019), or something that is hidden, an element of reasoning and reactions of agents to the resources available (Lacouture et al., 2015; Wong et al., 2013), or the invisible forces that lead to or inhibit change (Punton et al., 2020). This is different from the activities of the intervention. However, Punton et al. (2020) added the intervention components to the CMO configuration to create CIMOs as a refinement. This is helpful for practitioners who are used to thinking in practical terms about the activities in their programmes and allows space for that to be incorporated into the mid-range hypothesis but separated from the mechanisms. In the two cases presented in this chapter, the concept of the mechanism was derived from the ways the interviewees described their experience and so it was a mixture of intervention activities and more hidden, underlying processes.

There are two additional challenges to using a realist approach for research in health promotion. Firstly, given the importance of the setting in health promotion where a full range of health promotion strategies may come into play, there are complex relationships to be understood between these strategies and the contextual elements (e.g. in healthy settings such as schools, communities, hospitals) (Poland et al., 2009). A realist approach acknowledges the messiness of these interventions and can ask questions that help the practitioner tailor them to specific outcomes, audiences, or circumstances (Poland et al., 2008; Willis et al., 2018). There is the possibility of creating an implementation chain showing the overall logic behind multi-layered interventions which can help to organize the research (Gilmer et al., 2016). In this case, it can be helpful to focus attention on a subset of parts of the intervention and setting to make this manageable (Wong et al., 2013). Like a realist synthesis, it is best to approach realist research by having a preliminary hypothesis and a rough idea of some of the contexts, mechanisms and outcomes that will be of interest. This will keep the inquiry within reasonable boundaries.

A second challenge is that participatory research is often used in health promotion because it fits best with a practice that tries to "enable people to increase control over their health." (WHO, 1986). A realist approach can be very time-consuming and developing plausible CMO hypotheses can be full of jargon and difficult to understand for the non-academic (Punton et al., 2020). Engaging stakeholders in assessing their programmes is important in terms of the insights they have, the importance of grounding programme theories in their experience, and because they are the ones that will be adjusting the programme to meet their needs.

> Realist evaluation is not necessarily a participatory approach, and it can be conducted with minimal engagement from programme implementers and evaluation commissioners. However, in our experience there is the potential to unlock considerable value if meaningful engagement is built into the design. (Punton et al., 2020)

Although challenging to conduct, a realist approach to research can be a breakthrough method when the context is dynamic, the practitioners have to adapt to this dynamic context on the fly, and connecting actions to results is critical for ongoing programme funding. For health promotion practitioners, this approach forces deeper understanding of how and why a programme works and what aspects can be transferred to another setting or be scaled up. In the midst of different programme theories, practitioners want to know which one works for whom and under what circumstances.

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Chapter 17
Using Mixed Methods to Evaluate Complex Interventions: From Research Questions to Knowledge Transferability

Marie-Renée Guével and Gaëtan Absil

Key Concepts Definitions

- *Mixed methods research*: ‘Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g. use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration’. (Johnson et al., 2007; p.123)
- *Empowerment*: ‘In health promotion, empowerment is a process through which people gain greater control over decisions and actions affecting their health’. (WHO, 2021; p.14).
- *Socio-ecological approach*: Based on Bronfenbrenner’s work (Bronfenbrenner, 1979), socio-ecological approach refers to dynamic and complex interactions between various multi-layered factors and settings.

17.1 Introduction

The health of both individuals and populations is influenced by networked, multilayered determinants that may interact through emerging multiple paths. As a ‘process of enabling people to increase control over and improve their health’ (WHO,

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1986), health promotion needs to take into account this inherent complexity. Even more, the values pervasive in health promotion (social justice, equity, sustainability and participation) and intervention principles (empowerment, community involvement, intersectoriality and partnership) add to this complexity (Bilodeau & Potvin, 2016; Keshavarz Mohammadi, 2021; Potvin & Jourdan, 2021; Tremblay & Richard, 2014). Emphasis on complexity has been recently strengthened by linking health promotion to sustainable development (WHO, 2016) and placing health promotion within an Anthropocene perspective (Moysés & Soares, 2019). The recent Covid crisis was a reminder of the imperative to broaden the way we consider health and health promotion – and indeed, how we conduct research; the use of a socio-ecological framework is called for, to change our relationship to nature (Bateson, 1999; Descola, 2013). In relation to these changes, new theories invite us to reinvent our relationships with the world and revise our research practices (Rosa, 2019; Stengers, 2015).

Despite promising evidence that will improve the health of both individuals and populations, health promotion stakeholders continue to find themselves up against a ‘chronic problem’ when it comes to evaluating complex health promotion interventions, offering proof of their added value and ensuring knowledge transferability (Keshavarz Mohammadi, 2019). Moreover, health promotion is closely related to public decision-making processes that are deeply influenced by evidence-based thinking within a context of limited resources. Health promotion research and evaluation are therefore urged to address these challenges, moving beyond both theory and ideology. The mixed methods approach is one promising possibility. While its use in health promotion research is not new (see for example, (Guével et al., 2015; Nutbeam, 1998; Stewart-Brown, 2006; Tones & Tilford, 2001)), recent reflections on how mixed methods could help manage the complexity of social phenomena (Kallemeyn et al., 2020) may offer useful insights to health promotion research. This paper highlights the opportunities offered by mixed methods but also their limitations. It is built both on theoretical and on practical insights.

17.2 What Is Mixed Methods Research?

Mixed methods research combines quantitative and qualitative approaches. It has been qualified by some authors as a third methodological tradition (Johnson et al., 2007). Though their combined use has only recently been conceptualized (Tashakkori & Teddlie, 2003), researchers across a range of disciplines have been using quantitative and qualitative methods simultaneously for many years now. Mixed methods studies aim to overcome the traditional opposition between qualitative and quantitative approaches. Beyond triangulation, which combines different data sources within the same qualitative or quantitative research (Denzin, 1978), the use of mixed methods offers a framework within which to integrate different perspectives to the study of human phenomena. The core assumption behind mixed methods is that the combination of both approaches may provide a broader, more credible understanding of a research problem than the standalone use of either approach (Mertens et al., 2016).

The goal of the approach is to better capture the complexity of the phenomena under study by using more than one perspective (Greene & Hall, 2010; Hesse-Biber & Johnson, 2013). From a complex system perspective, complexity is much more than a matter of a dense network of linear and recursive causalities; it also refers to movement, as systems are constantly adapting to their context (Byrne & Callaghan, 2014). Indeed, mixed methods research offers valuable opportunities to capture the changing nature of social phenomena embedded in their context (Greene, 2012), as do health promotion interventions. It is impossible to imagine 'freezing' a setting (such as a school) while implementing a health promotion intervention and measuring what happens, yet we need to be able to simultaneously document the implementation process, the interaction between intervention and context, as well as the results of both the implementation and the interactions. The iterative nature of the mixed methods approach, coupled with its dialectical potential, should support the development of health promotion research.

When it comes to operationalizing mixed methods, there is a consensus as to what should be mixed, i.e. qualitative and quantitative approaches. However, debate continues as to when approaches should be mixed (at the stage of data collection, data analysis or throughout the project), why they should be mixed and the reasons for choosing a mixed methods approach (driven by either the research questions or the researcher's philosophical stance and preferences) (Johnson et al., 2007). When defining a mixed methods research design, four main decisions should be taken:

- What level of interaction will there be between qualitative and quantitative components?
- If one approach were to be prioritized, which would it be?
- Will both components be carried out simultaneously or sequentially?
- At what point will the qualitative and quantitative components be mixed and how?

To help researchers develop their own design, mixed methods methodologists have developed a range of tools such as design typologies, graphical tools and research validity guidelines (see for examples (Creswell & Plano Clark, 2011; Hesse-Biber & Johnson, 2015; Hong et al., 2018; Ivankova, 2014; Tashakkori & Teddlie, 2010)).

17.3 Qualitative and Quantitative Arrangements in Health Promotion Research

Although 'arrangement' can have multiple definitions, it has two main significations in the following section. First, it refers to the negotiations between researchers, stakeholders and all other persons concerned, since a mixed methods approach involves processes aimed at defining the meanings and purposes of the research. 'Arrangement' also describes the ability to bridge, cross and mix various research tools in order to answer a question, find solutions to social problems or evaluate interventions. Here, we provide some 'tricks of the trade' to help explain the link between these arrangements and health promotion research.

17.3.1 Linking Research Purposes and Methodological Choices: Formulating Mixed Methods Research Questions

Formulating research questions plays a central role in the research process. The mixed methods literature recognizes that mixed methods are appropriate when the study's purpose and research questions warrant a combination of quantitative and qualitative approaches. Research questions could be seen as a link between the study's purpose and its design and methods. Plano Clark and Badiee (2010) proposed a framework describing the origins of research questions in mixed methods research. This framework takes into account the moment in which research questions are generated: 'at the start of the study from the literature and practice, in conjunction with the decisions about and implementation of the methods, and in response to specific results and interpretations that emerge from the study' (Plano Clark & Badiee, 2010, p.281), the influence of the research environment (disciplinary, social and funding factors), and the researcher's personal preferences and beliefs (whether individual or collective). Indeed, research questions shape (and are shaped by) methods in a complex and dynamic process. Within a mixed methods approach, research questions provide the researcher with a guideline for planning and mixing the study's quantitative and qualitative components. Mixed methods research questions should have both quantitative and qualitative aspects.

As illustrated in Box 17.1, the formulation of a research question is a social process, and there is no single way to do it. This is particularly relevant in health promotion research, where the emphasis is both on participation of all persons concerned (especially those who are less empowered) and on the contribution made by the research to the decision-making process. Formulating research questions may therefore mean much discussion and negotiation, with proposals going back and forth between researchers and project partners, as well as other persons concerned, i.e. all those who could potentially have an interest in the research. Research questions, then, become a boundary object shared by the various stakeholders (Star & Griesemer, 1989). It is probably this process for which researchers find themselves less prepared, as there is a need to manage and solve issues raised by the different stakeholders. Indeed, scientific reasons (or legitimacy) do not always prevail over political, societal or financial considerations (Greene, 2012). In addition to being time consuming, this phase of the research may be frustrating and challenging for researchers. In such a context, the methodological tools offered by the mixed methods literature could be very useful in establishing the relevance of the research questions. Specifically, the frameworks developed by mixed methods researchers (such as this reflection on the link between study purpose, research questions and methodological choice) may help researchers become more familiar with the research process itself.

Indeed, this process of formulating research questions becomes an investigation aimed at better defining both the research object and research purpose. Because this allows research practices to evolve, data sources are enriched and research expanded beyond the samples planned, in turn opening the way for individuals to be recognized as subjects, encouraging collective, game-changing action. Working together on the definition of research questions (especially when the (research) team brings together people from different scientific cultures as well as other persons concerned who may not have a scientific background) and sharing this work on research questions may, in addition to helping develop collective work, prevent misunderstanding when the time comes to interpret the mixed data (Sendall et al., 2018).

Box 17.1 Negotiating Research Questions to Engage All Participants and Support Shared Ownership of the Research Process

The European project IT4Anxiety aimed to enhance the co-creation of technological solutions with and for users suffering from anxiety. Six partners (France, Germany, Belgium, England, the Netherlands and Luxembourg) were involved. The real challenge was to bring together actors from different worlds of reference, each with their own priorities, cultural backgrounds, institutional and professional worldviews. Partners represented a broad panel of mental health stakeholders and institutions across Europe: patient associations, psychiatric services, research units (health, sociology, psychology, engineering), start-ups, etc.

For the evaluation component of the project, the choice of a mixed methods design was the outcome of negotiations among partners. They agreed that the evaluation should assess the intervention, provide insight along with its implementation and keep an ambition to contributing to social innovation which was at the heart of the project. To support the negotiation process, content analysis was performed on both the documents generated by the project and participatory observation notes. Ten potential questions were identified. These emerged in the course of developing and implementing the intervention instead of being explicitly included in the initial project objectives. The list of questions was then submitted to the partners, and three were ultimately selected. The first question concerned the actual participation of all stakeholders, especially mental health services users, since they are the primary people concerned by the development of this technological intervention. The second question focused on how and why the project objectives were reframed alongside the implementation process. The third question concerned the evaluation of the start-up support process.

This negotiation phase took about 6 months. It required support from the project leaders. Indeed, even though participation is valued in designing an intervention, advocacy is still needed when it comes to participating in research design, especially when the project team includes stakeholders who are unfamiliar with health promotion and/or come from different scientific and cultural backgrounds. This sort of process reinterprets the researcher's position with respect to the other partners. All data collected during this phase (and the related analysis) should be considered as products of the research.

17.3.2 Supporting Participation, Empowerment and Emancipation

Beyond providing a better understanding of the phenomena under investigation, mixed methods may also provide more credible research on participant-centred interventions (Song et al., 2010) by offering a more equitable balance among the multiple voices of all those involved (Greene, 2008). Indeed, there is a whole body of mixed methods literature that is particularly interested in transformative paradigms (such as feminist theory, critical theory or a disability rights perspective). Mixed methods research is seen as a methodological approach that is responsive to the complexity of human rights and social justice issues. These paradigms recognize both the power differences and the ethical implications deriving from those differences, in terms of discrimination, oppression, misrepresentation and marginalization. They acknowledge that the dimensions (social, political, cultural, economic, ethnic, gender, sexual orientation, disability, etc.) of these differences are contextually dependent and have an impact on quality of life for those concerned. Conducting research within these transformative perspectives engages the researcher in understand the living context and culture of these communities, in order to build trust and develop a relationship with participants that is characterized by close collaboration between researchers and participants, with specific attention given to issues of communication and power (Mertens et al., 2010).

Within the mixed methods field, other paradigms also come into play; one such is pragmatism and this might, historically, be one of the most used among mixed methods researchers (Johnson & Gray, 2010). The dialogical and pragmatic (Dewey, 1927) process may support empowerment, as long as the other persons concerned are involved. Freire's 'Pedagogy of the oppressed' (Freire, 1996) may also be an option with which to support the empowerment process of the other persons involved. Indeed, Freire focus his pedagogy on consciousness – that is, the capacity of the oppressed to analyse and understand the factors influencing their situation with a view to taking action (Heidemann & Almeida, 2011).

Researchers therefore need to develop methodologies that ensure the representation of all points of view, and in particular those of the most vulnerable or disadvantaged populations, which do not generally enjoy easy access to places of deliberation, decision and action. Extremely relevant for health promotion research, these reflections are also shared by community-based participatory research (DeJonckheere et al., 2019; Jason, 2015). Indeed, research projects that take power differences into account are potential levers in supporting the emancipation, empowerment and participation of both researchers and stakeholders, including other persons concerned, as illustrated in Box 17.2. Participants get opportunities to learn more – about the factors shaping their social condition, about how to use research results in negotiation with other stakeholders and about developing research skills.

Box 17.2 Using a Mixed Methods Approach to Support the Participation of the Persons Concerned and to Encourage Policy Change

Gender-based violence is a complex phenomenon that occurs in every setting, regardless of social class. However, its effects on the education, health and everyday lives of female students are major. The ‘Violence Against Female Students’ project was initiated by social researchers. The project starting point was the perception of increased violence suffered by women during the 2020 Covid lockdown period. The project objectives were to document this violence within the university context to develop relevant interventions rooted within the health promotion and socio-ecological approaches.

There were two main reasons to develop a mixed methods research project. The first has to do with the political and social dimensions of such an issue for an institution like a university. Quantifying the phenomenon among female students at the university via a questionnaire was unavoidable, in order to reach beyond the self-perception of certain individuals, and to support decision-makers in defending the imperative to take action. The second reason has to do with the complexity of oppressive relationships and violence – quantification alone could neither adequately address this issue nor lead to the development of relevant health promotion interventions. Moreover, this issue of violence against female students is a sensitive one. It involves documenting traumatic experience; the questionnaire was likely to generate discomfort in victims, as a result, for example, of a triggered memory or awareness. In this instance, the mixed method design allowed sensitive narrative data to be combined with extensive observation of the factors of this violence. An initial qualitative phase was carried out among women studying social work and paramedic care. They were invited to anonymously share written narratives of the violence they had either endured or witnessed. These qualitative results were then used to develop a questionnaire addressed to all female students at the university.

This mixed methods research process contributed to the social mobilization of the university community, especially among the female students themselves. The quantitative component introduced the issue to students and the qualitative component generated the spontaneous emergence of a group of students wishing to take action against such violence. The overall quality of the survey attracted the attention of both the institution and the subsidiary authorities. Feminist organizations joined the collective work to support use of the data in training and advocacy. The overall process was driven, generated and supported by this mobilization, based on complex scientific analysis of the issue.

This type of research requires a varied set of competencies and involves researchers as citizens. This, in turn, entails them being capable of reflecting on their own position as researcher. In this example, because the initial research team was joined by allies (a female student representative, the university management, political stakeholders, a feminist association and teaching staff), those involved were able, as a group, to be more active in the various decision-making bodies in support of the implementation of a health promotion intervention that included changing the institutional policy related to this gendered issue.

17.3.3 Providing Knowledge During the Implementation Process and Supporting Knowledge Transferability

Combining qualitative and quantitative approaches, the mixed methods approach offers a framework in which to think and to conduct research and evaluation that is focused on health promotion interventions. To meet the objective of providing relevant knowledge for decision-making, both intensive and contextual as well as extensive and precise information is required, and the use of mixed methods is recommended in such cases (Chen, 1997). The goal is not only to know whether the intervention has achieved the desired changes, but also to be able to both document potential adverse effects and better understand (and document) the intervention's implementation process in context. Qualitative approaches have traditionally been most often associated with process evaluation, and quantitative ones with impact evaluation – but a more refined and sensitive understanding and application of both methods (as appropriate to the research or evaluative questions being addressed) would be more effective in considering the complexity of health promotion interventions.

The use of mixed methods encourages the use of multiple sources of information, providing a more comprehensive understanding of the processes underlying the development and implementation of health promotion interventions. Combined with process evaluation, this can be very useful not only for informing the implementation process but also for potentially facilitating the intervention adaption in line with the results of this evaluation. In the example shown in Box 17.3, the integration into the intervention management process of the knowledge provided as the intervention went along was facilitated by a close partnership between researchers and practitioners. Practitioners had been involved from the outset and had participated in constructing the intervention. Both this partnership and the provision of ongoing results should also help better secure the sustainability of the project, once the research is over. Indeed, in addition to helping identify key factors linked with the efficacy of an intervention (as regards both its success and its sustainability), mixed methods designs may address the issue of implementation adaptation to both context and follow-up.

By taking into account qualitative data that might explain why a given intervention works in one setting and not another, mixed methods may also help identify factors related to the transferability of an intervention to other contexts. The methodology for producing transferable knowledge is, then, of importance – and some argue that different modes of complementary or integrative studies combining qualitative and quantitative methods should be used (Cambon et al., 2012). The possibility of capturing both intensive and extensive information through the use of mixed methods in the evaluation design is therefore an important added value, in terms of both the evidence produced and the possibility of using this evidence to inspire new initiatives in new contexts. It also implies being vigilant as to how the respective contributions of the methods are presented, acknowledged and worked on (Gorard, 2010) – especially in the health promotion context, where quantitative evidence-based thinking remains dominant (Corbin, 2016).

Box 17.3 Providing Both Intensive and Extensive Information in Order to Document Health Promotion Initiatives Throughout their Implementation

Between 2008 and 2011, a health promotion initiative tailored to the French context was developed in school settings to equip school staff to implement health promotion policy. This initiative aimed to promote the social, emotional and physical health of children through improving their well-being at school and enhancing their life skills. Its objective was to foster the development of sustainable health promotion projects in schools by empowering local actors and 'mobilizing' existing resources. The main strategy was the development of teachers' health promotion practices, coupled with a health promotion environment within schools.

Evaluation of this initiative required both intensive and extensive information. Intensive information was related to the need for stakeholders to gain an in-depth understanding of both the context and the activities implemented to know better how to support the development of school health promotion in the French context. Regarding the extensive information, these same stakeholders needed to know what the outcomes were for children and families. Two main sets of evaluation questions were formulated: (1) Which factors allow the school community to develop a health promotion approach? (2) How do the strategies developed through the intervention influence the development of teachers' health promotion practices and the school's health promotion environment? How do these practices affect well-being in schools? What is the influence of the intervention on children's perceived life skills? The evaluation questions focused on quantitative data to measure changes, while the qualitative data played a supportive role in exploring health promotion practices and contexts in order to better understand the quantitative data.

Data were analysed as the intervention was implemented and results were shared annually with participants – including schools' communities. For example, results (collected via questionnaires) related to children's perceptions of their school climate were shared with each school, using a specific user-friendly document to contribute to the development of health promotion projects at school level. This process also helped monitor and adjust the implementation process of the intervention over 4 years (Guével et al., 2015).

17.4 Conclusion

17.4.1 Opportunities to Develop Supportive Environments for Both Health Promotion and Research

As a tool, a mixed methods approach can encourage researchers to address complexity while contributing to a new way of approaching research, beyond the actual methods themselves. Grounded to some extent in Dewey's pragmatism (Feilzer, 2010), a mixed methods approach invites researchers (as well as other stakeholders and policymakers) to examine the research process in the light of the challenges they face when addressing the complexity of social and health issues. Mixed methods research supports the production of knowledge relevant to the various stakeholders – by facilitating participation, by providing different points of view and by providing evidence that might prove acceptable to the various sectors involved.

In addition, the mixed methods research process may help develop a supportive environment for both health promotion and research. Indeed, the dialogue process operating during the implementation of the research (working on the question, negotiating the meaning, connecting to stakeholder issues) creates networking and social relations between the researchers, the stakeholders and the people concerned. These relationships can outlast the research. The mixed methods research process also leads to building capacity within the research setting. These characteristics may sustain stakeholders involvement and facilitate the development of other projects, ultimately contributing to enabling people to 'increase control over and improve their health' (WHO, 1986).

In addition to providing more a comprehensive evidence, mixed methods also foster collaboration, though this relies on researchers conforming to certain ethical principles regarding the purpose of research. These clarification efforts become critical to guarantee the credibility of the results and make them accessible to those not familiar with mixed methods and/or with qualitative and/or quantitative methods. This is so both during the research and when presenting results (Creswell, 2011).

17.4.2 Opportunities to Reflect on the Researcher's Position

As mentioned above, the use of mixed methods to meet the challenges of health promotion research leads researchers to question their own position in the knowledge production process. This means that they will be required to occupy a position of negotiator, facilitator, pedagogue, etc. Unfortunately, researchers are rarely trained to acquire those skills necessary to develop participation and collective empowerment processes. Yet the mixed methods approach offers an opportunity to build knowledge 'outdoors' (Latour, 2011; Paillotin et al., 2003) in dialogue with those concerned. Such research processes serve to reframe the researcher's worldview in terms of focusing the research, developing the research questions and taking decisions about data collection, analysis, interpretation and use (Mertens et al., 2010). This, in turn, adds to the complexity involved and calls for better training for researchers in this field, to enable them to clearly set out where they stand paradigmatically. At the same time, training needs to be addressed more broadly to users of complex research findings that focus on phenomena affecting health, especially given that this research is complex in its own stake (Mertens et al., 2016).

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Part IV
Methodological Responses to Regulating Stakeholders' Collaborations

Chapter 18
Participatory Action Research as a Core Research Approach to Health Promotion

Jane Springett, Tina Cook, and Krystyna Kongats

Key Concepts Definitions

- *Participation*: active involvement in decision-making by all stakeholders on an equal basis paying attention to potential power differences
- *Co-creation of knowledge*: collective activity where different ways of knowing and understanding reality are brought together in the process of research inquiry
- *Reflexivity*: exploring and questioning unarticulated perceptions and understanding by all involved in the process including underlying social and political issues

18.1 Introduction

The last half-century has seen increasing social inequities which have created a range of health issues that health promotion research seeks to explore and address. However, the practice of research can potentially reinforce the status quo and

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recreate the very same social injustices that underpin those health challenges, by marginalizing still further the groups it wishes to serve. It can do this by continuing to privilege dominant voices in terms of whose knowledge is valued and how knowledge is created. Given the ethical values underpinning health promotion as a practice (Carter et al., 2012; Mantoura & Potvin, 2013; Springett, 2001) it is crucial that health promotion research, itself also a practice, follows a set of ethical principles that reflect the values of health promotion which emphasize equity, empowerment and capacity building, as well as participation itself. Participatory action research (PAR) is such an approach and is becoming increasingly popular in health promotion research.

PAR has long and rich global traditions and a tapestry outside health promotion which can be drawn on (Abma et al., 2019 p. 10). Central to these traditions is an emphasis on research practices that encourage relationships, participation, dialogue, reflection and also the active involvement of all people affected by the health issue in focus, in the process of research, including deciding the research question itself. In this, it shares many characteristics with indigenous research. Indeed, one might argue that contemporary participatory action research is a re-remembering of older more holistic ways of knowing, one that is particularly relevant in the context of systems thinking and ecological awareness (Berkes, 2017; Hall, 2014; Peltier, 2018). It cannot be emphasized too strongly here that PAR is an *approach* to research and *not* a research method or methodology. This is an important distinction to make. It is often interpreted as a type of qualitative research, but it is quite possible to do participatory epidemiology and other forms of participatory quantitative research. (Bach et al., 2016). PAR's many strands to its inheritance, including terminology and theoretical basis, reflect the contexts in which the approach developed. For example, in the US this approach in health promotion is usually referred to as Community Based Participatory Research (CBPR) (CF Chap. 20 of this volume) reflecting the unique position of public health and a specific tradition of civic engagement in the form of community organizing in that country (Wallerstein & Duran, 2017) The emphasis has been on formalized partnerships between academic institutions and communities and less on direct grassroots involvement of marginalized groups or those that adopt indigenous values and principles. (Jordan & Kapoor, 2016).

Outside the health sector, in Latin America, Africa and Asia, PAR emerged from concerns for both the persistent inequalities in power and resources and the processes that keep the poor in communities oppressed and dependent, seen as an outcome of colonialism and the primacy put on Western science. (Jackson & Kassam, 1998; McTaggart, 1991; Fals-Borda, 1987) PAR has been seen as a way of challenging these dominant ways as to how knowledge is produced and acted on in order to bring about social change. (Bradbury & Reason, 2008) This challenge that has also been spearheaded within Western management science through the development of action research, a form of inquiry that uses the experience of trying to improve some practical aspect of a real situation as a means for developing our understanding of it. Over time the different traditions from both the North and South became the basis of participatory action research, which was first coined by Orlando Fals-Borda (1987) as the descriptive noun.

This brief history of PAR is important because within the research literature, while there is an emerging consensus on the basic characteristics of PAR, there has always been some tension both within health promotion and beyond between the more pragmatic end of the spectrum (informed by Western models) and what has come to be known as emancipatory or transformative participatory research (which reflects the social justice intention). (Lykes & Mallona, 2008; Jordan & Kapoor, 2016) It is the latter which has synergy with the principles of health promotion, while it is the former that is often the most practised.

18.2 The Essence of Participatory Action Research[1]

There are now a number of excellent textbooks that detail ways in which a PAR project can be developed, their different standpoints being found on the continuum of pragmatism and emancipation. Box 18.1 outlines eleven common principles identified by the International Collaboration for Participatory Health Research (ICPHR) together with a twelfth added by Trickett and Beehler (2017) drawing on ecology. Rather than specify the steps in the process our intent here is to emphasize some key elements that mark out its essence that distinguish it from other approaches to health promotion research.

Box 18.1 Characteristics of Participatory Action Research (based on International Collaboration for Participatory Health Research (ICPHR) (2013) and Trickett & Beehler, 2017)

Participatory Action Research:
- is participatory;
- is locally situated;
- is a collective research process;
- processes are collectively owned;
- aims for transformation through human agency and empowerment;
- promotes critical reflexivity;
- produces knowledge which is local, collective, co-created, dialogical, and diverse based on an extended epistemology of multiple ways of knowing (e.g. tacit, presentational, propositional, and practical);
- strives for broad impact;
- produces local evidence based on a broad understanding of generalizability;
- follows specific validity criteria;
- is a dialectical process characterized by messiness,

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[1] For more details, see also International Collaboration on Participatory Health Research position papers 1–3 http://www.icphr.org/position-papers%2D%2Ddiscussion-papers

18.2.1 The Primacy of Participation

It has been argued that given the multidisciplinary history of PAR, this research approach cannot be confined to a narrow set of epistemological principles (Rahman & Fals-Borda, 1991). Indeed, this plurality is also a potential for strength (ICPHR, 2013) However, it could also be argued that the participatory principle that underpins PAR reflects a particular paradigm, given that a research paradigm is a set of underlying assumptions about the world and how it should be studied. (ICPHR, 2013; Guba and Lincoln 1989; Kuhn, 1962) That primary underlying assumption is that participation on the part of those whose lives or work is the subject of the study – or in the case of health promotion, their health – fundamentally affects all aspects of the research. Their participation, therefore, should be in all stages of the research process, from deciding the focus of the research and determining the research question through to dissemination of the research findings. An example of a tool developed to illustrate this is shown in Table 18.1. It is research "with" not research "on." Detachment is not an option.

18.2.2 A Matter of Co-Creation

This means in particular that those who label themselves as researchers are not considered the over-riding experts, but more humbly see themselves as bringing a certain type of experience to *a co-labouring process* that leads to the *co-creation of knowledge* in a manner that is not only practical, but also collaborative and empowering. It is a collective activity through which different ways of knowing are brought together in an inquiry process that *intertwines research, learning and action* in a *continual emergent process* of feedback and change. (Fig. 18.1).

Table 18.1 Levels of Participation and Stages of the Research Process: a tool for reflection (based on Cook et al., 2017 and modified by ICPHR)

Level (based on Cornwall, 2008)	Deciding on Research focus	Designing research methodology	Generating Data	Data analysis	Report writing	Dissemi-nation	Action	Other
Co-option								
Compliance								
Consultation								
Co-operation								
Co-learning								
Collective Action								

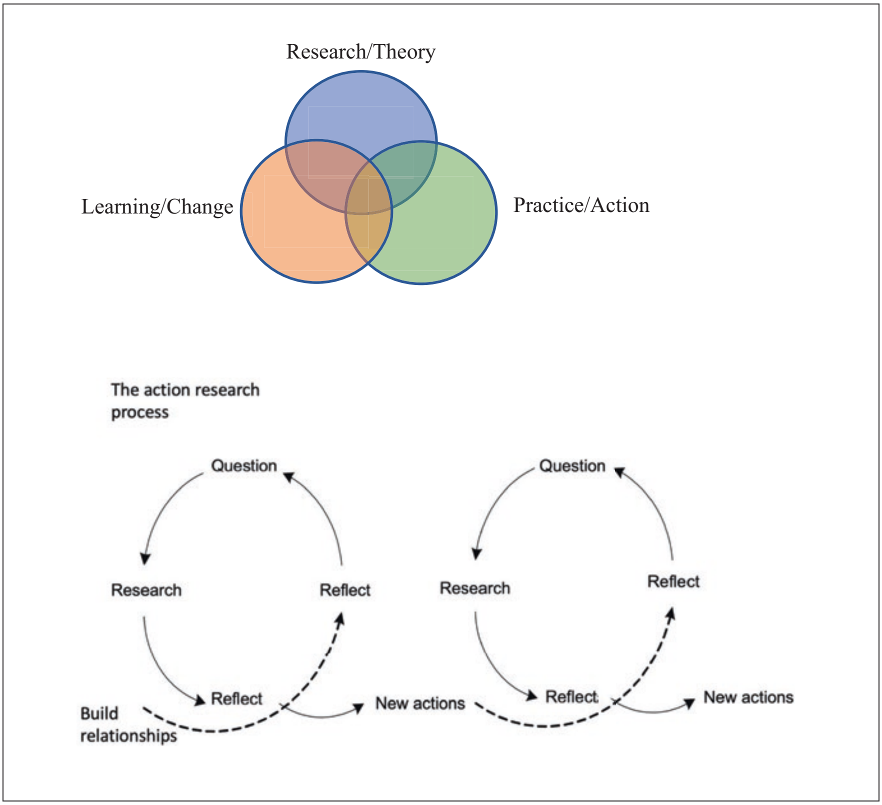

Fig. 18.1 The integration of research learning and change in the action research process

18.2.3 *The Potential for Change and Transformation*

PAR is also *a capacity building process* which has the potential to be a transformative experience for all those involved. Implicit is an ethical principle that something of value to all emerges from the process. For capacity building to happen, two elements need to be included, dialogue and critical reflection. Kemmis (2006), drawing on Habermas (1987, 2003) and others, talks of the need to create *communicative spaces*. In these spaces, through dialogue and iterative critical reflection, people make meaning together through listening to each other and sharing their knowledge and experience, by telling their stories (including quantitative data) and through a process of active questioning of the taken for granted about the way they think and act. A critical consciousness is developed among all those involved that is, changes in perceptions, beliefs, abilities and sense of self (Freire, 1970; Stanley et al., 2015; Gaventa & Cornwall, 2006).

18.2.4 Relationships at the Centre

Authentic participatory action research is profoundly relational. This means time is spent building trust between co-researchers, making space for listening and dialogue and adopting research methods that engage the whole person, moving beyond text in some instances to arts-based methods, but always aware that methods are a way of eliciting ways of knowing. It is also important to be aware how power can affect relationships and to find ways of increasing equity between those engaged in the research inquiry, particularly ways that encourage the silenced to have their voices heard (Suopajärvi, 2017; Wallerstein et al., 2019; Call-Cummings et al., 2020) Taking time to build the relationships and trust is the foundation of good quality PAR. It is like a long-term capital investment, in this case in social capital, meaning the greatest returns are likely to come over long periods. There is evidence to suggest, however, when greater time is spent setting the scene for participatory research, the process of embedding research and its effects goes much quicker and without glitches later on down the line (Jagosh et al., 2012; Abma et al., 2019). Locally generated data provides information that has more meaning and relevance and contributes immediately to action or some change unlike a conventional traditional knowledge translation process in which research (data generation) and action are separate activities.

18.2.5 A Non-Linear Process

The process is an emergent one, rather than being a clear-cut process with defined stages. Each iteration of the research builds on previous cycles to move forward, changing the research question as needed. Since this involves relationships, it is a messy process and can initially be destabilizing, especially for those who are historically held up as the experts. Indeed, messiness is fundamental to dialectal non-linear process. This requires the seasoned health promotion researcher or practitioner to be comfortable with sitting with ambiguity, confusion and even conflict as these are fundamental to the process of learning. (Kolb, 2014; Cook, 2009).

18.2.6 Local Knowledge and Context Have Value

PAR is grounded in everyday life, so the knowledge produced by PAR is local in scope, dialogical, co-created, and reflective of multiple perspectives. It is inherently contextual with the potential to produce local theories, or as Winter (2002 p. 144) puts it. " … an account of a specific situation that gets sufficiently close to its underlying structure to enable others to see potential similarities in other situations." This leads to a different definition of generalization from that currently used in the health sciences which seeks to replicate standard health promotion interventions whatever the context. Rather, the intent is to generate accumulated local evidence to maintain and strengthen local action, while transfer to new settings is about using PAR to explore local conditions and how they replicate or differ from experiences elsewhere.

18.2.7 Quality Is About Adherence to Ethics

Finally, quality in PAR is a function of its ethics, its values and principles (Banks and Brydon-Miller 2018; Abma et al., 2019; Lather, 1986). Thus, its validity criteria are additions to Guba and Lincoln's (1989) concepts of trustworthiness, commonly used in qualitative research. These criteria include participatory, intersubjective, catalytic, empathic and reflexive validity. Participatory validity refers to the extent to which all project members can take an active part in the research process to the fullest extent possible (Reason & Bradbury, 2001). Intersubjective validity is the extent to which the research exploration is viewed as meaningful and credible to relevant stakeholders from a variety of different perspectives (Springett et al., 2011). Catalytic validity represents the degree to which the research can create new possibilities for social action. Intersubjective validity is related to catalytic validity in that the research has to be meaningful for those involved and to build ownership for action. Empathic validity is whether the research has increased empathy among those who were engaged in the research together (Dadds, 2008) often through the way spaces for dialogue have been created. Finally, reflexive validity is the awareness of one's own frames of reference and the continual questioning thereof, as well as reflections on power and other relations. (May and Perry 2017; Janes 2016).

18.2.8 PAR in a Non-Participatory World

Despite the contemporary clamour for participatory deliberation and a knowledge democracy (Budd Hall, 2019; Lafont, 2019) institutional practices and structures in which and with which health promotion practitioners and participatory researchers work remain fundamentally non-participatory. This results in tensions between the ideal and the reality in the form of constraints on how research is practised and the level of participation possible. Although research and project grant funding agencies in several countries increasingly require applicants to demonstrate partnerships, they also require that the research question and methods and the health promotion initiative to have been firmly established upfront, allowing little scope for an emergent process. They do little, on the other hand, to monitor the authenticity of the partnerships demanded. Moreover, funding for research is often separate from funding for a so-called "intervention" which runs counter to the intertwining of research learning and change and demanding innovative and creative workarounds by those seeking to undertake this type of research. Too often, health promotion funding focuses on service delivery and short-term individual change rather than on the building blocks of long-term community development and social change. Furthermore, nearly all funding agencies tend to have preestablished areas which they and those who hold the power prioritize, often focusing on disease categories or lifestyle imperatives and not on local concerns.

When participation is not properly understood or implemented, it can merely reinforce the status quo and be ameliorative rather than transformative (Ledwith & Springett, 2010, p. 15). Various writers have attempted to identify different levels and modes of participation either as a ladder or a continuum (e.g. Arnstein, 1969; Cornwall, 2008) and while various forms of participation are valid at different times during the research process and depend on context, this has all to be reflected upon and negotiated. There is a significant difference between the notion of participation versus being a manipulated consumer, to be consulted when everything has already been decided such as research focus, research question and the research approach. This is a passive role, as opposed to being actively involved and engaged in all stages of the process. Only real involvement can lead to the changes in consciousness that forms the backbone of this type of research at its best. What is at stake is a change in the power differentials regarding decision-making in contexts that are often structured around an institutional base created in the late nineteenth and early 20th century and unsuited for contemporary systems thinking or researching "wicked problems."(Brown et al., 2010) While there have been some marginal shifts in the last twenty years in some countries, research bodies, including ethics committees, still find it difficult when communities want to drive the direction of research, judging proposals according to the status quo as to what constitutes quality and robust research.

When it comes to publication too, many research journals, particularly in the health sciences, successfully eliminate from publication, the relational dimensions that are key both to effective health promotion and participatory action research. (Harris et al., 2015; Harris et al., 2018; Abma et al., 2019). While there has been an exponential recent rise in the number of published papers identified as PAR, some projects remain hidden behind the use of traditional approaches and descriptors of those approaches (Lenette et al., 2019). 1. Others masquerade as PAR, the best including some form of quality participatory methods but the worst fall well within the tokenism on the ladder of participation. The latter is potentially damaging, because if something that claims to be participatory and actually is not, this can lead to an undermining of trust in PAR as an approach, further confirming that the voices of the people who feel marginalized are not being heard or paid attention to. Illich (1975) talks about the iatrogenic[2] effects of medical treatment but we also need to be alert to iatrogenic effects of participatory "greenwash" in health promotion research.

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[2] Iatrogenic effects are harmful effects such as disease inadvertently produced by a (medical) intervention

For health promotion, sitting as it does largely in public health, which historically has been driven by the primacy of approaches embedded in the medical model, any alternative approach represents a significant challenge to the status quo. This is not restricted to health science. In some countries, the social sciences continue to be focused on high-level theory building and social-structural issues; applied forms of research have not had equal status, receiving relatively little funding and often seen as not being research in the true sense (Altrichter and Posch 2007). Increasingly, this perspective is being challenged: firstly, by indigenous research, secondly by calls for the adoption of a participatory paradigm under the guise of participatory research or participatory action research, and thirdly by ecosystem critiques of current economic thinking in the light of climate change and increasing inequality. (Ledwith & Springett, 2022) There has also been pressure on researchers, in general, to be more accountable to the general public who indirectly funds most of their research, partly because of the increasing need to demonstrate research impact in an age of late neoliberalism. (Gray et al. 2018; Allweiss et al., 2020) At the same time, more vociferous groups such as those with HIV/AIDS, as well as indigenous people, have increasingly become disillusioned with the extractive nature of “traditional” research with “Not about us without us” becoming a common slogan in response to requests for research on their issues. (Bridges 2017).

18.3 The Challenges of Doing Participatory Health Promotion Research in Practice

While there is a strong case for adopting PAR approaches to health promotion research because it is more in line with the values and principles of health promotion, the actual practice is fraught with challenges. The following examples from two different contexts illustrate how some of the issues of trying to work in a participatory way in a non-participatory world plays out as the those involved strived to achieve quality as defined by the ICPHR. The first example provides a detailed account of the challenges and strategies to overcome some of the traditional expectations of research and who is involved in that research. The second describes a doctoral student’s experience of starting and proceeding with a project under the constraints of university requirements.

18.3.1 Mental Health Promotion Research: Family-Based Positive Support (FaBPos): Attempting Participatory Research in the Health Sector

In health promotion research, the format and frameworks for judging the quality of research that dominate the perceptions of funders and research reviewers involve the expectation of anonymity, objectivity, replicability and large data sets pertaining to the measurable. Research designed by distanced experts with additional contributions from those with lived experience can follow such pre-determined design processes as articulated in many research funding competitions. The implications for participatory action research (PAR) are, however, stark. As we have argued, PAR foregrounds relational engagement characterized by a shared approach to the generation of design and knowledge. These rub against frameworks seeking distance, objectivity and certainty as rigour (Cook, 2012; Lenette 2019; Maclure, 1990). The Family-Based Positive Support (FaBPos) study from the UK exemplifies many of the complications of researching in ways that challenge the ideologies, governance, bureaucratic and administrative structures that prevail. Highlighted below are some of the issues and consequences of just one, that of having to pre-determine a fixed proposal for the research design before the research process is underway.

The FaBPos project was envisaged as a participatory approach to investigating, through running a series of courses using Mindfulness/Acceptance and Commitment Therapy (ACT), the theoretical and practical underpinnings that would make such a course effective for family carers of adults with learning disabilities. Family carers with heavy and constant caring responsibilities are known to be more likely to suffer long-term stress caused by the unpredictable, and often socially difficult, behaviours of their loved ones. This is reinforced by the bureaucratic interface with the limited support available (Cook et al., 2019). Given the gap between service providers understandings of service delivery, and the dissatisfaction of those who receive services, traditionally dominant knowledge needed to be challenged by other knowledges to improve understandings of these practices and how these practices were conceptualized and carried out.

The idea behind the research emanated from a consultant clinical psychologist (Steve Noone) who had been exploring the use of Mindfulness and ACT for several years, in collaboration with an academic (Tina Cook: author). The project gained funding from the National Institute for Health Research (UK): Research for Patient Benefit stream and then navigated the ethical approval paths of both University-based and National Health Services (NHS) ethical governance. A fundamental challenge for the FaBPos project was that the application for funding, and governance processes, required the articulation of both the principal research question/objective and the proposed design and methodology, including being clear exactly what would happen to the research "participant," how many times and in what order, before we could engage with the people with whom we were to carry out the research (family carers).

(a) *Participatory Design without "participants"*
The characterization of family carers as "participants" rather than co-researchers by funders and commissioners looking for a more separated approach to research design and enquiry meant that family carers choosing to engage in the research process could not be involved in development and design of that research prior to the proposal and all ethical approvals being completed. The "Catch 22" is that the research had then gained approvals based on a design that might need to be changed. The FaBPos project employed several ways to ame-

liorate the consequences of this. The issue remained, however, that to gain funding meant curbing the fundamental nature of our work, not standing by PAR principles and as such, risking reducing its power and transformational effectiveness for family carers and services.

(b) *Seed Corn Funding for Conversations with Family Carers*
To enable us to have discussions with and gather information from family carers that could inform the research process, we sought monies from a small fund held by the NHS Trust that would ultimately host the proposed research. This paid for a research assistant who, over the next year, together with the academic researcher, talked with family carers about their experience of services and what they might hope for to support them in their caring role. This helped us (the first steering group – see below) better understand the key issues experienced by family carers, and the practical ways in which engagement in research might be possible for them given their complex lives before we drafted the research proposal. This consultation process was important in shaping a study that might be attractive enough for family carers to consider as worthy of their time, but also created its own tensions, specifically in terms of who designed the research.

(c) *The First Steering Group*
An initial steering group was convened consisting of three family carers, the initiating consultant psychologist, a research assistant, and the researcher. These three family carers were active in thinking about the design of the project, using the learning from the information gathering study and drawing on their knowledge and the knowledge of other carers in their personal circle. They also had a lot to contribute to how the study might contact people who were seldom heard. It was this steering group, all acting on a voluntary basis apart from the research assistant, that designed both a course outline and the research proposal submitted for competitive funding.[3]

(d) *Processes for Reaching the Seldom Heard*
Contacting the seldom heard[4] was another challenge exacerbated rather than supported by the processes of traditional research governances. Family carers were not "the patient" and so were not formally known to health services. Although healthcare practitioners who had visited their patients' family for many years often knew family carers well, this was not a formally accepted contact route. Advertising through social media was also seen as somewhat controversial by funders and ethics committees. It was, however, the route

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[3] Due to the time between starting the project design and the actual start date of the project, the three family carers did not go on to be part of the core project. For different, personal reasons, none were in a position, once the research finally gained traction, to be directly involved (although two sat on the next steering/advisory group).

[4] For further discussion on the important topic of reaching the seldom heard, see Schaefer et al. (2020)

through family carer centres, local fora and organizations where people with learning disabilities attended, championed by family carers on the steering group that ultimately proved most successful in finding people interested in taking part.

(e) *Family Requirements* vs *Prevailing Scientific Expectation*
An outcome of consulting with family carers before designing the project was that, like the advice of the three family carers on the steering group, their suggestions and needs challenged the prevailing expectations in respect of research quality. The first was the need to be clear about the nature of "participants" in the study. Many were clear that they could not see the relevance of their details (age, gender, economic status, marital status etc.) being recorded and would not offer this for researchers.[5] A second element many family carers were adamant about was, that if the study involved being tested, for example, the use of psychological tests relating to depression scales, or blood tests to check their before and after course stress levels, they would not take part. We had contemplated including such tests as a way of triangulating data more traditionally and "pleasing" the funders by having some "measurable" data included but this was removed. They also had strong views about the venue for the study and the time of day, the length of each engagement and their role in it.

(f) *Family Carer Expectations and Learning Spaces*
Family carers placed great importance on spaces for talking together and making their contribution. Central to their involvement in the study was that firstly, they had the opportunity to talk with other families, offer their experiences to help other families in similar circumstances, and to learn from other family carer experiences themselves. Secondly, they wanted services providers to listen and learn from them rather than, as one family carer described her experience of engagement with professionals, it being "all give [from the professionals] and no take."

In session one, course one, the facilitator started the session by *giving* information. Facilitators could, therefore, only draw on their personal view of what would be important for family carers to know. Family carer need for spaces to talk was clearly articulated in data from the pre-course enquiry. Reflecting on this, it can be seen that the transfer of knowledge from pre-course data to the facilitators had been the traditional version of knowledge delivery. While its sentiment had been understood and valued, its impact had been less transformational. Transformational learning was only experienced once the workshops started and family carers expressed their frustration with being talked at. It necessitated collaborative critical enquiry to forge practice, the process of participatory learning. The opportunity for this was denied by the processes for the research proposals that kept family carers at bay until the research started. Facilitators strongly believe that family carer critique of the

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[5] Whilst this was challenging at the proposal stage, it became somewhat more of an issue later when reviewers of the final report to funders, and reviewers of academic papers on the research, asked specifically for this information.

facilitation approach, established in a situation of honest and open exchange, was key to the disruption of their original plans for the course, and key to its success. As Lenette et al., 2019 point out "the dynamic and relational nature of PR means that there is seldom a 'right' way of proceeding…we are navigating shifting – and competing – opportunities, risks and agendas." It is, however, the process of creating communicative spaces for learning together, and the adaptability of the design in the light of iterative, critical, collaborative reflection, that lends PAR its skeletal strength. It is these processes that are yet to be widely valued by those seeking to commission and fund research. Ways of generating knowledge that incorporate the values of ambiguity and uncertainty, as opposed to pre-planned, pre-determined routes of certainty, challenge notions of meeting targets and replicability. The expectation in PAR that those with experience will be part of a process of researching and meaning-making, rather than subjects of the research questions and data analysis processes created by external experts, fundamentally challenges what it means to be a researcher and who has power and control over knowledge production.

18.4 Tensions Between Participatory Health Research and Doctoral Timelines in Health Promotion

This example explores the promise and challenges of engaging in participatory health research as a doctoral health promotion student. Unlike the previous example, there was no pre-existing research proposal but scope to start from scratch. The challenge here was engaging others in doctoral research and how the timelines imposed by universities can inhibit the process. In 2013, I (KK) started my doctoral journey in health promotion with a particular interest in promoting equity in death, dying, loss, and care experiences. While the field of health promotion has historically focused on preventing disease, I was inspired by Antonovky's (1996) call for a salutogenic orientation to health promotion research and practice which is reflected in an emerging field called health-promoting palliative care that aims to re-build community capacity to support experiences of death, dying, loss, and care from social (vs. medical) lens (Kellehear, 1999; Rosenberg et al., 2014).

The first step I took in my participatory research journey was to explore: (i) whether any non-profit organizations in my city (Toronto, Canada) were working with health-promoting palliative care through a community capacity building approach; and (ii) whether any of these organizations may be interested in doing research together to learn about their approach to palliative care. In this initial exploration phase connecting with organizations, a common response to my email was a request for my full research proposal. However, as I was committed to engaging in a PAR process, whereby we would determine the focus of the research together. In hindsight, the common request from organizations for my full research proposal was likely a reflection of how organizations had been previously approached by researchers with fixed agendas. In time, I was able to connect with a local hospice organization that had previously engaged in participatory research and was eager to co-develop a mutually beneficial research focus.

With this new connection demonstrating potential, I began the next and most significant phase of my participatory health research journey: the relationship building process. As PAR is a relational process, the initial relationship building lays the foundations for doing research together and influences the later stages of the PAR process as identified in Figure 2. We (the local hospice organization staff members and myself) used several different approaches to build our participatory research relationship and begin to focus the research. These approaches ranged from informal telephone calls, visits, and emails to learn about our different backgrounds and experiences (in this case, related to palliative care) to attending organizational meetings and events to co-writing grant applications together for funding. In particular, the process of co-writing a grant application was a tangible, focused project that helped to progress our planning together. However, one of the tensions I experienced as a health promotion doctoral student conducting PAR was between the time needed to meaningfully develop the initial participatory relationship with the 4-year timelines of a doctoral programme. As we (the local hospice organization and myself) were developing this relationship from scratch, it took over a year to build our research relationship at the organizational level. At this stage in the process, I had not been able to simultaneously begin to develop this same participatory research relationship at the community level. This is in part because I needed to build a level of trust with the local hospice organization before I would be invited to connect with members of their local community. While a significant amount of participatory work had been facilitated between myself and the local hospice organization for determining the focus of the research, this same participatory work was not facilitated at the community level. However institutional practice intervened through the imposition of university timelines on doctoral studies, necessitating the move on to the next phase of beginning to conduct the research. This eventually became a photovoice study exploring the characteristics of the community-based approach to palliative care alongside the volunteers and cared for within the community. (Kongats, 2020)

While members of the local hospice's community were eager to contribute their knowledge and experience to our research together exploring the nature and impact of health promotion approaches to palliative care, it remains unknown where the direction of the research may have headed had community members been involved in the focusing of the research question. Consequently, it also remains unknown how the impacts that emerged from our participatory health research project may have differed had there been different levels of community engagement before formally beginning the research.

Rather than seeing this project as a failure as it did not reach the "highest" levels of participation among all involved, using first-person inquiry and reflecting on my experience created an opportunity to reflect on "the variety of participatory engagements and the associated impacts that could be used by researchers" (Cook et al., 2017, p. 476). As health promotion researchers engaging in participatory processes in a "non-participatory" world, we must not get caught between being puritanical about engaging PHR or not doing it at all (Klocker, 2012). “Rather, the road to ‘doing research differently’ has to begin somewhere” (Kesby et al., 2005, p. 145). Engaging in a reflective, first-person inquiry on my experience facilitating a PHR project was a valuable tool to bring to light some of the challenges with conducting PHR as a doctoral student. Such critical reflexivity can contribute to all such research not just at doctoral level.

18.5 Reaping the Rewards of Participatory Action Research

Despite the challenges currently faced in doing health promotion research using a participatory approach, the potential rewards are profound. Not only do decision-makers who have the power to make changes get to gain a better understanding of what works in local contexts because new voices are heard, but also action is actually taken because what the research reveals is more meaningful and relevant to people, timely, appropriate for the context, and potentially sustainable. (Jagosh et al., 2012; Viswanathan et al., 2004) Moreover, the cementing of relationships and understanding can lead to ongoing work in other areas beyond the original project. However, while there are pragmatic reasons for adopting an authentic PAR approach, one that does not treat people engaged in the research as objects but as living, thinking, knowledgeable human beings with whom to work, it is those relating to social justice and equity that are even more important. PAR engages in possibility, acknowledges the potential in people, and seeks empowerment and capacity building through the co-creational nature of knowledge generation in the research process and beyond. For those interested in contributing to changing the social relations that underpin health inequalities, it makes sense to practice research in a way that does not reinforces the existing power relations that created the problem in the first place. Thus, if one believes in social justice, democracy and social change for the better, then participatory approaches to research are a natural choice. At the very least there is the political and moral imperative that as owners of publicly funded research, citizens have a right to have a say in the research process. Fundamentally, it means furthering knowledge democracy (Hall & Tandon, 2017) within health promotion research, engaging in research practice that includes the heart as well as the head, and reasserting a balance that has been lost by the prioritization of Western approaches to science.

> When starting participatory research you engage in a process that will leave you changed as a result. Everyone whom we have ever taught participatory research, and who has stayed with it, has said they cannot return to the way they did research before. Not everyone, of course, is comfortable with this type of research or can do it. That is fine. If you like structure, concreteness rather than ambiguity, prefer data to people, need predictability and control, then this is probably not for you. If you are open to change, are comfortable with not always knowing where things are going, like people, and above all have an innate belief in social justice and democracy and a faith in the humanity of people, then this may feel comfortable for you. (Abma et al., 2019 p. 18)

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Chapter 19
Participatory Research Processes: Working with Children for Children

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Key Concepts Definitions

- *Empowerment*: 'The process through which people gain greater control over decisions and actions affecting their health' (WHO, 2021). Participatory Research Processes can intentionally transfer power from the researcher to the research participant.
- *Inclusion*: 'Making all groups of people feel included and valued within their society or community' (RCN, 2021). Participatory Research Processes explicitly include research participants in decision-making about the conduct and use of research.
- *Participatory Research*: 'Systematic inquiry, with the collaboration of those affected by the issue being studied, for purposes of education and taking action or effecting change' (Green, 1995). Participatory Research Processes systematically involve research participants in the process of evidence generation and knowledge translation actions.

19.1 Introduction

Public and patient involvement (PPI) is very current across the research community. Stakeholders and research institutions fund and promote training for researchers to widen the scope of their work to include the 'subjects' of their research in decision-making. These practices have been embedded in health promotion research since the discipline emerged in the 1980s. This chapter describes and illustrates a set of

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research techniques, 'Participatory Research Processes' (PRP), which were developed with the explicit intention of rendering health promotion research to be more health promoting. This chapter will demonstrate how the PRP approach embeds the principles of health promotion in research practice. This includes the active and meaningful engagement of research participants and at the very least ensures that taking part is not disempowering for them or for the researchers involved.

19.1.1 What Is PPI?

PPI refers to the roles given to members of the public and service users in defining, delivering, and disseminating research. The type of involvement varies and includes consultative tasks, 'partnership working', and initiatives led by service users (Dovey-Pearce et al., 2019). Involving those with real-life experience of the research topic is perceived as the 'right' thing to do on moral, democratic, and epistemological grounds (Dovey-Pearce et al., 2019; Richards, 2017). Thus, the relevance and external validity of the research are improved by PPI.

The involvement of the public at different stages of the research process is not new (e.g. Goodare & Smith, 1995). Today, many funding bodies insist on PPI, and it is an expected norm. PPI is supported nationally in many countries (e.g., INVOLVE in the UK, PPI Ignite Networks in Ireland, and PCORI in the USA), but internationally, there are many others actively engaging people in their research (Richards, 2017). Usefully, standards of good practice exist (Involve, 2019), and a global consensus statement on meaningful engagement has been developed (FP2020, 2018).

19.1.2 Participatory Research

Participatory research approaches emerged in the 1970s and have gained growing recognition across a range of disciplines since. Participatory research aims to develop, apply, and investigate mechanisms and approaches towards the participation of research participants in all aspects of research processes. It is epitomised by the notion of researchers undertaking research 'with' rather than 'on' participants. The development of participatory research simultaneously in various disciplines leads to multiple definitions of what it is. Nevertheless, quality criteria for participatory health research have been identified (ICPHR, 2013) and explored in practice (Springett et al., 2018). These concepts and characteristics of participatory health research align closely with health promotion research principles and practice (Woodall et al., 2018). Specifically, these processes involve the explicit transfer of power from the 'expert' to participants, aim to enable and empower participants, and can be transformative.

The conceptualisation of participation is crucial. Lysgaard and Simovska (2015) identify what they describe as two 'modes of meaning-making for the term participation' which, in the context of research, are taking part in research or having a part or share in research. The level and type of involvement of participants have been differentiated in multiple constructions of participation often depicted as a hierarchy (e.g. Hart, 1992; Treseder, 1997; Shier, 2001; Lansdown, 2005; Lundy, 2007). Cornwall (2008) identified eight levels of participation from 'co-option' with stakeholders as representatives to 'collective action'. The level and type of participant involvement sought in participatory research are vital to the aim of achieving levels towards the citizen control end of the spectrum. However, in real-world settings, there are constraints that impact achievable levels of participation, such as funder-dictated requirements including timeframes (Springett et al., 2018).

Participatory research focuses attention on the relationship between researcher and participant. It requires the meaningful and transparent engagement of participants in a dynamic synergistic relationship of mutual respect with researchers, with the aim of generating knowledge that has the potential to positively impact participants' lives. The diversity and complexity of what participatory research is, and can be, means that at the least what it is to a specific research project needs to be explicitly acknowledged and justified.

19.2 Development of PRP

The research design and techniques described in this chapter were initially developed for a research project commissioned by the Irish National Children's Office (NCO). The objective was to assist in the development of a set of national indicators of child well-being, which was required as part of national commitment to the implementation of the UNCRC (Hanafin et al., 2007). It was recognised that including children in the development process was necessary so that the indicator set would be coherent with the National Children's Strategy, giving children a voice in all matters that concern them (NCO, 2000). To meaningfully involve children in the indicator development process, we created the Participatory Research Process (PRP) drawing from three research techniques: the 'Draw and Write' technique developed by Noreen Wetton (Williams et al., 1989), 'Photovoice' from the work of Wang and Burris (1997), and the 'Delphi technique' for reaching consensus (Linstone & Turoff, 1975).

The Delphi technique requires repeated iterations of the data collection and analysis process, with the goal of achieving consensus. These two elements of the Delphi approach informed what became the Participatory Research Process (PRP) protocol. At the outset of the project with the children, we knew that we wanted to reach consensus on research findings and to include iterative rounds of analysis to reach that consensus. We then needed to determine how to generate the data and what procedures to apply to conduct the iterative analysis.

The simplicity of the 'Draw and Write' technique centres on how it is introduced to participants; children are invited to draw pictures about what 'makes them healthy' and 'keeps them healthy' (Williams et al., 1989). The familiarity of the drawing activity, particularly for younger children, means the approach is both feasible and generally comfortable for participants. Participants are asked to write under each of their drawings and to describe what the drawing represents. Assistance with the writing is provided to participants if required. Subsequent analyses are undertaken using the writing of participants. One disadvantage of the 'Draw and Write' technique is that participants are providing data, the drawings, that are not used to generate research findings. This presents an ethical challenge to health promotion researchers – we should not be collecting data, or imposing any burden on participants, that we do not intend to use to answer a research question.

In our consideration of alternatives, we explored the approach of Wang and Burris (1997) to their participatory need assessment described as 'Photovoice'. This approach facilitates participants to take photographs of their settings, and participants are also included in a three-stage analysis process. The first stage is selecting photographs for further exploration. The second stage is contextualising the photograph through telling stories about, or inspired by, the photograph. The third stage consists of codifying through identification of themes, issues, or theories from the stories (see Wang & Burris, 1997, p. 380). An important element of the process is that it is participants themselves who lead the discussion and storytelling.

All research techniques have advantages and disadvantages, strengths, and limitations. The ultimate trial of their appropriateness is how they enable a research question to be answered. In health promotion, we do not only have research questions to guide our research decision-making; we also need to consider the principles and practices underlying the techniques we use – and what these imply for our conceptualisation of the role of research participants and the role of researchers. We do not need to simply choose from a suite of existing techniques, rather we can adapt approaches and protocols from various sources to assess how well they meet our context, principles, and objectives. Thus, our research can be about research itself as well as about the issue under investigation. Similarly, we need to reflect on how well the techniques we apply uphold the principles and ethics of health promotion and how they can be improved.

When designing the commissioned research outlined above, we wanted to mirror the Delphi process (Hanafin and Brooks, 2005) and aimed to reach consensus with an iterative approach. To generate the initial data, we developed a protocol that combined elements of both 'Draw and Write' and 'Photovoice' through an open process of discussion between research team members. We replaced the drawings from 'Draw and Write' with photographs from 'Photovoice' but retained the writing component. We agreed to use the basic three-stage analysis process from 'Photovoice' – mirroring the typical three iterative analytic stages of the Delphi technique – with some adaptations. We were driven by the desire that the protocol be participant-led, with explicit power for data analysis and presentation to be controlled by participants, guided by principles drawn from 'Photovoice'. The process is outlined in more detail below.

19.3 Implementing a PRP Study

PRP is a three-stage research process. There have been multiple variations on the initial protocol, which are discussed in sect. 19.3.3 below. First, we present the original three-stage protocol. Participants work on their own during the first stage, generating their own data. The second and third stages comprise groups of participants working together. In the second stage, a group (or multiple groups) analyse the data generated during the first stage. Presentations of findings are produced during the third stage; participants collaborate in a group setting to design and create research outputs for further dissemination and advocacy. In the original PRP protocol, each stage is conducted by and with a different group of participants, with each group similar in terms of age, sex composition, social class, and area of residence (i.e. urban or rural). The implementation procedures outlined below are based on the study that we undertook to investigate children's understanding(s) of well-being with schoolchildren aged 8–19 years, and further details can be found in Nic Gabhainn and Sixsmith (2005, 2006) and Sixsmith et al. (2007).

19.3.1 Preparation

It is necessary to first agree on the method of data generation and prepare all materials to inform participants about protocols. Disposable cameras are the most straightforward to manage, as the instructions for use can be standardised, and the production of printed photographs from the cameras can be centralised. In relation to participant consent, it is useful to consider whether photographs of participants are taken during the process in which case active consent to use these photographs in any reporting is required. Any future use of the photographs taken by participants also requires the explicit permission of any people in the photographs. Alternative activities will need to be prepared in advance for anybody present who does not wish to participate in the research activities, but cannot leave for any reason (e.g. for school students or attendees at a day service).

We recommend having researchers of mixed gender working with participant groups but recognise that this is not always feasible. What is essential though is that all researchers who will be present during any sessions with participants are fully briefed on the purpose of the activities and are committed to allowing participants to make their own decisions and to act on them. This may appear straightforward, but it is our experience that many people find it very difficult to relinquish power and not to actively guide participants. This is particularly the case when the participants are children. A 'golden rule' that helps to explain how little research staff should intervene is that they should only respond to queries from participants and never initiate an interaction. All responses should be short, factual, and clear and make no suggestions whatsoever. Researchers should affirm that any required decision should be made by the group and any decision the group makes is acceptable.

We recommend that very clear protocols, including the objectives for each session, are co-created by the research team in advance. This should include the role of each researcher present, guidance for what to do if something unexpected happens, and how the activities being undertaken will be recorded by the research team.

19.3.2 The Three Stages of PRP

Tables 19.1, 19.2, and 19.3 present the stages of the PRP process.

The developed and labelled photographs returned after stage one are then processed by the research team. Duplicate photographs are removed from the set – duplication is conservatively defined as being the exact same photograph with the exact same text provided on the label. Photographs labelled ‘nothing’, ‘mistake’, ‘error’, or ‘I didn’t mean to take this’ are also removed.

The remaining photographs from stage one participants are combined and shuffled as one might do with a pack of playing cards. Photographs are then dealt out randomly into piles, with a maximum of 50 photographs in each pile, although this may vary depending on the participant group and the research question.

Between stages two and three, the research team gather basic art materials for use by participants. These include large coloured paper, pens, markers, blank flashcards, and adhesives.

Table 19.1 Stage one: data generation

Stage one	Data generation
Summary	Participants generate data, with each idea or concept produced by individuals on their own. All data are then collated, combined, and prepared for transfer to a different group of participants for stage two.
Step 1	Lead researcher explains to participants the purpose of the session and informs them that participation is voluntary. Consent forms collected if that has not been previously arranged.
Step 2	Cameras distributed to participants. Lead researcher explains how the cameras work, with other researchers available to answer questions. Participants practise taking a photograph with a flash and winding the camera on. Participants enter their name, sex, and age on a blank label affixed to the camera.
Step 3	Participants are informed they can take photographs of anything they want and as many as they wish. Information on the return dates for the cameras provided (approx. 1-week gap works well). Written information on the process provided to participants.
Interim	One-week gap to take photographs. Cameras collected from the setting. Two sets of photographs developed from each camera. Labels affixed to the back of one set of photographs. Labels are blank except for a short code indicating the sex, age, and setting of the participant.
Step 4	Researchers return to the setting for the second session with participants. Positive feedback on the photographs is given, highlighting that all sets of photographs were unique and relevant. Two sets of photographs, plus the negatives, returned to each participant. Participants are invited to write on the label what the photograph depicts.

Table 19.2 Stage two: data analysis

Stage two	Data analysis
Summary	In groups, participants review the data generated in stage one and agree how the data should be categorised. They agree on a title for each category. The categories are then handed over to a third group of participants for phase three.
Step 1	Lead researcher explains to participants the purpose of the session and informs them that participation is voluntary. Consent forms collected if that has not been previously arranged. The source of the photographs they are going to work with is explained. All, including researchers, are invited to wear nametags to facilitate communication. Ground rules are negotiated for the activity, and these include confidentiality of the photograph contents and views of team members and showing respect and consideration to each other.
Step 2	Sets of 50 photographs are given to each group of participants, and they are asked to divide them into categories. Participants review the photographs and decide together on how to categorise them – though not necessarily in that order. In most groups, the process is revised multiple times as the group works through the photographs. Further sets of 50 photographs are introduced until the group halts the creation of new categories. Saturation is usually achieved with 200–300 photographs.
Step 3	Once the categories are agreed, the group describes and names each category. The category name is bundled with the photographs in that category with an elastic band. In some iterations, an example photograph is chosen to represent the category. The final group action is to agree whether any issue or category is missing from the set of categories developed.

Table 19.3 Stage three: data presentation

Stage three	Data presentation
Summary	Participants, working in groups, collaborate to create a representation of the categories, illustrating the links, if any, between categories.
Step 1	Lead researcher explains to participants the purpose of the session and informs them that participation is voluntary. Consent forms collected if that has not been previously arranged. The source of the photographs and categories is explained, nametags are circulated, and ground rules are agreed.
Step 2	Participants are provided with the bundles of categorised photographs and asked to think about how they could be arranged or organised into a pattern on the sheets of coloured paper. No guidance is provided, and all suggestions from participants receive positive feedback. Groups are informed that they can omit or merge categories if they wish. They are also told that they can add categories if they agree that something important is missing. Sometimes participants look at the photographs within categories to help them understand the category title, but this is not required nor is it suggested to them by the research team.
Step 3	Participants collaborate to place the categories on the sheets of coloured paper. This usually generates a lot of discussion about the categories and their relationship with one another. During this, a researcher is located close to the group and takes brief notes on the processes agreed, specifically on how the group decides where to place a category. It is very important not to interfere in any way with the work of the group. This must be clear to researchers.
Step 4	Finally, participants are asked to indicate which, if any, of the categories are related to one another by using pencils or markers supplied by the research team. The final product is called a schema and tends to look very like a theoretical model.

For these three stages, we need at least three groups of participants with four to eight members in each group. A time gap is necessary within stage one to allow photographs to be taken and between stages one and two (at least 2–3 days) to allow duplicates to be removed and the photographs to be shuffled. Having three separate groups avoids the likelihood of the stage two participants working on photographs of their peers who they may know and helps to maintain the anonymity of the participants from stage one. Having different participants in stage two and stage three helps to avoid having to revisit earlier decisions made by the group and any subsequent conflict or delays. The PRP works well both with asynchronous groups across settings and with large numbers in the same location divided into subgroups. Generous physical space to facilitate group working is an advantage, but participants can work at tables or on the ground, depending on any health-related limitations to their movement.

One unexpected outcome of applying PRP protocols is how much fun it is. Feedback from participants about their experience of the processes regularly includes comments on how much they enjoyed taking part. Perhaps even more surprising is that researchers report a similar experience. Research staff who are really interested in the views of participants and are committed to techniques that allow participants to express those views report being very positively impacted by the field work. This can have further positive effects on the working of a research team, which can be difficult to otherwise achieve. It contributes to a positive psychosocial environment in the workplace and a sense of pride associated with being an authentic professional (Goodman, 2015), and is particularly valuable to those in research training (Webster-Wright, 2017).

19.3.3 Adaptations and Variations

No research process is static, and protocols always require adaptation to the context and must be relevant to the research question, the participant group(s), and the settings within which we work. To approach research otherwise would certainly violate basic principles of health promotion. However, it is essential that research is well described and explained where necessary, so that its strengths and limitations can be considered in any critical consideration of the findings presented. Since the development of the original PRP protocol, we have applied a range of different adaptations to various elements.

The most important change to stage one has been to the process for generating the raw data. Rather than having participants take photographs, they write their ideas on pieces of card during the session. This is less costly and reduces the required number of meetings with the participants. However, the data is not as rich, and the participants miss out on having a set of their own data. This adaption was first applied to facilitate children to develop their own indicators of health-promoting schools (Nic Gabhainn et al., 2007; O’Higgins et al., 2007).

A minor, but very useful, adaption to stage one is specifically relevant to school settings. To assist pupils to focus on the written data generation, we had trialled some brainstorming-type activities. However, we were concerned about the potential impact of the contributions made by more vocal participants on the data generation process. A workable alternative is to have students extend their arms and shake their hands while they focus on the question being posed by the research team. This takes less than a minute and is very effective.

An experienced health promotion practitioner [1] introduced an adaption to the process of data categorisation. Photographs or cards with written text are treated as playing cards, and participants engage in a type of 'Snap' card game. First, the youngest member of the group deals out the 'cards' among group members, and they are viewed faceup. The person to the right of the dealer places their first 'card' on the table and calls out the text on the card. Group members then place any 'cards' they have that they perceive to be similar on top of the first 'card'. The process continues, with each group member in turn placing a 'card' on the table and the others adding to the pile, until all cards are placed. While the discussions about overlap between categories and other possible approaches still occur and are important, this adaptation does help to standardise the process and is described further by O'Higgins and Nic Gabhainn (2010).

One of the consequences of having numerous groups working on data presentation at the same time is that there will be multiple schemas or sets of findings. We have identified no legitimate approach to deciding which of these is most valid. This is problematic when one of the objectives is to provide guidance to decision-makers. In response, we developed a further activity for stage three, bringing together individual groups and their schema to negotiate a joint output. For this activity, participants review the schema developed by other groups and can ask questions about the process and rationale for decisions made. Participants then work together, using only the category names, to develop a joint schema. The possibility of the new joint group of participants to divide, merge, or add to the categories is retained. This approach has proved particularly interesting when the original groups were defined by their difference from one another, for example, when boys and girls worked separately. A further adaptation to this is having a member of each original group explain their schema to all those present before they start to work on the joint schema. This can work well, and may be more efficient, but does give more power to an individual member of the group which could be a threat to underlying principles. An advantage of adopting this kind of iterative approach to combining schema to develop a final output is that a large number of participants can be involved in the overall process and can still meaningfully contribute to the final study outcomes.

One of the challenges in applying PRP is requiring three separate groups at three different times to complete the process. We have developed several different approaches to try to overcome this:

1. The first approach is to have at least three groups in the same room, and all groups work on data generation first. Then the data are transferred to a different group for stage two analysis, and when the data are categorised, they are moved

to a third group for stage three presentation. This can be combined with the adaption outlined above for combining schema. It can also include a voting process between stages two and three (using sticky dots or similar) to reduce the number of categories being used in stage three. This adaptation requires an absolute minimum of 15 participants in a room large enough to accommodate at least 3 separate groups working collaboratively.

2. An alternative is to have a single group of participants working together for all three stages. This is very feasible, but tends to be the least creative option, and is most appropriate when the research question is very specific.

19.3.3.1 Further Adaptations

To support health curriculum development, we had students prioritise 51 topics drawn from the Irish HBSC study (Költő et al., 2020). Cards with the topic titles were prioritised by participants, and participants added questions about the top 12 priority topics to a pre-prepared template in the form of a ‘pizza chart’. Further detail on this work can be found in Doyle et al. (2010) and Clarke et al. (2012a, b).

O’Higgins (2011) worked on student-developed sexual health promotion materials and had groups of participants choose a single category developed in stage two to focus on during stage three. Rather than working on presenting the categories, groups worked on identifying health-related behaviours related to a category, reasons underlying the behaviours, and ideas on how to change the behaviours. Participants organised their responses in a three-stage series of concentric circles described as ‘webs’. Examples of the resultant webs can be found in O’Higgins and Nic Gabhainn (2010).

In the investigation of barriers to and facilitators of active transport, Daniels et al. (2014a, b) adopted a similar three-stage ‘web’ approach. Individual groups worked either on barriers or facilitators. At the centre of the ‘webs’ were factors that influenced active transport and the next level out comprised actions that should be taken to address the factors. The final level of the ‘web’ comprised the people that participants identified as being responsible for undertaking the required actions.

Pre-prepared templates, labelled ‘placemats’, were also used during all three stages of a study where groups of children worked first to identify what decision-makers needed to know about their lives and second how researchers could find out about these issues. During the last stage, children developed questionnaire items and response options for use in a subsequent survey (see Daniels et al., 2014a, b, 2015a, b).

The underlying principles of health promotion that guided the original development of the PRP protocols must be protected as much as possible with each adaptation. This focuses on the transfer of power over the research processes and the research outcomes from researchers to participants. There are three important success factors: confidence and belief in the willingness, ability and right of participants to be fully engaged, and being able to engage with participants using a completely ‘hands-off’ approach to guidance and recognising the value of introducing a sense of fun (see Legewie & Schervier-Legewie, 2004) and enjoyment to the research process.

19.3.4 Applications of PRP

As shown in Table 19.4, PRP have been applied across all phases of the research–policy–practice cycle. Some studies have generated outcomes relevant to multiple phases. PRP has been applied to multiple questions, primarily directed at the development of policy and practice in health promotion. Objectives have varied by study, including knowledge generation, policy input, and knowledge translation, but one of the weaknesses has been the lack of involvement of participants in setting the research agenda.

19.3.5 Challenges

Participatory research techniques can pose challenges when applying for funding and ethical approval. This is because it is impossible to provide details in advance on what participants will experience during the process or what applied questions the findings will be relevant to.

It can be challenging to identify the ideal form of words to start the process of data generation during stage one. Pilot studies are essential to ensure that researchers and participants agree and are clear on the focus of data generation.

The largest threat is the presence of researchers who act to control or direct the actions of participants rather than facilitate them in the activity. This undermines validity of the research and its core principles. Even those who describe themselves as participatory researchers can find this very difficult. Trained health promoters, even with no research background, have proved to be skilled at supporting and encouraging participants without influencing the decisions being made.

Table 19.4 Application of PRP to research activities

Research activity	Examples
Research priority setting and planning	Daniels, et al. (2014a); Felzmann et al. (2009)
Research tool construction	Daniels, et al. (2014a); Daniels et al. (2015a); Daniels et al. (2015b)
Answering research questions	Daniels et al. (2014b); Nic Gabhainn and Sixsmith (2006); Hanafin et al. (2007); Sixsmith et al. (2007); John-Akinola et al. (2014); Nic Gabhainn and Sixsmith (2005)
Interpreting research	Clarke et al. (2012a); Doyle et al. (2010)
Research dissemination techniques	Burke et al. (2014a, b)
Developing material to inform decision-makers	Clarke et al. (2012a); Daniels et al. (2014b)
Informing intervention development	Clarke et al. (2012b); Daniels et al. (2014b); Doyle et al. (2010); O'Higgins and Nic Gabhainn (2010); Murphy et al. (2018); O'Higgins et al. (2007)
Intervention evaluation	Nic Gabhainn et al. (2010); Nic Gabhainn et al. (2008a, b)

19.3.6 Strengths

PRP research outcomes have demonstrated participant's constructive and sophisticated contribution to the research process producing rich data presented in creative constructions of complex abstract concepts. Application of the protocols has demonstrated that they are flexible, can be easily adapted, and are appropriate to a wide range of contexts and questions. Importantly the schemas developed are very attractive to decision-makers, essentially providing them with a one-page overview of findings.

An important advantage of PRP over many other participatory approaches is that it is not necessary to plan for a long-term relationship between researchers and participants. It is possible to conduct studies in short timeframes once participants are recruited and consent to participate. Group sessions in stages two and three take 20–30 minutes to undertake, including introductions and conclusions. Therefore, conducting PRP is generally cheaper to implement than other techniques.

A further advantage is that participants conduct the data analysis and the presentation of findings during stages two and three. Good-quality photographs of the analysis outcomes can suffice for reporting, but this is not always the case. It is sometimes necessary to replicate the schema, webs, or placemats electronically in order to include them in written papers and reports, but all decisions about item placement and the language will have already been made by the participants.

Finally, both researchers and participants report enjoying the process and even having fun during the group sessions.

19.4 Conclusion

The creative approaches employed in PRP are likely to set it apart from other PPI projects, and this may be the driver of the sense of fun that participants and researchers report. While further investigation is needed to explore if such creativity is associated with whether health promotion principles are embedded, we do recommend that researchers strongly consider the use of creative approaches (e.g. Mannay, 2016).

The PRP approach seeks to embed the principles of health promotion in research practice. We argue that health promotion research can be health promoting for all involved and have demonstrated that engagement in the types of participation outlined in this chapter is associated with health and well-being outcomes for children in some contexts (John-Akinola & Nic Gabhainn, 2014, 2015; de Róiste et al., 2012). More empirical research is required to demonstrate a widespread positive impact on researchers as well as participants.

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Chapter 20
Promoting Health Equity with Community-Based Participatory Research: The Community Action to Promote Healthy Environments (CAPHE) Partnership

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Key Concepts Definitions

- *Community-based participatory research (CBPR)*: An approach to research that emphasizes participatory decision-making and equitable relationships towards the end of promoting health equity
- *Environmental justice*: Fair treatment and meaningful involvement of all people, regardless of race, colour, national origin, or income, in the development, implementation, and enforcement of environmental laws, regulations, and policies
- *Health equity promotion*: Research and practice focused on action towards the end of health equity

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20.1 Introduction

The quest for social justice is at the core of promoting health equity. Socially, politically, and economically marginalized groups experience the most adverse health outcomes. Historically, those groups have been underrepresented in the process of creating knowledge about the causes and impacts of the inequities they experience. Commitment to the active engagement of marginalized groups in the process of building knowledge and using that knowledge to promote health is central to community-based participatory research (CBPR) in health. With roots in action research and emancipatory social movements, CBPR seeks to create equitable partnerships between members of communities that experience inequities and academic researchers.

We draw on the Community Action to Promote Healthy Environments (CAPHE) partnership to examine the application of selected core principles of CBPR in the context of environmental health promotion. CAPHE is a multi-year partnership that engages community leaders, environmental justice advocates, representatives from local and state health service organizations, state environmental regulatory agencies, and academic researchers to improve air quality and reduce adverse health impacts in disproportionately impacted communities. During the period covered by this case study (2014–2021), CAPHE used a CBPR approach to develop a scientifically based, community-informed, Public Health Action Plan and to take action informed by that Plan to promote environmental health equity in Detroit, Michigan.

20.2 Background

Health promotion. At the turn of the twenty-first century, Meredith Minkler (1999) described critical differences in definitions and implementation of health promotion within and outside the USA. Notably, within the USA, Minkler described a greater emphasis on lifestyle factors – what she describes as *personal responsibility* for health. By comparison, health promotion efforts in other parts of the world (e.g. Canada, Europe) placed more emphasis on "the capacity of individuals and communities to build on their strengths and respond to… the challenges posed by the environment" (1999, page 124) – which Minkler described as *community response-ability.* This broader version of health promotion, encompassing both individual and collective responsibility and action, is consistent with the Ottawa Charter for Health Promotion (World Health Organization, 1986). It calls for a focus on multilevel determinants of health and focuses attention on the importance of strengthening capacity to promote health through individual and collective action. CBPR engages representatives from communities that experience disproportionate challenges to the health of their residents, working in conjunction with public health practitioners and researchers, with an emphasis on strengthening capacity for both individual and collective actions to promote health. As described below, CBPR encompasses a dual focus on determinants of health as critical *outcomes* while simultaneously focusing on *processes* that develop and maintain equitable relationships among all involved as central to the development of capacity for health promotion.

Community-based Participatory Research (CBPR). CBPR traces its historical roots through multiple streams, encompassing Kurt Lewin's work with action research in the USA (Reason & Bradbury, 2001), the emancipatory work of Orlando Fals-Borda (Fals-Borda, 2006), and the popular education movement in Latin America associated with Paulo Freire (Freire, 1970), among others (Wallerstein & Duran, 2017; Kark & Stuart, 1963). These foundations recognize that the process of creating knowledge reflects the same social and political inequalities that underlie health inequities, resulting in knowledge that is more likely to reflect the interests, perspectives, and lived experiences of more privileged social groups, while the insights and experiences of marginalized groups are hidden/suppressed (Hill-Collins, 2012; Gaventa & Cornwall 2015; Hall, 2015). These processes have contributed to an understandable mistrust of scientific research for marginalized groups (Jaiswal & Halkitis, 2019).

CBPR recognizes these inequities and seeks to create a foundation for community members and academic researchers based in academic institutions to work equitably together to create knowledge. The equitable distribution of power, decision-making, and resources across partners are considered fundamental to the development of science and action, with a shared commitment on the part of community and academic partners to action towards equitable health outcomes (Israel et al., 1998; Wallerstein & Duran, 2017; Ward et al., 2018).

CBPR principles (Israel et al., 1998, 2019) and frameworks (Schulz et al., 2017; Belone et al., 2016) emphasize equitable group dynamics (e.g. shared leadership and power, participatory decision-making, two-way open communication) that promote equitable processes within partnerships and a commitment to health equity as an outcome (Ward et al., 2018). Box 20.1 shows one set of guiding principles for community-based participatory research (Israel et al., 2019), intended to support such equitable processes and outcomes.

Box 20.1 Principles of community-based participatory research (CBPR)[1]

1. CBPR recognizes community as a unit of identity
2. CBPR builds on strengths and resources within the community
3. CBPR facilitates a collaborative, equitable partnership in all phases of research, involving an empowering and power-sharing process that attends to social inequalities
4. CBPR promotes co-learning and capacity building among all partners
5. CBPR integrates and achieves a balance between research and action for the mutual benefit of all partners

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[1] Israel et al. (2019). Note: Earlier versions of these principles have been published in Israel et al. (1998), Israel et al. (2013), and Israel et al. (2018). Reproduced with permission of the licensor through PLSClear

6. CBPR emphasizes the local relevance of public health problems and ecological perspectives that attend to the multiple determinants of health inequities
7. CBPR disseminates findings to all partners and involves them in the dissemination process
8. CBPR requires a long-term process and commitment to sustainability
9. CBPR addresses issues of race, ethnicity, racism, and social class and embraces cultural humility

These principles emphasize a commitment to shared power, equitable distribution of resources, and recognition of the contributions of all partners in all stages of the research to action process. This includes the process of defining the problem to be addressed, co-creating the research design, conducting the research, interpreting the results, and determining how those results should be used for action (Israel et al., 2019; Belone et al., 2016).

We examine the application of CBPR principles in the context of the CAPHE partnership and consider implications for efforts to promote environmental health equity. Specifically, in the following case study, we emphasize the use of CBPR principles to address three central issues in health promotion research. First, CBPR addresses research and action to understand and address community-identified priorities. Second, it involves a commitment to equity in *process* and *outcomes*, understanding that these are inextricably interwoven. And third, CBPR addresses the imperative that all partners need to be equitably involved, including representatives from disproportionately impacted communities, often marginalized from the process of creating knowledge and solutions to public health problems, public health practitioners, and academically based researchers.

20.2.1 Case Study: Community Action to Promote Healthy Environments (CAPHE)

CAPHE builds upon a strong history of community engagement and mobilization around air quality in Detroit, Michigan. Historically, Detroit's manufacturing and industrial economy contributed to the location of multiple stationary and mobile sources of air pollution within and adjacent to the city. By the 1980s, Detroit residents were engaged in collective action to call attention to, and address, those air pollutants and their adverse health effects. The burgeoning Environmental Justice Movement, with strong leadership in Detroit, drew additional attention to this issue (Leslie, 2000).

Beginning in the late 1990s, several new CBPR partnerships brought together Environmental Justice Movement leaders, academic researchers, community-based organizations, and governmental entities (e.g. health departments, environmental quality agencies) to inform action to reduce environmental exposures and promote health equity. Those included the Community Action Against Asthma partnership, founded in 1999, focused on developing evidence about, and intervening to reduce, environmental contributors to childhood asthma (Chung Densen, 2012; Edgren et al., 2005; Parker et al., 2003, 2008, 2013); the Detroit Community-Academic Urban Research Center, founded in 1995, focused on strengthening capacity of community members and researchers to work effectively together to promote health, with a particular strength in policy change (Israel et al., 2001); and the Healthy Environments Partnership, founded in 2000, which contributed a body of evidence linking environmental conditions to cardiovascular risk in Detroit neighbourhoods (Dvonch et al., 2009; Schulz et al., 2005, 2012, 2014; Zenk et al., 2013).

In 2012, partners representing these three partnerships joined forces to create CAPHE, with the goal of developing and implementing components of a scientifically based, community-informed, Public Health Action Plan to reduce air pollution and its adverse health impacts in Detroit. CAPHE's focus remains on promoting health equity, prioritizing action with communities experiencing the joint impacts of exposure to multiple pollutants and simultaneous economic, social, and political marginalization (Schulz et al., 2016). With support from federal and foundation funding, between 2014 and 2017, CAPHE used a CBPR approach to develop the scientific foundation for their Public Health Action Plan (https://caphedetroit.sph.umich.edu/public-health-action-plan/). Since 2017, CAPHE partners have worked collaboratively to implement prioritized recommendations from the Plan.

The case study, which covers the first 8 years of CAPHE's existence (2014–2021), is organized around three central themes: (1) research and action to address community-identified priorities, (2) commitment to equity in both process and outcomes, and (3) engagement of all partners in research and action. We close with a discussion of lessons learned and implications for health promotion research and action.

Addressing Community-Identified Priorities CAPHE's focus on research that addresses health inequities linked to air pollution emerged directly out of priorities identified by Detroit residents and the long history of community activism around air quality described above. Community-led mobilization to address air pollution and reduce asthma risks is one example of the *principle of recognizing community as a unit of identity (Table 1, Principle 1)*. Communities of identity may be geographically bounded (e.g. as in a set of social relationships between neighbours) or communities with a shared identity or sense of shared fate that transcends geographic boundaries (e.g. racial or ethnic identity). Detroit residents' exposure to air pollution and its adverse health impacts underlie a shared identity that recognizes a common interest in working together to address it. Thus, the focus of the research conducted by the partnership was shaped by priorities identified by community residents.

The Community Action Against Asthma, Detroit Urban Research Center, Healthy Environments Partnership, and eventually CAPHE brought together the expertise of academically based researchers and the skills and expertise of residents of communities experiencing excess health risk around this issue. They exemplify the CBPR principle of *building on the strengths and resources that exist within communities (Table 1, Principle 2)*. The history of collective organizing and the presence of skilled and experienced environmental justice leadership in Detroit are two of the many examples of skills and resources on which the CAPHE partnership was able to build. Those partnerships focused the research on community priorities to inform action. For example, the idea of cumulative risk – risk of exposure to multiple pollutants from multiple sources, combined with population characteristics that may enhance adverse effects (e.g. young age) – emerged directly out of the Environmental Justice Movement (Fox, 2002). CAPHE researchers applied these frameworks to map geographic areas with high cumulative risk and estimate excess deaths attributable to the mal-distribution of risks. Those analyses became powerful tools in advocating for actions to reduce air pollution and promote health in neighbourhoods with excess risk.

CAPHE's focus on conducting research to understand and address air pollution as a community-defined priority also exemplifies the principle of recognizing the *local relevance of public health problems and ecological perspectives that attend to the multiple determinants of health inequities (Table 1, Principle 6)*. Air pollution and its adverse health effects are a global public health problem, to which seven million deaths are attributed annually (World Health Organization, 2019). Those deaths occur in local communities, such as Detroit, where particular social, economic, and physical environmental conditions contribute to excess emissions and exposures for vulnerable groups (e.g. children, elderly). Recognizing the local relevance, and expression, of public health problems is central to partnership science and action. For example, CAPHE partners are working to document the number of diesel trucks travelling through residential neighbourhoods in areas of Detroit and associated noise and pollution levels. This community-led science, supported by researchers based in academic institutions, will provide data that will directly inform municipal decisions about modification of truck routes to avoid residential neighbourhoods, in order to reduce exposure to air pollution and promote the health of Detroit residents.

Equitable Process and Outcomes Both CBPR and the Environmental Justice Movement emphasize the interconnections between equitable processes (e.g. decision-making power, distribution of resources) and equitable outcomes (e.g. distribution of exposure and harm) (First National People of Color Environmental Leadership Summit, 1991; Ward et al., 2018). CAPHE's efforts to realize our commitment to equitable research process, resource distribution, and outcomes draws upon several specific CBPR principles.

First, CAPHE seeks to *facilitate a collaborative, equitable partnership process in all phases of the research and action (Table 1, Principle 3)*. In our first year of working together, CAPHE partners worked to identify shared values and develop shared expectations among partners. We worked collaboratively to generate normative practices that support and sustain positive contributions to research from all group members and decision-making processes that encourage and value input, ideas, and insights from all (Becker et al., 2012).

Our commitment to an equitable research partnership is joined by a *commitment to co-learning and capacity building for all partners (Table 1, Principle 4).* Recognizing that a collaborative equitable research partnership takes work and must evolve over time, CAPHE committed to co-learning and to building our capacity as a partnership to continue our growth throughout the time that we worked together. One critical mechanism used by the partnership to support this process is the use of evaluation research, which assesses partnership process, power sharing/equity, progress towards goals and objectives, synergies across partners, and the extent to which partnership products address or contribute to enhanced racial, socioeconomic, or health equity. The formative, participatory evaluation research design involves the use of research to create opportunities for discussion, self-reflection, and co-learning as components of continuously strengthening our capacity to conduct collaborative research.

A part of this process is a commitment to co-learning and continuing to build our capacity to *address inequities grounded in racism and social class (Table 1, Principle 9)*. This involves intentional disruption of institutional racism that underlies the inequitable distribution of resources and systematically disadvantages community organizations and leaders from Black and Brown communities. As an example, the original grant that funded CAPHE's initial research had been constructed in a manner that strove for equity over the course of the grant, with funding in the early years disproportionately designated for academic partners working to build the scientific evidence that would undergird the Public Health Action Plan. In later years, funds shifted towards community-based organizations poised for leadership in implementing key recommendations, with support from academic and government partners. However, when the grant was awarded, the funding institution announced progressive budget cuts over the 5-year funding period. These progressive funding reductions unintentionally introduced inequities, with smaller cuts in early years benefitting the University, and larger cuts in later years, disproportionately impacting community-based organization partners.

CAPHE partners made two decisions in an effort to address this inequity. We shifted funding in the early years of the partnership from academic to community partners and actively pursued additional resources to replace the funding cut from the initial grant. There was a clear, shared understanding that the community-based organization partners, who had experienced the greatest cuts, would receive the bulk of those new resources. Those efforts met with success, with a grant to CAPHE partner Detroit Hispanic Development Corporation that included subcontracts to several other community-based organization partners to replace funds that had been cut by the funder when the original grant was awarded. Subsequently, the partnership received three additional grants, with each of three community-based organization partners serving as fiduciaries and the bulk of the new funds going to community partners. This commitment and action was grounded in principles of equity and disrupted processes that systematically economically disadvantaged community-based organizations based in Black and Brown communities.

Engagement of All Partners in Research and Action CAPHE aspires to have all partners actively engaged in establishing research questions, decisions about research approach, and application of findings to inform action to reduce air pollution and its adverse health impacts. The goal is to assure that all partners are equitably and meaningfully engaged in a manner that assures that their expertise, values, and priorities are reflected in CAPHE's work. As described above, such engagement and collaborative decision-making can benefit from group norms that assure equitable processes, distribution of resources, and outcomes and a commitment to co-learning and capacity building within the partnership.

Also relevant is the fifth principle, *achieving a balance of research and action (Table 1, Principle 5)*. Recognizing that a strength of partnership work is that partners bring different experiences, perspectives, and priorities, the balance between research and action may shift over time. During our first 3 years of working together, CAPHE focused heavily on developing the evidence base linking Detroit-specific air pollution sources to health and modelling anticipated positive health impacts of various interventions (e.g. placing indoor air filters in schools vs homes), in order to inform action. We also researched actions that had been undertaken successfully by similar municipalities. Following the release of CAPHE's recommendations, we shifted towards an emphasis on scientifically informed action, a clear priority for community partners. Research conducted during the later years of the project focused on new questions brought by community groups explicitly to inform action – for example, assessing health impacts of an international bridge under construction in a Detroit community to inform mitigation efforts (Sampson et al., 2020) and documenting truck traffic on residential streets to inform truck routing decisions. Thus, achieving a balance of research and action does not mean equal parts research and action at all times: rather it reflects partnership values and priorities, as well as dynamic needs and opportunities that unfold and shift over time.

Finally, CAPHE's commitment to engage all partners in both research and action underlies our joint development of specific dissemination guidelines to assure that findings are *disseminated widely and that there is equitable engagement of all partners in the process of disseminating findings (Table 1, Principle 7)*. Dissemination guidelines specify mechanisms to assure that both community and academic partners who contribute to the research and action are actively engaged, and recognized, in dissemination. This includes co-authorship by community and academic partners and procedures for equitable decision-making in that process. It allows partners to identify a set of audiences to whom products should be disseminated, including those who contributed to the research (e.g. community residents) and outlets beyond traditional academic publications, to assure (e.g. commentaries or op eds, community forums).

20.2.2 Lessons Learned/Implications for Health Promotion Research and Action

CAPHE’s experience over an 8-year period of working in partnership to address community-identified public health priorities highlights several linked insights regarding the use of CBPR to promote health.

First, communities facing disproportionate adverse health outcomes value credible scientific research that informs action to address community-identified health promotion priorities. Understanding those priorities as local manifestations of global public health challenges is central to development of solution-focused research that can inform action to promote health equity. Knowledge built through collaborative research encompasses, but is not limited to, technical information. It extends to include analysis of social, political, and economic systems that perpetuate the inequitable distribution of health risk and research to inform the development of strategic actions to promote health equity.

Health promotion research that fails to recognize and inform action to address the social and economic inequities that underlie health inequities may reproduce or even exacerbate those inequities (Frohlich & Potvin, 2008). Racial, ethnic, socioeconomic, gender, and other axes of social inequality drive health inequities and are expressed within partnership processes in multiple ways. CBPR encourages, and offers principles to support, an explicit focus on inequitable social relationships and distribution of economic and other resources within the partnership, towards the end of strengthening the partnership’s ability to work effectively together to promote health equity. It also highlights an explicit focus in the research itself on equity, illuminating the structural drivers of environmental injustices and associated health inequities.

Finally, we recognize that CBPR principles represent goals to strive for in partnership processes. Within the context of partnerships committed to co-learning, they offer opportunities for self-reflection and growth. Formative, participatory evaluation research that invites self-reflection and dialogue allows partners to assess the ways in which they are and are not yet reaching collective goals, including how they are working together (process) and progress towards health equity (outcome). Evaluation research metrics that explicitly assess, for example, the extent to which the partnership is achieving balance in decision-making power and distribution of resources allow partners to examine strengths and opportunities and provide a foundation for dialogue, co-learning, and growth. CBPR partnerships that engage in systematic research/evaluation, action, and reflection can strengthen their collective capacity to address inequities in their own processes as well as their efforts to promote equitable outcomes.

20.3 Concluding Comments

Participatory research is a critical approach to health promotion, involving both an approach to research and a process that intends to intervene in the reproduction of health inequities. As such, it contributes to health promotion research by recognizing the necessity of engaging research and action jointly to promote health equity. CBPR is one form of participatory research, focused on confronting social and economic inequities that underlie health inequities, including those that influence the dynamics of the partnership itself. CBPR's guiding principles are particularly relevant for promoting equity in the context of health promotion, drawing attention to the social, economic, and political forces that drive health inequities and that are manifest in relationships between, for example, members of disproportionately adversely impacted communities and public health professionals, including public health researchers. Recognizing the multiple forces in play, the principles represent guideposts that partnerships can use to promote research, dialogue, action, and mutual accountability in the process of promoting health equity and social justice.

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Chapter 21

Health Promotion Research in International Settings: A Shared Ownership Approach for North-South Partnerships

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Key Concepts Definitions

- *Knowledge production* is a contested term often seen as the art and science of producing knowledge while ignoring knowledge that has been traditionally produced by indigenous communities passed from generation to generation. Knowledge production is shaped by context, usage, and culture.
- *Shared ownership*: a mutually beneficial partnership based on shared vision, values, and goals. This form of partnership is not transactional but built on the values and ethics of trust, transparency, and equity.
- *International health partnerships*: are organisational affiliations across borders, often conceptualised as North-South (hemispheres) but can also be South-South or any combination. They aim to be mutually beneficial to all partners and recognise what can be learnt from each other despite structural or economic inequalities.

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21.1 Introduction

This chapter is based on the experiences of a 10-year north-south global health partnership between two higher education institutions – Nottingham Trent University, UK, and Makerere University School of Public Health, Uganda. The authors present the context of partnership working between the UK and Uganda and then explore how a shared ownership approach grounded in key health promotion principles has emerged from working together. Partners come from a background of health promotion and environmental health with a range of multidisciplinary perspectives yet have been able to draw on underpinning values and principles that have enabled collaboration. Health promotion and environmental health as fields of practice value research that has 'real world' context and application. They also value strengthening health systems 'upstream' through working and engaging with primary care and communities. In addition, our partnership work is driven by core health promotion principles of advocacy for, and investment in, people, in this case, the community health workforce in Uganda.

The field of global health is driven by structured power relations and inequalities not least through the paternalistic and entrenched colonial attitudes that tend to dominate global health narratives on health systems in Africa (Louskieter & Munshi, 2020). Knowledge (and indeed funding) has traditionally been assumed to flow from North to South in the international/global health field. However, there are increasing voices calling for a more critical global health (McCoy, 2017) that challenges the neo-liberal agenda in health and call for the need to decolonise knowledge production in health promotion (Chandanabhumma & Narasimhan, 2020). This challenges many of the assumptions held about what knowledge, whose knowledge, and how knowledge is produced and reproduced in research. Global health partnerships that are equitable, authentic, and inclusive are key to overcoming these challenges (Gautier et al., 2018). This chapter discusses some principles of shared ownership that have emerged from our work using examples to illustrate them and suggests that deep and trusted partnerships can be built and sustained through a health promotion approach.

21.2 Context of the Partnership

21.2.1 Strategic Need

Uganda and other low- and middle-income countries (LMICs) have weak health systems and experience a double burden of both communicable and non-communicable diseases (Nyaaba et al., 2017). Community health workers (CHWs) are recognised by Ministries of Health in many LMICs, including Uganda, as central to the delivery of primary health care which is the focus of our partnership. In Uganda, CHWs are volunteers who are the first contact of the community with the health system, and their activities include health education and promotion, community mobilisation for health interventions, and treatment of childhood illnesses. Despite CHWs being part of Uganda's health system since 2001, the local team, with long experience of working in these communities, recognised that they faced several challenges that affected their work. The focus of our research was to understand and build the capacities of the CHWs in a number of specific areas (noncommunicable diseases, antimicrobial resistance, and infectious diseases), evaluate CHWs' performance, and improve health promotion/primary health-care delivery in local communities in Uganda. These challenges were mainly related to insufficient training, supervision, and motivation, hence the focus of the partnership in addressing them among CHWs in rural communities in the country.

21.2.2 Context and Partnership

Deep and trusted partnerships are increasingly recognised as essential to building long-term collaborations across continents in the field of global health and development to share and integrate best practice in research and teaching among all partners (Missoni et al., 2014). An important position for our partnership has been its location within higher education institutions in the UK and Uganda. Higher education institutions have an important contribution as knowledge producers to global health promotion. Over the past 10 years, we have had a formal collaboration between Nottingham Trent University's School of Social Sciences in the UK (and where Public Health is located) and the School of Public Health at Makerere University in Uganda. As a consequence, our partnership has a strong focus on both public health and the social sciences and reflects a blend between the social model of health and health promotion (Nottingham Trent University) and traditional public health with a strong focus on community engagement (Makerere University School of Public Health). The focus of our collaboration has mainly been on capacity building at both institutional and community levels, as well as research and community service. These aims link to the shared vision and strategic mission of both our higher education institutions to connect research, people, and communities globally. This base has allowed us to share and integrate best practice within teaching and research in our respective courses and to facilitate future research as well as develop project opportunities for undergraduate, postgraduate, and doctoral students.

Key to our partnership work is the pursuit of funding to enable us to develop and build our investment in Ugandan communities. As partners based in higher education institutions, income for projects is a core necessity in undertaking international collaborative research. Our early work in particular was supported by the Health Partnership Scheme of the Tropical Health and Education Trust funded by the UK Department for International Development whose mission is to support collaboration between the UK and LMICs through the establishment of health partnerships. Guided by the Tropical Health and Education Trust's Principles of Partnership (Tropical Health and Education Trust, 2017), our approach has always been to bring in different levels of collaboration into our research and ensure that we built good relationships with all relevant stakeholders. At the start of our work, together we applied for a series of grants from external funders to officially start the collaboration which were unsuccessful. This led to a shift in focus towards establishing a partnership that is not reliant on periodic external research funding, but rather values local knowledge and expertise, and reverse knowledge innovation (i.e. what Nottingham Trent University has learnt working with the Uganda partners), and what we have come to describe as 'shared ownership'. Our research activities have mainly concentrated on working with CHWs in Wakiso district, Uganda, with a focus on strengthening training, supervision, and motivation. Our successful research led to further funding to promote sustainability, scale-up, and access into other rural communities in the district, as well as expansion into other subjects such as non-communicable diseases and antimicrobial resistance. Initially, our partnership supported and worked with CHWs in one sub-county (with an estimated population of 92,916), which has since expanded to 4 other administrative units in Wakiso district serving a total population of approximately 313,639 (Wakiso District Local Government, 2016).

21.3 Shared Ownership Principles

Our partnership has taken a shared ownership approach which has enabled success in influencing health promotion practice and strengthening the primary health system in Uganda. This approach emerges out of an interplay between both formal and informal activities that are undertaken in the course of our work. These are articulated between us as colleagues in delivering specified research and evaluation outcomes funded by external grants and through informal tacit knowledge sharing which is shaped by spending time with each other in both countries through geographic mobility and exchange. We have also invested heavily in building capacity at community levels (through CHWs), as well as academic and professional levels (through faculty and students) at both higher education institutions. Through this approach, seven core principles have emerged over the years of our partnership based on our experiences. These principles are investment in people and communities, trust, reciprocity, cultural appropriateness, sustaining activities, transparency, and global thinking.

21.3.1 Investment in People and Communities

Investment in people and communities lies at the heart of the partnership. This has enabled us to take a bottom-up community development/engagement approach which involves doing research with rather than on the community. At an individual level, the partnership has invested in capacity building through training over 600

CHWs in Wakiso district in different health issues including water, sanitation, and hygiene; integrated community case management of childhood illnesses; non-communicable diseases; antimicrobial resistance and stewardship; COVID-19; and mobile reporting. The partnership has also provided training on management and leadership for the CHWs' supervisors. In addition to training, we have provided CHWs with non-financial incentives including branded T-shirts, gum boots, umbrellas, and solar equipment. We also gave CHWs certificates following training to legitimise their knowledge and enhance their recognition and acceptability within the communities they serve.

As part of our work, two CHWs visited the UK and presented at international conferences. In 2017, a male CHW shared experiences of being involved with the partnership at the Tropical Health and Education Trust conference in London. In 2019, a female CHW presented partnership research findings at the International Health Congress in Oxford. The partnership also facilitated two notable community investments which have enhanced health promotion research and practice: the provision of six motorcycles and the establishment of a field office in Wakiso district. The motorcycles have supported the CHW programme through enhanced transportation including distribution of medicines and other supplies from health facilities to CHWs, as well as enhanced local health service delivery such as community outreach for immunisation of children. The field office has not only supported our partnership activities including research but also government and other local initiatives in the area. For example, the field office facilitated coordination of the Roll Back Malaria programme in the area which involved distribution of mosquito nets to the population.

21.3.2 Trust

Our ability to engender trust with the local communities derives from Nottingham Trent University building a trusted relationship with Makerere University School of Public Health, the local partner. Makerere University School of Public Health has a reputation for community health and development initiatives in Uganda; hence, they are well known by various communities including in Wakiso district where most of the partnership activities have been implemented. Particularly, Makerere University School of Public Health has been working with CHWs in our project community for over 20 years. As a result, Nottingham Trent University colleagues experienced a transference of trust from Makerere University School of Public Health to the broader partnership. Community members are often sceptical of international health partners (White-Cooper et al., 2009) without any strong local ties and who are usually unable to build meaningful relationships with communities due to their time−/funding-bound research projects. The partnership has been able to successfully address this scepticism by showing commitment to the CHWs and communities with or without funding. For example, at the end of one of our projects, many CHWs noted that although the funding was coming to an end, they knew we would continue supporting their work. This level of trust places an expectation on the partnership to retain our commitment to seeking additional funding and support to continue working with the community.

21.3.3 Reciprocity

Our notion of reciprocity values the importance of knowledge exchange, reciprocal mobility, and actions that are mutually beneficial to both partners. The partnership is based on equity and mutual respect, with both higher education institutions contributing to and learning from each other. We have fostered reciprocal field visits of researchers, faculty, and students which have in turn facilitated reverse knowledge innovation between the UK and Uganda project partners. As an example, our partners in one of the projects on antimicrobial stewardship at Buckinghamshire Healthcare National Health Service Trust in the UK shared how they have gained a better understanding of how to engage with communities and the value of working at the grassroots level to improve proper access and use of antimicrobials.

21.3.4 Cultural Appropriateness

Culture and context have a significant role to play in health promotion and practice (Napier et al., 2017; Kaholokula et al., 2018). Through establishing trust between colleagues from the UK and Uganda, we have been able to ensure that projects are designed and delivered in ways that are appropriate and respectful to the local culture. In addition to a co-production approach towards designing our research activities, the partnership ensures that the implementation is always led by the local team. For instance, all the training for CHWs has been delivered by local health practitioners and staff from Makerere University School of Public Health who are fully knowledgeable and cognisant of the local context including the main language used by the community. This approach and respect for culture and context has enabled us to foster local ownership of projects and cultivate the practice of carrying out health promotion activities with rather than on communities.

21.3.5 Sustaining Activities

Without doubt, partnership efforts have been sustained through external funding. Although the partnership secured its first successful grant through the Tropical Health and Education Trust in 2012, we have been able to sustain partnership activities through our success in securing additional research grants from several other funders. The partnership has also benefited from a high level of strategic buy-in from both higher education institutions which has been essential to sustaining some partnership activities when there were funding gaps. For instance, the cost of maintaining the field office in Uganda has previously been catered for by Nottingham Trent University during a period without any funding. In addition, partnership activities aim to strengthen existing health structures and systems (as opposed to creating new or parallel ones) as a sustainability strategy. As an example, the CHWs trained by the partnership are part of the national community health programme in Uganda. Therefore, the trained CHWs remain a beneficial resource and instrumental to supporting health promotion activities in their communities beyond our partnership project-based funding.

21.3.6 Transparency

The institutional buy-in into the partnership is reflected through the establishment of memoranda of understanding (MoUs) – first (2012–2015), second (2015–2018), and third (2018–2023). It is worth mentioning that the first two MOUs were at the school levels (between the School of Social Sciences at Nottingham Trent University and the School of Public Health at Makerere University). However, as a result of the partnership's success in enhancing the existing research environments at both institutions and delivering significant research grant capture, the third MoU is university wide, expanding to include other schools at both universities. These MoUs provide a roadmap for the partnership's direction and enhance transparency of each partner's responsibilities. In addition, open and honest continuous communications through various platforms including email, Skype, and WhatsApp have enabled continuity of interaction and fast response to decision-making and problem-solving, fostered transparency, and provided opportunities for collaborations with other partners.

21.3.7 Global Thinking

Health promotion practice at the local level is inherently global (Labonté & Laverack, 2008), and the partnership has always considered how best to contribute to the global community. As a result, we have embedded dissemination and knowledge sharing into all our activities to influence health promotion discourse and practice. At the local level, we routinely share project findings with national stakeholders through dissemination workshops. The partnership also engages with global stakeholders through webinars and conferences. Specifically, the partnership has influenced global health promotion discourse and practice as it spearheaded the organisation of the first international symposium on CHWs held in Kampala, Uganda, in 2017. This symposium, whose theme was on the contribution of CHWs in the attainment of the sustainable development goals (SDGs), attracted over 450 delegates from 22 countries around the world, and some of the abstracts presented are available online (Musoke et al., 2017). Working closely with the CHWs'

Thematic Working Group of Health Systems Global, these symposia have since been institutionalised and are now held every 2 years. The second symposium was held in Bangladesh in 2019 and focused on the contribution of CHWs in the control of non-communicable diseases, and the third is planned to be held in Liberia in 2021.

21.4 Implications of a Partnership/Shared Ownership Approach for Health Promotion Research and Practice

Our partnership work has focused on strengthening the health system in Uganda through building the capacity of grassroots CHWs utilising a community development and upstream health prevention and education approach. By enhancing the capacity of CHWs, the partnership has directly and indirectly improved the health outcomes of the population (Musoke et al. 2019a). Our project achievements in terms of improving health education and promotion, improved access to timely health care, and better access to treatment of childhood illnesses have been extensively discussed in our previous publications (Musoke et al. 2019b). The strength of the partnership is defined by a shared ownership approach underpinned by the seven principles described in this chapter. The idea for such a working arrangement in health promotion research and practice is to project a shared voice, vision, and ownership of interventions by all parties involved. This ensures that local knowledge is used and built upon and that both partners reflect on their activities and, through mutual learning, foster knowledge innovation in both settings.

Of course, we have also experienced challenges to our partnership work. There is not an even playing field in terms of access to research funding and resources for the Ugandan partners and stakeholders, and the partnership always tries to ensure that we are sensitive to this and creative in the way we overcome those wider structural inequalities. In the partnership, the UK team started with and maintain the understanding that our colleagues in Uganda are the experts on the health challenges and issues in the country and that their role was to support, strengthen capacity, and provide access to resources that are often scarce in LMICs. Our work strengthening the CHWs' programme reflects the need for investment in this important community workforce who, while delivering national health agendas, are largely unpaid and voluntary (World Health Organization, 2018). This links to strengthening the voices of CHWs themselves, investing in people and communities, strengthening the health system, and recognising that health is also structurally determined (Laverack & Labonte, 2000).

Our approach to influencing health promotion research and practice in Uganda has been to build partnerships, to develop trusted collaborations, and to implement projects including research with the poorest communities through a shared ownership with our partners. In undertaking research on the health issues and needs in Uganda, the core values of social justice and health promotion are more pertinent than ever to drive research practice (Chandanabhumma & Narasimhan, 2020).

21.5 Conclusion

This chapter has discussed how a North-South partnership between two higher education institutions in the UK and Uganda has co-produced a shared ownership approach to underpin their health promotion research and practice. The seven shared ownership principles challenge the colonial notion that the global North holds the knowledge to single-handedly address growing issues and challenges in LMICs. Our success, so far, demonstrates that deep and trusted partnership builds and sustains long-term relationships among global North and South higher education institutions which allows sharing and integration of best practices in health promotion and facilitating future collaborative opportunities for research and practice.

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Part V

Methodological Responses to Bridging the Knowledge/Practice Gap

Chapter 22

Citizen Science for Health Promotion Research: Emerging Best Practices, Challenges, and Opportunities for Advancing Health Equity

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Key Concepts Definitions

- *Health equity* – ‘Health equity is defined as the absence of unfair and avoidable or remediable differences in health among population groups defined socially, economically, demographically or geographically. […] Pursuing health equity means striving for the highest possible standard of health for all people and giv-

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ing special attention to the needs of those at greatest risk of poor health, based on social conditions' (World Health Organization, n.d.).
- *Participatory methods* – 'The participatory paradigm offers an alternative means for undertaking social research projects and programmes. It is based on liberation, neo-Marxist and liberal human rights […]. The participatory paradigm differs from other approaches in the following ways: ownership of the research is shared (co-ownership); analysis of social problems is undertaken by the community; [and] community action' (Howell, 2012, p. 94).
- *Citizen science* – 'Citizen science uses the collective strength of communities and the public to identify research questions, collect and analyze data, interpret results, make new discoveries, and develop technologies and applications – all to understand and solve environmental problems' (US EPA, 2019).

22.1 What Is the Main (Health Promotion) Research Problem that Your Approach Addresses?

Over a relatively short period, health promotion researchers have witnessed an incredible proliferation of data streams to be collected, merged, and analysed. These multifarious sources – such as electronic health records, wearable fitness monitors, self-tracking mobile applications, 'smart' homes and devices, social media, and environmental sensors – have emerged and are now integrated in nearly all aspects of modern life. For the researcher, this data-rich atmosphere creates exciting new possibilities for understanding how and why different health behaviours are formed and sustained (or not) and for applying these insights to the development of new interventions as well as measures and metrics for evaluating their effectiveness. This ecosystem of data abundance has also enabled scientists to consider single-subject and N-of-1 studies, which in medical settings could be viewed as 'patient-centred' or personalized (Mirza et al., 2017, p. 1). With sufficient amounts of high-resolution data, researchers and other groups might be able to identify significant places, moments, or contexts along the pathways of behaviour change (Chrisinger, 2020). Armed with these insights, individuals, perhaps in consultation with researchers, healthcare providers, or even technology companies, might be motivated to explore and maintain positive health behaviour changes.

Data ownership and privacy questions arise in this new 'big data' environment, as scholar Shoshana Zuboff reminds us how this 'behavioural surplus' is valuable to companies and governments (Zuboff, 2019), while researchers also face important epistemological issues. Big data approaches may overlook key factors, including those that may be most helpful for aggregating individual patterns and trends to group- or population-level insights. For example, particular places, moments, or contexts may especially matter for one person's health behaviour change, but to what extent is this true for others? This is particularly relevant for diverse populations, whose lived contextual experiences may differ widely from those of others, and these differences might be obscured without closer investigation. Moreover, how do personal resources, behavioural histories, preferences, or sociodemographic characteristics come into play? Newly available streams of high-resolution data paired with familiar research methods (e.g. surveys, ecological momentary assessments) might help answer some of these questions.

Beyond the individual level, group- and community-level constructs are likely to be situated and dynamic, meaning that one person's experiences are inextricably rooted in a socio-ecological context, and these contexts can change over time (Cummins et al., 2007). By focusing primarily or solely on insights that can be mined from big data, we may miss opportunities for 'street science' or what Jason Corburn calls 'decision making that draws on community knowledge and contributes to environmental justice' (Corburn, 2005). Big data approaches might explain individual or group outcomes, though they may be less able to unpack the mechanisms that lead to them and may do little to understand how different individuals and communities might understand and prioritize them. For the field of health promotion, an overreliance on big data approaches also risks missing potential individual-, cultural-, environmental-, and community-level interventions that could create positive change.

Qualitative and participatory methodologies provide critical avenues for addressing these epistemological issues by allowing participants to analyse and interpret data using their own sociocultural perspectives, lived experiences, and ways of knowing and, in group settings, consider how their own perspectives exist vis-à-vis their neighbour's. These kinds of methods also offer windows into the impacts of structural inequalities on health behaviours and health promotion interventions, painting a more realistic picture of the challenges faced by different individuals and communities. Big data approaches can provide an important means of documenting global inequalities in health behaviours rooted in unequal circumstances and environments (Althoff et al., 2017). Yet, as noted earlier, they are less well suited for drawing insights relevant to local contexts and needs that can be used to inform effective and culturally relevant health promotion efforts. If we are to make progress on health equity, we must do more than control for these structural factors in statistical models or investigate their prevalence; we need to develop a better understanding of how these factors matter to individuals so that broader advocacy and action might address them directly.

Traditional models of translating research into policy or practice are known to be slow in many cases (or, worse, ineffective) (Giles-Corti et al., 2015; Petticrew et al., 2004). Furthermore, health researchers often overlook how power and agency factor into both research (e.g. forming research questions, data collection and ownership, dissemination of findings, and control of research narratives) and policymaking (e.g. agenda-setting, stakeholder identification, lobbying, and advocacy) processes. As societies and professions around the world grapple with renewed calls for social and racial justice, including emerging anticolonial and antiracist practices, new and alternative research paradigms have something to offer where more top-down and researcher-driven models may be viewed as potentially inappropriate, insufficient, or unjust. Indeed, others have noted how culturally inappropriate practices and 'deficit-based interventions' originating from these top-down paradigms can do harm to the communities they aim to serve (Golden & Wendel, 2020).

Participatory methods, such as citizen science, provide one model to further our understanding of how structural factors impact health behaviour while also democratizing the research process and building community capacity for change. It is likely that many qualitative and quantitative researchers will have noticed increasing calls for participatory methods and co-production of knowledge by funding agencies, governments, accreditation boards, and participant/patient advocacy groups. The next section describes how citizen science can be applied to meet these demands and produce impactful and high-quality research.

22.2 How Can This Approach Respond to This Problem?

The term 'citizen science' includes a broad tent of methodological approaches, united by the engagement (however brief) of a non-scientist lay-public to achieve data collection or analytical goals that would not be possible using traditional methods.[1] Historically, citizen science emerged from the natural sciences, where citizen scientists have contributed reports of weather patterns or plant and animal species, thus vastly extending the scope and scale of observational research (Miller-Rushing et al., 2012). Modern applications that leverage the Internet and digital technologies have expanded the range of possible inputs from citizen science. Today, citizen scientists are helping research projects uncover dynamics of protein folding (Curtis, 2014; Khatib et al., 2011), discover new planets or astronomical phenomena (Marshall et al., 2015), report feelings in different kinds of urban environments (Pykett et al., 2020), and track COVID-19 infections (Ulahannan et al., 2020). While these exciting new applications of citizen science present many opportunities in research, we should bear in mind that not all include elements of participatory research but are instead more analogous to crowdsourcing (i.e. obtaining input about a task by enlisting the help of a large number of paid or unpaid people, typically using the Internet).

As is the case in traditional clinical research, important questions surround participant recruitment. How do people come to participate in citizen science projects? What motivates them? Do these motivating factors distinguish them in some way from the rest of their community? Historically, scientists have overlooked or struggled to connect with marginalized populations, a result at times of mistrust due to past harms by researchers, as well as present-day life challenges that can prevent participation in research (Bonevski et al., 2014; George et al., 2013). Researchers

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[1] Readers should note how the term 'citizen science' inherently fuses the languages of bioethics and governance and raises questions around just participation and engagement. In this chapter, it is used in line with a broad literature, which does not use the term 'citizen' to denote formal citizenship status. Readers may be interested in investigating critical assessments of the terminology (see, for instance, Woolley et al., 2016).

who work with participants in self-tracking studies have raised similar concerns, urging future studies to creatively expand their recruitment scope beyond the 'worried well' (Gabriels & Moerenhout, 2018, p. 4; Lupton, 2016). Strategies are needed to lower barriers to participation and encourage contributions from newcomers to scientific research; the citizen science field at times shares these challenges, though may also present new avenues for participation.

To think about the range of participation possible through citizen science, typologies of current practices can be helpful (Table 22.1). One framework aimed at citizen science related to health research identifies three kinds of citizen science: for the people, with the people, and by the people (King et al., 2019). *For the people* applications generally resemble crowdsourcing as described by English et al. (2018) or 'contributory' initiatives described by Rowbotham et al. (2019), where the main contribution of citizen scientists is in volunteering researcher-collected personal data or biological specimens to a project database. In *with the people* projects, citizen scientists are more directly engaged in active data collection. Examples include systematic counting of birds or other natural phenomena in a particular locale, receiving prompts to make observations about neighbourhood walkability, or problem-solving activities, as in the protein folding example. Other typologies have described these projects as 'collaborative' or 'limited' citizen science (English et al., 2018; Rowbotham et al., 2019). Citizen scientists are most fully engaged in the design, conduct, analysis, and dissemination of research in *by the people* projects, also described as 'co-created' or 'extreme' citizen science (English et al., 2018; Rowbotham et al., 2019).

While *for the people* and *with the people* research projects can contribute valuable insights to health promotion research, they stop short of fully addressing the

Table 22.1 Typologies of citizen science based on participation and engagement

	Level of engagement in various research phases		
	Low	Moderate	High
Rowbotham et al. (2019)	*Contributory*: data collection only	*Collaborative*: data analysis and interpretation	*Co-created*: defining the problem and translating research findings into public health impact
English et al. (2018)	*Crowdsourcing*: active or passive participation in data collection (e.g. self-monitoring or personal sensors or other forms of technology)	*Limited*: problem definition and data collection	*Extreme*: analysis and interpretation, study dissemination, and public health action
King et al. (2019)	*For the people*: individual contributions of biological samples or other personal health information only	*With the people*: actively participate in a standardized data collection process (e.g. local bird counts), with the data then pushed to scientists who then analyse and interpret the data	*By the people*: involve community members in most or all phases of the research process

epistemological and ethical issues raised in the previous section. Engagement-driven citizen science tends to be qualitative in nature but is not limited to qualitative research methods. Arguably, the most compelling and effective types of this form of citizen science are driven by mixed and multi-method modalities of data collection. Scholars and stakeholder groups have also identified key characteristics for the kind of engagement-driven citizen science that is embodied in *by the people* projects (see, e.g. Box 22.1: European Citizen Science Association's Ten Principles of Citizen Science (ECSA (European Citizen Science Association), 2015; Robinson et al., 2018)). These principles can serve as a guiding research framework and contribute to the development of best practices for citizen science *by the people*. We now take a closer look at the most participatory forms of knowledge co-production achieved through *by the people* kinds of citizen science, particularly the *Our Voice* citizen science method.

Box 22.1 European Citizen Science Association's Ten Principles of Citizen Science[1]

1. Citizen science projects actively involve citizens in scientific a endeavour that generates new knowledge or understanding. Citizens may act as contributors, collaborators, or project leader and have a meaningful role in the project.
2. Citizen science projects have a genuine science outcome.
3. Both the professional scientists and the citizen scientists benefit from taking part.
4. Citizen scientists may, if they wish, participate in multiple stages of the scientific process.
5. Citizen scientists receive feedback from the project.
6. Citizen science is considered a research approach like any other, with limitations and biases that should be considered and controlled for.
7. Citizen science project data and meta-data are made publicly available, and where possible, results are published in an open-access format.
8. Citizen scientists are acknowledged in project results and publications.
9. Citizen science programmes are evaluated for their scientific output, data quality, participant experience, and wider societal or policy impact.
10. The leaders of citizen science projects take into consideration legal and ethical issues surrounding copyright, intellectual property, data sharing agreements, confidentiality, attribution, and the environmental impact of any activities.

[1] Originally published in 2015 by the European Citizen Science Association (https://doi.org/10.17605/OSF.IO/XPR2N).

22.3 What Are the Fundamental Elements and the Key References of the Proposed Approach?

The *Our Voice* citizen science method offers a theoretically supported and scalable 'bottom-up' research-to-action approach that engages residents as agents of change in their own communities (King et al., 2019). *Our Voice* is situated within a socio-ecological framework of impacts, spanning person- to policy-level outcomes (Sallis & Owen, 2015). It is informed by behavioural, social, and environmental theories of change including social cognitive theory (Bandura, 2001), self-determination theory (Ryan & Deci, 2000), and implementation science aimed at maximal scalability (Damschroder et al., 2009). It also builds upon photovoice techniques (Wang et al., 1998), which have been used by researchers to extend the qualitative richness of individual interviews and focus groups, and go-along or walking interviews, which help place qualitative interviews into time and space (Carpiano, 2009). Importantly, *Our Voice* citizen science uses mobile technology and capacity development among lay people to facilitate community data-driven advocacy around community-level social, economic, and political determinants of health.

The *Our Voice* method was developed by interdisciplinary researchers at Stanford University who found that traditional applications of citizen science and other research tended to be 'scientist-centric' and that many forms of participatory research focused on the perceptions of organizations identified as community stakeholders or other 'gatekeepers', as opposed to the unfiltered perspectives of the community members. To address these issues, the researchers sought to develop new ways of supporting data collection directly by community members as citizen scientists and alternative processes of data analysis and interpretation that could give new authority and legitimacy to participants' lived experiences and the challenges and barriers faced when attempting to lead healthful lives. By directly involving citizen scientists in telling their stories, the researchers hoped to mitigate bias from gatekeepers or group dynamics that could otherwise reinforce the views of individuals in the community already in power (Cooke et al., 2001; King et al., 2021b).

The resulting *Our Voice* method features four distinct phases of engagement with citizen scientists. Following a preparatory phase of identifying preliminary research questions or topics (e.g. physical activity, healthy food, safety, environmental justice), citizen scientists are first engaged in data collection during community walks or other types of daily activities, where they take photos and record audio or text-based narratives about aspects of the built and social environments which are important or relevant to them. To facilitate this process, researchers developed a simple and adaptable mobile application called the Discovery Tool, to enable easy and systematic data collection (Buman et al., 2013). Second, after data collection, *Our Voice* citizen scientists are invited to participate in facilitated community meetings focused on data analysis, interpretation, and prioritization. In the meetings, the group members review their collective data, identify key themes, generate ideas for change, and prioritize action steps. Third, citizen scientists present their findings and recommendations to relevant local decision-makers and stakeholders. In a final phase, citizen scientists work with these and related decision-makers and stakeholders to activate specific changes based on their findings.

Recent applications of the *Our Voice* method also have identified a potential additional phase, occurring between the second and third phases, where the citizen scientists work with project researchers and/or organizational facilitators to actively ‘visualize’ their results in compelling ways to enhance communication and stakeholder activation. Such data visualization strategies could potentially be enhanced through applications of current state-of-the-science digital approaches such as portable virtual reality or augmented reality platforms.

Our Voice was first used in a pilot study in East Palo Alto, California (Buman et al., 2012). In contrast to its rapidly gentrifying surroundings of Silicon Valley and the San Francisco Bay Area, East Palo Alto has historically been a racially and ethnically diverse, low-resource community. In this study, citizen scientists were engaged to identify aspects of their food and physical activity environments that could be improved by taking photos and audio narratives during neighbourhood walks, discussing these data in community meetings, and using their findings to advocate for changes to local policymakers. This served as a model that was further developed and refined and has now been used to engage diverse citizen scientists aged 9 to 95+ years across the United States and globally (King et al., 2020, 2021b; Odunitan-Wayas et al., 2020; Rosas et al., 2016). The *Our Voice* method has successfully catalysed changes such as improved infrastructures to support walking and biking, enhanced access to public transit, improved park access and safety, and increased availability of and access to healthy food (Sheats et al., 2017; Winter et al., 2014; Zieff et al., 2018).

These examples showcase the flexibility of this approach in terms of useful applications across the lifespan, geographies, research questions, and community-level resources. The growing *Our Voice* evidence base provides support for its ability to engage multicultural communities and those often underrepresented in research and collaboratively work on addressing issues of equity, access, and inclusion. In addition, *Our Voice* citizen scientists have reported increased feelings of empowerment and social cohesion (King et al., 2020, 2021b). The civic engagement ‘ripple effects’ emanating from this method have been documented, with a number of citizen scientists extending their civic engagement past the life of the initial project (Sheats et al., 2017; Winter et al., 2014).

The future of *Our Voice* citizen science involves additional refinement of methods and measures employed by researchers and practitioners and informed through continuing collaboration with community members. For instance, researchers are developing ways to measure longer-term ‘ripple effects’ or impacts of citizen scientists’ efforts (especially those involving advocacy for social and environmental changes) through applications of ripple effect mapping methods (Chazdon et al., 2017); integrating data from biological and environmental sensors (Chrisinger & King, 2018) and other technologies to track impacts on health and well-being; and combining locally relevant contextual data with big data sources (e.g. Google Street View). These are among a number of new opportunities for innovation and methodological advancements in this field.

22.4 How Does This Approach Contribute to Structuring the Field of Health Promotion Research?

Engagement-driven citizen science approaches like *Our Voice* offer several advantages to health promotion researchers. These advantages include adaptability, operationalization of multi-level research, empowerment and capacity development, and translation of research into 'real-world' change.

Adaptability Citizen science methods like *Our Voice* are useful beyond the familiar suite of health promotion investigations (e.g. walkability, healthy food access) and adaptable to emerging issues such as environmental justice, planetary health, climate change, and health equity (Graham et al., 2021; King et al., 2021b). *Our Voice* provides a systematic and scalable method for engaging community members as well as organizations as partners in the full spectrum of research processes. Investigations might be embedded within larger research projects, including behavioural interventions or randomized trials (King et al., 2021a), or initiated as standalone exploratory projects.

Operationalization of multi-level health promotion research Despite increasing popularity and demand for multi-level health promotion efforts and interventions rooted in the socio-ecological model, most research typically is not 'transversal' across levels of influence or impact. Instead, most research addresses the different levels in a rather static or abstracted way that separates them from meaning (King et al., 2021b). Engaged methods of citizen science like *Our Voice* provide methods for co-creating knowledge across these levels and encourage participants to consider ways that individual-, community-, and policy-level changes could happen.

Empowerment and capacity development A key principle of health promotion research involves participation and involvement of stakeholders throughout the process (Grabowski et al., 2017). When citizen scientists participate in the various stages of the research, they are likely to be represented in the solutions or intervention designs that emerge. Additionally, engagement in the research process can lead to increases in trust in science and scientific institutions. In engagement-driven projects, this kind of participation and involvement has led to individual-level outcomes (i.e. direct benefits to the citizen scientists or participants themselves) such as increased feelings of personal self-efficacy or agency, enhanced social cohesion, improved self-esteem and academic engagement, pursuit of higher education, positive changes in prejudices and bias, and others (Graham et al., 2021; King et al., 2021b; Rodríguez Espinosa et al., 2020). Many *Our Voice* projects have identified increases in participants' capacity around research, advocacy, and community engagement, increased knowledge around socio-environmental determinants of health, and increased self-efficacy and comfort engaging with decision-makers (King et al., 2016, 2021b).

Furthermore, engagement-driven models of citizen science can embody a positive health concept that goes beyond disease to encompass broader well-being and thriving in one's environment. By employing open prompts during data collection phases (e.g. 'what factors contribute to leading a healthy life in your community'), *Our Voice* projects are able to explore participant conceptualizations of health as well as personal and community assets that support health and well-being. *Our Voice* and similar citizen science methods might also be a useful entry point for researchers and citizen scientists to start thinking about intersectionality and the politics of representation.

Translating research into 'real-world' change Through participatory methods like *Our Voice*, citizen scientists can gain insights into how the social and physical environments shape their health and collaborate with others to change policies to improve health and well-being for themselves and their community. Previous *Our Voice* projects have witnessed continued advocacy by citizen scientists beyond their presentation of findings and ideas to local stakeholders. Thus, engagement-driven citizen science not only provides rich insights into local conditions and priorities (which alone might be meaningful for local leaders or policymakers) but can generate broader constituencies of engagement with respect to future plans, activities, or policies.

22.5 Conclusion

Health promotion researchers face an exciting data-rich world for imagining new kinds of research approaches and areas of inquiry to better understand health behaviour. Within this new ecosystem, however, exist critical challenges for situating empirical findings within the everyday lives of individuals and communities and grappling with structural inequalities in research and practice. Without addressing these challenges, researchers risk overlooking key contextual and behavioural influences that may further marginalize disadvantaged and underrepresented communities. Not only can engagement-driven models of citizen science help unpack these dynamics, but they also provide adaptable and scalable opportunities for meaningful participation beyond what traditional models of research entail. These alternative models of generating new knowledge show how researchers can play a key role in promoting health equity by acting as part of larger, more democratized constituencies that are essential to creating a healthier world.

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Chapter 23
Principled Health Promotion Research: A Comprehensive and Action-Oriented Approach

Dan Grabowski, Jens Aagaard-Hansen, and Bjarne Bruun Jensen

Key Concepts Definitions

- *Principled Approach*: A principled approach for research is a normative framework designed to create a common culture between all the people involved in the action research (people, professionals, researchers). The five health promotion principles (a broad and positive health concept, participation and involvement, action and action competence, a setting approach and equity in health) aim to help health promotion researchers to implement action-oriented and user-friendly research frameworks.

23.1 Background and the Main Health Promotion Research Challenges that we Address

'Health is created and lived by people within the settings of their everyday life; where they learn, work, play and love' is a frequently quoted passage from the Ottawa Charter (WHO, 1986). Accordingly, researchers in health promotion point to the importance of positively involving various relevant settings and stakeholders

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in the intervention target group to promote competence-based, action-oriented, sustainable health and to prevent health inequalities (Poland et al., 2000; Green & Tones, 2004; Naidoo & Wills, 2010). Promoting health across a multitude of settings, and thereby increasing the complexity of the approaches, also increases the demand for complexity-oriented means of understanding, interpreting and structuring the ways in which outcomes are processed, managed and implemented (Sparks, 2013).

The background of the five principles, which will be introduced later in the chapter, derives from critique of the so-called moralizing paradigm that has long characterized much of the work conducted within the field of health promotion, prevention and treatment. This paradigm is characterized by being expert-driven as opposed to user-driven, by its narrow focus on creating pre-defined behaviour changes and by exclusively focusing on avoiding or reducing the risk of disease and death (Jensen, 1997).

This critique is closely related to the discussion about old public health vs. new public health (Frenk, 1993). In the wake of the Ottawa Charter, the aim of health promotion, according to Kickbush (2003), was to combine a social determinant approach (the old public health) with a commitment to individual and community empowerment (the new public health), and these are the characteristics we have tried to operationalize below with the set of five principles. During the 1990s and 2000s, it became even more apparent that the moralizing approaches did not provide the intended effects. At the same time, more focus was being placed on other health dimensions, such as quality of life, wellbeing and social capital. Consequently, various alternative mindsets started to emerge, with terms such as empowerment (Tones & Tilford, 2001), salutogenesis (Antonovsky, 1987), health literacy (Kickbush, 2002; Nutbeam, 2008), self-efficacy (Bandura, 1977) and action competence (Jensen, 2004), which have gradually established themselves as part of the professional vocabulary of health promotion practice and health promotion research.

Furthermore, the first phase of health promotion practice and research has contributed to separate prevention, health promotion and treatment as fundamentally different methodologies or even paradigms. We consider this distinction to be unfruitful, and the principles described in this chapter can be operationalized to work and create effectiveness across the whole spectrum of primary, secondary and tertiary prevention. We highlight this by discussing how the principled approach can potentially generate meta-knowledge on the potential aims and scope of health promotion.

23.2 Why Should We Use This Approach in Health Promotion Research?

The principled approach, *Health Promotion version 2.0*, enables us to consolidate hitherto disparate approaches into one comprehensive perspective. Taking the case of health promotion in relation to diabetes, it includes prevention, diabetes management, treatment and early diagnosis and more generally to the areas of primary, secondary and tertiary prevention. On the one hand, we acknowledge that health promotion, disease prevention and disease management have different objectives as well as different target groups. On the other hand, interventions and activities from the whole range of primary, secondary and tertiary prevention will benefit from the knowledge generated by using the five principles as a research epistemology.

For example, focusing on the concept of dialogue-centred participation (defined as neither top-down nor bottom-up) enables the development of innovative and user-friendly strategies for the entire healthcare sector. Similarly, using the setting principle in health promotion research makes it possible to link structural prevention and the concept of 'nudging' to educational interventions and skill-enhancing development in the target group. For example, developing an evidence-based approach consisting of access to a healthy range of food in the canteen at the workplace combined with the development of health-related action competence among staff members will increase the likelihood of generating synergy between the different interventions.

It is one thing to conduct innovative research and develop new approaches – it is something quite different to implement these innovations in a sustainable way, but this implementation still needs to be research-based. Implementation science offers theoretical approaches providing a better understanding of, and explanations for, how and why implementation succeeds or fails (Nilsen, 2015). Contemporary implementation research, furthermore, seeks to understand and work within real-world conditions, rather than trying to control for these conditions or to remove their influence as causal effects (Peters et al., 2014). Our principled focus on settings has meant that we have an inherent research-based focus on securing successful implementation of research results and interventions – thereby linking health promotion research to health promotion practice.

23.3 The Fundamental Elements of the Five Guiding Principles as an Overall Framework

23.3.1 Principle 1: A Broad and Positive Health Concept

The underlying formulation of the 'broad health concept' entails the fundamental assumption that humans are influenced by cultural, economic and social contexts (WHO, 1991). Contemporary health problems are therefore embedded in societal structures. This means that lifestyle and its health-related consequences cannot be addressed independently of living conditions and that a given intervention must target lifestyle as well as living conditions.

Our understanding of the notion of 'positive' stems from the World Health Organization's (WHO) definition of health from 1947: 'Health is a state of complete physical, social and mental wellbeing, and not merely the absence of disease or infirmity'. This definition includes the concept of wellbeing to indicate the positive aspects of health and quality of life. However, it is important to note that WHO's positive definition still includes absence of disease as one of the dimensions of health. In other words, the positive definition, which includes wellbeing as well as disease dimensions, is more inclusive than the negative one, which merely focuses on absence of disease, while still emphasizing the importance of preventing being or becoming ill (WHO, 1986).

Figure 23.1 summarizes the definition of 'positive' and 'broad', with the vertical axis representing the difference between positive and negative and the horizontal axis representing broad versus narrow. The two concepts can be combined in four different ways, and the figure therefore illustrates four different possible health concepts. The health promotion approach outlined in this chapter uses the health concept found in Square 4.

The use of the positive and broad health concept has clearly demonstrated how risk of disease and disease-related complications cannot be treated independently from psychological and social factors. Thus, a positive wellbeing-oriented approach has been demonstrated to also be a productive way of lowering risks and preventing disease, and it paves the way for participation and development of ownership – which takes us to the next principle.

23.3.2 Principle 2: Participation and Involvement of the Users

Participation is perhaps the most central of the health promotion principles, in the sense that sustainable health promotion change can only take place if the target groups have the opportunity to develop ownership by being actively involved in the processes from the outset (Grabowski et al., 2017). The notions of participation and

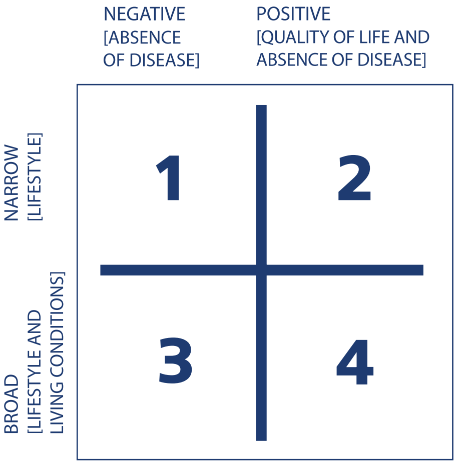

Fig. 23.1 The positive and broad health concept

involvement often mean many different things to different groups of health professionals, such as involvement, inclusion, co-creation, patient-centric approach, user involvement, user-driven approach and co-determination, but they all aim at developing ownership among people in the target group.

This principle highlights the fact that development of ownership is not necessarily determined by those who take the initiative. Ownership may well occur in the subsequent stages of the intervention process. A situation in which health professionals initiate a process by proposing a range of action possibilities, which are then developed and modified by the target group (e.g. schoolchildren), may allow for greater involvement and strengthened ownership and empowerment. The focus on developing ownership, thus, shifts from 'initiative' and 'bottom-up' to 'dialogue' and 'co-creation'.

During this dialogue, it is both the right and the duty of health professionals to contribute their professional knowledge, shape the dialogue and provide their own opinions. However, the dialogue must facilitate discussions about mutual expectations and active participation in the decision-making process as well as ensure that it is mutually respected by the participants and the professionals. Consequently, this health promotion principle signals an alternative pathway between top-down and bottom-up, dialogue and shared decision-making, where both the target group and professionals have important roles to play.

Described in this way, a participatory approach in health promotion is on the one hand informing health promotion research and on the other hand constituting a participatory approach in the research processes. Such a participatory approach contributes to develop and shape new health promotion interventions that are tailored to the needs and capacities of the target group in focus.

23.3.3 Principle 3: Action and Action Competence

A range of important health promotion concepts and approaches like empowerment (Freire, 1992), sense of coherence (Antonovsky, 1987), self-efficacy (Bandura, 1977), health literacy (Nutbeam, 2008, Kickbush, 2002) and action competence (Jensen, 2004) represent, in different ways, a resource-oriented perspective on health issues. The action competence approach comprises the five components described below. These components constitute the elements necessary to achieve a high level of what we choose to call 'action competence', i.e. people's competence to take action towards controlling and improving their own health and changing their living conditions in a healthier direction (Jensen, 2004) (Table 23.1).

Action experience – i.e. direct experience with changing one's own life or living conditions – constitutes a core element of action competence. A health promotion approach aimed at strengthening action competence should, therefore, allow target groups to be involved with authentic issues and challenges in order to utilize the learning potential that emerges in real-life actions.

Table 23.1 Main elements in action competence.

Insight: A broad, positive and action-oriented understanding of health, including insight into effects, causes and change strategies within the health area
Commitment: The desire and motivation to get involved in change processes with a view to promoting health
Vision: The ability to think creatively and have a vision while allowing oneself to be inspired by other scenarios
Action experience: Experience of undertaking change processes at both individual and collective levels, including tackling and overcoming any barriers.
Critical sense: The ability to critically question information before accepting it and drawing reasonable conclusions

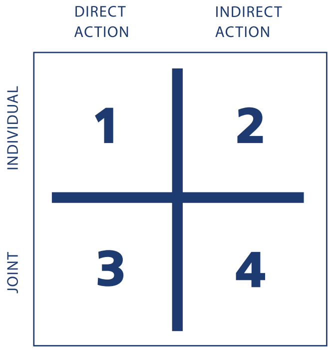

Fig. 23.2 Four different categories of action

Figure 23.2 can be used to systematize opportunities for action with regard to a given health problem. The figure highlights the fact that individuals can act alone or collectively as a group. Furthermore, the action can be direct (e.g. by trying to change their own behaviour) or indirect (e.g. by changing the opportunities in their local area or at the workplace). Thus, the figure provides four different forms of action for change, all of which should be examined and considered when a particular target group is working with a given health problem (Jensen, 2004).

To illustrate the figure's applicability, it can be said that people's own efforts to change their eating habits are placed in Square 1, while a situation in which individuals are seeking inspiration and support from other individuals for maintaining a healthy lifestyle belongs in Square 3. A person who joins a board deciding on available meals at the workplace canteen is an example of Square 2. Square 4 characterizes a form of 'action' where people jointly try to influence the general context of their daily lives, for example, by creating an opportunity to engage in exercise in their local community or at their workplace.

The framework in Fig. 23.2 has been applied in practical health promotion processes with various groups of participants for brainstorming to provide as many as possible opportunities 'to act' in each of the four squares for a given health-related issue. This could, for example, be related to physical activity and exercise, where employees make suggestions for their own exercises, which could be carried out during their break at the workplace. Alternatively, it could also lead to ideas for environmental restructuring of a workplace, thus developing opportunities to enhance movement.

While conducting health promotion research aiming at developing new interventions, it is important to bear in mind both dimensions of the model, such as encouraging individuals to take action regarding their own health as well as facilitating social actions to improve the environment in which people live. In this sense, this principle is key to informing health promotion research.

23.3.4 Principle 4: A Setting Approach

Our daily lives and practices are influenced by the general context in which we live. This was underlined by WHO's Ottawa Charter for Health Promotion in 1986, which still stands as one of the core documents in the area of health promotion (WHO, 1986).

The literature often describes the setting approach as one that is organic, ecological, integrated, coherent or holistic. The underlying aim of any given intervention is to encompass educational components as well as modification of the surrounding context within which educational components operate (Dooris, 2012; Whitelaw et al. 2001). Examples of interventions to include in health promotion could be the environmental restructuring of, e.g. the school classroom, the preschool playground, the local community centre, the physical and aesthetic environment of the clinic or the training rooms at a municipal prevention centre. Here, it is essential to focus on how physical and social structural environments can work in synergy with health education. For example, one could address how the immediate physical environment should be restructured so as to increase opportunities and motivation in actively engaging participants to share their experiences, e.g. does placing tables and chairs in a certain setting influence participation and motivation? What environmental conditions create a pleasant atmosphere that has positive effects on motivation? How should the physical surroundings be organized to optimize the desire to exercise among people attending a municipal prevention centre?

Finally, people live in and move between different settings every day (e.g. neighbourhoods, workplace, the shopping malls). The concept of the 'supersetting' (Bloch et al., 2014; Toft et al., 2018) values the potential of using and utilizing these single settings as one integrated unit in a given intervention. This means that the various contextual elements of any intervention should not be seen in isolation, but instead as one joint integrated intervention setting. The supersetting approach thereby seeks to achieve synergistic effects from activities that are carried out in multiple settings in a coordinated manner. The supersetting principle has crucial implications for both health promotion practice and health promotion research as both activities will benefit from being conducted in close relationship to the everyday life of the concrete target group.

23.3.5 Principle 5: Equity in Health

This fifth principle, which aims to increase equity in health, is strictly speaking not a methodological principle in the same sense as the four other principles. Rather, it is an ideological perspective and a core value that all projects and all of the other four principles should take into account.

There is no doubt that individuals from socially disadvantaged groups generally face more health problems and are at higher risk of developing chronic conditions such as type 2 diabetes (T2D). It is also well known that practically all methods used in prevention and health promotion are less effective in individuals who have access to fewer resources (Commission on Social Determinants of Health, 2008). In other words, there is a need to direct our attention towards those who are most vulnerable and to try to understand how they can benefit as much as other groups and how specific structural constraints can be addressed to optimize their situation.

The fifth principle focuses on developing and designing tailored methods and approaches that can fulfil the unmet needs of specific groups, such as residents in socially disadvantaged areas, or vulnerable individuals with diabetes, e.g. from ethnic minority groups or people with multi-morbidity. The rationale for integrating this principle into the intervention paradigm with the four other principles is that those who, for various reasons, have limited resources are also expected to gain more from a participatory approach based on a positive, broad concept of health. However, the principles should be modified and applied in accordance with the actual resources available to specific target groups within their local contexts.

The set of principles described in this chapter have been developed and tested at the Health Promotion Research Unit at Steno Diabetes Center Copenhagen through a large number of projects focusing on primary, secondary and tertiary prevention in the areas of diabetes prevention and diabetes management. In practical terms, the reference to the five principles has been administered in a flexible manner, where it is not mandatory to apply all five principles in all projects. But they serve as the golden standard against which new projects are developed, assessed and implemented. The case in the textbox illustrates one of these projects.

Case: The Family Toolbox – An Exemplary Case of a Health Promotion Research Project Operationalizing All Five Principles

The Family Toolbox is a concrete example of a health promotion initiative that is based on research on all five health promotion principles. The Family Toolbox consists of a set of hands-on health promotion tools designed to generate mutual involvement in families living with T2D. The four research-based tools are:

1. *The Family Mirror: Inviting the participants to construct an image of themselves and a family member using cards with pictures and quotes*

(continued)

regarding support, everyday life, worries, roles, communication and knowledge related to life with T2D. This is intended to help participants reflect on and discuss challenges and opportunities in the family.

2. *The Family Book: Preparing for interactive reflection on various aspects of daily family life while giving the participants practical knowledge and information about T2D. The book can be read at home or used as a communication tool in patient education for families.*
3. *The Family Line: Enabling family members to show each other how big a part diabetes plays for them in daily life and how big a part diabetes should play, which can initiate dialogue on T2D in daily life.*
4. *The Family Plan: Enabling and supporting the family in identifying challenges and solutions related to T2D and on that basis establishing specific objectives and plans for how they will improve or positively retain important elements in their daily life. Below follows a description of how each principle is integrated into the health promotion tools:*

The broad and positive health concept: psycho-social dimensions within the family

In the Family Toolbox, themes such as physical, social and mental wellbeing, or a lack thereof, are addressed in relation to both life with T2D and life with a close family member with T2D. The focus is on helping participants achieve greater satisfaction with managing diabetes within the family, with the participants' social and physical frustrations, concerns and challenges all articulated. At the same time, the Family Toolbox focuses on finding opportunities for lifestyle changes based on the participants' contextually defined wishes and needs.

Participation and involvement of the target group: families contribute their own issues of concern

A strong element of the tools is to enable the families' genuine influence on the health promotion process, thereby making the content authentic and relevant to them. The tools were developed with a view to creating an open space that allows participants to bring up issues of concern and interest to them – issue they have the opportunity to discuss in various dialogical contexts. In most cases, this will generate ownership and a heightened sense of participation. At the same time, healthcare professionals are given an opportunity to let participants work on the issues that interest them, thus helping the family to find a solution or answers to the specific issues that concern them in their family life. This means that the Family Toolbox works with involvement on two separate (but strongly interconnected) levels, by focusing on (1) intra-familial involvement in family health and everyday life with T2D and (2) the family's involvement in the health promotion processes facilitated by the healthcare professionals.

(continued)

Action and action competence: opening up realistic everyday spaces for action
The Family Book aims at inspiring families to take action by presenting relevant and easily identifiable areas of action. It does so by introducing knowledge in interactional ways that are focused on generating interest, motivation and vision based on the families' feeling of being able to relate to these potential methods of behaviour change.

The healthcare professionals' facilitation of the Family Toolbox involves trying to open up this space for action and support the participant in his/her action competence by finding ways to enable the action. This element is present in all four tools. If, for example, a family member expresses a wish to be more physically active, the healthcare professional may attempt to involve the other family members in coming up with ideas for where and how this extra activity could take place, thus trying to open up the individual and familial space for action.

In other words, the tools in the Family Toolbox pave the way for increasing participants' action competence by specifically identifying what actions the participants want to perform as well as specific ideas for how these actions can be performed.

The setting approach: the family setting constitutes specific potentials and barriers
All four of the dialogue tools in the toolbox are developed to promote the type of communication that gives healthcare professionals a good picture of the particularities of the individual family setting. Even more importantly, intra-familial communication also enables the family to get a strong sense of the barriers and potentials existing within their own family.

In addition, the inter-familial communication that occurs when several families work together with the tools is important in identifying barriers and possibilities in broader health promotion settings such as the local community or neighbourhood. By exchanging ideas and knowledge about ways to be physically active or where to buy healthy food, families acquire a new picture of their local area from a health promotion perspective.

Equity in health: different learning styles in a diverse target group
When developing the tools, we found that different learning styles were dominant in families from different social classes, so we made sure that each tool appealed to different learning styles – auditory, tactile, visual and kinaesthetic. In the Family Mirror, we included pictograms to make sure the tool was not too wordy, and in the Family Book, we wanted the various topics to be presented though practice-oriented exercises, games and more traditional

(continued)

> *written forms. In the instruction manual, we made a point of describing how healthcare professionals needed to focus on how the toolbox sessions can be facilitated, so that all participants are genuinely motivated and involved, regardless of their social background.*
>
> *Apart from the potential societal inequities, the tools are focused on avoiding intra-familial inequalities. In many families, the T2D diagnosis creates health behaviour differences within the family, resulting in different rules and practices that distorted everyday life and the possibility of making joint decisions on health behaviour change. It is a main aim of the entire toolbox to avoid or reduce intra-familial health differences by implementing strong health promotion principles in the Family Toolbox.*
>
> (Grabowski et al., 2019)

23.4 Main Contribution to the Field of Health Promotion Research

The five principles described and exemplified above come together to form a coherent framework, which we term ‘Health Promotion version 2.0’. Although the principles are described as five distinct concepts, they are interlinked in reality and operate in a synergistic way. For instance, the first principle that emphasizes the ‘positive’ aspects of health helps to involve target groups in genuine ways, and this principle is once again a fundamental condition for developing ownership, action competence and empowerment. To sum up, this coherent framework is characterized by the following three *methodological* dimensions, which are both important for health promotion practice and health promotion research (Table 23.2):

The principled approach opens the doors to overcoming the often sharp and unfruitful distinction between health promotion, on the one hand, and prevention and treatment, on the other (Grabowski et al., 2017). Referring to this distinction, health promotion is often viewed as a bottom-up approach, while prevention and

Table 23.2 Main characteristics of health promotion principled research.

A health concept addressing wellbeing as well as disease components. In prevention and disease management interventions, it is crucial also to include wellbeing and quality-of-life dimensions to facilitate ownership among the target group
A participatory dimension employing a third way between ‘top-down’ and ‘bottom-up’ – represented by co-creation and a genuine dialogue between the target group and the health professionals
A setting dimension, where different settings are viewed as integrated intervention components working together to create coherence. The setting dimension also builds a bridge between the so-called individual and structural approaches in health promotion, as education and communication activities need to be supported and strengthened by contextual changes to facilitate synergy

treatment tend to be described as more didactic, top-down and medically oriented approaches. In contrast, the health promotion approach described by the five principles has proven to be an effective way of working simultaneously with healthy people, with persons at risk as well as with patients with a chronic disease. It has the potential to facilitate a healthier life and future with – and for – these groups, based on their needs, their health challenges and their resources and competences.

The comprehensive principled framework presented here is suggested as a research-based and practice-oriented approach for use in future health promotion research as it helps to (1) inform and focus future health promotion research in a more action- and user-oriented way in contrast to more descriptive projects; (2) make it clear that user involvement in research paves the way for the production of user-involving interventions and tools; (3) overcome the unfruitful distinction between health promotion and prevention/care by operationalizing the five principles in these areas and by working with health promotion principles in primary, secondary and tertiary prevention; (4) re-introduce professionals as important facilitators of participatory and dialogue-oriented approaches; and (5) demonstrate that health promotion and health promotion research consist in a coherent set of values and principles that are closely interdependent of each other.

Reflecting on the overall nature of the health promotion knowledge that is generated using the principled approach, it is beneficial to view the field of health promotion practice as an ontology and the set of principles as an epistemology. In other words, the ontology is the real-life and hands-on health promotion practice or maybe even the actual health promotion reality, whereas the epistemology is the lens through which we observe those practices. By keeping the five principles in mind (to varying degree), we guide our research projects to these five points that we have developed as a comprehensive approach. And by using the five reference points for developing health promotion practice, we ensure structured and systematical health promotion research and development based on specific and concrete health promotion knowledge.

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Chapter 24

Health Promotion Research in the School Setting

Lawrence St. Leger

Key Concepts Definitions

- *Education setting*: The school and its local community is a place where students, parents, teachers and local community professionals (e.g. health care, recreational) engage collectively to build student knowledge and cognitive and practical skills that create a strong foundation for the student to achieve competencies which underpin health throughout life.
- *Educational research*: Educational research is a large and complex area. It often begins with seeking to describe what is happening in the factors that influence student learning and then seeking an understanding about the many components of how students learn and the settings in which they learn. Educational research uses mixed methods with an increasing emphasis on what, how and why students perceive their educational experiences.
- *School health promotion*: School health promotion is the concept of the school and its local community designing and implementing a strategic set of programmes and policies to develop action competencies for students in the domains of physical, social, emotional, spiritual, environmental and intellectual health. It also addresses the physical and social environments of the school and relationships with the health sector and other community agencies.

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24.1 Introduction

Schools across the world have been used as a setting to build the health and education assets of children and adolescents. Initially, based on a health instruction model, health education became part of schools' curricula over 60 years ago. The Ottawa Charter for Health Promotion (1986) changed how schools thought about health issues. Informed by the Ottawa Charter, school health promotion initiatives in the last three decades have involved a mixture of policy actions, changes to the physical and social environments, increased involvement with the local community and its health agencies and services and a closer connection between actions to build both health and educational outcomes. Health promotion research in the school setting has now become a diverse and rich enterprise informing us about effective ways to enhance the health of children and adolescents within school communities.

This chapter explores the development of school health promotion initiatives from an evolutionary perspective on the objects, knowledge discovered, methods and ethical issues faced by the many research and evaluation studies in school health. It shows how school health promotion research has developed a sophisticated and ongoing evidence base to improve both the health and educational assets of students. It concludes with an identification of what makes school health promotion research distinctive.

24.2 The Development of School Health Promotion

Over 1.3 billion children and adolescents attend schools in more than 240 countries (Kolbe, 2019). Bundy et al. (2017) claim that in the overwhelming majority of countries in the world, there are more schools than health facilities, and rural and low socio-economic communities are more likely to have schools than health facilities. It is argued that the health and wellbeing of a country's population and its various communities are enhanced substantially by ensuring young people to attend and participate in learning within a school setting. Schools with programmes and policies that promote health have demonstrated higher rates of educational achievements and higher rates of school completions than those schools which do not (Vinciullo & Bradley, 2009). This is one of the reasons why the education sector has increased its emphasis on the significance of school health initiatives, particularly in the twenty-first century.

In most countries, until the 1950s, what we now know as health promotion or health education was really health instruction. It was often delivered in a didactic form by visiting health officials, usually doctors or nurses who were at the school to undertake health assessments. In many low-income countries, school health promotion, mainly in the form of health instruction, is still conducted by visiting health officials with some support from the teacher. However, in the last 50 years, with considerable support from international bodies such as UNICEF, UNESCO, WHO, World Bank and philanthropic organizations, there has been a notable and continuing improvement in resources and capacity building opportunities available to school communities.

Health education as an important component of the school curriculum developed significantly in the latter part of the twentieth century. External issues to the schools in many developed countries, such as the availability of illegal drugs, unintended pregnancies, increasing rates of sexually transmitted diseases, changes in food production and its marketing through different media, all encouraged governments and nongovernment organizations (NGOs) concerned with health to produce resources for schools and to advocate for school and community health promotion policies (Young, 2005; St Leger et al., 2007). Teacher training institutes provided pre-service and in-service courses about health issues to teachers and other school health personnel.

The Ottawa Charter for Health Promotion (1986) rejuvenated school health and took it in a more wholistic direction. Its five action areas complemented emerging research in the education sector. Evidence in the literature informed us about the diverse range of factors that impacted a student's learning outcomes, such as school leadership and management, teaching strategies, learning modalities, peer relationships and engagements with the local community. There was recognition that promoting the health and wellbeing of children and adolescents in the school setting was a key component of improving educational outcomes and extended well beyond the classroom. Research in the last 20 years is confirming that healthy students learn better and that health and educational goals are closely linked (Bonell et al., 2013; Pearson et al., 2015; Kolbe, 2019). Consequently, school health promotion gained more legitimacy within the education sector as it was increasingly being viewed as making significant contributions to learning outcomes.

Governments and peak bodies such as the WHO, the European community and the Centers for Disease Control and Prevention in the USA (CDC) facilitated the development of integrated actions for school health promotion. Their new frameworks and initiatives had names such as Health Promoting Schools (HPS), European Network of Health Promoting Schools (ENHPS) now called Schools for Health in Europe (SHE) and Comprehensive School Health Programs (CSHP) in the USA. The International Union for Health Promotion and Education (IUHPE) played a leading role in distilling the evidence about school health initiatives into two seminal publications: *Achieving Health Promoting Schools: Guidelines for Promoting Health in Schools* and *Promoting Health in Schools: From Evidence to Action* (IUHPE, 2009a; b). All these new frameworks possessed similar integrated building blocks that enabled schools and the education and health sectors to be more strategic and research-based to support schools in focusing on school health promotion to improve both educational and health outcomes. The WHO Health Promoting Schools (HPS) framework underpinned school health programmes and activities in the last 30 years.

Making the HPS framework explicit enables identification and exploration of the issues of health promotion research in the school setting, what kinds of knowledge the research generates, what research methods are used or not and what makes school health promotion research distinctive or not. The framework enables the substantial literature from school health promotion evaluations to identify those factors that facilitate or inhibit the translation of the research findings to be owned, understood and actioned by school communities.

Before exploring the many aspects of school health promotion research, it is vital to identify the various components that now appear to constitute the health and wellbeing of young people who attend school within the age range of 5 to 18. An exploration of the literature, for example, Maller et al. (2006), WHO (2009), Durlak et al. (2011), Fisher (2011), and Bundy et al. (2017), around the factors shaping student health identified six health domains. They are:

- Physical health: When the body is functioning as it was designed to function
- Emotional health: Self-esteem, security, self-actualization and the expression of emotions in assertive and respectful ways

  Social health: The relationships and interactions an individual has with others and with social institutions
- Spiritual health: The way individuals seek and express meaning and purpose and the way they experience their connectedness to the moment, to self, to others, to nature and to the significant or sacred
- Environmental health: The components of the natural and built environments (physical, chemical, biological) affecting individual behaviours and physical states
- Intellectual health: The cognitive capacities, particularly the ability to access knowledge, understand, analyse, synthesize, evaluate and create

It is all these six components of health on which we need to focus when we promote and nurture the health of children and youth (St Leger, 2015).

24.3 What Makes Research in School Health Distinctive of Health Promotion Research?

This question is explored by considering:

- The objects of school health research
- The knowledge generated
- The research methods used
- The ethical issues
- The dissemination of school health research to influence policies and practices

24.3.1 What Objects of School Health Promotion Research Are Examined?

The objects of school health promotion research and evaluation and its sophistication have been steadily encompassing a broader range of health issues. The beginning of school health was primarily instruction about the health knowledge and associated behaviours. While there is still a focus on the student as the primary stakeholder, there have been an increasing number of studies which examine other student assets in addition to knowledge (Bonell et al., 2013; Pearson et al., 2015; Kolbe, 2019). For example, programmes in nutrition and healthy eating are now often assessed in terms of creating a healthy meal, food preparation, reading food labels and understanding and analysing the factors that influence a healthy diet. HPS and similar frameworks and their components that are grounded in the Ottawa Charter for Health Promotion now underpin the dimensions of research. These components are therefore the objects of research such as nutrition and dietary practices and require quite sophisticated and complex evaluation methods over considerable timeframes to reach conclusions, which may or may not be generalizable to other school communities (Keshavarz et al., 2010; Bonell et al., 2013; St Leger, 2015).

In addition to the growing body of school health promotion research and evaluation of students' cognitive competencies and behaviours as they relate to health, there has been an increased research focus on other objects which influence health, e.g. school leadership and management, local community resources, teacher competencies and commitment, family involvement in school-based programmes, efficacy of school health promotion initiatives and the validity of frameworks such as the Health Promoting School in facilitating coherent health initiatives (Moore et al., 2016; Cheung et al., 2020). These contextual factors of school communities have added to the distinctiveness of school health promotion research.

The variety of actors/stakeholders influencing school health promotion has created an increased complexity of conducting school health promotion research. In the last 20 years, there have been an increasing number of quality studies which have identified the many factors shaping school health promotion and what these influences might be. Some of these factors are evaluations of the students' social and emotional wellbeing, the type of leadership in the school and the ethos of the school including policies and practices (Iudici, 2015; Barnekow et al., 2016). This has further broadened the many and diverse objects of health promotion research in the school setting.

Examinations of the objects of school health research have shown a move towards assessing the advanced skill acquisition of students, increased studies of school leadership and family involvement and greater attention to exploring the social and emotional health of students. These are now a distinctive feature of school health research.

24.3.2 What Knowledge Does School Health Promotion Research Generate?

Little research about school health programmes was conducted before the 1950s. When it occurred, it was largely based on student knowledge acquisition with very few explorations of behavioural change. Most of this evaluation was school based and not done by research institutions. Consequently, there was little credible verifiable knowledge about the strategies that schools undertook to influence a student's health status and their behaviours.

In a comprehensive review of school health initiatives in the last 40 years of the twentieth century, Allensworth (1997) claimed that research towards the end of the twentieth century recognized there were multiple interactive components that had emerged in the literature that influenced actions to promote the health of students. These included classroom dynamics; teachers' knowledge, skills and experience; the student's family; local norms; and community resources plus those factors surrounding the student such as peer norms, self-efficacy, knowledge, cultural practices and the socio-economic status of the family and local community.

Evidence from the literature, particularly from quality meta-analyses, emphasizes objectives on knowledge acquisition and behavioural change by students with some increasing attention to associated improvements in concomitant educational gains. Examining health and educational outcomes are the two main areas of traditional school health research. Research has also focused on the adaptation and implementation of previously tested interventions by evaluating practice and policy changes in teachers, schools and regional government systems (Jamal et al., 2013; Horstman, 2019).

In one of the few meta-analyses about health promotion research in developing countries, Mukamana and Johri (2016) found there was research knowledge gathered from two fields. One was focused on students, where research was directed at gathering information about the changes from the health promotion intervention in students' knowledge acquisition and their improved health-related skills and behaviours. The other field examined the impact of the health promotion intervention in the local context where information was gathered about the social and physical environments of the school and the involvement of family and the local community.

It is asserted we have experienced a significant increase in the diversity of the knowledge domains from school health promotion research. The richness of this knowledge gained from and about individuals within the school and local community, in addition to the knowledge gained from and about the school context (policies, leadership, etc.) and its environments, social and physical, has provided us with substantial information on which to determine the efficacy of school health promotion and future research priorities.

24.3.3 What Are the Research methods Used to Understand and Evaluate School Health Promotion and What Makes Them Distinctive?

Students are frequently the focus of the research. Traditionally, student surveys pre- and post-health promotion programmes have been used. These usually focus on detecting changes in knowledge, attitudes and skills. Bruun- Jensen (2000) argued some years ago that a better term for skills is ‘action competencies’ which conveyed what health promotion wanted the students to actually do well through assessable and demonstrable behaviours. For example, skills in nutrition might be to read food labels, but an action competence is at a higher level and could be reading labels to create healthy food selections and prepare a balanced meal.

There has been a shift in school health promotion research as the importance of building the students’ social and emotional wellbeing has gained prominence as a fundamental health priority area for schools. This prominence has been largely due to the solid international evidence showing that improvements in the social and emotional wellbeing of students increase their health and significantly improve learning outcomes (Blum, 2004; Durlak et al., 2011; Weare, 2015; Taylor et al., 2017). Research methods used to explore the effects of school health programmes in social and emotional wellbeing include interviews, focus groups and questionnaires. In a detailed and comprehensive meta-analysis of school-based social and emotional programmes, Fabiano et al. (2014) found methods ranging from descriptive observations, longitudinal studies and randomized trials, plus those that looked at the integrity and fidelity of the programme.

Beaudoin (2011) examined 20 years of published research studies from 1989 to 2009 in the field of school health. She found that 38% were quantitative, 21% were qualitative, 34% used mixed methods and 7% were situation review. When Beaudoin probed what specific techniques were used, she found 48% used questionnaires, 27% document analysis, 15% interviews and 13% focus groups. She also found studies published towards 2009 showed a substantial increase in research focusing on teachers, parents and school administrators rather than only on students, which demonstrated a recognition of the diversity of factors in how student health and wellbeing is influenced in the school setting.

School health promotion research in the third decade of the twenty-first century draws on not only research models from the health field but has also embraced in an integrated way educational research frameworks and also those in the creative arts domain. It is argued this breadth of research sources gives us a deeper understanding of school health promotion and is distinctive in its complexity.

24.3.4 Ethical Issues in School Health Promotion Research

Health promotion researchers are faced with many challenges to undertake research in the school setting. This section looks at ethical issues and the challenges presented.

Felzmann (2009) claims the majority of research on children takes place in the school setting. Many stakeholders are involved. These include peak government education authorities, school administrators, teachers, parents/guardians and the student themselves. For research to begin, most, if not all, of these stakeholders need to give informed consent. Baylis et al. (1999) argues that students can only give 'assent' which is the informed agreement by the student appropriate to their cognitive and social development.

There are sequences in obtaining approval from these various stakeholders, and the approval process before research can take place is long and complex. When approval is given, researchers often find there are different expectations of teachers and researchers about the purpose of research (Konza, 2012). The school and classroom as research sites are in conflict about the classroom being an uninterrupted place of learning. In an important analysis of classroom organization and management, Doyle identified a variety of properties that exist in all classrooms in both primary and post-primary schools. There are ranges of cognitive abilities, teaching and learning styles, histories and unpredictability in classroom interactions in addition to the physical setting (furniture, noise, light, colour, fresh air, etc.).

All the above factors have complicated the ease of gaining permission for health promotion research in school communities and also sustaining the commitment of the school to the health promotion interventions which may be of a year or several years' duration.

Health is not the only contemporary area needing the school and its students as a site for research. Research into environmental literacy, financial literacy and digital literacy, among others, are competing for 'research space' where there are ongoing pressures from education authorities to improve numeracy and literacy in addition to continuing improvements in educational outcomes such as further study and employability. Educational managers centrally and in schools act as gatekeepers when deciding what research take place in schools. They too are faced with ethical decisions about priorities. The acceptance now that health and education are closely intertwined may enable research into school health promotion to take place more readily. In some countries, 'social and emotional learning and wellbeing' could be considered as a relevant entry point for researchers since this area is more and more recognized as being a key condition for education achievement.

24.3.5 *Dissemination of School Health Promotion Research to Influence Policies and Practices*

It is frequently the case that the outcomes of the quality research in the literature are not conveyed to school's stakeholders in ways they can understand and use. This is one of the barriers to inculcating school health promotion within schools over many years. The question of how to disseminate knowledge must be asked.

Over 8 years in the 2000s, I was the chair of a Medical Research Institute at a very large health organization which comprised hospitals, clinical research centres, palliative care, community outreach programmes and collaborations and partnerships with universities and independent research centres. The Institute had an oversight of health (mainly biomedical) research activities and how the findings were disseminated in the literature and to staff and departments in the health organization. The Institute was advised how this evidence sharing altered policies and practices within the whole organization. Staff within the organization presented the findings of their research to their colleagues in structured seminars and workshops in addition to publishing in peer-reviewed journals. I was impressed as a non-trained clinician how the research findings were disseminated, discussed and eventually incorporated into appropriate practices and policies.

This contrasts markedly with how health promotion research in the education sector, where schools are the site of the research, stays mainly in the research literature. I began my professional life as a trained post-primary teacher before gaining further qualifications and working in the government health sector. I then moved to universities to undertake research and teaching in health promotion with a research focus on school health promotion. As a schoolteacher, I was never informed about the research in effective teaching and learning strategies I could use with my students. In the last 20 years, I have spent considerable time advising both health and education ministries in high- and low-income countries about how they may use research evidence to improve what they do to promote the health of school students. This has worked very effectively when the country/region uses an evidence-based and authenticated HPS framework such as those developed by WHO and IUHPE. But in countries, regions and schools where there is no such framework, just the enthusiasm and commitment of a few teachers and school administrators with limited resources, undertaking change over a considerable time period has been problematic. In the education sector, there is not the universal culture and tradition of research dissemination, translation and adoption or adaptation than there is in the health sector. Promoting health in schools has suffered because of this.

Successful school health initiatives have happened in the 1990s and the first two decades of the twentieth century particularly in Canada, Europe, Asia (mainly Hong Kong and Taiwan), the USA, New Zealand and Australia. Crucial to the success of school health in these countries, their regions and schools has been the influence of national guidelines and policies plus a number of health promotion champions in government agencies, universities and schools. The research evidence about change and for successful innovations in the school setting identifies the necessity of leadership, frameworks, policies, professional development and programme champions at all levels and adequate resources. It also shows school systems with more decentralized and democratic systems are more prone to embrace school health promotion initiatives than school systems that are more centralized (IUHPE, 2009a; Barnekow et al., 2016; Chen & Lee, 2016; Bundy et al., 2017; Lee et al., 2020).

But the lack of widespread dissemination of school health promotion research is unfortunately a distinguishing characteristic.

24.4 Conclusion

This chapter has explored the developments in school health and examined the diversity of research objects, methods and issues in the myriad of research and evaluation studies across many disciplines and topics pertaining to the population groups of children and adolescents within the school setting. But what makes it distinctive of health promotion research?

Two areas stand out. It is asserted that:

- The Ottawa Charter for Health Promotion has provided the framework for the overarching design of school health promotion initiatives and thus the research and evaluation studies that examine them. This is reflected in the ongoing success of national and regional school health models such as Health Promoting Schools (HPS), Comprehensive School Health Programs (CSHP), Schools for Health in Europe (SHE), Focusing Resources on Effective School Health (FRESH), etc.
- Very strong evidence which supports the claim that 'healthy students learn better' has legitimized the education sector as integral to school health promotion and consequently broadened the objects of research to include certain areas such as empowerment, resiliency, school democracy and intellectual attributes in addition to traditional school health fields such as nutrition, physical activity, hygiene, etc.

Four other areas, which are discussed above, also show some levels of distinctiveness. It is asserted that in:

- *Research objects*, attention is now focused on:
  - Advanced skill acquisition of students
  - Studies about school leadership
  - Links between health and educational outcomes
- *Knowledge generated*, it was recognized that:
  - Improved student health underpins educational outcomes.
  - The breadth and depth of research findings about how schools can actually facilitate increases in health and educational outcomes.

- *Research methods* used:
  - There is an eclectic and emerging integration of research methods from fields such as health, education, creative arts and leadership and their value in school health promotion research.
- *Dissemination* of research to school communities:
  - There is a negative distinctiveness to school communities and the education sector about the translation and adaption of school health promotion research findings.

24.4.1 Future Directions of School Health Promotion Research

Just over a decade ago, I noticed schools were re-thinking their health priorities. During consultations in Europe and Asia and within Australia, in addition to conference attendances in Europe and North America, researchers, teachers and health professionals were discussing and reporting on increased initiatives that addressed student mental health (or as stated above their social and emotional wellbeing). Increased attention was also being given to the physical environment of the school. There was also a slow but increasing emergence in many schools, not always those run by religious organizations, to building students' spiritual health (Fisher, 2011).

Researchers and teaching practitioners in the area of school health promotion were now recognizing the commonality between the fields of health and education. The growth of the evidence in school health promotion research in social and emotional wellbeing was facilitating this connection.

It can be argued that school health promotion research has been enlightened by many fine studies across the globe. But as more groups such as governments, health organizations, business groups, environmental groups and professional associations make increasing demands on schools to address social and political issues, e.g. violence, digital learning, inequity, substance use, obesity, financial literacy, community safety, malnutrition and climate change, in addition to core school issues of improved literacy and numeracy, it is not surprising the school curriculum has become crowded and contested.

A big challenge for health promotion research in the next 20 years in the school context, with the vital population group of 5- to 18-year-old children and adolescents in their formative years, will be to view health from a positive perspective, encompassing the six areas based on the Ottawa Charter for Health Promotion, as detailed in models such as the HPS, and not to always look at undertaking research to fix deficits and problems as defined by those operating primarily from an 'illth' framework (Illich, 1975). Digital communication and globalization are influencing how traditional school health areas such as nutrition, sexuality and identity and safety are being redefined, where students are accessing more knowledge and values beyond their experiences at school. Health promotion research in the setting of the school with this population group of children and adolescents and with this changing background is where changes will need to be made.

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Chapter 25
Health Promotion Intervention Research in Complex Adaptive Systems: The Contextual Action-Oriented Research Approach (CARA)

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Key Concepts Definitions

- *Complex adaptive system*: A system that consists of many interacting components and has the capability to self-organise and adapt in context. The system has typically non-linear relations between components: it may respond in different ways to the same input, depending on the context. The behaviour of the system is also not easily controlled or predicted, and it tends to self-organise to a state of stability.
- *Context*: The specific circumstances and characteristics in a specific system which relate to the social, political, economic, and physical environments; the characteristics, behaviours, wishes, and needs of the people in that system; the wider community in which the system is located; as well as the history and organisation of the system.
- *Contextual action-oriented research approach*: A research approach with the aim to identify where and how health promotion actions are interacting with contextual aspects of the system. Basic properties are the specific focus on contextual differences and the use of monitoring and reflective feedback to both support and evaluate the process of change of a health promotion initiative in a complex adaptive system.

25.1 Complexity Thinking

To understand the complexity of systems, a proper understanding of complexity itself is needed. What is meant by complexity has been explained by others by comparing a complicated and a complex problem (Moore et al., 2019; Glouberman & Zimmerman, 2002). Sending a rocket to the moon can be considered a complicated problem. It requires great skills and numerous interacting components. However, it can be divided into discrete sets of actions with stable, predictable, and linear consequences. When such a complicated problem is resolved, it remains resolved, and the solution can successfully be repeated. In contrast, raising a child can be considered a complex problem. There is an unpredictable and non-linear nature between actions and outcomes. Even though raising a child gives experiences, there are no guarantees for success in the future or when raising another child. While a complicated machine such as a rocket is passively acted upon by human actors, children and parents are active agents whose behaviours are continuously adapting in response to feedback from one another, which generates behavioural patterns for the whole family. These behaviours at home are not isolated but interact with other systems of which the child or parent is part, such as the school system.

Since complexity thinking is rather new, several terms need to be introduced that do not yet have a single clear definition. Table 25.1 provides an overview of how we interpret these different terms.

Table 25.1 Explanation of terms related to complexity thinking

Terms	Explanation
Complex adaptive system	A system that consists of many interacting components and has the capability to self-organise and adapt. The system has typically non-linear relations between components: It may respond in different ways to the same input depending on the context. The behaviour of the system is also not easily controlled or predicted, and it tends to self-organise to a state of stability
System dynamics	The complex behaviours of organisational and social systems that are the result of continuous interactions between components in the system and both balancing and reinforcing feedback loops that develop between these interacting components
Setting	A place in which people engage in daily activities, in which environmental, organisational, and personal factors interact. Examples of settings are home, school, workplace, prisons, hospitals, and communities
Context	The specific circumstances and characteristics in a specific system which relate to the social, political, economic, and physical environments; the characteristics, behaviours, wishes, and needs of the people in that system; the wider community in which the system is located; as well as the history and organisation of the system

Adapted from Bartelink (2019)

25.2 Complex Adaptive Systems (CAS)

Previous experiences in health promotion research and insights in complexity thinking have led to the decision to adopt a new perspective in the field of health promotion that deals with the complex and adaptive nature of systems: a complex adaptive system (CAS) perspective. A complex adaptive system can be described as a system that consists of many interacting components and has the capability to self-organise and adapt. The system has typically non-linear relations between components: it may respond in different ways to the same input depending on the context. The behaviour of the system is also not easily controlled or predicted and tends to self-organise to a state of stability (Mohammadi et al., 2010; Paina & Peters, 2011; Darlington et al., 2018; Moore et al., 2019; Hovmand, 2014; Turunen et al., 2017). Embracing this perspective means that it depends on the specific context whether a health promotion intervention fits in that context and that in each context, the implementation process of an intervention is different (Moore et al., 2015; Patton, 2011). It also means that even when similar health promotion interventions are implemented, these can have different effects between different contexts as the changes may be moderated by each unique context (Patton, 2011; Pawson & Tilley, 1997; Rosas, 2015). Several key characteristics are important for complex adaptive systems and are therefore described below. Since these characteristics are closely linked, it is impossible to explain them independently from one another; some overlap among them is inevitable. To illustrate what these characteristics actually mean, we applied them to the school system (Mohammadi, 2010; Bartelink, 2019). The school system is an example of a complex adaptive system, but also other settings such as home, workplace, prisons, hospitals, and communities can be considered as such.

Nested systems structure Complex adaptive systems are open systems with fuzzy boundaries. Each system is a part of a broader system, in which each system can be a subsystem in a bigger system and/or a supra-system for a smaller system. People in schools belong to and are influenced by many systems simultaneously. Change in schools can create change in the wider community but also the other way around. Change in the wider community can also influence the school's functioning.

Unpredictability The overall behaviour of a complex adaptive system cannot be directly predicted from its components, and it is more than just the sum of its parts. Any change in a school can have unexpected effects which can influence the outcomes. In the context of school health promotion, this means that there is no guarantee that a health promotion initiative will create change, that changes will be in the desired direction, or that they will be sustained.

Autonomous agents A complex adaptive system usually consists of a changing population, referred to as 'agents'. Agents in a school include the children, teachers, parents, and other employees in the school. Even though schools have rules that organise the individuals' behaviour and shape the whole school's functioning, individual agents are still, to some degree, autonomous. Agents act in ways that are influenced by a combination of knowledge, experience, feedback from the environment, local values, and rules. In other words, there are several ways to do things, and agents can make their own choices, which add to the unpredictability of the behaviour of the system.

Self-organisation A complex adaptive system has no centralised control, but is decentralised as a result of individual autonomous actions: the changes in the system emerge from a process of self-organisation rather than being controlled externally or by a centralised body. Schools are controlled by multiple sources such as teachers, children, parents, education authorities, community, media, and politics. One agent can already change the context, which can create change in other agents. These changes can reshape the system's collective behaviour.

Interaction In a complex adaptive system, interactions exist continuously. An interaction is a two-way process in which elements, systems, and/or agents respond and adapt to each other. A variety of interactions in schools exists, e.g. among children, teachers, and other people in the school, but also between physical and social elements in the school context, or between the school and the wider community.

Adaptation What emerges in a complex adaptive system can be interpreted as a function of on-going adaptations that may continually lead to new needs, interests, and opportunities. Adaptations impact other elements in the system as they are interconnected and create solutions to make changes sustainable. A prerequisite for sustainable health-promoting schools is flexibility to be able to adapt to the changing conditions.

Non-linearity Complex adaptive systems have non-linear behaviour, meaning that they may respond in different ways to the same input, depending on their context. Major health promotion efforts in a school can lead to zero impact on the school system, whereas small efforts can produce a big impact at a so-called bifurcation or 'tipping' point. This tipping point indicates the momentum in the school, in which it shifts from slow and gradual acceptance of changes to fast and widespread acceptance. It is hard to predict when this tipping point has been reached. Consequently, there is no guarantee whether health promotion changes in a school will have an impact on the system and whether it will lead to the expected outcomes.

Feedback loops Feedback loops are a circular process in which a system's output is returned or 'fed back' into the system as input. Two kinds of feedback exist: reinforcing (or positive) and balancing (or negative). Reinforcing feedback accelerates a change away from a starting point, whereas balancing feedback slows down or corrects a change in a system that is moving away from the starting point. Changes in a school give rise to these two different feedback loops, which may reinforce the implementation of the changes or lead to discontinuance of the changes. Feedback might be internal, from people or components in the school, or external, from families or other aspects in the wider community.

25.3 Dealing with Complex Adaptive Systems in Health Promotion Research

Considering systems as complex and adaptive implies a need for more context-specific thinking to integrate health promotion interventions (Moore et al., 2015; Patton, 2011). Consequently, to evaluate the impact of an intervention in such a system, the evaluation methods need to be sensitive to the dynamics of the local context (Hawe, 2015; Darlington et al., 2017; Rutter et al., 2017). To find a way to adapt research to this complexity and to deal with the differences between contexts, we translated the principles of action research into a contextual action-oriented research approach (CARA) (Bartelink et al., 2018). This approach builds on our previous experiences in health promotion research and on the international literature regarding new insights into complexity thinking. Through the use of monitoring and feedback, CARA aims to identify where interventions are interacting with contextual aspects, not only to evaluate the process of changes but also to support this process. CARA is explained in detail in the Chap. 21 of the *Global Handbook* first volume (Bartelink et al., 2022), in which a concrete example is given on how we evaluated a health promotion initiative in schools. Below, we will elaborate on CARA as a possible solution to address the challenges of evaluating complex adaptive systems in health promotion intervention research (Bartelink, 2019). We will discuss the experiences gained by describing several challenging questions and our solution to these questions (Table 25.2).

These experiences gained may be helpful for other health promotion researchers who aim to conduct research into complex adaptive systems. Moreover, funding bodies can also help these researchers. They can, for example, require that researchers focus on input, output, and several types of outcomes, incorporate the local context in their studies, always include a process evaluation, and provide the

Table 25.2 Our solutions for challenging questions for health promotion intervention research in complex adaptive systems

Challenging questions	Our solution
How to be sensitive to the dynamics of the local context?	We continuously monitored in each context the process of change and all aspects that interacted with this process by regularly collecting a wide range of data. We used different methods to combine the accuracy of quantitative methods, e.g. questionnaires, with the in-depth insights of qualitative methods, e.g. interviews or observations. This provided us with a broad understanding of each context. We also documented the smaller and larger events that occurred in the different contexts
How to be flexible to deal with the unpredictability of the system?	We used hypotheses to determine what to measure, but we adapted throughout the process to be able to measure the unintended effects as well. This also means that we had to make decisions regarding appropriate methods along the way instead of only preparing a research proposal beforehand to be able to react to these unexpected changes or effects. In general, the most appropriate methods were the ones that were feasible for us as researchers and the study population and were quickly processed and analysed to provide real-time feedback
How to analyse the evolution of a complex adaptive system?	We aimed to capture the events that occurred in each context by organising the collected data chronologically. This enabled us to show the link between events that represent the process of change in the context
How to evaluate several different contexts and draw overarching conclusions without losing sight of each unique context?	We investigated the process of change in four different contexts, with each context being treated as a unique case. Similarities and differences between these four contexts were studied. The effects were examined by first conducting overall analyses, followed by quantitative analyses of effect modifiers and qualitative comparisons to study the moderating role of the context
How to remain objective for the scientific evaluations but also be involved in and give support to the process of change?	We had to be close enough to the practice in the field to know and understand what was happening but also be detached enough to evaluate the bigger picture. By conducting the process evaluation prior to the effect evaluation, we were involved in the process of change without knowing the effects. In this way, the process and effect evaluation became complementary and resulted in more complete findings. Using the principle of data triangulation for the process evaluation and a quasi-experimental design for the effect evaluation helped us to study the process and effects as objectively as possible

Adapted from Bartelink (2019)

researchers with more time to investigate contextual aspects and the process of change in a complex adaptive system. Finally, we have formulated several guiding principles for health promotion researchers, who want to adopt CARA as their research approach.

Provide support to the innovation CARA researchers join in the discussions and support the innovators whenever possible to further improve the innovation. In other words, the development of the innovation should become a co-creation, in which evaluation is an integral part of the process of change.

Be receptive, patient, and flexible CARA researchers are receptive to all kinds of interactions in or with the system. They also need to be patient and flexible enough to pay attention to whatever happens and to expect the unexpected. Since a process of change in a complex adaptive system requires time, this should be taken into account in the planning of the study.

Embrace complexity CARA researchers embrace the complexity of a system instead of thinking in the more traditional linear causal models. This means a shift from a focus on 'one-size-fits-all' evidence-based interventions to a more flexible perspective of adapting interventions to the different contexts.

Do not keep the context in the background CARA researchers no longer keep the context in the background of an intervention but bring it to the 'foreground'. The research does not merely focus on intervention evaluation but also on context evaluation. This includes a thorough understanding of the pre-existing context and a continuous monitoring of the context during the process of change. It also includes examining the effects separately for each context. This context-oriented evaluation can also provide insight into which contextual aspects to focus on or intervene in to optimise the effects of an intervention.

Use a research diary CARA researchers capture the events in the system, since even a small event can be crucial to the process of change as it can create that one tipping point that shifts the system. To be able to study retrospectively which events or changes were important, it is recommended to document all observations in a research diary.

Accept the consequences of bottom-up involvement CARA researchers accept not having full control over what happens as a result of bottom-up involvement. It is possible that trial and error and feedback loops make it necessary to make adjustments (major or minor) to the innovation to create a better fit to the local context. Research needs to accept this and be prepared to deal with these adjustments.

Focus on the right evaluation questions CARA researchers aim to identify if and how the intervention contributes to reshaping the system in favourable ways, instead of asking whether the intervention is successful in fixing a problem.

25.4 Conclusion

This chapter provides insights into the complex and adaptive nature of systems and illustrates key characteristics of such systems. These contribute to an understanding of the challenges in health promotion and imply a need for more context-specific research to evaluate the health promotion interventions. CARA can address this need as it can be used to evaluate and support change in complex adaptive systems. To support and inspire other health promotion researchers who want to adopt CARA as their research approach, we have discussed our experiences and provided some guiding principles. Overall, complexity thinking can help to understand the challenges in health promotion, whereby CARA provides a possible strategy for health promotion researchers when dealing with the challenges of evaluating health promotion interventions in complex adaptive systems.

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Part VI
Conclusion

Chapter 26
Conclusion: Addressing the Challenges of Doing Health Promotion Research

Louise Potvin and Didier Jourdan

26.1 Introduction

This third volume of the *Global Handbook of Health Promotion Research: Doing Health Promotion Research* is composed of introductory-level presentations of approaches to knowledge production and of methodological solutions implemented in health promotion research in response to epistemological and ethical challenges specific to this field of research. These chapters were collected following our global open call and personal invitations to contribute chapters aimed at mapping health promotion research. These contributions are a continuation of those presented in Volume 1 (Potvin & Jourdan, 2022b). Indeed, while the first volume provides a portrait of state-of-the-art practices in health promotion research, chapters in this volume describe approaches that could help meet the challenges specific to health promotion research.

This collection of 7 approaches to knowledge production and 16 methodological solutions is far from exhaustively covering the paradigms, approaches, and methods that characterize the field of health promotion research. Neither is it representative of the range of methodological tools and epistemological positions that health promotion researchers claim as being constitutive of the field of health promotion research. We never aimed to be exhaustive or representative; our ambition was simply to offer a first collection of introductory-level presentations on how to deal with

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knowledge production challenges in health promotion research and, in doing so, to propose a template for such presentations. This collection needs to be complemented and expanded. In this respect, a new section has been created in *Global Health Promotion*, the official journal of the International Union for Health Promotion and Education (IUHPE), asking contributors to use the same template in writing their epistemological and methodological responses to health promotion research distinctive issues (Potvin & Jourdan, 2022a). However, it is our ambition that, in addition to providing researchers a useful toolbox, this collection will reflect the growth of our field and will be seen as an invitation to share innovations in research methods. Nonetheless, the initial collection presented in this volume provides a first glimpse of what drives innovation in health promotion research.

26.2 Approaches to Knowledge Production

Knowledge development is never limited to the inductive process of accumulating empirical observations. The knowledge base is gradually constructed through the production of new knowledge. Research weaves networks of knowledge resulting from diverse research approaches. These networks of questions, concepts, methods, and results are what structure the diversity of research in health promotion. The production of knowledge involves social actors—scientists and others—who create or expand existing networks, some of which eventually stabilize and become established. By following the controversies, the conflicts of interpretation, the doubts, and the power struggles, it is possible to witness the elaboration of knowledge (Callon & Latour, 1991).

The open call for contributions that led to the creation of Volumes 1 and 3 of the *Global Handbook of Health Promotion Research* asked potential contributors to use their own research practice as a point of entry to reflect on distinctive and structuring elements of health promotion research. Part I of Volume 3 contains the contributions related to the approaches to knowledge production underlying the research practice described. As health promotion practices are embedded in their social context, the approaches to knowledge production presented in this book largely borrow from social science theories and approaches. Although social sciences, education, and humanities were always identified as foundational sciences for health promotion (Bunton & Macdonald, 2002), the successive editions of the only existing health promotion research textbook emphasize the socio-behavioural and epidemiological roots of the field (DiClemente et al., 2009). Researching health promotion using social science theories adds layers of richness and complexity to the collective understanding of what health promotion practices are, how they work, and what they produce.

This sample of approaches to knowledge production in health promotion research highlights two main concerns. The first is ethical; it relates to the moral imperative of health promotion and health promotion research to address health inequalities and promote social justice. The second concern is epistemological and refers to the necessary embeddedness of health promotion practice in context and how general knowledge about health promotion can be possible based on local, contextualized observations.

Among the seven examples of approaches to knowledge production presented in Part I, four specifically address how health promotion research contributes to social justice. In their chapter on economic theory, Shiell and colleagues (Chap. 4) debunk the myth that economics is only about individualistic rational choice. They convincingly argue that there exists a school of economic thinking that is relevant to addressing the social determinants of health. They invite us to dig deeper into heterodox economics thinking. In Chap. 6, Rodriguez shows how the principles of Paulo Freire's critical pedagogy can be translated into a research approach to promote empowerment in marginalized groups. The use that Mattioni and Rocha made of Foucault's genealogy principles (Chap. 7) shows how professional health promotion practices are shaped by opposing, sometimes even conflicting, discourses and narratives, especially in relation to how to address the social determinants of health. Finally, the work presented by Warwick-Booth and colleagues (Chap. 9) shows how feminist critical theory can be used in health promotion research to understand power relations and their impact on health. It also introduces researchers' reflexivity and positionality as critical processes in health promotion knowledge co-production practices.

Three chapters specifically present an approach to health promotion research so as to address the fact that health promotion practices are influenced by their context and that research approaches that attempt to isolate causal factors in order to test them ceteris paribus (all other things being equal) are likely not to lead to valid conclusions. Each of the three approaches presented here embraces the idea that health promotion practices always interact with contextual factors, and research results should account for these interactions. In addition, each of these approaches argues for the essential role of theory in health promotion research. Policy is a tool for decision-makers to regulate behaviours and practices in the public sphere. A response to contextualized issues and problems, policy development, and implementation only makes sense in relation to context. De Leeuw (Chap. 3) argues that policy theory is an essential tool for understanding how policy is developed and implemented and how it impacts people's lives. Introduced here by Louart and Ridde (Chap. 5), critical realism has gained increasing credibility in health promotion research since Connelly's introductory paper in 2001 (Connelly, 2001), arguing that as a philosophy and an approach to knowledge production, critical realism is particularly relevant for health promotion. This is essentially because it explicitly recognizes the importance of context as interacting causal forces in practice and it "does not accept the fact-value distinction". In their introduction, Louart and Ridde demonstrate how critical realist research starts with a theoretical perspective on the phenomenon that is then tested and refined through empirical observations. Finally, Kelly and Monteiro (Chap. 8) use the notion of assemblage from Science and Technology Studies to show how health promotion interventions borrow from their context while making absent other aspects of it.

Obviously, there are many other relevant approaches to knowledge production that can guide health promotion research. Each provides a prism that highlights a range of the mechanisms at play and that is blind to others. The field has not exhausted the possibilities offered by the various approaches potentially relevant for health promotion. Given the importance of the ethical reference in health promotion research (Jourdan & Potvin, 2022a), much more exploration is needed of critical theoretical perspectives that take into account the role of values and that are specifically elaborated to guide social transformations.

26.3 Methodological Responses to Health Promotion Research Challenges

The 16 chapters in Parts II to V of this volume describe a range of the methodological innovations and adaptations that researchers have developed in relation to the challenges they have encountered in their research. The grouping of the 16 chapters in Parts II to V of this volume was done after the fact, based on methodological challenges derived from the 4 markers of an epistemological framework for the field that were identified following our analysis of the research practices (Potvin & Jourdan, 2022b). Although much more work is needed to validate these markers, their usefulness for categorizing methodological contributions in the field of health promotion research constitutes a good starting point.

The first marker is the recognition of diverse forms of knowledge relevant for health promotion research. Indeed, true to the principle of empowerment, many health promotion researchers would argue that they position their research along this marker; but doing so leads to the practical challenge of enabling interactions among the various forms of relevant knowledge. Of course, it is not just because various people are invited to interact in the same space that fruitful and constructive collaborations emerge. The structural and epistemic power imbalance that characterizes societies is mirrored in the space of research. It needs to be deconstructed or balanced by some kind of procedure in order for research to access the lived, contextualized experience of people in situations of exclusion (Clavier et al., 2012). Part II of this volume presents three ways of doing this. What they have in common is that they all involve researchers moving into the world and context of study participants in real time so as to access the direct experience of study participants. Either there are no preconceived categories, as in the case of in situ methodologies (Chap. 11), or when there are, they are adapted to the context of use and make room for people's narratives (Chap. 12). Chapter 10 on two-eyed seeing (Tremblay and Martin) illustrates how a safe space for weaving scientific knowledge and experiential knowledge "requires an acknowledgment that different knowledge systems are not simply merged or melded together; they are intended to occupy a space where each perspective is considered necessary for a more fulsome understanding of the issue at hand".

The second marker is the embeddedness of research practice in context. Context is a pervasive dimension of health promotion practice. Various versions of the ecological model have long recognized that context constantly interacts with individual factors to influence people's health decisions and practices (Richard et al., 2011). There is also an increasing recognition that interventions are context-dependent. Conceived as subsystems within broader systems (Hawe, 2015), the efficacy of interventions is conditioned by the extent to which they mobilize and successfully interact with mechanisms at play in the implementation context (Pfadenhauer et al., 2017). Finally, context also interacts with research and evaluation (Poland et al., 2008). Not only does context constrain and enable research methods, choices, and possibilities; it also shapes the ways in which the intervention and research systems interact with and influence each other (Mantoura et al., 2007). Conducting research while being aware of this web of interactions leads to the challenge of fully embracing complexity and unpacking complex research/practice interactions. Part III of this volume includes five chapters that propose methodological responses to this challenge. Although these responses are rooted in different epistemological positions, all propose a conception of intervention that goes beyond the enumeration of actions and operations. It is the network of actors and interactions that is studied here. The perspective is that of understanding and evaluating what has led (or not) to local changes in favour of health. The actions and operations that make up the intervention mechanism are integrated into a broader vision of the mechanisms at work. They are studied as catalysts of change. Hawe (Chap. 13) calls these actions and operations "functions", whereas they are called "mechanisms" by critical realists (Jackson, Chap. 16). The real challenge for research is to produce knowledge about these functions or mechanisms, about how they adapt to context and generate change. Cambon and Alla (Chap. 15) propose the concept of "interventional system" and the use and refinement through empirical observations of a theory of change. For her part, and based on a critical realist epistemology, Jackson (Chap. 16) proposes to focus inquiry on the connections between context and interventions and to uncover these connections through an iterative process that involves confronting theoretical propositions derived from the literature with content analyses of narratives from various stakeholders about their experience of the intervention. Multiplying and confronting the points of view about an intervention throughout the entire research process using mixed methods is the research approach proposed by Guével and Absil (Chap. 17) to capture the dynamics of adaptive interventions.

The third marker concerns the relationships between researchers and other stakeholders. In terms of research, the key question is that of understanding the mechanisms of regulation of the collaborative space within which these relationships are embedded. This appears as a potential landmark for health promotion research as many responses to other challenges involve opening up the research governance and implementation processes to non-researchers from all horizons. This often takes the form of a multipartite steering committee. Implementing and maintaining these committees leads to challenges that need to be addressed through research. How to develop a shared understanding of the problem using a common language? How to ensure that each voice is heard and taken into account through the equalization of power relationships? How to account for the fact that different stakeholders have different timeframes, resources, and stakes vis-à-vis the research process (Clavier et al., 2012)? Part IV of this volume addresses these issues from different perspectives. It is made up of four chapters, each introducing principles and strategies to operate these collaborative spaces. These chapters emphasize the iterative process inherent in the negotiations that need to happen to find compromises between the various stakeholders' perspectives. This is especially true in the approaches to participatory research that constitute participatory action research (PAR) (Chap. 18) and community-based participatory research (CBPR) (Chap. 20). Both these chapters illustrate how numerous structural and institutional barriers temper their potential to produce enduring transformations. Also, some contexts may appear particularly challenging for implementing genuine participatory research practices. Nic Gabhainn and collaborators (Chap. 19) describe and illustrate an iterative process that involves young children making decisions about research outcomes and deliverables. In the context of a North-South collaboration, which is specifically vulnerable to a colonial and paternalistic drift, Gibson and collaborators (Chap. 21) present principles specifically designed to build equitable North-South research collaborations.

The fourth and last marker of the epistemological framework for health promotion research is the articulation of knowledge production and sharing. In promoting evidence-based practices for health and public health professionals, knowledge sharing has become increasingly earmarked as a critical component of "good" health research, as it is notorious that scientific production is not directly accessible to non-scientist audiences (Graham et al., 2006). Although bridging the research/practice gap is not the sole responsibility of researchers, some approaches to research are particularly suited to address this challenge in health promotion. In addition to illustrating the mutual influence of practice and research in the evolution of school health promotion (St.Leger, Chap. 24), Part V of this volume proposes approaches specifically designed to address this challenge in health promotion research. This is the case of citizen science (Chap. 22), since the population is invited to play a central role in data collection and sharing. The use of a shared framework is also a way of creating coherence between the concerns of researchers and populations and therefore of enabling a real sharing of knowledge (Chaps. 23 and 25).

26.4 Concluding Remarks

It is very unlikely that anybody will read this book from cover to cover. Our expectation is that readers will use the various navigating tools to identify chapters that introduce them to relevant avenues so as to address the challenges they face in "doing health promotion research" and then use this introductory knowledge as an orientation to a more fulsome exploration. However, taken together and despite the obvious multidisciplinary foundations of the field, these chapters present a coherent and distinctive view of health promotion research. The coherence stems from the inter-relatedness of the various markers of the epistemological framework for the field. These markers characterize a transformative research paradigm (Mertens & Ginsberg, 2008) for which research inquiry needs to be intertwined with politics and a political-change agenda so as to confront social oppression at whatever levels it occurs. Considering the complexity of social interactions, health promotion research does not aim at simplifying problems and deriving unique solutions. On the contrary, the added value of the multidisciplinary nature of the field is to offer an understanding of a wide range of relevant mechanisms and phenomena (from social to psychological to biological) that contribute to health and health inequalities and their interconnections. Most chapters in this book introduce the reader to ways of organizing this multidisciplinary, multi-stakeholder conversation in a constructive, respectful way that makes knowledge possible and actionable.

It is necessary to say a final word on the organization of this volume in reference to the markers that characterize health promotion research. It is these markers, which orient and structure the research, that allowed us to characterize and organize the methodological challenges that health promotion research faces. Because they are based on a framework that has emerged from a dialogue between epistemological principles and the practices of health promotion researchers, the four methodological challenges of health promotion research appear to have certain robustness (Potvin & Jourdan, 2022b). At this stage, it seems that while there could undoubtedly be other markers, these would be linked in some way to the four main methodological challenges that structure this book. It is the scientific discussions to which this book will give rise that will make it possible to validate their relevance. However, one thing is sure: there are many other research approaches and methodological responses available to address these challenges. The fact that they are adapted from other research-applied fields or more fundamental disciplines is not really relevant. What counts is that they allow the production of knowledge on relevant aspects of health promotion practices (Jourdan & Potvin, 2022b) while meeting the ethical references of the field (Jourdan & Potvin, 2022a). The creativity and innovation of researchers in finding and adapting responses to these challenges is an indication of the vitality and dynamism of health promotion research. Undoubtedly, the new section in the journal *Global Health Promotion* will be a privileged space to share and discuss approaches to research in health promotion (Potvin & Jourdan, 2022a).

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Correction to: Global Handbook of Health Promotion Research, Vol. 3

Didier Jourdan and Louise Potvin

Correction to:
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Owing to an unfortunate oversight on the part of production, few texts were omitted from Box 5.1, Box 5.2 of Chapter 5, and Box 18.1 of Chapter 18 in the initially published version. The book has been updated with the changes.

The updated original versions of the chapters can be found at
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Appendix: Overview of the Chapters

Introduction

As a working tool for researchers, students, and practitioners, this third volume of the *Global Handbook of Health Promotion Research* presents introductory discussions, approaches to knowledge production, and designs in health promotion research. Each approach and design is discussed in relation to a specific challenge faced by health promotion researchers in the conduct of their studies. These challenges arise due to the specificity of the objects under study or as consequences of epistemological and ethical research orientations. To help the reader navigate the rich material in this book, this section provides a short summary of each chapter in relation to the health promotion research challenge it addresses.

Part I: Approaches to Knowledge Production in Health Promotion Research

Chapter 3

Health Promotion Political Research as Policy Practice
Evelyne de Leeuw
Australia

Policy development is the cornerstone for most areas of actions of health promotion, so much so that the field of health promotion has to develop a clear understanding of how policies come about. Unfortunately, the evidence to support policymaking for health promotion is scarce, and when it exists, there is very little use of policy theory. Such theories are necessary to open the black box of policy effect and find answers to questions relative to why and how a policy has led to some societal

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changes. Based on criteria developed by policy theorist Paul Sabatier, the chapter identifies four theories of policy development that have proved useful for health promotion policymaking research. Instead of trying to turn health promotion researchers into political scientists, the chapter advocated for a multidisciplinary enterprise that links health promotion scientist doing research together with political scientists.

Chapter 4

Underlying Principles of Different Schools of Economic Thought: Consequences for Health Promotion Research

Alan Shiell, Hannah Jackson, Penelope Hawe
Australia

Economic thinking is not as monolithic as adherents to the strict version of rational choice theory make us believe. In traditional health economics, welfarism and extra-welfarism versions of rational choice theory, which are ways to acknowledge that market rarely works as idealised, are mostly preferred for the evaluation of healthcare and prevention interventions. However, these currents fail to account that people's preferences are shaped by their social circumstances, making their assumptions mostly incompatible with health promotion focus on the social determinants of health. This calls for the development of heterodox economics of which there are still very few examples.

Chapter 5

Critical Realism for Health Promotion Evaluation

Sarah Louart, Valéry Ridde
Canada

Critical realism is a philosophy of science that proposes that reality is composed of mechanisms and forces whose conjunctions create observable events from which those mechanisms can be theorised. Instead of seeking to establish predictions in controlled environments, critical realist researchers seek to explain how certain mechanisms operating in particular circumstances produce observable changes. Translated into realistic evaluation, critical realism is an approach to unpack the complexity interventions understood as open systems operating in broader social systems. A realist evaluation starts with a preliminary formulation of the theory of the programme. This theory is then tested and refined through empirical observations using various data collection methods. The use of this evaluation approach is illustrated through the evaluation of the introduction of a new diagnostic tool in primary care units in West Africa.

Chapter 6

Empowerment in Health Promotion of Marginalised Groups: The Use of Paulo Freire's Theoretical Approach and Community-Based Participatory Research for Health Equity

Andrea Rodriguez, Nilza Rogeria de Andrade Nunes
United Kingdom, Brazil

Critical pedagogy for popular education was developed by Brazilian educator Paolo Freire to address the massive illiteracy of people living in socioeconomically deprived areas. It is based on the worldview that education should be liberating and encourage critical thinking. Adapting this approach to research that participates in social changes involves a critical dialogue through which participants are encouraged to examine their own circumstances in the co-creation of new collective knowledge to better understand their daily lives. The chapter discusses the principles of the critical pedagogy as an epistemology: research is committed to respond to current problems, listening to people and communities to acquire a deep understanding of life contexts, co-creation of knowledge, critical thinking, participation and interdisciplinary collaboration, and critical dialogue for action. This paradigm emphasises the need for health promotion research to create meaningful opportunities for people to take control over the conditions that shape their health, whereas the core principles reinforce the commitment towards a common agenda for social justice.

Chapter 7

Health Promotion in Primary Care: Michel Foucault's Genealogy to Analyse Changes in Practices

Fernanda Carlise Mattioni, Cristianne Maria Famer Rocha
Brazil

Health promotion is a heterogeneous field in which a wide range of practices can be found, which may create tensions among practitioners or between practitioners and the populations whose health is at stake. Based on document and interview content analysis, Foucauldian genealogy analyses identify those tensions and show how they relate to various discourses and narratives originating in historical events. It portrays health promotion as a contested field in which dominant discourses, or regime of truth that mirrors broader societal movements, are confronted by resistance discourses, creating a changing landscape of practices.

Chapter 8

Health Promotion as a Complex Assemblage: Science and Technology Studies as Method

Peter Kelly, Kerry Montero
Australia

In a critical discourse about health promotion, this chapter underlines that health promotion interventions are not just made of rationality. Using the concept of complex assemblage, the authors engage with the limits and possibilities of interventions making explicit what is included in such intervention and what is purposively excluded to make it work. The exploration of the absence within interventions allows a critical analysis of health. In addition, considering and analysing the aesthetic dimensions of interventions highlights the embodied sense-making resulting from health promotion interventions.

Chapter 9

The Contribution of Feminist Approaches to Health Promotion Research: Supporting Social Change and Health Improvement for Vulnerable Women in England

Louise Warwick-Booth, Ruth Cross, Susan Coan
United Kingdom

Feminist research is a critical approach to research that rejects mainstream assumptions about how knowledge is produced and that seeks to highlight the structural factors that lead to inequity of the lived experience, in this case, the gendered distribution of resources and power. This approach prioritises participatory research methods that minimise the power imbalance between the researcher and the researched, which is in line with the view of health promotion as primarily concerned with people's empowerment. The chapter illustrates feminist research practices for the evaluation of the effectiveness of interventions designed to improve women's health. These projects involve various creative data collection tools to elicit women's narrative about their own experience as service users or providers. Finally, the chapter discusses researchers' positionality and reflexivity and the ways in which research practices need to address these issues.

Part II: Methodological Responses to Enabling Interactions Among All Relevant Knowledge

Chapter 10

Etuaptmumk/Two-Eyed Seeing: A Guiding Principle to Respectfully Embrace Indigenous and Western Systems of Knowledge

Marie-Claude Tremblay, Debbie H. Martin
Canada

Two-Eyed Seeing originates from the commitment to reconcile Western and Indigenous ways of knowing and being in the world. Articulated as a guide for life, this chapter derives guiding principles for the conduct of research with Indigenous partners. Rather than seeking to merge different knowledge systems, this approach to research seeks to create a space in which both systems are considered to encourage co-learning and leading to a more fulsome understanding of the issue at hand. This space involves the positioning of the intuitive, the spiritual, the metaphorical, and the holistic dimensions of Indigenous science ways of knowing alongside the linear, objectivist, and analytical dimensions of Western science.

Chapter 11

Capturing the Lived Experience of Place in Health Promotion Research: In Situ Methodologies

Stephanie A. Alexander, Martine Shareck, Nicole M. Glenn
Canada

Acknowledging the lived experience of individuals, in situ data collection methods are tools for collecting data from study participants as they interact in their environment. Data is collected via more or less formal interviews or taking pictures or otherwise while study participants or groups of participants guide the researcher through particular places of their choice. Using three different research projects as examples, this chapter highlights how this method addresses ethical and epistemological challenges in conducting health promotion research. From an ethical perspective, the method is particularly useful in equity-focused research on the social determinants of health as it empowers study participants. It is also relevant for fostering participants' sense of place and valuing their lived experience. From an epistemological perspective, the method emphasises the primacy of contextualised knowledge and embraces the complexity of social practices.

Chapter 12

Using Salutogenesis to Understand People-Environment Interactions that Shape Health in a Context of Poverty

Valerie Makoge, Harro Maat
Cameroun

The biomedical model emphasises diseases and risk factors. In poverty areas such as in sub-Saharan Africa, health research anchored on this model even further accentuates situations of deficits in addition to being generally blind to people's assets and survival strategies. In contrast, research based on the salutogenesis model seeks to identify factors associated with health, revealing hidden resources and opportunities for health promotion strategies. Salutogenesis opens a window to understand how people address health-challenging situations. This chapter proposes a modified salutogenesis model of health adapted to non-Western context that uses qualitative methods rather than standardised questionnaires and includes elements of the setting approach concerned with how people use resources from their immediate environment for prevention and cure. Aiming at understanding how people's sense of coherence (the capacity to make sense of one's environment) and use of resistance resources allow them to overcome stressors, this approach integrates the social determinants of health and emphasises people's actions towards their own health, despite conditions of poverty.

Part III: Methodological Responses to Unpacking the Complex Context/Practice Interactions

Chapter 13

Interventions Tested in Randomised Controlled Trials Can and Should Adapt to Context: Here's How

Penelope Hawe
Australia

In presenting the reproduction of her classic 2004 BMJ paper on "how out of control can a randomised controlled trial be", Hawe argues that it was framed as both a criticism of the belief that interventions tested in randomised trials should be standardised and of the health promotion criticism that randomised trials are to be rejected due to their incapacity to adapt to context. The paper's argument, which has since led to a fruitful stream of research, is that it is not the activities and practices within an intervention that need to be standardised in a controlled trial but the underlying health-promoting mechanisms that they seek to trigger. Quite on the contrary, the interventions' activities and practices need to adapt to the context's culture and conditions in order to set in motion the targeted mechanism.

Chapter 14

The Ongoing Contribution of Health Impact Assessment to Health Promotion Research

Jean Simos, Derek Christie, Françoise Jabot, Anne Roué Le Gall, Nicola Cantoreggi
Switzerland

Health in All Policies ensures that all policy decisions contribute to improve health in a population. Health impact assessment is a prospective approach to anticipate the impact of policy decisions on selected health outcomes including health equity. As a means to implement Health in All Policies, it aims at anticipating the health consequences of specific public policies. Inspired from Environmental Impact Assessment, the method explores the potential links between policy decisions and health through five stages: screening, scoping, appraisal, reporting, and monitoring. Through case illustration, the chapter discusses six features that are common in health promotion research and in HIA: (1) taking context into account, methodological flexibility, trans-disciplinarity, (2) participation of those affected by the issue, (3) construction of hybrid knowledge, power relationships, (4) partnerships and collaborations within a community, (5) acting for sustainable intersectoral collaborations and (6) methodological pluralism.

Chapter 15

A Theory-Driven Approach to Unpack the Black Box of Complex Interventions: Assessing Interventional Systems

Linda Cambon, François Alla
France

The outcomes of health promotion interventions, when conceived as complex systems, are produced through interactions between components of the interventions and elements in the context. Their efficacy cannot be evaluated with methods that control for contextual conditions. Interventional systems represent an intervention and its contextual interacting mechanisms. Evaluating an interventional system is to open the black box of the intervention-context dynamics and understand how outcomes result from the mechanisms produced through these interactions and the conditions for their transferability. Inspired by theory-driven evaluation, the chapter explains how interventional system theory can be developed, tested empirically, and further adjusted to fit the data.

Chapter 16

Using a Realist Approach in Qualitative Research to Analyse Connections Among Context, Intervention and Outcome

Suzanne F. Jackson
Canada

Increasingly, health promotion interventions are conceived of as dynamic systems that evolve and adapt to their implementation context. Capturing how these adaptations are made and how the interconnections between context and intervention produce intervention outcomes is key to answer questions related to what are the outcomes of an intervention, for whom, and under which conditions. Realist evaluation is an approach that focuses on the interconnections between interventions' context, mechanisms, and outcomes. This chapter explains how to uncover those connections through an iterative process that involves a synthetic review of published and grey literature and content analyses of narratives about their experience with the intervention from various relevant stakeholders.

Chapter 17

Using Mixed Methods to Evaluate Complex Interventions: From Research Questions to Knowledge Transferability

Marie-Renée Guével, Gaëtan Absil
France

Health promotion is faced with the challenge of showing evidence of effectiveness for complex interventions that are notably difficult to evaluate. Multiplying the perspectives and attempting to capture the dynamics of adaptive interventions are ways to address this complexity. Mixed methods that combine quantitative and qualitative methods offer a way to simultaneously document the implementation process, the interactions between interventions and context, as well as the results of both the implementation and these interactions. The chapter elaborates on three practices developed for mixed methods that could transfer to health promotion research to better appraised complexity. These are conceiving the formulation of the research question as a negotiation process in which multiple perspectives from a variety of stakeholders are combined; supporting participation, empowerment, and emancipation in order to engage researchers in understanding the living context and culture in which health promotion is implemented; and providing knowledge during the implementation process and supporting knowledge transferability.

Part IV: Methodological Responses to Regulating Stakeholders' Collaborations

Chapter 18

Participatory Action Research as a Core Research Approach to Health Promotion

Jane Springett, Tina Cook, Krystyna Kongats
Canada

Participatory action research, PAR, is an approach that seeks to co-produce locally relevant and actionable knowledge through an equal partnership between researchers and those who are affected by the issue under study. With its emphasis on power sharing, participation, and equity, it is particularly well aligned with the ethical principles underlying health promotion. Although there can be many forms of collaborative research, distinct features of PAR include the primacy of participation at all stages of the research, the engagement of all participants in the co-creation of knowledge, the potential for change and transformation, the focus on the relationships, a non-linear process that adapts to local conditions, the value of local knowledge and context, and the priority given to ethics to gauge the validity of the research. Despite the appeal of the approach, there are many challenges in its implementation, essentially because its emphasis on establishing a high-quality relationship and sharing power puts the approach at odds with the mainstream biomedical research model that prevails in health research. Many of these challenges are discussed in the context of two research projects.

Chapter 19

Participatory Research Processes: Working with Children for Children

Saoirse Nic Gabhainn, Colette Kelly, Jane Sixsmith
Ireland

Conducting participatory research with children is challenging. The Participatory Research Process described in this chapter draws on three techniques to meaningfully involve children in a participative research process leading to consensual products for advocacy or representation to decision-makers and other stakeholders. The techniques are the 'Draw and Write' technique developed by Noreen Wetton, 'Photovoice' from the work of Wang and Burris, and the 'Delphi technique' for reaching consensus. Channelling children creativity through a three-stage consensus reaching process that is playful and led by children proves playful while empowering for participants.

Chapter 20

Promoting Health Equity with Community-Based Participatory Research: The Community Action to Promote Healthy Environments (CAPHE) Partnership

Amy J. Schulz, Barbara A. Israel, Angela G. Reyes, Donele Wilkins, Stuart Batterman
United States of America

Community-based participation research (CBPR) is a research approach that aims to the co-production of knowledge and interventions involving community partners and academic researchers. This chapter provides examples on how the principles underlying this approach ensure that the research process contributes to reducing health inequities through addressing community-identified priorities, committing to equity in both process and outcomes, and engaging all partners in research and action.

Chapter 21

Health Promotion Research in International Settings: A Shared Ownership Approach for North-South Partnerships

Linda Gibson, Deborah Ikhile, Mathew Nyashanu, David Musoke
United Kingdom

Funding mechanisms and scientific traditions make North-South health promotion research partnerships vulnerable to a colonial and paternalistic drift that conflicts with fundamental health promotion principles. To overcome these challenges, equitable, authentic, and inclusive partnerships are needed. Drawing on the experience gained through a 10-year partnership between academic institutions in the UK and in Uganda, this chapter, co-written by partners, proposes seven shared ownership principles to operate those partnerships. These are investment in people and communities, trust, reciprocity, cultural appropriateness, sustaining activities, transparency, and global thinking.

Part V: Methodological Responses to Bridging the Knowledge/Practice Gap

Chapter 22

Citizen Science for Health Promotion Research: Emerging Best Practices, Challenges, and Opportunities for Advancing Health Equity

Benjamin W. Chrisinger, Patricia Rodriguez Espinosa, Praveena K. Fernes, Lisa G. Rosas, Ann W. Banchoff, Abby C. King
United States of America

Despite the acknowledgement that health behaviours are rooted in context, most data used and collected in health promotion research is not contextualised. Through the involvement of non-scientist lay-public to achieve data collection and analytical goals, citizen science is an approach to further our understanding on how structural factors impact health behaviour while democratising the research process. Typologies of citizen science models exist that classify them according to citizen participation and engagement. The Our Voice citizen science described in detail in this chapter engages citizens and residents as agents of change in their own community.

Chapter 23

Principled Health Promotion Research: A Comprehensive and Action-Oriented Approach

Dan Grabowski, Jens Aagaard-Hansen, Bjarne Bruun Jensen
Denmark

Principled health promotion research is a normative framework designed to create a common culture between all involved in action research (individuals/patients, professionals, researchers). The framework comprises five health promotion principles: a broad, positive concept of health; participation and involvement; action and action competence; a setting approach; and equity in health. The five principles capture key elements of health promotion and frame them in a research perspective. They assist healthcare practitioners in their practical planning as well as guide health promotion research and evaluation. The approach supports health promotion researchers to implement action-oriented and participant-friendly research projects.

Chapter 24

Health Promotion Research in the School Setting

Lawrence St.Leger
Australia

Across the world, schools are a setting of choice for health promotion. This chapter presents an evolutionary perspective of the co-development since the middle of the twentieth century of school health promotion and school health promotion research. As more school health research was being conducted, the increasing evidence that healthy students learn better served as a legitimation that school health promotion is a means by which schools fulfil their mission. In parallel, the principles of the Ottawa Charter were increasingly shaping how schools integrate health in their mission. The role of school health promotion research was critical in these developments.

Chapter 25

Health Promotion Intervention Research in Complex Adaptive Systems: The Contextual Action-Oriented Research Approach (CARA)

Nina Bartelink, Patricia van Assema, Maria Jansen, Hans Savelberg, Stef Kremers
The Netherlands

The contextual action-oriented approach (CARA) is a strategy to study the implementation of interventions conceived of as complex adaptive systems that aim to transform the whole system in which they are implemented. In constant interactions with their context, these interventions are characterised by their numerous interacting components and their capacity to self-organise and adapt to better understand and support the transformation process enacted.

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