

Perspectives

The history and promise of holism in health promotion

Valerie Michaelson^{1,2,*}, William Pickett¹, and Colleen Davison^{1,3}

¹Department of Public Health Sciences, Queen's University, Canada, ²School of Religion, Queen's University, Canada and ³Department of Emergency Medicine, Queen's University, Canada

*Corresponding author. E-mail: valerie.michaelson@queensu.ca

Summary

Holism is an ancient theme concept that has resurfaced in recent literature, and that requires informed and intentional use in order to preserve its utility. This paper provides a historical and conceptual re-introduction of the notion of holism as it relates to health, with the hopes of informing the term's use in public health discourse. It also addresses the challenges that a lack of conceptual clarity about holistic health imposes on public health and health promotion discussions. It describes how the use and conceptualizations of holism are shifting in health promotion and argues that failing to accurately define and delineate its scope risks diluting its utility for future health promotion applications. We address these two problems, and build an argument for a rediscovery of the theory of holism in public health and health promotion, globally.

Key words: holism, holistic, public health, reductionism, health promotion

PREAMBLE

Over the past 40 years, there has been an intentional shift in thinking about the origins of health and how it is conceived within the disciplines of public health and health promotion. Guided by the leadership of the World Health Organization (WHO), documents and initiatives such as the Lalonde Report (Lalonde, 1974), the 'Health for All' targets (World Health Organization, 1984), the Ottawa Charter (World Health Organization, 1986a) and the WHO Commission on the Social Determinants of Health (CSDH; Commission on the Social Determinants of Health, 2008) have pointed to a revised vision of health that includes its description as an holistic phenomenon involving complex, inter-related aspects and determinants (Breslow, 1999; Kickbusch, 2003; Tremblay and

Richard, 2014). Yet, the concept of holism is not always clearly and precisely defined, adding to the complexity of this discussion. Shroff, for instance, contends that holism 'has become an umbrella term that is used to encompass anything non-reductionist or dualistic' (Shroff, 2011, p. 244).

The main purpose of this paper is to provide a historical and conceptual re-introduction of the notion of holism as it relates to health, with the hopes of informing the term's use in public health discourse. Although we explore it as an ancient theme, we also recognize it as a concept that has resurfaced in recent literature and that requires informed and intentional use in order to preserve its utility. A second purpose is to address the challenges that a lack of conceptual clarity about holistic

health imposes on public health and health promotion discussions. We describe how our use and conceptualizations of holism are shifting in health promotion and argue that failing to accurately define and delineate its scope risks diluting its utility for future health promotion applications. Our hope is to stimulate discussion and generate further opportunities for etiological and preventive thinking.

A HISTORICAL INTRODUCTION TO HOLISM: PAST USE AND PRESENT POTENTIAL

Origins of holism

Holism refers to the idea that *organic or unified 'wholes' have value and being which is inherently different from, and cannot be reduced to, the sum of their individual parts* (Christakis, 2012; Michaelson et al., 2016). In terms of health, this integrative, holistic view of health has ancient roots and can be traced back to the philosophical underpinnings of many early philosophical teachings. Plato, for instance, wrote in *Charmides* (380 BC) that *the part can never be well unless the whole is well*. Indeed, even the origins of the English word 'health' recognize the essential connection with holism. The term health is derived from the Old English word *haelp* (wholeness, a being whole, sound or well) and the Old Norse *helge* (holy or sacred); it is connected to the root *kailo* (whole); to *haelan* (to make whole); to the Greek *holos* (whole) and to the modern English word 'holistic' (Online Etymology Dictionary, 2017).

Holism, inter-connectedness and wholeness have also been central in ideas surrounding ancient and contemporary Indigenous philosophies and health conceptualizations (Graham and Leeseberg-Stamler, 2010; Tagalik, 2010). The Medicine Wheel, for instance, is 'one of the basic symbols of the world view of First Nations' (Svenson and Lafontaine, 1999) and reflects an understanding of health as an inter-connected phenomenon. The Medicine Wheel specifically emphasizes the physical, mental, emotional and spiritual dimensions of being (Graham and Leeseberg-Stamler, 2010; National Collaborating Centre for Aboriginal Health, 2013). Inuit oral health promoters have also recently been vocal about the need to view pediatric oral health as 'more than just teeth', putting the mouth back in the body and advocating for 'healthy teeth, health lives' (Inuit Tapiriit Kanatami, 2013).

Holistic understandings of health have been central in traditional approaches to health care (Wollumbin, 2012), and in other cultures and languages as well.

In Hebrew, the word *shalom* is used to reflect the fullness—or wholeness—of what health can be. Specifically in Judaism, *shalom* is associated with 'completeness, soundness, well-being, wholeness, peace and health' (Strong, 2005; Botterweck et al., 2006); it includes the person, their place in this world and the matrix of relationships that shape their life.

While historically and in certain sub-groups, holism has been recognized in theories surrounding the origins of health, it has not always been broadly endorsed as a concept. Indeed, holistic thinking was challenged by the French mathematician and philosopher René Descartes (1596–1650), whose ideas contributed to the development of a rigid division and distinction between body and mind, a division that is often referred to as 'the Cartesian dualism' (Donovan et al., 2007). This philosophical theory had far reaching consequences for disease, health and medical treatment. The study of anatomy, for instance, had once been prohibited for religious reasons based on the long-held view that the body was inherently spiritual and needed to remain intact after death (Mehta, 2011). While few would argue that the emergence of the study of anatomy was negative, this form of dualism de-emphasized the mental and spiritual realms of the health of the body and laid the groundwork for a reductionist and physical disease-oriented view in modern medicine (Mehta, 2011).

Even though the 18th and 19th centuries saw the development of many competing theories surrounding health, Cartesian thinking remained prominent. It emerged for instance in the area of mental health with the introduction of the idea that mental illness was fundamentally separate from illness of the body. The term 'mental disorder' implied a distinction between mental disorders and physical disorders that perpetuated a mind/body dualism (Kendall, 2001).

By the early 20th century, an individualistic medical model, which paid little attention to a patient's social context or wider environment, had come to dominate not only medical practice, but also society's overall attitude toward health (Bury, 2005). After the discovery of penicillin in 1928 and the beginning of the era of antibiotics, the focus of the field of medicine narrowed further. The medical profession had both power and autonomy as an authority on health, and the need for specialized knowledge and microscopic explanations in health determination and decision-making was firmly entrenched (Bury, 2005).

Regardless of the power behind this Cartesian way of thinking, it would be simplistic to argue that a separation of body, mind and spirit was the only force shaping attitudes toward health from the 17th century until the

present. Over this period there have been many counter-narratives that support more holistic understandings. For example, the 1948 WHO definition of health included mention of physical, mental *and* social components and not just the absence of disease (World Health Organization, 1948) indicating some notion of a composite conceptualization of health. In the area of mental health, the long-held view of the inherent separation of mind and body has also been challenged. Kendall writes that neither minds nor bodies develop illnesses, ‘only people... and when they do, both mind and body... are usually involved’ (Kendall, 2001).

Contemporary applications of the theory of holism to health

The actual term ‘holism’ was proposed by South African Jan Smuts in his 1926 book *Holism and Evolution* (Smuts, 1926). Here, Smuts described holism as the idea that natural systems (e.g. physical, biological, or social, etc.) and their properties should be viewed not as a collection of parts, but as integrated wholes. Albert Einstein, in a letter to Smuts, contended that along with relativity, holism would be one of the two mental constructs that would direct human thinking in the next millennium (Einstein, 1936). For the next century at least, Einstein appears to have been correct; the concept of holism has been applied in fields as diverse as biology (Isberg and Falkow, 1985; Kitano, 2002), ecology (Kitching, 1983; Odum, 1994), physics (Böhmer and Hiley, 1993), philosophy (Katinić, 2013), anthropology (Harkin, 2010) and economics (Fullerton, 2015).

Holistic thinking also informs contemporary approaches to health in a number of different ways. Illustratively, in the realm of health education, the Ontario health and physical education curriculum for 2015 recognizes health as a ‘holistic phenomenon’ (Ontario Ministry of Education, 2015, p. 34). It encourages students to make connections between different aspects of their health, including physical, mental, spiritual, social and emotional domains. Students also learn about the connections between healthy choices, active living and chronic disease prevention (p. 34), with the goal that their learning in health education forms an integrated whole that connects to their everyday lives. While individual aspects of health are considered in detail, the overall curriculum encourages students to understand connections between the various component parts.

Another current and practical example of holism being used in health promotion is found in the Pan Canadian Joint Consortium for School Health (2017,

established in 2005), which was developed to forge links between education and health. The Consortium recognized that outcomes in both areas would be improved with an integrative and holistic approach, and as a result they champion programs such as Comprehensive School Health (CSH; Comprehensive School Health, 2017), which ascribes holistic conceptualizations of school and student health. The CSH model is an integrative, holistic framework that supports student health in school contexts and recognizes that children can only reach their full potential as learners if their physical, mental, intellectual and emotional needs are met and their health and education are connected (Comprehensive School Health, 2017).

Emergence of the theory of holism during recent decades was very likely influenced by other historical events. In 1948, the WHO published a definition that embraced a more holistic understanding of health. In Canada, the socio-political landscape of the 1960’s and 70’s brought with it worries about the increasing costs to medicare, and the need to limit federal spending for health care services. This contributed to a major rethinking of the Canadian approach to health (Savoie, 1990). Under the guidance of the Prime Minister Trudeau’s Principal Secretary Marc Lalonde, the Government’s Long Range Health Planning Branch produced a working document called *A New Perspective on the Health of Canadians* [which is most commonly referred to as ‘The Lalonde Report’ (Lalonde, 1974)]. The report argued for a ‘holistic and multi-sectoral approach to health issues’, (MacDougall, 2007, p. 956) and prioritized a comprehensive strategy that would move health policy priorities beyond a focus on health care services and a bio-medical model, to a focus on underlying determinants of health and on health promotion (MacDougall, 2007).

While The Lalonde Report was not without critics, there was little question that it changed the basic approach to forming health policy not only in Canada but abroad. Just over a decade later, the kind of holistic thinking that was reflected in 1974 had developed and re-emerged in the 1986 Ottawa Charter for Health Promotion, which recognizes *caring, holism and ecology* as ‘essential issues in developing strategies for health promotion’ (World Health Organization, 1986a, p. 3). Over a decade later, the 1997 Jakarta Declaration (World Health Organization, 2009) affirmed that Ottawa Charter and further emphasized the effectiveness of holism as it can be applied to the notion of *comprehensive or integrated approaches* to health promotion over single-track strategies. In both the Ottawa and Jakarta statements, as well as in other

WHO documents, an emphasis on the *interdependent and inter-connected* issues of social justice, human rights, ecology, global sustainability, technology and health are acknowledged (World Health Organization, 1986a; World Health Organization, 2009). Concrete and practical examples of the many ways that holistic thinking is currently considered in health promotion, and influencing real-world practice, can be found in the WHO's Healthy Settings initiative. Healthy Settings approaches stem directly from the Ottawa Charter. They involve a holistic and multi-disciplinary method that integrates action across risk factors. The goal is to maximize disease prevention via a 'whole system approach' where the system is conceptualized as the setting where people actively shape, use and live in the environment and within this setting, create or solve health related problems (World Health Organization, 1986b).

Holistic and inter-sectoral approaches to *health care and policy* are being used around the world. Illustratively, the First Nations Wholistic Policy and Planning Model (AFN, 2007) emphasizes that cultural understanding can be used to effectively develop holistic health models. This approach holds together essential and interacting components for achieving positive health, including justice, economic development, housing and the environment. Further, the Centre for Addiction and Mental Health (CAMH; Centre for Addiction and Mental Health, 2017) in Canada uses what it describes as holistic health to move thinking beyond a biomedical focus and to recognize the synergies between the individual, interpersonal, organizational, community, policy and superstructural levels of a health system (Sweat and Denison, 1995; Scott and Wilson, 2011; Khenti *et al.*, 2016). A movement to a socio-ecological conceptualization of health was obvious in the decades surrounding and following the Ottawa Charter. The Canadian framework for health policy and health determinants put forward as a 'mandala of health' by Hancock and Perkins (1985) builds directly, but not explicitly, on the Buddhist ideology of holism and inter-connection between factors that support human life and thriving. This model demonstrates how health is more than individual behaviours, and is 'simultaneously influenced by human biology, personal behaviour, psychosocial environment, human environment and natural environment' (p. 27). The wider determinants of health models put forward by numerous authors in the 1990s (e.g. Evans and Stoddart, 1990; Whitehead and Dahlgren, 1991; Stokols, 1996) recognize the myriad of factors that can both hinder and enhance the health status of individuals and populations.

In each of these examples, the *interaction* between the various components, spheres, sectors and determinants has been variably emphasized.

A 2007 policy framework called 'People Centred Health Care' also merits mention. This was presented and endorsed by WHO Member States during the 58th session of the Regional Committee for the Western Pacific that was held in the Republic of Korea. It describes the 'complex *interplay* of physical, social, economic, cultural and environmental factors' (World Health Organization, 2007, p. 1) and makes a strong call for a more holistic and people-centred approach to health care, one that balances rights and responsibilities of all stakeholders. This framework recognizes that expectations and demands around health care delivery are changing, with expectations of a more 'humanistic and holistic approach to health care, where the individual who needs care is viewed and respected as a whole person with multi-dimensional needs' (p. 4). Here again, words such as human rights and dignity, non-discrimination, participation and empowerment, access and equity and a partnership of equals are core values perhaps in some way synergistic or interactive in relation to health (p. 7).

The examples so far relate to health promotion, education and policy, but holistic approaches are also being applied to research within the health sciences and specifically to the assessment of health status. For example, a systematic literature review led by de Silva, from the Evidence Centre in the United Kingdom, examines approaches to the measurement of person-centred care. de Silva describes an increasing number of validated tools for measuring person-centred care and its specific components in holistic ways (de Silva, 2014, p. 2). These holistic measures include the Individualized Care Scale; Measure of Processes of Care; Person-centred Care Assessment Tool and the Person-centred Climate Questionnaire. Of the 921 studies included in deSilva's review, 55% (503 studies) used holistic measures to focus on person-centred care as a broad holistic concept.

Along with its contribution to health policy documents and to assessment of health status, holism has also been put into practice. Some of the best examples of this currently come from the field of medicine and nursing. Woods, for example, argues that while some aspects of the treatment of patients should be based on reductionism as normative, to reduce a person to their presenting symptoms is 'to stray profoundly and dangerously away from the goals of medicine' (Woods, 2015, p. 15). For Woods, one important practical application of holism in health care is not losing sight of the 'patient as person', and not to compartmentalize and

separate different aspects of health and disease without considering them as a whole. Models of patient- and family- centred care emphasize patients' health concerns as having to be understood within the broader social context that they occur (Henneman and Cardin, 2002; Morton *et al.*, 2017). Social Pediatrics in an emerging form of paediatric medical practice that embeds pediatricians in comprehensive care settings with social workers, housing or educational specialists, child and family service workers or community health nurses (Spencer *et al.*, 2005). This diverse group of specialists can better work in concert to assist the 'whole child' (Bertrand *et al.*, 2008; Ford-Jones *et al.*, 2008; Jacob, 2017; Singh *et al.*, 2018).

Finally, holism is well aligned with systems and complexity theories, as seen in recent health promotion theoretical discussions (McQueen, 2000; Paton *et al.*, 2005; Alvaro *et al.*, 2011; Tremblay and Richard, 2014). In these theoretical frames, problems are approached as functions of interacting variables in wider systems (Frenk *et al.*, 2010) and thinking about systems as interdependent elements being 'more than the sum of their parts' (Frenk *et al.*, 2014). Holism has a long history, and its broad popularity suggests that people intuitively resonate with holistic approaches. Yet, it is its broad popularity that has contributed to the term being used as an umbrella or sometimes vaguely defined term when it relates to health promotion. It is at times difficult to know what is being talked about when holistic health is referenced. Progressively well-developed conceptual frameworks for understanding the world and social systems are being developed by systems- and complexity theorists (Pelikan, 2007; Walby, 2007; Knudsen and Vogd, 2014; Larsen-Freeman, 2017). These may represent useful ways to conceptualize and ultimately operationalize holism in health promotion.

SO WHERE DOES THIS LEAVE US?

Having explored the value that holism as a concept has contributed, and continues to contribute to public health, we are optimistic about its potential to frame future research and practice; however, problems surrounding this concept remain. Specifically, issues surrounding the definition and boundaries of holistic thinking demand attention from public health professionals, if the concept is to retain its integrity and applicability.

The first problem relates to definition. Even a cursory review of literature related to holism and health demonstrates a large variety of understanding of the concept of holism as it relates to health. It is found in mainstream and less mainstream journals with a huge variation in its

description and application. The word holistic is used to refer to robust and intellectually well-developed conceptualizations of health while other times it is used in a vague sense and without clear articulation of meaning. In addition, holistic as a term has been used to describe complementary or alternative approaches to medicine, health and healing, including those that may be popular but not yet evidence-based. There is some need for some caution here. One way to address this problem of definition and varied usage would be to choose another word that has been less appropriated. Unfortunately, it is not obvious what that word would be.

To further add to this problem, recent literature has revealed the need for a more critical understanding of the concept of holism in relation to health. In 2005, an Australian literature review for informing Aboriginal health policy found that authors in general were uncritical in interpreting, defining, and applying the concept of holism (Lutschini, 2005). It found that the definitional boundaries of the term 'holism' and the related adjective 'holistic' were diffuse and often fluid, containing mixed thematic messages. In particular, authors explicitly link holism to the WHO's definition of health, an ecological or ecosystems approach, a new public health approach and/or a systems model of thinking. Significantly, the review warned that ineffective engagement with the concept of holism—and lack of recognition of the cultural and philosophical underpinnings of its various conceptualizations—could undermine health promotion and policy development (Lutschini, 2005). Similarly, recommendations from a 2011 literature review of holism in Nordic nursing and health promotion literature (Povlsen and Borup, 2011) advocated for more awareness and intentional engagement with the concept, noting that perspectives were 'related, but distinct' across the disciplines of nursing and health promotion. Whereas nurses conceived of holism with respect to the individual wellbeing of the patient (e.g. their physical, mental and spiritual wellbeing), health promotion literature tended to focus on psychosocial or socioecological health determinants, such as those articulated in the Ottawa Charter and subsequent models. Others still have also noted a diverse conceptualization of holism across disciplines (Stempsey, 2001). Results of these literature reviews are striking; despite holism's potential to revitalize and reorient belief and practice, the absence of consistent and critical interpretations of the concept is suggested as an important impediment to its efficacy as a paradigm for health promotion.

A second central problem relates to boundaries. Freeman (2005, p. 155) writes that 'Everything affects health'. Certainly, we recognize that thinking about

health holistically could easily and quickly get so big that it would lose all practical value when it comes to health promotion and interventions. It would not take long for our conversation about the interconnectedness of holistic health to turn to issues of human rights, ecological sustainability, equity, justice and gender relations. These are all issues that cannot be left out when considering health, and the danger is that before long, we have left our conversation that is specific to health and are talking about a theory of everything: interesting perhaps to some, but not generally pragmatic in areas such as health promotion, education, policy or research. Here, Freeman's writing is again helpful. He writes:

[t]o a certain extent, what is 'holistic' depends upon where you stand....For a cell biologist, holism might mean thinking about the whole liver. In various contexts, it might mean the whole person, the whole community, the whole of society, or the whole planet. Which environmental events you respond to depends on the scale at which you choose to observe ('this person is obese' versus '30% of the US population is obese'). So the largest scale that is relevant to you, that you pay attention to, is probably what you define as holism (Freeman, 2005, p. 155).

The concept of holistic health is expansive, and relates to a myriad of synergies, complexities and interactions across all the systems and within all aspects of the individual person. But in order to have practical utility, it also needs some clear and focused boundaries. Otherwise, it is less a framework for talking about health as it is an invitation into a 'theory of everything' with its limited practical value.

Along with these cautions around boundaries and definitions, we also recognize the potential downsides of solely embracing holistic approaches at the expense of reductionist approaches. In many situations, reductionist approaches will be of equal or even more value. In clinical practice, for example, an unbalanced yet holistic focus on the patient as a whole may result in missing a specific diagnosis that would be identified by examining individual symptoms, test results and disease processes (Michaelson *et al.*, 2017). The addition of a holistic, whole-person approach along with very specific clinical practices may be beneficial in terms of patient care. Hence, the priority of a balanced approach, which values both reductionist and holistic ways of thinking, is optimal.

RECOMMENDATIONS—A PATH FORWARD

If holistic thinking is truly to be useful, these issues of definition and boundaries in particular need to be

addressed. In terms of definition, the Oxford Living Dictionary (English Oxford Living Dictionary, 2016), defines holism in two ways; First, in terms of philosophy, holism is '[t]he theory that parts of a whole are in intimate interconnection, such that they cannot be understood without reference to the whole, which is thus regarded as greater than the sum of its parts. ...' Second, in terms of medicine, holism is defined as '[t]he treating of the whole person, taking into account mental and social factors, rather than just the symptoms of a disease' (English Oxford Living Dictionary, 2016).

We draw from both of these definitions, and also from the ideas of Stempsey (2001, p. 202) and Phillips (1976) to construct a framework in which we understand something that is holistic to have two distinct properties. First, the whole is more than the sum of the parts, and there is an emergent property in the whole that is not reflected by the component parts. Second, the parts are interconnected, and gain new meaning in connection to each other and to the whole. Rather than use holistic and holism to mean anything we want them to mean, using this—or a similar—simple definition in precise ways protects holistic thinking from being lost in a vacuous and meaningless conversation.

Second, like Freeman, we submit that holistic thinking is best used to look at the largest scale that is relevant to the particular conversation at any given time. This strategy is simple, but it is not often used in the current discourse about health or the practice of health promotion. Even brief attention to articulating what is meant when terms like 'holistic health', 'holistic education' and 'holistic systems' are used would be helpful in providing conceptual clarity, and practical boundaries around a particular issue. Consequently, we encourage practitioners, researchers and policy-makers who draw from the principles of holism to explicitly define the term's confines in their discussion and use. Failing to use the term responsibly—particularly in written form—risks further complicating its precedent through increasingly diffuse meanings. The ability and opportunity to operationalize this concept in the future depends on a coherent and context-dependent understanding. Given its usefulness thus far, continuing to build a body of literature or policy with convoluted and/or conflicting definitions of holism would necessarily detract from the future exploration/pursuit of well-being and public health.

CONCLUSION

This article introduces the concept of holism and reflects on its utility in health promotion. We examine the historic roots and the more recent re-emergence of holism

in health promotion conversations. The fundamental goal of our efforts is to inform health promotion theory and practice so that we can better understand and support people living well and fully in the context of their everyday lives. Use of such thinking provides opportunities for new insights into health and its determinants, particularly the interactive, perhaps synergistic, effects between health determinants and between the mental, physical, social and spiritual realms of health itself. Without doubt, it will always be valuable to study individual components that contribute to health. But when health is looked at holistically, we see things that we would not see otherwise. Examining health holistically provides new insights into the way that the parts interact, engage, compete or depend on each other. Beyond being a vague word in various curricula and policies, holism is a concept that could concretely inform health research, education, policy development and health promotion practice.

REFERENCES

- AFN. (2007) *First Nations Wholistic Policy and Planning Model: Discussion paper for the World Health Organization Social Determinants of Health*. Assembly of First Nations, Ottawa, Ontario.
- Alvaro, C., Jackson, L. A., Kirk, S., McHugh, T. L., Hughes, J., Chircop, A. *et al.* (2011) Moving Canadian governmental policies beyond a focus on individual lifestyle: some insights from complexity and critical theories. *Health Promotion International*, **26**, 91–99.
- Bertrand, J., Williams, R. and Ford-Jones, L. (2008) Social paediatrics and early child development—the practical enhancements: part 2. *Paediatrics and Child Health*, **13**, 857–861.
- Böhm, D. and Hiley, B. J. (1993) *The Undivided Universe: An Ontological Interpretation of Quantum Theory*. Routledge, London and New York.
- Botterweck, G., Ringrenn, H. and Heinz-Josef, F. (eds) (2006) *Sbalom*, Vol. 15. Theological Dictionary of the Old Testament, Eerdmans, pp. 13–49.
- Breslow, L. (1999) From disease prevention to health promotion. *Journal of the American Medical Association*, **281**, 1030–1033.
- Bury, M. (2005) *Health and Illness*. Polity Press, Cambridge, MA.
- Centre for Addiction and Mental Health. (2017) Centre for addiction and mental health. Retrieved from <http://www.camh.ca/en/hospital/Pages/home.aspx> (15 May 2017, date last accessed).
- Christakis, N. A. (2012) Holism. In Brockman, J. (ed), *This Will Make You Smarter*. Harper, New York, pp. 81–83.
- Comprehensive School Health. (2017) Pan Canadian Joint consortium for school health. <http://www.jcsh-cces.ca/index.php/about/comprehensive-school-health> (11 August 2017, date last accessed).
- Commission on the Social Determinants of Health. (2008) *Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health*. Final Report of the Commission on Social Determinants of Health. Geneva, World Health Organization.
- Whitehead, M. and Dahlgren, G. (1991) What can be done about inequalities in health? *The Lancet*, **338**, 1059–1063.
- de Silva D. (2014) *Helping Measure Person-Centred Care: A Review of Evidence about Commonly Used Approaches and Tools Used to Help Measure Person-Centred Care*. The Health Foundation, London.
- Donovan, D., McDowell, I. and Hunter, D. (eds) (2007) *Primer on population health: a virtual textbook on public health concepts for clinicians*. Association of Faculties of Medicine of Canada. Retrieved from <http://phprimer.afmc.ca/node/35> (11 August 2017, date last accessed).
- Einstein, A. (1936) *Letter from Einstein to Smuts, June 24*. Cambridge University Library (Vol. 54, Folio 33), Cambridge, UK.
- English Oxford Living Dictionary. (2016) *Holism*. Retrieved from <https://en.oxforddictionaries.com/definition/holism> (11 August 2017, date last accessed).
- Evans, R. and Stoddart, G. (1990) Producing health, consuming health care. *Social Science and Medicine*, **31**, 1347–1363.
- Ford-Jones, E. L., Williams, R. and Bertrand, J. (2008) Social paediatrics and early child development: part 1. *Paediatrics and Child Health*, **13**, 755–758.
- Freeman, J. (2005) Towards a definition of holism. *The British Journal of General Practice*, **55**, 154–155.
- Frenk, J., Chen, L., Bhutta, Z. A., Cohen, J., Crisp, N., Evans, T. *et al.* (2010) Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. *The Lancet*, **376**, 1923–1958.
- Frenk, J., Gómez-Dantés, O. and Moon, S. (2014) From sovereignty to solidarity: a renewed concept of global health for an era of complex interdependence. *The Lancet*, **383**, 94–97.
- Fullerton, J. (2015) *Regenerative Capitalism: How Universal Principles and Patterns will Shape Our New Economy*. Capital Institute. <http://capitalinstitute.org/wp-content/uploads/2015/04/2015ExecSummary4-14-15.pdf> (24 May, 2018, date last accessed).
- Graham, H. and Leeseberg-Stamler, L. (2010) Contemporary perceptions from an indigenous (Plains Cree) perspective. *Journal of Aboriginal Health*, **6**, 6–17.
- Hancock, T. and Perkins, F. (1985) The mandala of health: a conceptual model and teaching tool. *Health Education*, **8**, 1–10.
- Harkin, M. E. (2010) Uncommon ground: holism and the future of anthropology. *Reviews in Anthropology*, **39**, 25–45.
- Henneman, E. A. and Cardin, S. (2002) Family-centered critical care: a practical approach to making it happen. *Critical Care Nurse*, **22**, 12–19.
- Inuit Tapiriit Kanatami. (2013) *Health Teeth, Health Lives: Inuit Oral Health Action Plan 2013*. Inuit Tapiriit Kanatami, Ottawa, ON.

- Isberg, R. R. and Falkow, S. (1985) A single genetic locus encoded by *Yersinia pseudotuberculosis* permits invasion of cultured animal cells by *Escherichia coli* K-12. *Nature*, **317**, 262–264.
- Jacob, G. (2017) Addressing the needs of Canadian children with a social paediatrics approach. *University of Toronto Medical Journal*, **94**, 7.
- Katinić, M. (2013) Holism in deep ecology and Gaia-theory: a contribution to eco-geological science, a philosophy of life or a new age stream? *The Holistic Approach to Environment*, **3**, 3–14.
- Kendall R. (2001) The distinction between mental and physical illness. *The British Journal of Psychiatry*, **178**, 490–493.
- Khenti, A., Fréel, S., Trainor, R., Mohamoud, S., Diaz, P., Suh, E. et al. (2016) Developing a holistic policy and intervention framework for global mental health. *Health Policy and Planning*, **31**, 37–45.
- Kickbusch, I. (2003) The contribution of the World Health Organization to a new public health and health promotion. *American Journal of Public Health*, **93**, 383–388.
- Kitano, H. (2002) Systems biology: a brief overview. *Science*, **295**, 1662–1664.
- Kitching, R. L. (1983) *Systems Ecology: An Introduction to Ecological Modelling*. University of Queensland Press, St. Lucia, Australia.
- Knudsen, M. and Vogd, W. (eds) (2014) *Systems Theory and the Sociology of Health and Illness: Observing Healthcare*. Routledge, London and New York.
- Lalonde, M. (1974) *A New Perspective on the Health of Canadians*. Information Canada, Ottawa, Ontario, Canada.
- Larsen-Freeman, D. (2017) Complexity theory. *Complexity Theory and Language Development: In Celebration of Diane Larsen-Freeman*, **48**, 11.
- Lutschini, M. (2005) Engaging with holism in Australian Aboriginal health policy—a review. *Australia and New Zealand Health Policy*, **2**, 15.
- MacDougall, H. (2007) Reinventing public health: a New Perspective on the Health of Canadians and its international impact. *Journal of Epidemiology and Community Health*, **61**, 955–959.
- McQueen, D. V. (2000) Perspectives on health promotion: theory, evidence, practice and the emergence of complexity. *Health Promotion International*, **15**, 95–97.
- Mehta, N. (2011) Mind-body dualism: a critique from a health perspective. *Mens Sana Monographs*, **9**, 202–209.
- Michaelson, V., Pickett, W., King, N. and Davison, C. (2016) Testing the theory of holism: A study of family systems and adolescent health. *Preventive Medicine Reports*, **4**, 313–319.
- Michaelson, V., King, N. and Pickett, W. (2017) *Holistic Health in Children: Conceptualization, Assessment and Potential*. Springer, Dordrecht.
- Morton, P. G., Fontaine, D., Hudak, C. M. and Gallo, B. M. (2017) *Critical Care Nursing: A Holistic Approach*. Lippincott Williams and Wilkins, Philadelphia, p. 1056.
- National Collaborating Centre for Aboriginal Health. (2013) Messages from the heart: caring for our children, a national showcase on aboriginal child rearing. http://www.nccahccnsa.ca/Publications/Lists/Publications/Attachments/33/MFTH_EN_web.pdf (11 August 2017, date last accessed).
- Odum, H. T. (1994) *Ecological and General Systems*. University Press of Colorado, Boulder, Colorado.
- Online Etymology Dictionary. (2017) *Holism*. Retrieved from http://etymonline.com/index.php?allowed_in_frame=0&search=holism (24 April 2017, date last accessed).
- Ontario Ministry of Education. (2015) *The Ontario Curriculum Grades 1-8: Health and Physical Education*. Retrieved from: <http://www.edu.gov.on.ca/eng/curriculum/elementary/health1to8.pdf> (11 August 2017, date last accessed).
- Pan Canadian Joint Consortium for School Health. (2017) Retrieved from <http://www.jcsh-cces.ca/accessed> (13 May 2017, date last accessed), (11 August 2017, date last accessed).
- Paton, K., Sengupta, S. and Hassan, L. (2005) Settings, systems and organization development: the Healthy Living and Working Model. *Health Promotion International*, **20**, 81–89.
- Pelikan, J. M. (2007) Understanding differentiation of health in late modernity by use of sociological systems theory. In *Health and Modernity*. Springer, New York, pp. 74–102.
- Phillips, D. C. (1976) *Holistic Thought in Social Science*. Stanford University Press, Stanford, California.
- Plato. (380 BCE) *Charmides*. Retrieved from <http://classics.mit.edu/Plato/charmid.html> (11 August 2017, date last accessed).
- Povlsen, L. and Borup, I. (2011) Holism in nursing and health promotion: distinct or related perspectives?—A literature review. *Scandinavian Journal of Caring Sciences*, **25**, 798–805.
- Savoie, D. J. (1990) *The Politics of Public Spending in Canada*. University of Toronto Press, Toronto, Canada.
- Scott, A. J. and Wilson, R. F. (2011) Social determinants of health among African Americans in a rural community in the Deep South: an ecological exploration. *Rural Remote Health*, **11**, 1634.
- Shroff, F. (2011) Conceptualizing holism in international interdisciplinary critical perspective: toward a framework for understanding holistic health. *Social Theory and Health*, **9**, 244–255.
- Singh, G., Owens, J. and Cribb, A. (2018) Practising ‘social paediatrics’: what do the social determinants of child health mean for professionalism and practice? *Paediatrics and Child Health*, **28**, 107–113.
- Smuts, J. C. (1926) Holism and evolution. Рипол Классик.
- Spencer, N., Colomer, C., Alperstein, G., Bouvier, P., Colomer, J., Duperrex, O. et al. (2005) Social paediatrics. *Journal of Epidemiology and Community Health*, **59**, 106–108.
- Stempsey, W. E. (2001) Plato and holistic medicine. *Medicine, Health Care and Philosophy*, **4**, 201–209, 2001.

- Stokols, D. (1996) Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion*, 10, 282–298.
- Strong, J. (2005) *Shalom*. Strong's Exhaustive Concordance. <http://www.biblestudytools.com/concordances/strongsexhaustive-concordance/> (11 August 2017, date last accessed).
- Svenson, K. and Lafontaine, C. (1999) The Search for Wellness. First Nations and Inuit Regional Health Survey National Report, Chapter 6. http://fnigc.ca/sites/default/files/ENpdf/RHS_1997/rhs_1997_final_report.pdf (24 May 2018, date last accessed).
- Sweat, M. D. and Denison, J. A. (1995) Reducing HIV incidence in developing countries with structural and environmental interventions. *Aids*, 9, S251–S257.
- Tagalik, S. (2010) Inunnguiniq: Caring for Children the Inuit Way. <http://www.ottawainuitchildrens.com/wp-content/uploads/2015/01/Inuit-caring-EN-web.pdf> (24 May 2018, date last accessed).
- Tremblay, M.-C. and Richard, L. (2014) Complexity: a potential paradigm for a health promotion discipline. *Health Promotion International*, 29, 378–388.
- Walby, S. (2007) Complexity theory, systems theory, and multiple intersecting social inequalities. *Philosophy of the Social Sciences*, 37, 449–470.
- Wollumbin, J. (2012) Holistic primary health care - origins and history. *Journal of the Australian Traditional Medicine Society*, 18, 77–80.
- World Health Organization. (1948) Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19 June–22 July 1946; signed on 22 July 1946 by the representatives of 61 States (Official Records of the World Health Organization, no. 2, p. 100) and entered into force on 7 April 1948.
- World Health Organization. (1984) *Health for All Targets*. Copenhagen, Denmark.
- World Health Organization. (1986a) *Ottawa Charter for Health Promotion*. Proceedings from the First International Conference on Health Promotion, World Health Organization, Ottawa, Ontario. Retrieved from <http://www.euro.who.int/en/publications/policy-documents/ottawa-charter-for-health-promotion,-1986> (24 April 2017, date last accessed).
- World Health Organization. (1986b) Introduction to Healthy Settings. http://www.who.int/healthy_settings/about/en/ (11 August 2017, date last accessed).
- World Health Organization. (2007) *People-Centred Health Care: A Policy Framework*. World Health Organization, Geneva. Retrieved from http://www.wpro.who.int/health_services/people_at_the_centre_of_care/documents/ENG-PCIPolicyFramework.pdf (24 April 2017, date last accessed).
- World Health Organization. (2009) Milestones in health promotion: statements from global conferences. Jakarta declaration on leading health promotion in the 21st century, Chapter 4. <http://www.who.int/healthpromotion/milestones/en/> (24 May 2018, date last accessed).
- Woods, S. (2015) Holism in health care: patient as person. In Schramme, T. and Edwards, S. (eds), *Handbook of the Philosophy of Medicine*. Springer, Dordrecht.