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"Nature is there; its free": Urban greenspace and the social determinants of health of immigrant families

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ABSTRACT

In this article, we draw on a 2012 Montreal-based study that examined the embodied, every day practices of immigrant children and families in the context of urban greenspaces such as parks, fields, backyards, streetscapes, gardens, forests and rivers. Results suggest that activities in the natural environment serve as a protective factor in the health and well-being of this population, providing emotional and physical nourishment in the face of adversity. Using the Social Determinants of Health model adopted by the World Health Organization (WHO, 1998), we analyze how participants accessed urban nature to minimize the effects of inadequate housing, to strengthen social cohesion and reduce emotional stress. We conclude with a discussion supporting the inclusion of the natural environment in the Social Determinants of Health Model.

1. Introduction

Due to immigration procedures that screen newcomers for mental and physical health problems, Canadian immigrants arrive with fewer mental health problems than the general population (Kirmayer et al., 2011) and are in better physical health (Tremblay et al., 2006). However, stressful experiences during the pre-migration, migration and post-migration phases soon cause newcomers to report significant increases in physical health problems (De Maio and Kemp, 2010; Kim et al., 2013) and to match their Canadian-born counterparts in reported mental health concerns (Kirmayer et al., 2011). In a longitudinal survey of Canadian immigrants, researchers found that within four years of their arrival, the percentage of immigrants reporting excellent health decreased from 43% to 30%. During this time, 29% of immigrants reported pervasive feelings of sadness, depression and loneliness, an increase from 5% four years prior (De Maio and Kemp, 2010). These statistics suggest the pertinence of exploring initiatives to specifically protect and promote immigrant health.

While historically, physical and mental health difficulties have been perceived as personal and addressed through individual-based interventions, health practitioners and policymakers now recognize the impact of physical and social environments on health and well-being. Health-related interventions are therefore increasingly inclusive of environmental factors, both in terms of treatment and prevention. This study examines how one sample of Canadian immigrants accessed urban green spaces as a means through which to address their health and well-being. Specifically, these newcomers identified how experiences in nature allowed them to mitigate the negative impact of three social determinants of health identified in the literature as common to immigrant families: inadequate housing, social isolation, and psychological stress.

1.1. The social determinants of health conceptual framework

The social determinants of health framework challenges previously held explanatory models of illness and disease wherein individual traits and behaviours were viewed as the primary and often sole sources of illness. The framework emphasizes that social processes arising from structural factors give rise to health and disease outcomes (Solar and Irwin, 2010). These social processes can be modified in positive or negative directions by intermediary variables: psychological, social, material and biological (Solar and Irwin, 2010). Long-term, adverse social and material living conditions are perceived to have the potential to increase physiological and psychological stress responses that, in turn, increase propensity to disease and/or unhealthy coping behaviours (Marmot and Wilkinson, 2006; Raphael, 2009; Solar and Irwin, 2010). In the face of these adversities, individuals and communities may at times manage to shift these social and material living conditions in their favour, thus acting as agents of change in their own health and well-being trajectories (Solar and Irwin, 2010).

The World Health Organization (WHO) included *the effects of urbanization and associated living conditions* in their conceptual framework as one of nine overarching social determinants integral

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to health and well-being (Solar and Irwin, 2010). This followed the "Healthy Cities" initiative launched in 1986 by the WHO in recognition of the fact that cities themselves are "habitats" whose conditions can be ameliorated with the goal of health promotion (Ashton et al., 1986, p. 6; de Leeuw et al., 2014). This health promotion approach represented a shift from a sole dependence on health structures, toward commitments to improve city environments through intersectoral collaboration, community participation and capacity building (Ashton et al., 1986; de Leeuw et al., 2014; Heritage and Dooris, 2009; Twiss et al., 2003). Though early drafts on the social determinants of health conceptual framework made passing reference to the positive impact of the aesthetic quality of urban vegetation (WHO, 2007), the most recent working models do not mention the place of urban vegetation or any aspects of urban nature in health and well-being outcomes. This is oversight.

1.2. Health and contact with nature

Urban planners draw on the term "green space" to refer to the presence of vegetation in urban settings, usually human-designed. Green space has been contrasted to wilderness space, commonly perceived as wild and untouched; though in reality, very few natural spaces on earth have been unaltered by human intervention (Cronon, 1996). Urban green space is comprised of elements such as hills and rocks, grass, trees, flowers, fields, gardens, parks, and forests (De Vries et al., 2003). Recently, scholars have distinguished "blue space" (presence of water) in their discourse, recognizing urban aquatic environments such as lakes, creeks, and seaside as distinct from green space (see Völker and Kistemann, 2011; White et al., 2010).

Health researchers have traditionally emphasized nature's impact through the visual sensory experience of nature with much of the early research focusing on laboratory studies in which subjects were exposed to visual stimuli (Herzog et al., 2003; Staats et al., 2003). More recently, soundscapes (Farina, 2014; Yang and Kang, 2005), olfactory sensations (Jo et al., 2010) and tactile sensory nature experiences (Koga and Iwasaki, 2013) have been explored in studies concerning nature and human health.

Three theories have dominated explanations of why non-threatening forms of nature in urban green space positively impact health and well-being. *Stress reduction theory* posits that nature contact reduces physiological states of stress by altering the mechanism of the parasympathetic nervous system (Ulrich et al., 1991). *Attention restoration theory* hypothesizes that experiences of "soft fascination" in nature can create a state of attentive awareness that in turn restores cognitively fatigued minds (Kaplan, 1995). The theory of *Biophilia s*tates that humans are born with an innate, evolutionary affiliation to non-threatening forms of nature and are positively affected when this contact is revived (Kellert, 2002; Wilson, 1984). Relatedly, contact with nature has been demonstrated to impact emotional and psychological development as contact with nature may parallel the early child-caregiver attachment relationship and can be experienced as a responsive, nurturing, and emotionally regulating presence (Hordyk et al., 2014). Researchers have also demonstrated that affective responses to nature may facilitate attachment to new environments and places (see Bow and Buys, 2003; Riley, 1992).

Urban greenspaces are a catalyst to promote healthy lifestyles and (Bell et al., 2008), which in turn impact rates of coronary heart disease, cerebrovascular illness, cancer, and obesity (Willis and Crabtree, 2011). Green environments nurture social development (Maas et al., 2009; Seeland et al., 2009) and are a protective factor for health inequality related to income deprivation (Mitchell and Popham, 2008). In response to this growing body of evidence, health policy makers have begun to consider urban nature as a means through which to promote personal health and healthy cities (c.f. Condarson, 2012; Health Council of the Netherlands, 2004; Nilsson et al., 2011; OPENspace, 2014).

The newcomer situation is unique, however, in that they are often adapting to an unfamiliar natural world of flora, fauna, climate and landscape. Childhood memories and experiences, a key factor in predicting adult behaviours toward nature (Wells and Lekies, 2006) may have little relevance to the new environment. Immigrant parent guidance concerning their children's nature experiences may also be limited as they may be unfamiliar with safety norms concerning local food, plants, climates and geographies.

Studies specific to immigrant populations have nevertheless found that embodied practices in nature serve as a bridge between host and home country (Morgan et al., 2005; Wen Li et al., 2010). While gardening, familiar traditions, from the design of garden spaces to digging soil, watering seeds, harvesting and food preparation provide continuity in agricultural and culinary traditions (Corlett et al., 2003; Minkoff-Zern, 2012). Likewise, memories stimulated by bodies of water (Cadzow et al., 2010), forests (Kwiatkowski, 2004), parks and greenhouses (Rishbeth, 2004a, 2004b; Rishbeth and Finney, 2006) serve to bridge home and host country.

The literature, however, remains largely silent on whether contact with nature in urban settings potentially reverses the decline in mental and physical health noted in many newcomer populations as they settle into their new societies. This study sought to fill this gap by examining whether migrant families experience contact with urban green spaces as promoting their own health and well-being. To examine the question as to whether urban nature has the salutary effects in immigrant populations as have been previously identified in non-immigrant populations, social determinants of health pertinent to migrant populations were identified. These determinants included housing (Germain, 2009; Hordyk et al., 2014); social cohesion (Zhang and Ta, 2009); immigration status (Oxman-Martinez et al., 2005); age, income, and gender (Newbold and Danforth, 2003); education and language proficiency (Chiswick et al., 2008), disruptions in parent-child relationship, prior trauma, and separation from attachment relationships in one's home country (Aycan and Berry, 1996; Yakushko et al., 2008; Yakushko, 2010) and psychosocial stressors specific to migration trajectories (Kirmayer et al., 2011). The qualitative study discussed in this paper explored whether participants accessed nature to address the negative impact of any of these social health determinants.

2. Research design

A hermeneutic phenomenological approach was used to access immigrant parent and children's lived experiences of nature in urban contexts. This research approach necessitated personal attunement to one's own location in culture, time, place, space, and language, and a reflexive awareness as to how these realities would potentially limit what is viewed as meaningful (Van Manen, 1990). Data collection included non-verbal methods such as drawing and story-telling, allowing the researcher to elicit in-depth responses from research participants for whom language and age differences made verbal communication difficult. A university ethics review board provided approval for the study.

Seven immigrant families consisting of 13 children (ages 7–13), and 10 adults participated in this study. Interviews of each family lasted 1.5–2.5 h. Participating families came from the Caribbean, Central Asia, Western Europe, Central America, South America, North Africa, and West Africa. The families had been recruited through welcome classes offered to immigrant children in a local school district. The range of time that the families had spent in Canada ranged from six months to seven years.