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Introduction: Environment and Child Well-being

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Abstract

In recent years there has been a growing interest in understanding how the particular environment in which children and youth develop affect later outcomes. The articles in this special issue all examine ways in which the larger environment is related to children's well-being. In this introduction, we describe some of the historical research “highlights” showing how the environment affects well-being from several disciplines, discuss current trends in environmentally-based research, provide a short review of the literature on the effects of the environment for children and review, and discuss remaining challenges.

The purpose of this special issue is to highlight articles that explicate ways in which the larger environment has an effect on children's well-being. The contribution of these studies is two-fold. First they begin to illuminate and study those mechanisms by which the environment can affect well-being. Second, they use methods that take into account the unique characteristics of spatially-referenced data. Together these advances allow for a deeper understanding of the dynamics of social welfare and location.

Over the past twenty years there has been a renewed interest in how the environment (or place) influences an individual's well-being, the development and spread of disease, and in the concentration of social problems. This important line of inquiry has the potential to create a change in how we think about preventing and treating social concerns and embraces the social work tradition of “person-in-environment.” Yet despite its current in vogue status, research on the environment faces many methodological and statistical challenges (Freisthler, Lery, Gruenewald, & Chow, 2006) and suffers from a dearth of theoretical frameworks illustrating the mechanisms by which the environment shapes well-being.

In this introduction, we describe some of the historical research “highlights” showing how the environment affects well-being from several disciplines, discuss current trends in environmentally-based research, provide a short review of the literature on the effects of the environment for children and review, and discuss remaining challenges. In the concluding essay we discuss how each of the special issue articles contributes to a greater understanding of the mechanisms by which the environment has an effect on children's well-being.

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Mapping how the environment alters well-being is not a new phenomenon. In public health, an early study that explicitly examined the role of location in the spread of disease was conducted in London by Dr. John Snow in 1854. Dr. Snow wanted to prove his theory that cholera was a contagious disease spread by an oral-fecal route through polluted water. In one famous example, he investigated one of the most serious outbreaks of the disease by examining cases marked on a street map with the address of each fatality. He noticed that the deaths were concentrated around a specific water pump so he then went and interviewed the residents asking from where their deceased relatives typically got their water and confirmed that the majority got in from the Broad Street pump. His proposed intervention, to remove the handle of the pump to prevent the spread of the disease came too late to save most of the neighbors, but his analysis of the Broad Street neighborhood helped prove his cholera transmission theory to a skeptical medical community (Hempel, 2007). In social work, Florence Kelley created push pin maps of nationality, wages, and employment of survey respondents living in and around Hull House (Hull House Maps and Papers, 1970). Maps are used in this instance to supplement information obtained by survey respondents and to show visually the location of poverty within the neighborhood. In addition to mapping social problems, sociologists and criminologists have been at the forefront of developing theories about how the environment in which one lives may make them vulnerable to social problems. Social disorganization theory is one such theory and posits that crime and other deviant behaviour is most likely to occur where social institutions are not able to direct and control groups of individuals (Shaw & McKay, 1962). Thus the examination of how the environment is related to individual well-being has a rich tradition in the social sciences.

Current examples of mapping and spatial analysis in social work include analyzing the relationship between neighborhood characteristics and health disparities for racial and ethnic minorities (Freisthler, Bruce, & Needell, 2007) and how access to jobs or social services differ depending on where a person lives (Coulton, 2003). Freisthler et al. (2007) found a differential relationship between neighborhood characteristics and rates of child maltreatment for Black, White, and Hispanic children. They found that poverty was related to maltreatment for all groups, but that employment measures were related to maltreatment for Hispanic children, child care burden was related to maltreatment of White children, and off-premise alcohol outlets were related to maltreatment for Black children. These authors conclude that it may be possible to prevent maltreatment by designing specific interventions that are tailored to the composition of neighborhood residents. And, that if we want to reduce disparities of a particular group within the child welfare system, we can focus on developing prevention efforts that focus on those mechanisms that result in maltreatment for that particular group. Coulton (2003) describes a variety of different explanations for the mismatch between where low-skill workers live and where low-skill jobs are available. Potential mechanisms may include the sheer distance between where the workers live and where the jobs are which makes traveling to the jobs more difficult. Alternatively or in addition to distance factors, low-skill workers may not have social networks that allow them to learn about job openings outside of their neighborhoods. Which mechanisms are thought to contribute to the mismatch shapes how research is developed (should we measure transportation issues or social issues?) and potential policy solutions (should we develop more transportation or encourage networking?)

Given the renewed emphasis on understanding how neighborhood areas are related to the well-being of children and youth, neighborhood-based interventions are being developed to address social problems (see Lery, this issue). However the development of place-based interventions is not without controversy. For example, a new emphasis in child welfare practice that emphasizes placing abused or neglected children in their neighborhoods if other relative caregivers are not available has sparked debate. Berrick (2006) argues that vulnerable children, such as those who have been abused or neglected, are placed at much higher risk by remaining in frail neighborhoods and would be better served placed in homes that provide supportive,

nurturing caregivers regardless of location. Thus she contends that the trend towards keeping children in their neighborhood of origin is potentially harmful to children. In a response, Crampton (2007) argues that neighborhood-based interventions are not just about placing children who have been removed from their home due to abuse or neglect within their own neighborhoods, but they are about strengthening neighborhood supports and infrastructure. Both authors stress the need for more research that tests stronger theoretical frameworks around the variety of ways neighborhoods may influence children and youth's well-being so that place-based interventions can be developed that both help improve neighborhood conditions and support healthy child development.

This understanding of how place affects youth becomes of greater importance as social work schools integrate mapping technology into coursework. Hillier (2007) reports on how students use mapping to show needs and assets of a community, improve delivery of social services by showing locations of consumers, and empower disadvantaged communities by showing them how programs or services may affect them. Masters of Social Work students at School of Public Affairs at the University of California, Los Angeles learn and use GIS to propose new sites for supportive housing units for mentally ill homeless, find locations of employment services for individuals leaving drug treatment programs, and identify place-based strategies to organize Head Start agencies around creating a union. Social work graduate students at the Mandel School of Applied Social Sciences at Case Western Reserve University are trained in the use of a web-based database which they can use to map rates of child maltreatment, demographic variables, housing and other economic and social data (<http://neocando.case.edu>). What distinguishes the articles in this special issue from those projects is that mapping through GIS is used as a tool to identify the location of respondents on a map (called geocoding). More sophisticated statistical analyses can be conducted that provide us with a more complete understanding of environmental effects. The mere process of mapping may highlight the difficulty certain populations have in accessing social services, or show an agency what gaps in service delivery may exist based on the needs of the population being served. However, a map does not provide us with any information on whether perceived visual relationships are meaningful or statistically significant. For example the lack of a direct bus route through a particular neighborhood and downtown, where most services are located, may not present an access problem if the primary mode of transportation for neighborhood residents is by their own car. Similarly, relationships that may look strong on a map (drug sales and child maltreatment) may not be statistically significant once poverty is controlled (Freisthler, Needell, & Gruenewald, 2005).

This highlights an important difference between the singular use of mapping or Geographic Information Systems (GIS) versus using mapping or GIS as a tool to create spatially-referenced variables or to allow survey data to have a spatial component. While mapping can visually show the distribution of social problems, only spatial analysis allows researchers to determine those spatial relationships that significantly impact social problems. It is these statistical relationships that better aid researchers and practitioners in developing programs and policies that will ultimately reduce social problems.

Despite the fact that this special issue provides an advance in looking at how environments interact with individuals and families to create problems, there remain challenges in studying these environmental effects. Most individuals spend parts of their day in different "environments." For example, a school-age child will spend part of their day at school, then may attend an after-school or day care center at another location, and finally, they may spend the evening and weekends at home in their "neighborhood." Which of these environments is more important in understanding outcomes for children and youth? How does one account for influence of these multiple environments on behavior? The picture becomes even more complicated when you consider that the size and shape of environments change as children go

through different developmental stages. Neighborhood or environmental effects for infants and young toddlers may be restricted to smaller neighborhood areas as the logistics of getting children ready for errands or other activities outside the home and the increased challenges of monitoring and supervising these children in non-familiar settings may encourage parents to restrict their movements. However, as children grow up, begin school, and spend more time with peers, the environment where activities occur may expand accordingly such that both local and adjacent neighborhood areas provide a greater influence on behaviors. One approach to studying this phenomenon is to move away from the traditional view of “neighborhood” effects and to look more completely at individual's activity spaces. Activity space refers to how people move about and interact with their environment. For example, in transportation research, activity space can mean travel between and around the centers of daily life such as homes and other frequently visited activity locations such as places for shopping, work or school (Schönfelder & Axhausen, 2003). Knowing where and when a person is in a specific environment and understanding how negotiating that environment may affect behavior, while giving a more complete view of environmental effects, introduces more complexity into methods and analysis.

Finding solutions for studying the complexities of environmental effects will require collaboration across many disciplines. Currently biostatisticians are developing more advanced statistical modeling techniques to more accurately measure the intricacies of place effects (Banerjee, Carlin, & Gelfand, 2004; Waller & Gotway 2004). Researchers from many disciplines including social work, sociology, and public health study how the environment impacts social problems and health. Continuing this dialogue across disciplines is important to untangle the complex associations we find in neighborhood-based research, including those found in the articles in this special issue.

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