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Incorporating intersectionality theory into population health research methodology: Challenges and the potential to advance health equity

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ABSTRACT

Intersectionality theory, developed to address the non-additivity of effects of sex/gender and race/ethnicity but extendable to other domains, allows for the potential to study health and disease at different intersections of identity, social position, processes of oppression or privilege, and policies or institutional practices. Intersectionality has the potential to enrich population health research through improved validity and greater attention to both heterogeneity of effects and causal processes producing health inequalities. Moreover, intersectional population health research may serve to both test and generate new theories. Nevertheless, its implementation within health research to date has been primarily through qualitative research. In this paper, challenges to incorporation of intersectionality into population health research are identified or expanded upon. These include: 1) confusion of quantitative terms used metaphorically in theoretical work with similar-sounding statistical methods; 2) the question of whether all intersectional positions are of equal value, or even of sufficient value for study; 3) distinguishing between intersecting identities, social positions, processes, and policies or other structural factors; 4) reflecting embodiment in how processes of oppression and privilege are measured and analysed; 5) understanding and utilizing appropriate scale for interactions in regression models; 6) structuring interaction or risk modification to best convey effects, and; 7) avoiding assumptions of equidistance or single level in the design of analyses. Addressing these challenges throughout the processes of conceptualizing and planning research and in conducting analyses has the potential to improve researchers' ability to more specifically document inequalities at varying intersectional positions, and to study the potential individual- and group-level causes that may drive these observed inequalities. A greater and more thoughtful incorporation of intersectionality can promote the creation of evidence that is directly useful in population-level interventions such as policy changes, or that is specific enough to be applicable within the social contexts of affected communities.

1. Population health research and the need for explicit theory

The term "population health research" can be used to refer to quantitative research across a range of disciplines (e.g. population epidemiology, social epidemiology, public health, medical sociology, health promotion, community medicine, community psychology) that aims to understand and impact the health and well-being of populations. In a classic paper, Geoffrey Rose (1985) distinguished between the causes of disease among individual persons and the causes of disease incidence among populations. Even in cases where the causes of individual disease are the same (e.g. the same virus, the same individual genetic or environmental susceptibilities), population groups often experience extremely different incidence or prevalence of disease (Rose, 1985). The drivers of specific health inequalities can involve intrinsic biological factors, such as inherited differences in genetic susceptibilities across populations. However, where inequalities are structured across socio-demographic factors, they are often driven by social inequity, or social policies and practices that create the context for increased incidence of disease in some groups while protecting others. These factors represent what Rose described as "the determinants of population incidence rate".

Currently, a full examination of such causes remains hampered by a focus on measuring health inequalities and production of research documenting corresponding social gradients (Lofters & O'Campo, 2012; Mowat and Chambers, 2012). While documentation of inequalities is important, it too often fails to provide

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evidence that can be used to intervene (Lofters & O'Campo, 2012), either on a population level (e.g. through policy) to shift overall risk, or at a specifically local level within the social contexts of highly affected communities. Moreover, repeatedly documenting health inequalities that apply to broad segments of a population may serve to reinforce existing notions of the intractability of injustice, while failing to identify intervenable factors that might be candidates for potential solutions.

Documentation of health inequalities is often done with a focus on one unitary category of difference, which is itself simplified. For example, race-based inequalities are still sometimes theorized as biological, or are followed with speculation on a range of possible causes, such as racism, family structure, diet, or even poverty; researchers in race, ethnicity and health have urged other researchers to avoid using race/ethnicity as a proxy for such factors (Jones, 2001; Muntaner et al., 1996). While "race" may be a biological fiction, the social process of racialization is real. The structural and interpersonal discriminatory processes of racism are themselves measurable (Krieger et al., 2005). Likewise, within sex/gender research, research on inequalities is often seen as confirming expectations of "obvious" biological differences, with little attention given to verifying biological similarities, distinguishing the effects of biologically sexed mechanisms from gendered social processes, or allowing for their interaction (Springer et al., 2012a,b). Examining such unitary approaches to research surfaces the need for careful delineation of related constructs that are often conflated under a lowest common denominator approach of documenting socio-demographic variation. Moreover, such research studies may expand beyond one master category of social position to consider multiple categories, but do not consider the unique intersections between the categories or intersectional positions within a category.

Population health research has been increasingly critiqued for its failure to explicitly acknowledge the theory (or lack of theory) underlying analyses, and for the failure of research teams to deliberately consider theoretical frameworks on which their research may then be built (Krieger, 2003; Bartley, 2004). It has also been critiqued for stripping away the context of people's lives through identifying single sets of health determinants for entire populations (Raphael and Bryant, 2003). Several recent books have begun to integrate population health theory and methodology (Bartley, 2004; Krieger, 2011). However, even books that incorporate a range of theoretical models and address health inequity may address inequalities in only a unitary way, for example, exploring health inequalities through a master category of sex/gender, or alternatively through race/ethnicity (Bartley, 2004).

2. Intersectionality theory

First termed "intersectionality" by African–American feminist legal scholar Kimberlé Crenshaw (1989), intersectionality theory sought to complicate understandings of race- and sex/gender-based scholarship by arguing that multiple marginalisations, such as those experienced by African–American women, were mutually constituted and could not be understood or ameliorated by approaches that treated race and sex/gender as distinct subjects of inquiry. Though developed as a response to second-wave feminist ideals that were implicitly white and middle-class, and to anti-racist organizing that was implicitly male in its issues and ideals, intersectionality has the potential to improve research not only on sex/gender and race/ethnicity, but on all other domains of social position, such as socio-economic status, legal Aboriginal status, educational background, or age cohort.

Intersectional approaches differ from unitary and multiple approaches to research (Hancock, 2007). In a unitary approach, only one master category of social position is of primary research interest (Hancock, 2007). For example, all analyses can focus on sex/gender or on race/ethnicity or on socioeconomic status. A multiple approach in which more than a single category is of interest operates under an additive assumption that treats multiple marginalisations or privileges as individual categories that can be layered (Hancock, 2007). While this allows for consideration of a greater number of social categories, it is not in itself an intersectional approach. Using such an approach, the health status of Aboriginal women in Canada, for example, would be assumed to be sufficiently understood through adding together the independent health impacts of being Aboriginal with those of being female. In contrast, the intersectional approach assumes that an individual's experience, and their health, are not simply the sum of their parts, and that, for example, what it means to be a woman and what the health implications are, may be different for Aboriginal women versus non-Aboriginal women. This makes sense in that gender can be constituted (and health affected) through cultural meanings and processes including those that are potentially positive, such as indigenous cultures, and also through negative policies and their impacts, such as through gendered aspects of historical trauma in residential schools or under policies such as the Indian Act. Sex, gender, race, ethnicity, income, social class, education, age, sexuality, immigration history… each may be understood in greater complexity through intercategorical approaches to intersectionality, which use categorization pragmatically to explore the health impacts of multiple identities or social positionalities (McCall, 2005).

3. Intersectionality theory in health research

As an overarching concept, intersectionality has much to offer to population health in providing more precise identification of inequalities, in developing intervention strategies, and ensuring results are relevant within specific communities. It was recently identified as an important theoretical framework for public health (Bowleg, 2012), and as well as for sex, gender and health (Springer et al., 2012a).

While intersectionality has been explicitly incorporated into feminist academic work for over two decades, its use in health research has been primarily in the form of qualitative studies. For example, two recent journal special issues on intersectionality were devoted entirely to qualitative work (Phoenix and Pattynama, 2006; Bilge and Denis, 2010). While intersectionality scholars have acknowledged that such scholarship can use quantitative as well as qualitative methods (Hancock, 2007; McCall, 2005), and examples of explicitly intersectional quantitative research exist in fields such as sociology of health (Veenstra, 2011; Warner and Brown, 2011; Sen and Iyer, 2012; Seng et al., 2012; Hinze et al., 2012), epidemiology (Marcellin et al., 2014), psychology (Stirrat et al., 2008), and education (Covarrubias, 2011), some have posited that qualitative research is better suited to the examination of intersectionality (Wilkinson, 2003; Bowleg, 2008). However, it may well be that intersectionality theory has much to offer population health research, and even that population health research may turn out to have some surprising things to contribute to intersectionality theory and knowledge. As intersectionality scholars acknowledge the potential for quantitative work, and population health researchers call for greater theorization of analyses, much unrealized potential exists in building theoretical and methodological bridges between intersectionality and population health research.

Within population health research, the importance of intersectionality may be better grasped by researchers if its relationship to core methodological (e.g. validity) concerns were made clear, underscoring its importance for all researchers, and not just those