Knowledge into action?
Understanding ideological barriers to addressing health inequalities at the local level

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Abstract
The objective of this study was to explore the presence of ideological barriers to addressing local health inequalities in Hamilton, Ontario, Canada. A survey of active citizens revealed low levels of awareness of the social determinants of health (SDOH) framework, and some incongruence between understanding and attitudes towards the SDOH. Support for addressing health inequalities was associated with awareness of the SDOH framework, liberal value-systems, and a cluster of socio-demographic characteristics. Liberal leaning participants were also more politically active than their conservative counterparts. Ideological barriers included lack of SDOH awareness, narrow understandings of the relative influences of the SDOH, resistance to de-prioritizing healthcare, and conservative values. Advancement of a SDOH policy agenda should incorporate wider dissemination efforts to citizens and local service providers to increase support for this framework, and utilization of existing support and political engagement from liberal-leaning demographics.

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1. Introduction
In the early 1990s, the social determinants of health (SDOH) emerged as a conceptual framework for understanding patterns of health and disease on population-wide scales. Seminal works by Evans et al. [1] and Wilkinson [2] laid the foundations necessary for the development of SDOH frameworks in Canada [3] and internationally [4]. The framework developed by Canada’s federal department of health in 2001, which is used as the basis for this study, includes 12 SDOH:\footnote{According to Health Canada [3], population health is determined by: income and social status; social support networks; education and literacy; employment and working conditions; social environments; physical environments; personal health practices and coping skills; healthy child development; biology and genetic endowment; health services; gender; and culture.}

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compared to the 10 similarly formulated determinants that comprise the World Health Organization framework [4].

Despite much academic and policy discussion of the SDOH, there remains a tremendous gap between knowledge of these frameworks and action to alleviate health inequalities [5]. While Canadian policy-makers accept and support SDOH frameworks [3], research is scant on how or if the knowledge generated from such frameworks can be operationalized to reduce health inequalities and improve health outcomes. It seems likely then that there may be numerous barriers to addressing the determinants of population health inequalities.

According to Navarro and Shi [6], political systems that support income inequalities (e.g., United States, United Kingdom, Canada) will correspondingly tolerate health inequalities within its populace. Similarly, dominance of neo-liberal values in North America, both among politicians and citizens, has led to increased tolerance of income inequalities and significant declines in the welfare state [5,7].

Political bureaucracies can pose substantial structural barriers to improving the SDOH [8]. The organization of political responsibilities into silos, as in the Canadian context, creates formidable constraints on inter-sectoral collaboration between policy sectors [8,9]. Of particular concern in Canada is the degree of resistance from various government sectors to formulating population health goals, preventing the development of comprehensive public policies aimed at addressing health inequalities [8].

Similar structural barriers have been observed at the level of community service providers. Because of their efforts to address various health determinants such as employment, housing, income and the environment, community-based organizations (CBOs) can play critical roles in addressing local health inequalities [10,11]. Despite Health Canada’s acknowledgement of the importance of CBOs in alleviating health inequalities [12], these organizations have become particularly vulnerable to funding reductions [13]. Obtaining funding, especially for non-profit organizations, is particularly competitive amidst ongoing threats of funding cutbacks to public services and a general decline of the welfare state [5,14].

Despite progress made over the past 15 years in linking the SDOH with population health outcomes, the utility of the knowledge generated from SDOH frameworks has been a neglected area of research. Even less effort has been exerted to identify and understand local (i.e., community-level) barriers to operationalizing SDOH knowledge in order to mitigate health inequalities in a given community. The local level is critically important to study as it is where most community services are delivered, and is thus a key locus of action to alleviate health inequalities. Additionally, the local level presents rich opportunities for more collaborative partnerships between service providers, with the potential to simultaneously improve multiple determinants of health.

Drawing on the research detailed above, barriers to operationalizing SDOH knowledge can be broadly categorized as either ideological (i.e., pertaining to values, attitudes and opinions of the populace that shape public policy) or structural (i.e., pertaining to rigid bureaucracies, funding constraints imposed on service providers), acknowledging that the two are inextricably linked. The goal of this study was to explore the presence of ideological barriers at the local level in Hamilton, Ontario, by examining the relationship between citizens’ values2 and political characteristics, and their awareness, understanding, and attitudes towards the SDOH.

2 Methods

2.1 Survey sample

Active citizens – the target sample for the survey – were identified as those individuals who were actively involved (either paid or voluntary) with a CBO in the local Hamilton area. Active citizens were considered worthy of study because of the transferability of the

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2 A value is an “enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence” [15, p. 5]. In contrast, a belief is the “mental acceptance of and conviction in the truth, actuality or validity of something” [16, p. 121], while an attitude is “an organization of beliefs focused on specific objects or situations” [15, p. 18]. An opinion is the “verbal expression of some belief, attitude or value” [17, p. 3]. Values are of utmost importance for empirical study because they are enduring, independent of context, and so deeply embedded within one’s cognitive system that they act as precursors for the other, more superficial, characteristics.
Table 1
Calculations of target sample size and actual sample size

<table>
<thead>
<tr>
<th>SDOH stratum</th>
<th>Sample frame (A)</th>
<th>Preliminary sample size (A × 0.22) (B)</th>
<th>Sample size based on 55% response rate (B/0.55) (C)</th>
<th>Final sample size (after pilot study) (D)</th>
<th>Actual sample of survey participants (E)</th>
<th>Actual survey response rate (E/D) × 100 (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income and social status</td>
<td>66</td>
<td>15</td>
<td>27</td>
<td>27</td>
<td>14</td>
<td>51.85</td>
</tr>
<tr>
<td>Social support networks</td>
<td>94</td>
<td>21</td>
<td>38</td>
<td>37</td>
<td>18</td>
<td>48.85</td>
</tr>
<tr>
<td>Education and literacy</td>
<td>58</td>
<td>13</td>
<td>24</td>
<td>24</td>
<td>16</td>
<td>66.67</td>
</tr>
<tr>
<td>Employment and working conditions</td>
<td>29</td>
<td>6</td>
<td>11</td>
<td>11</td>
<td>10</td>
<td>90.91</td>
</tr>
<tr>
<td>Social environments</td>
<td>364</td>
<td>80</td>
<td>145</td>
<td>145</td>
<td>79</td>
<td>54.48</td>
</tr>
<tr>
<td>Physical environments</td>
<td>36</td>
<td>8</td>
<td>15</td>
<td>15</td>
<td>8</td>
<td>53.33</td>
</tr>
<tr>
<td>Personal health practices</td>
<td>63</td>
<td>14</td>
<td>25</td>
<td>25</td>
<td>16</td>
<td>64.00</td>
</tr>
<tr>
<td>Health child development</td>
<td>66</td>
<td>15</td>
<td>27</td>
<td>27</td>
<td>16</td>
<td>59.26</td>
</tr>
<tr>
<td>Health services</td>
<td>44</td>
<td>10</td>
<td>18</td>
<td>18</td>
<td>9</td>
<td>50.00</td>
</tr>
<tr>
<td>Gender</td>
<td>70</td>
<td>15</td>
<td>27</td>
<td>27</td>
<td>12</td>
<td>44.44</td>
</tr>
<tr>
<td>Culture</td>
<td>201</td>
<td>44</td>
<td>80</td>
<td>80</td>
<td>43</td>
<td>53.75</td>
</tr>
<tr>
<td>Total</td>
<td>1091</td>
<td>241</td>
<td>437</td>
<td>436</td>
<td>241</td>
<td>55.28</td>
</tr>
</tbody>
</table>

Skills they acquire for other civic activities, and because of the inherently political work they perform [18]. Participants were contacted and recruited for the study through their respective CBOs; participants were either the contact person addressed on the survey package, or another member of the CBO identified by the contact person.

Access to the sample frame was obtained through the RedBook Plus [19]—a comprehensive, publicly accessible, computerized database of all CBOs in Hamilton. The CBOs listed in this database are diverse in function. Some organizations are directly involved in delivery of health services, including hospitals, out-patient clinics, physical therapy, speech therapy, etc. The bulk of the organizations in the database provide social services, such as food banks, credit counseling, information/referral, employment resources, immigrant assistance, child-care, etc. Other CBOs in the database contribute to the health and well-being of local residents in more indirect ways, such as business improvement associations, income advocacy groups, self-help and support groups, employee coalitions, art groups, environmental conservation groups, seniors’ clubs, GLBT organizations, cultural organizations, etc. Each entry in the RedBook Plus contains the organization name, address, contact information, a brief description of the organization’s activities, and a few keywords summarizing these activities. Based on the activity descriptions provided in these entries, the complete RedBook database (N = 2163) was stratified according to Health Canada’s SDOH framework3 [20]. After stratifying the RedBook database, the sample frame was systematically reduced to N = 1091 organizations; CBOs strictly providing religious services, as well as redundant entries (i.e., CBOs with multiple locations), were removed.

Determination of the sample size involved three steps [21]: calculating a preliminary sample size based on a 97.5% confidence level and a margin of error of 0.15 (N = 230); applying this proportion (230/1091 = 0.2108, rounded up to 22%) to all eleven strata on the basis of proportionate sampling [22]; and recalculating each stratum size based on an anticipated 55% response rate (N = 437) [23–26]. After conducting a pilot study (and removing 1 CBO from the sample that had participated in the pilot), a total of N = 436 survey packages were administered (Table 1). Participants were randomly sampled from each stratum.

2.2. Survey development

The survey instrument assessed five areas of empirical interest: awareness, understanding and attitudes...
towards the SDOH framework; SDOH-related political values; political characteristics, including orientation and levels of political activity; nature of involvement with CBO; and demographic information. New questions pertaining to awareness of the SDOH and to participants’ involvement with their CBO were developed specifically for the survey. Other questions and scales used in the remainder of the survey were adapted with permission.

Questions pertaining to understanding and attitudes towards the SDOH framework were adapted from Brimaconbe et al. [27]. Originally developed on the basis of the World Health Organization’s 8-SDOH framework [4], these questions were expanded to reflect Health Canada’s 12-SDOH framework [3]. The biological endowment, gender, and culture determinants, however, were excluded from the attitudes question, as they are rarely targets for public policy. Response options for these questions were expanded to from 5-point scales (from the original four) and more precise adjectival headings were provided. The demographics section from this survey was also used [27].

The questions that assessed SDOH-related political values, political orientation, and levels of political activity all drew on the World Values Survey (WVS) [28]. For the political values question, five of the 17 sub-questions were adapted from the WVS, while the remaining 12 were newly developed. The scales for these values questions were expanded from 4-point to 5-point to provide an ‘undecided’ category for respondents (i.e., strongly agree, agree, undecided, disagree, strongly disagree). The political orientation question underwent a minor adaptation, from using a 10-point scale to a 7-point scale (1 was labelled left, 4 was center, and 7 was right). The political activity question was unchanged from the WVS. The survey was administered using Dillman’s 5-contact approach for mail-administered surveys [29].

A pilot study (N=11) was performed to assess the quality of the instrument. Additionally, internal consistency was assessed for every multi-item survey question using Cronbach’s alpha correlation statistic [30]. Internal consistency ranged from 0.512 to 0.821 (satisfactory range is from 0.650 to 0.850 [30]). Test–retest reliability was assessed by readministering the survey to 50 participants; using Generalizability Theory, the test–retest reliability score was 0.916.

2.3. Analytical framework and data analysis

The survey was designed to address three key analytical objectives: (1) to assess participants’ awareness, understanding, and attitudes towards the SDOH; (2) to elicit participants’ SDOH-related political values and political characteristics (orientation and activity); and (3) to determine the compatibility of these political values and characteristics with action to address local health inequalities. The first objective was addressed by summarizing the results from the awareness, understanding, and attitudes questions. Understanding of the SDOH was measured by the perceived ‘level of influence’ participants felt each determinant had on the health of local residents, and this ‘level of influence’ was used as a proxy for ‘openness’ to the SDOH framework. Attitudes were assessed in terms of the ‘level of priority for action’ they assigned to each determinant, and ‘priority for action’ was used as a proxy for ‘support’ for public policies that could alleviate health inequalities. It was hypothesized that perceived level of influence of the determinants would correlate with priorities for action, and this was also tested in the first objective.

Addressing the second objective involved summarizing the results from the SDOH-related political values question, and testing for correlations in agreement between value statements. The second objective was also addressed by summarizing the findings from the political orientations and level of political activity questions. Finally, the third objective, determining compatibility with action, was addressed by conducting several tests for association and significant differences. Specifically, associations were explored between participants’ SDOH-related political values and attitudes towards the SDOH, and between SDOH-related political values and political characteristics. Tests for significant differences in responses were explored for awareness, understanding, attitudes, and SDOH-related political values based on demographic characteristics and awareness of the SDOH framework.

All survey data were stored and analyzed using SPSS, Version 12.0. Kolmogorov–Smirnov test for normality revealed data were not normally distributed, prompting the use of non-parametric methods for all statistical analyses. Tests for significant differences employed Mann–Whitney U and Kruskal–Wallis, the Wilcoxon Signed Ranks test was used to test for agree-
ment between understanding and attitudes, and tests for association employed the Kendal’s tau-b statistic [31–33]. Because multiple comparisons were being made, statistical significance was set at the 97.5% level of confidence.

3. Results

3.1. Description of survey participants

The survey response rate (RR) was 55%, as 241 of 436 surveys were returned. Response rates per stratum ranged from 44% to 91%, and the average stratum RR was 58% (Table 1). The survey population was predominantly female (62%). The bulk of participants (67%) were between the ages of 35 and 64, with cohorts below 35 and above 65 each constituting less than one-fifth of the sample. In terms of education, almost half (46%) had a university degree, almost one-fifth (19%) had a college diploma, 15% had a high school diploma or less, another 15% had some post-secondary education, and 5% had some other educational training. Almost half were employed full-time (46%), 23% were retired, 13% were part-time employed, while the remaining 18% were self-employed, students, homemakers, or unemployed. Although the average annual income was $54,933, 12% of the sample had an annual income of less than $20,000.

3.2. Awareness of the SDOH

Participants were asked whether they had ever heard of the SDOH; responses were almost evenly split, with 46% (110/241) indicating they had heard of the SDOH, and 52% (125/241) indicating they had not. Of those who had heard of the SDOH, 40% reported hearing about the concept over 5 years ago; approximately a third (32%) had heard about it over a year ago, and a quarter had heard about it within the last year.

Sources of participants’ information about the SDOH framework varied, and were often multiple. Of the available choices, media was a commonly cited source (28%) as was research papers/publications (21%). A quarter of participants chose other as their information source, which was usually described as a combination of research papers/publications and media. The remaining five response options combined (Health Canada, Provincial Ministry of Health, World Health Organization, community organization, family or friend) were cited as an information source by approximately one quarter (24%) of participants.

3.3. Understandings and attitudes toward the SDOH

Participants’ understandings of the SDOH were based on their perceptions of the level of influence each determinant has on the health and well-being of local residents. While most determinants were considered quite influential (Fig. 1), maintaining a healthy lifestyle and clean air and water were assigned the highest levels of influence. Gender and culture and tradition were considered the least influential determinants. Participants’ attitudes towards the determinants were based on their perceptions of the level of priority for action for addressing each determinant. Once again, most determinants were assigned overall high priorities for action (Fig. 1). Clean air and water and maintaining a healthy lifestyle were assigned the highest priorities for action, hospitals and healthcare professionals received the third highest level, and income received the lowest.

3.4. Congruence between SDOH understanding and attitudes

It was expected that there would be a high degree of congruence between the perceived level of influence (i.e., understanding) and perceived level of priority for action (i.e., attitudes) assigned to each determinant of health. For instance, if a participant felt that physical environment significantly influenced the health of local residents, they might also consider that determinant to be a high priority for action. This hypothesis was tested using the Wilcoxon Signed Ranks test [32]. While five of the nine determinants did demonstrate a large degree of agreement between understanding

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4 Dissemination of research often requires the media. This relationship, therefore, likely accounts for the large percentage of respondents identifying both sources in the other category.

5 Three of the 12 SDOH, namely gender, culture and tradition, and biological and genetic makeup, were not included in the assessment because they are not easily changed by public policy.
and attitudes, incongruence between four of the determinants were statistically significant (all \( p < 0.001 \)) (Fig. 1). For income, helpful family and friends, and maintaining a healthy lifestyle, participants tended to assign a higher degree of influence than priority for action. Conversely, for healthcare, a higher degree of priority for action than influence was assigned.

### 3.5. SDOH-related political values

Participants were also asked about their agreement or disagreement with 17 different political values, contextualized in the SDOH framework (Table 2). The values statements were purposely polarized to facilitate interpretation of the results. It was anticipated that agreement with one liberal statement would correlate with agreement on other liberal statements, and disagreement with conservative statements. Table 2 displays both the hypothesized correlations and the actual correlations between values statements, where the bolded statistics represent correlations that were in the hypothesized direction. A total of 136 correlations were explored: 52 were statistically significant at the 97.5% confidence level, and 45 of these 52 significant relationships were in the anticipated direction. Six of the seven significant correlations that were not in the anticipated direction came from the two employment-related values statements, suggesting there was ambiguity in the way these statements were interpreted. These two statements therefore were excluded from further statistical analyses.

### 3.6. Political characteristics

In order to assess political orientation, participants placed themselves on a 7-point left/right continuum, with the option of choosing a don’t know category (chosen by 20% of participants). Fig. 2 displays the distribution of participants’ left/right self-placement, excluding those who indicated they did not know their placement on the continuum.

Political activity can be characterized as the behavioral manifestation of political values [15]. Individuals who wish to challenge the status quo are more likely
Table 2
Hypothesized and actual correlations between SDOH-related political values statements

<table>
<thead>
<tr>
<th>SDOH-Related Value</th>
<th>Hypothesized Correlation</th>
<th>Actual Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Security</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Education</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Healthcare</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Environment</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Social Justice</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Housing</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Income Inequality</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Employment</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Justice</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
+ = Correlation significant at the 0.05 level.
- = Correlation not significant at the 0.05 level.
to engage in more radical forms of political activity to communicate their dissension [34]. Participants’ level of political activity was assessed on a continuum of increasingly radical behaviors; voting was the least radical and occupying buildings was the most radical behavior on the list (Fig. 3). Over 90% of participants had taken part in the least radical behavior, voting, and over 75% would never participate in the most radical form, occupying buildings. Of the remaining four behaviors on the list, approximately 70% of participants had either already participated in them, or indicated they might engage in them in the future.
Table 3
Correlations between SDOH-related political values and SDOH attitudes

<table>
<thead>
<tr>
<th>SDOH attitude* (perceived priority for action)</th>
<th>Income</th>
<th>Education</th>
<th>Jobs and work</th>
<th>Sense of community</th>
<th>Clean air and water</th>
<th>Lifestyle</th>
<th>Healthy child development</th>
<th>Health care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Hill Creek Expressway (lib)</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>0.198, p = 0.023</td>
<td>0.163, p = 0.008</td>
<td>ns</td>
<td>0.157, p = 0.006</td>
<td>ns</td>
</tr>
<tr>
<td>Pay more to protect environment (lib)</td>
<td>0.180, p = 0.012</td>
<td>0.146, p = 0.021</td>
<td>ns</td>
<td>ns</td>
<td>0.186, p = 0.002</td>
<td>0.162, p = 0.004</td>
<td>0.187, p = 0.003</td>
<td>ns</td>
</tr>
<tr>
<td>Increase taxes to improve hc (lib)</td>
<td>0.195, p = 0.002</td>
<td>0.146, p = 0.022</td>
<td>ns</td>
<td>ns</td>
<td>0.186, p = 0.005</td>
<td>0.154, p = 0.015</td>
<td>0.180, p = 0.008</td>
<td>ns</td>
</tr>
<tr>
<td>Making profit in hc system (lib)</td>
<td>0.170, p = 0.009</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Smokers given lower priority (con)</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Pay more taxes to improve education (lib)</td>
<td>0.207, p = 0.001</td>
<td>0.201, p = 0.001</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Teacher strikes banned (con)</td>
<td>-0.158, p = 0.024</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Gay and lesbians to marry (lib)</td>
<td>0.191, p = 0.015</td>
<td>0.156, p = 0.006</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>0.155, p = 0.006</td>
<td>ns</td>
<td></td>
</tr>
<tr>
<td>Taxing high income penalties (con)</td>
<td>-0.200, p = 0.001</td>
<td>-0.222, p = 0.001</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Getting rich at expense of others (lib)</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>-0.153, p = 0.024</td>
<td>ns</td>
</tr>
</tbody>
</table>

* Note: This table displays data for only those SDOH-related values statements (N = 10) and those determinants deemed ‘priorities for action’ (N = 8) that generated statistically significant associations with one another.

Table 4
Correlations between SDOH-related political values and political characteristics

<table>
<thead>
<tr>
<th>Political characteristic</th>
<th>Left/Right</th>
<th>Voting</th>
<th>Contacting officials</th>
<th>Signing a petition</th>
<th>Joining in boycotts</th>
<th>Attending demonstrations</th>
<th>Occupying buildings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red Hill Creek Expressway (lib)</td>
<td>0.283, p &lt; 0.001</td>
<td>-0.136, p &lt; 0.017</td>
<td>ns</td>
<td>ns</td>
<td>0.049, p = 0.006</td>
<td>0.300, p = 0.001</td>
<td>0.195, p = 0.002</td>
</tr>
<tr>
<td>Pay more to protect environment (lib)</td>
<td>0.191, p &lt; 0.006</td>
<td>ns</td>
<td>ns</td>
<td>0.172, p &lt; 0.006</td>
<td>0.146, p = 0.018</td>
<td>0.146, p = 0.024</td>
<td></td>
</tr>
<tr>
<td>Increase taxes to improve hc (lib)</td>
<td>0.205, p &lt; 0.001</td>
<td>ns</td>
<td>0.170, p &lt; 0.007</td>
<td>ns</td>
<td>0.226, p = 0.001</td>
<td>0.281, p = 0.001</td>
<td>0.187, p = 0.010</td>
</tr>
<tr>
<td>Making profit in hc system (lib)</td>
<td>ns</td>
<td>ns</td>
<td>0.146, p &lt; 0.006</td>
<td>ns</td>
<td>0.273, p = 0.001</td>
<td>0.301, p = 0.001</td>
<td>0.375, p = 0.005</td>
</tr>
<tr>
<td>Responsibility for good health (con)</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>-0.257, p = 0.001</td>
<td>-0.168, p &lt; 0.001</td>
<td>-0.224, p = 0.001</td>
<td></td>
</tr>
<tr>
<td>Father and mother for happiness (con)</td>
<td>-0.249, p &lt; 0.001</td>
<td>ns</td>
<td>ns</td>
<td>-0.107, p &lt; 0.008</td>
<td>-0.177, p = 0.004</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Pay more taxes to improve education (lib)</td>
<td>0.192, p &lt; 0.001</td>
<td>ns</td>
<td>ns</td>
<td>0.182, p &lt; 0.001</td>
<td>0.230, p = 0.001</td>
<td>0.219, p = 0.001</td>
<td>0.188, p = 0.002</td>
</tr>
<tr>
<td>Teacher strikes banned (con)</td>
<td>-0.313, p &lt; 0.001</td>
<td>-0.166, p = 0.006</td>
<td>ns</td>
<td>-0.396, p = 0.001</td>
<td>-0.317, p &lt; 0.001</td>
<td>-0.222, p &lt; 0.001</td>
<td></td>
</tr>
<tr>
<td>Gay and lesbians to marry (lib)</td>
<td>-0.190, p &lt; 0.001</td>
<td>ns</td>
<td>ns</td>
<td>-0.168, p = 0.007</td>
<td>-0.156, p = 0.010</td>
<td>-0.153, p = 0.016</td>
<td></td>
</tr>
<tr>
<td>Taxing high income penalties (con)</td>
<td>-0.323, p &lt; 0.001</td>
<td>ns</td>
<td>ns</td>
<td>-0.247, p &lt; 0.001</td>
<td>-0.277, p &lt; 0.001</td>
<td>-0.183, p = 0.004</td>
<td></td>
</tr>
<tr>
<td>Getting rich at expense of others (lib)</td>
<td>0.156, p = 0.022</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
<td>0.180, p = 0.006</td>
</tr>
</tbody>
</table>

* Note: This table displays data only for those SDOH-related values statements (N = 13) that generated statistically significant associations with one or more political characteristics.
3.7. SDOH-related political values and SDOH attitudes

In order for a SDOH agenda to be effectively advanced in any community, the values of local citizens must be supportive of SDOH-related policies and programs. As such, participants’ SDOH-related political values were assessed in terms of compatibility with their SDOH-attitudes (i.e., priorities for action) (Table 3).

All positive correlations were observed between agreement with liberal SDOH-values statements and priority for action on the SDOH, while all negative correlations were observed with conservative statements. In addition, there was a clustering of significant associations around determinants. For example, support for addressing the income determinant was correlated with numerous SDOH-related political values, and notably, negatively correlated with the income-related statement taxing those with high incomes to help the poor only punishes the people who have worked the hardest. Similar trends were observed for the determinants education, clean air and water, and healthcare.

3.8. SDOH-related political values and political characteristics

Another way to assess whether a SDOH agenda can be advanced in a community is to examine the relationship between citizens’ values and their political characteristics. Thus, the correlations between participants SDOH-related political values and political characteristics were assessed for compatibility (Table 4).

Left/right self-placement was significantly correlated with several values statements. The directions of these correlations were as expected: left self-placement was positively correlated with agreement with liberal values statements, and negatively correlated with conservative statements. Three of the correlations were relatively strong in magnitude: teacher strikes should be banned (−0.315); gay and lesbian couples should have the legal right to marry (0.464); and taxing high incomes punishes the hardest working (−0.323).

Correlations between SDOH-related political values and political activity were varied. Only one correlation was found between voting and values: people who agree that building the Red Hill Creek Expressway is not justified (a major environmental controversy in the Greater Hamilton area) are less likely to vote. For the remaining five political activities, all correlations were in the anticipated direction; agreement with liberal SDOH-related values was correlated with increased political activity (except voting), and agreement with conservative values was correlated with decreased activity. The more radical behaviors, namely joining in boycotts, attending demonstrations, and occupying buildings, generated 10 or more significant relationships with SDOH-related values.

3.9. Impact of demographics

Tests for significant differences in awareness, understanding, and attitudes towards the SDOH, and SDOH-related values among different demographic subgroups of the population showed limited evidence of significant differences.

Table 5

<table>
<thead>
<tr>
<th>Demographic variable</th>
<th>Age</th>
<th>Gender</th>
<th>Education</th>
<th>Income</th>
<th>Awareness of SDOH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awareness of SDOH</td>
<td>na</td>
<td>na</td>
<td>Higher education level assoc. with being aware of SDOH</td>
<td>na</td>
<td>N/A</td>
</tr>
<tr>
<td>Assigning higher levels of influence to SDOH</td>
<td>na</td>
<td>Females</td>
<td>Higher education levels</td>
<td>ns</td>
<td>Being aware of SDOH</td>
</tr>
<tr>
<td>Assigning higher priorities for action for SDOH</td>
<td>na</td>
<td>Females</td>
<td>Higher education levels</td>
<td>Highest and lowest income levels</td>
<td>Being aware of the SDOH</td>
</tr>
<tr>
<td>Higher levels of agreement with SDOH-related liberal values</td>
<td>Younger cohorts</td>
<td>Females</td>
<td>Higher education levels</td>
<td>Higher income levels</td>
<td>Being aware of the SDOH</td>
</tr>
<tr>
<td>Higher levels of agreement with SDOH-related conservative values</td>
<td>Older cohorts</td>
<td>Males</td>
<td>Lower income levels</td>
<td>Not being aware of the SDOH</td>
<td></td>
</tr>
</tbody>
</table>
related political values were performed based on demographic characteristics. The general trends of positive associations generated from those tests are summarized in Table 5.

4. Discussion

4.1. Ideological barriers to addressing the SDOH

Several ideological barriers to addressing the SDOH were revealed. One such barrier was illuminated by the differences in response rates across strata; for example, a 67% response rate was generated from the education and literacy stratum, while the gender stratum only generated a 44% response rate. These variations in response rates likely reflect divergent perceptions between participants and non-participants of their organizations’ relevance to the health and well-being of the community. Advancing a SDOH agenda requires collaboration between a diverse range CBOs, and thus acknowledgement by most CBOs of their relevance to addressing local health inequalities.

Less than half of respondents had ever heard of the SDOH prior to participating. This finding was striking because it was expected that, by virtue of their involvement with a CBO, participants would be informed of the SDOH framework. Many of the organizations sampled for the survey receive government funding in some form, and Health Canada has prominently institutionalized the SDOH in Canadian policy discourse. Thus, these findings suggest that Health Canada has been lax in disseminating these ideas to relevant audiences outside the healthcare sector, and/or that non-healthcare CBOs may be resistant to considering health-related outcomes. It is further evident that federal policy-makers, not local service providers, have been the primary actors targeted for dissemination of the SDOH in Canadian policy discourse. However, if a SDOH policy agenda is to be advanced, this research must also be disseminated to actors responsible for service delivery at the local level (i.e., CBOs and their employees, volunteers).

Another barrier illuminated by the survey was respondents’ narrow understandings of the relative influences of the SDOH. Maintaining a healthy lifestyle and clean air and water were considered the most influential determinants of health, despite evidence that these determinants represent minor contributors to population health [2,36]. The influence attached to lifestyle-related determinants has been consistently documented in other studies, so these findings offer further support [37–40]. The importance of a healthy physical environment, however, may have particular resonance among Hamiltonians who reside in a city that relies predominantly on the heavy-polluting steel manufacturing industry [41].

Ideological barriers were further emphasized by participants’ attitudes towards the SDOH. Despite their recognition of the benefits of a secure income, the corresponding low priority for action may reflect strong ideological resistance to income redistribution policies [7,42]. Considering policy levers for income redistribution exist at federal and provincial levels of government, low priority assignments for income may also reflect the lack of influence local agencies have over this determinant. Conversely, the hospitals and healthcare professionals determinant was assigned higher levels of priority for action, despite its limited role as a key determinant of health [43], as well as acknowledgement by participants themselves of the limits of the healthcare sector. Resistance to identifying healthcare as a low priority has been documented elsewhere [44]. The incongruence between understanding and attitudes demonstrates that attitudes are much more than simply an expression of knowledge.

The role of ideology in addressing the SDOH was made most apparent by assessing participants’ SDOH-related political values. Given that values are stable, deeply ingrained characteristics [15], it was expected that there would be correlation between conservative statements and between liberal statements. The majority of significant correlations were in the anticipated directions, while the few unexpected correlations clustered around two statements that were ideologically ambiguous. The high degree of correlation between statements of similar ideological leanings suggests that survey participants tended to either be supportive of, or opposed to, the SDOH framework.

Correlation analyses of attitudes towards the SDOH with SDOH-related political values provide further support for this inference. Positive associations were observed between assigning high priorities for action for the SDOH and agreement with liberal SDOH-related political values.
related values statements, while the opposite trend was observed with conservative statements. These findings suggest that liberal-leaning participants were generally more supportive of the SDOH as compared to their conservative counterparts.

Despite respondents’ lack of awareness of the SDOH and their limited understandings of the relative influence of each determinant, results emerged that bode well for addressing local health inequalities. First, those participants that were aware of the SDOH framework were generally more open to, and supportive of, addressing the SDOH. These SDOH-receptive participants tended to be liberal leaning and were significantly more politically active than the conservative-leaning group. Political activity among liberal participants was also more radical (i.e., attending demonstrations, occupying buildings), which tend to have a greater impact on policy decisions than the more benign forms of political behavior, such as voting [34]. This finding is particularly promising, given the likely requirement for substantial political engagement and support among concerned citizens to effectively address health inequalities.

4.2. Policy implications

The ideological barriers illuminated by this study might be addressed in several ways. The first approach to overcoming these barriers should focus on increasing awareness of the SDOH framework. The lack of awareness in this, arguably, more informed cohort of citizens suggests a need to disseminate the SDOH framework more widely. These dissemination efforts must extend beyond policy-makers and the academe, to service providers and the general public, especially at the local level. Indeed, the preponderance of associations between being aware of the SDOH framework, with being more open and supportive of addressing health inequalities, suggests that increasing dissemination could lead to increased support for a SDOH approach to policy-making and local service delivery. It is important to note, however, that the cross-sectional survey approach employed in this study prevents causal inferences from being made about the temporality of awareness and attitudes towards the SDOH. This limitation points to the need for longitudinal research on the attitudinal impacts of increasing awareness of this model.

The survey findings also suggest that a targeted dissemination approach could be particularly fruitful. For example, females, younger cohorts and higher levels of education were consistently correlated with support for the SDOH framework while males, older cohorts and lower levels of education were associated with being less supportive. The association between demographic factors and support for the SDOH framework provides policy-makers, aiming to address health inequalities, with a greater understanding of the population segments that might be supportive of their policy initiatives, as well as the segments that will need further convincing of the merits of the SDOH framework.

4.3. Study limitations

Although not atypical for mail-administered surveys [23–26], the moderate response rate of 55% introduces the possibility of non-response bias [29]. Because participants were recruited within their CBOs, there was no systematic way of determining the characteristics of non-respondents and of assessing non-response bias. Demographic analyses of those that did respond clustered in the 35–64 years cohort, were predominantly female and had high levels of education, income, and full-time employment. Based on these survey data, it is possible that non-respondents would have been less open to the SDOH model and held more conservative SDOH-related political values.

Statistical analyses of the survey data often employed multiple comparisons, which are problematic as they increase the likelihood of spurious findings [46]. Thus, the acceptable level of statistical significance was lowered from 0.05 (i.e., 95% confidence level) to 0.025 (i.e., 97.5% confidence).

5. Conclusions

Values play critical roles in both facilitating, and posing barriers to, addressing health inequalities at
local levels. As demonstrated by this study, support for the SDOH framework tends to be split down ideological lines, whereby liberal-leaning individuals are more likely to favour the model, while conservative-leaning individuals are more likely to oppose it. Furthermore, support for the SDOH tends to cluster around specific demographic characteristics.

Effective advancement of a SDOH agenda requires abolution of its perceived liberal agenda. Much of the SDOH discourse currently focuses on reducing health inequalties through the policy lever of income redistribution, as some scholars have argued it offers the most promising approach to reducing disparities. Such discourse, however, may alienate neo-liberal politicians, policy-makers, and citizens that see the market as offering the greatest promise of redistribution. Conservative arguments in support of the SDOH, however, can be made: increasing the stock of productive individuals who can contribute to the workforce; decreasing the number of social assistance recipients; and reducing the amount of funding needed to maintain Medicare.

Advancing a SDOH agenda should capitalize on the ideologically driven support it inherently derives, typically concentrated among young, educated, females employed in the social services sector. A shift away from the silo approach to policy-making and service delivery, however, will also require support from the SDOH-opposed camp—typified by older, conservative males. Despite their tendency to oppose SDOH-based policies, it is this latter demographic that disproportionately occupies positions of political, economic, and societal power in Canada, and is best positioned to address inequalties in health and well-being.

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