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## Health capabilities and diabetes self-management: The impact of economic, social, and cultural resources



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### ABSTRACT

While the “social determinants of health” view compels us to explore how social structures shape health outcomes, it often ignores the role individual agency plays. In contrast, approaches that focus on individual choice and personal responsibility for health often overlook the influence of social structures. Amartya Sen’s “capabilities” framework and its derivative the “health capabilities” (HC) approach attempts to accommodate both points of view, acknowledging that individuals function under social conditions over which they have little control, while also acting as agents in their own health and well-being. This paper explores how economic, social, and cultural resources shape the health capability of people with diabetes, focusing specifically on dietary practices. Health capability and agency are central to dietary practices, while also being shaped by immediate and broader social conditions that can generate habits and a lifestyle that constrain dietary behaviors. From January 2011 to December 2012, we interviewed 45 people with diabetes from a primary care clinic in Ontario (Canada) to examine how their economic, social, and cultural resources combine to influence dietary practices relative to their condition. We classified respondents into low, medium, and high resource groups based on economic circumstances, and compared how economic resources, social relationships, health-related knowledge and values combine to enhance or weaken health capability and dietary management. Economic, social, and cultural resources conspired to undermine dietary management among most in the low resource group, whereas social influences significantly influenced diet among many in the medium group. High resource respondents appeared most motivated to maintain a healthy diet, and also had the social and cultural resources to enable them to do so. Understanding the influence of all three types of resources is critical for constructing ways to enhance health capability, chronic disease self-management, and health.

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### Introduction – The “health capabilities” (HC) approach

Health is shaped by the *chances* or opportunities people have to pursue health and to be healthy, along with the *choices* they make relative to these chances. Life chances are a function of the resources available to connect them to larger social structures. The association between access to resources and health outcomes is well-documented ([Commission on Social Determinants of Health \(CSDH\), 2008](#); [Department of Health and Social Security, 1980](#);

[Humphries & van Doorslaer, 2000](#); [Mackenbach, 2012](#); [Marmot, 2005](#); [Marmot et al., 1991, 2010](#); [Phelan, Link, & Tehranifar, 2010](#); [Rabi et al., 2006](#); [Smith et al., 1990](#); [Wilkinson & Pickett, 2006](#); [Willson, 2009](#)). These resources are more or less convertible to other resources that offer health benefits (e.g., fitness membership, healthy leisure activities, wholesome foods, high quality health care) and are unequally distributed across society. Greater access to resources means greater latitude in translating them into health-relevant resources to improve health and well-being.

The types of resources are varied as well. Economic resources often are viewed as most easily converted to other resources. Most obviously, economic capital and money can convert to other forms of private property. Over time, however, economic resources also enable attainment of educational credentials, broaden social networks, and expand lifestyle opportunities and choices available. These social and cultural resources, in turn, can be used to secure institutional positions and economic status. For instance, social ties can offer a person shelter, information, or the support needed to

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pursue health. Likewise, cultural resources – e.g., knowledge about health, the skills required to assess such knowledge, health-related values – also impact health and well-being. Economic, social, and cultural resources may coalesce and separate into social classes with distinctive lifestyles that serve to reinforce the social differences (Abel, 2008, 2012; Bourdieu, 1984, 1986; Cockerham, 2005). These distinctive ways of life, learned over the lifelong process of socialization, manifest in individuals' habits, preferences, and dispositions and influence health behaviors and health. Thus, an individual's lifestyle, health-related choices and behaviors remain "embedded in the structures of society" (Singh-Manoux & Marmot, 2005: 2130). Analysis of economic, social, and cultural circumstances within which individual "choices" are made offers a gateway for understanding the larger structures that shape them.

The health capabilities (HC) approach attempts to accommodate alternative viewpoints – one that sees health as a bi-product of a person's relationship to the social structures (life chances) and another that sees health as the outcome of voluntary choices made by autonomous individuals over a lifetime. The HC approach is derived from the more general "Capabilities Approach" suggested by Sen (1993, 1999), the conceptual and ethical underpinnings of which are discussed elsewhere (see Abel & Frohlich, 2012; Ruger, 2004, 2010a; Venkatapuram, 2011). As with capabilities theory, the HC approach is non-reductionist and application-oriented in viewing health and health capabilities as a function of choices made within a complex social and institutional context that also shapes these choices. By including individual choice and motivation within its framework it respects individual autonomy and agency, notions often left out of approaches that see health strictly as determined by resources or socio-economic status (Abel & Frohlich, 2012). At the same time, it recognizes the immediate and broader social context as a choice-shaping force, influencing a person's desires, values, and predilections over time through an ongoing process of socialization. Apart from presenting alternatives to choose from, the context offers an external presence that individuals must adapt to over time. In so doing, they develop "dispositions to act" (habitus) in certain ways, and to favor certain options over others (Bourdieu, 1984; Cockerham, 2005). Here, external structures become internalized and often become reproduced over time. By examining these relations, the HC approach seeks ways to alter the context to broaden the range of individuals' freedom, choice, and health capability.

### Health capability and diabetes management

This investigation examines the health capabilities of people who suffer from diabetes. An exploration of how people with diabetes manage their condition elucidates several important elements of the HC approach. First, as with most conditions, the management of diabetes rests primarily on those who suffer from it. People with diabetes must substantially alter everyday habits to accommodate the disease, although the extent of change required may be greater for those from lower compared to upper class backgrounds (Lutfey & Freese, 2005). Health professionals will advise people with diabetes on how best to manage the condition, but everyday choices are considered the responsibility of the individual. For diabetes, this typically requires regularly monitoring glucose levels, controlling diet, and engaging in physical activity. It is, in the end, the "individual's choice" to do so. Yet, these choices are variously shaped by one's personal history and differently constrained by economic, social, and cultural circumstances: "Social positions are seen to create socialized dispositions" (Singh-Manoux & Marmot, 2005: 2130). Diabetes offers a clear instance where health achievement depends on the development of health agency – i.e., the "individual's ability to achieve health goals"

(Ruger, 2010b: 42). Second, the consequences of poor management are significant, involving myriad potential complications that, in turn, often compromise health capability. These include: cardiovascular, eye, and kidney diseases, stroke, neuropathy and complications of the extremities, mental illness and other conditions that severely diminish the quality of life and ultimately lead to premature death. When diabetes is well-managed, however, the onset of such complications often are delayed or prevented from arising altogether. Preventing avoidable morbidities and premature deaths are central priorities for the HC approach (Ruger, 2010a).

Finally, diabetes is common and is becoming more so. Worldwide, the number of people living with diabetes reached 347 million in 2008 – age-standardized prevalence was 9.8% for men and 9.2% for women – and is expected to grow in the decades to come (Danaei et al., 2011). In Canada, over 2.4 million (6.8%) currently live with diabetes, with millions more who remain undiagnosed (Centers for Disease Control and Prevention, 2011). The growing incidence of diabetes seems largely an outcome of unhealthy diets, physical inactivity, and an aging population (World Health Organization, 2011). Further, a disproportionate number of those afflicted are poor (Darmon & Drewnowski, 2008; Dinca-Panaitescu et al., 2011, 2012; Pilkington et al., 2010, 2011; Rabi et al., 2006; Raphael et al., 2011; Robbins, Vaccarino, Zhang, & Kasl, 2005; Saydah & Lochner, 2010), and those with insufficient resources likely face additional difficulties in managing their condition. Understanding how the social context and choices people with diabetes make within it can help inform initiatives designed to advance health capabilities and improved diabetes self-management.

Beginning from the left-most box, Fig. 1 suggests that economic resources can convert to social and cultural resources, and, in turn, social and cultural resources may translate into or reinforce economic resources. Over time, the three sorts of resources coalesce into a distinctive social class and associated "lifestyles" that are reproduced over time in individuals' lives through the process of socialization. This resource set ranges from low to high, and shapes a person's health capabilities.

Health agency operates in this middle box, impacting the health choices made that, in turn, impact health (depicted in the right-most box). Over time, one's health may shape one's health capability – good health helps sustain existing capabilities (enabling further health), while poor health cycles back to diminish health capabilities (which, in turn, may further exacerbate morbidities). For instance, healthiness and vigor will sustain or even advance the ability to be healthy. In contrast, co-morbidities often diminish the capacity to engage in physical activities, depression may dampen motivation to sustain current health, and both can lead to weight gain and worsening health. Poor health often can negatively affect economic, social, and cultural resources that can, potentially, diminish health capabilities further, creating a vicious circle. Genetic predilections, personality, the nature of health care systems also intervene to affect health capabilities, though the focus here is restricted to the impact of key resources embedded in the social structure – economic, social, and cultural resources.

### Health capability and dietary management

We further limit our discussion to one key aspect of diabetes management – dietary habits. Diets can vary widely, and are very much produced by choices, that, nonetheless, become patterned over time within the confines of the larger social milieu – patterns that are difficult to alter. For instance, substantial research identifies the impact of economic resources on diet, whereby poverty or underemployment contributes to food insecurity, the risk of hunger, and a cycle of under- and over-consumption of what tends to be

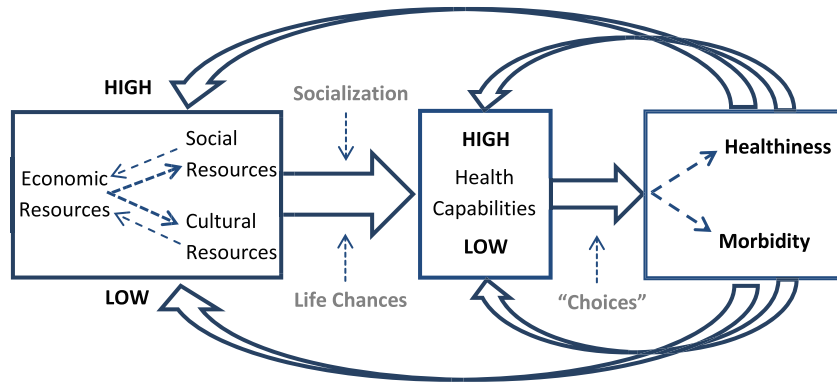


Fig. 1. Economic, social, and cultural resources and health capabilities.

calorically dense, low-fiber, and high-glycemic foods (Fernandez, Jacobs, Lopez, Seligman, & Tschann, 2012; Galesloot, McIntyre, Fenton, & Tyminski, 2012; Seligman, Laraia, & Kushel, 2010; Seligman & Scheillinger, 2010). Social factors impact diet as well, sometimes favorably, sometimes not. For instance, tensions or competing food preferences within the household can contribute to discontent often manifested as “food addictions” that undermine good diabetic health (Clark, Vincent, Zimmer, & Sanchez, 2009). Whoever plans and prepares meals in the household impacts the nature and quality of meals served. Positive social support from family members in meal preparation, along with monitoring consumption favors sound diabetes management (Brewer-Lowry, Arcury, Bell, & Quandt, 2010; Miller & Brown, 2005). In contrast, low family or spousal support can undermine proper diet. Often wives and mothers play the traditional role in food preparation; when they do the preferences of children or spouses often trumps their own dietary needs and sabotage proper dietary management (Brewer-Lowry et al., 2010; Chesla & Chun, 2005; Savoca & Miller, 2001). More generally, the tendency to imitate or harmonize with the behaviors of others can undermine healthy eating (Swanson, Schoenberg, Davis, Wright, & Dollarhide, 2013). Relatedly, cultural resources impact diet as well. Nutritional knowledge is directly convertible to dietary choices, and educational interventions have been shown to improve dietary behaviors (Lucan, Barg, Karasz, Palmer, & Long, 2012; Miller & Branscum, 2012; Miller, Gutshcall, & Mitchell, 2009; Wardle, Parmenter, & Waller, 2000). Finally, cultural factors such as taste, value or commitment given to health, often the result of early socialization or from health-related experiences, also appear to influence dietary choice and behavior (Abel, 2008; Kelly, 2011; Savoca & Miller, 2001; Swanson et al., 2013).

The analysis of diet offers a window into the role economic, social, and cultural resources play in dietary management, along with how these resources interact with individuals’ health agency and the ability to pursue health and well-being.

## Method

This qualitative investigation uses in-depth, semi-structured interviews to investigate how people with diabetes define and experience their condition and its management. In so doing, it reveals the larger context as understood by people with diabetes, the central health agents involved in diabetes management. This study is part of a larger investigation of diabetes self-management undertaken in collaboration with a local health clinic which shared a common interest in understanding issues surrounding diabetes self-management. The study received approval from the University of Ontario Institute of Technology’s Research Ethics Board in March,

2010; the sampling, interviewing, transcription, and data analysis processes took place from June 2010 through October 2012.

## Sample

We randomly selected 47 patients from a list of 502 patients diagnosed with diabetes in a primary care clinic in a medium-sized, mainly working-class city in Central-East Ontario (Canada) for interviews. Two of the 47 were incorrectly listed and were removed from the sample. Of the 45 respondents included in this analysis, the large majority (43) were type-2 diabetics; two were identified as type-1 diabetics. In accord with the ethics process approved by our University’s Research Ethics Board, subjects were contacted by phone and invited by a clinic staff to participate in the interview process. If phone contact could not be made, staff was instructed to contact the next patient on the list. The scripted invitation informed potential subjects about the interview purpose and its voluntary nature, and the incentive for participating – twenty dollars, free parking, and a pedometer. Interviews were to be held at the practice clinic at a time that was agreeable to the respondent. Due to time constraints of the busy clinic, we did not ask callers to record the number of “declines” or “no contacts”, though we were told informally that while several respondents were not reached on the initial attempt, few who were reached declined to be interviewed. While some selection bias is introduced, ultimately our sampling strategy mainly was designed to enhance variability among respondents and to achieve a degree of data saturation, rather than to ensure representativeness.

## Interviews

The informed consent process was repeated at the time of the interview, and, though a few respondents were pressed for time, all agreed to and completed the interview. Interviews used pseudonyms and transcribed audio recordings used numbers to preserve confidentiality; this article refers to participants through their pseudonyms. The interviews (lasting about 45 minutes) probed issues surrounding respondents’ educational and occupational background, current activities, social relationships within and beyond the household, social support, and their management of diabetes. All the interviews adhered to the interview script, were conducted by two authors (RW, ML), and were audio recorded and transcribed. The interviews explored how respondents managed their condition – e.g., monitoring and administering medications, dietary practices, and physical activities – examining the role of economic, social, and cultural resources in each management area (Table 1 provides sample questions).

**Table 1**  
Sample interview questions.<sup>a</sup>

Exploring ...	Sample questions
Economic resources & diabetes management	<ul style="list-style-type: none"> <li>• What did/do you do for a living? Do you work? For how long?</li> <li>• What about the costs of managing your diabetes (e.g., meters, syringes, medications)? Do you consider them to be significant? How? Do you sometimes make trade-offs to manage other things? What sorts of trade-offs?</li> </ul>
Social resources & diabetes management	<ul style="list-style-type: none"> <li>• What sorts of activities do you engage in regularly? Do you have family or close friends living nearby?</li> <li>• What supports/hindrances in managing your diabetes do you receive from family? Friends? Neighbors? Work? Your physician?</li> </ul>
Cultural resources & diabetes management	<ul style="list-style-type: none"> <li>• What was the last school you attended? Did you complete your degree?</li> <li>• Where do you look for information about diabetes management (e.g., Brochures? Library? Internet? Family? Friends? Your Physician?)</li> </ul>
Managing diabetes	<ul style="list-style-type: none"> <li>• How about your diet? Are you careful when it comes to eating the right foods for managing diabetes? Do you shop and prepare meals for yourself?</li> <li>• Are there things in your lifestyle – e.g., diet, exercise – that you feel you need to improve upon in order to better manage your diabetes? What would those things be?</li> </ul>

<sup>a</sup> Several probative questions were used to follow up on these.

Open-ended questions enabled respondents to elaborate on how they managed diabetes, and how resources shaped the process. Economic resources were explored in terms of employment and occupation, along with the ability to cope with the costs associated with diabetes management (e.g., the costs of meters, strips, medications, syringes, wholesome food, fitness facilities). Social resources pertain to social relationships developed and invested in over time that respondents might call on when needed, or which potentially hinder dietary management. Finally, cultural resources include values, educational credentials, or knowledge acquired through social learning (Abel, 2008; Abel & Frohlich, 2012; Bourdieu, 1984, 1986; Cockerham, 2005). Economic, social, and cultural resources are seen to be flexible in that there might be various ways whereby they might convert into improved health status or, specifically, diabetes self-management.

#### Coding and analysis

The HC paradigm framed the analysis of how individuals' access to economic, social, and cultural resources shape their ability to pursue health and well-being (Abel, 2008; Abel & Frohlich, 2012; Bourdieu, 1984, 1986; Ruger, 2010a, 2010b). The researchers first familiarized themselves with the transcripts independently, and met to develop a scheme for scoring economic, social, and cultural resources. Scores ranged from 1 to 5 (low to high). Economic resource scores were based on respondents' references to affording or possessing various health-related resources – e.g., affording medications and supplies, nutritious foods, expensive dietary items, possessing exercise equipment or fitness-centre memberships; this might be reinforced by occupational status assessments, dual income households, generous pensions. Social resource assessments were based on the extent to which family were said to encourage or discourage healthy dietary management through words or actions, as well as social ties and involvement in the community. The midpoint (a score of 3) was considered neutral – social resources were viewed as having little impact on dietary

management either way – with the score increasing or decreasing based on family support and community social engagement. Assessments of a participant's health-related knowledge and values (e.g., commitment to health, tendency to harmonize with the context) were used to rank cultural resources. Once developed, each researcher independently scored cases along each of the three variables. After identifying and resolving any substantial discrepancies in raters' scores for each variable, we averaged the scores for each case.

To assess inter-rater reliability for these scores, we used an intraclass correlation measure. The method corresponded to the “Case 2” approach described in Shrouf and Fleiss (1979) and executable in SPSS. The actual raters were interpreted as a random sample from a larger population of possible raters; each rater scored (i.e., rated) each case. The measure is based on a two-way analysis of variance, with the differences between raters considered as random effects. The unit of analysis is taken to be the means of raters' scores for individual cases (i.e., “average measures”). The resulting intraclass correlation coefficients for economic resources (0.888), social resources (0.896), and cultural resources (0.904) all suggest high levels of reliability.

We grouped cases according to z-scores on each of the three dimensions. Along each dimension cases with z-scores below  $-.75$  were ranked as “low” and those with z-scores above  $.75$  were ranked as high; cases in between were ranked as “medium”. Rankings were relative to the sample mean and were distributed equally on both sides of it, a distribution that is narrower than that of the larger population. We anchored categories according to rankings on the economic-resource dimension. Although we expect rough agreement in rankings across the three dimensions, there surely will be cases where rankings will not accord. For instance, many cases would rank “low”, “medium”, or “high” on all three dimensions, but some might rank “low” on the economic dimension, but “medium” or “high” on the social or cultural resource dimensions. Such cases will serve to illustrate how characteristics of each dimension might serve to favorably or unfavorably influence health capability.

#### Findings

##### Sample characteristics

The primary care practice is located in a mostly working-class neighborhood and city where automobile assembly and manufacture historically sits at the centre of economic activities. The characteristics of the respondents we interviewed generally seem typical of those drawn from a predominantly working class community (Table 2, Column A).

More women than men were interviewed – 58%–42% – but this roughly matches the roster of diabetes patients from which the sample was drawn, and matches the portion shown in a separate questionnaire administered as part of a larger study of diabetes patients in the practice. Ten of the forty-five lived on their own, all of whom were women (according to our questionnaire, 28 of 33 people who lived alone were female). The study population was ethnically homogeneous insofar as it included just one visible minority (according to our questionnaire, just 8 of 97 (8%) respondents identified as “visible minorities”). Overall education levels tend to be substantially lower than the Ontario average – 26% of Ontario adults hold a university (Baccalaureate) degree compared to 11% in our sample, while just 14% of Ontarians had not completed high school compared to 29% in our sample (Statistics Canada, 2006). Most respondents (85%) were not working. A handful reported having a managerial, technical or some professional career, though no one was occupied in an “elite”



**Table 2**  
Sample and group characteristics.

	(A) Total	(B) Economic resources			(C) Social resources			(D) Cultural resources		
	N = 45	Low (n = 11)	Med (n = 23)	High (n = 11)	Low (n = 9)	Med (n = 23)	High (n = 13)	Low (n = 12)	Med (n = 23)	High (n = 10)
Gender										
Female	26 (58%)	6 (55%)	18 (78%)	2 (18%)	5 (56%)	16 (70%)	5 (38%)	5 (42%)	17 (74%)	4 (40%)
Male	19 (42%)	5 (45%)	5 (22%)	9 (82%)	4 (44%)	7 (30%)	8 (62%)	7 (58%)	6 (26%)	6 (60%)
Lives with someone										
Yes	35 (78%)	8 (73%)	17 (74%)	10 (91%)	8 (89%)	14 (61%)	13 (100%)	9 (75%)	18 (78%)	8 (80%)
No	10 (22%)	3 (27%)	6 (26%)	1 (9%)	1 (11%)	9 (39%)	–	3 (25%)	5 (22%)	2 (20%)
Age										
Mean	60	54 yrs	59 yrs	69 yrs	50 yrs	61 yrs	66 yrs	61 yrs	58 yrs	65 yrs
Median	61	50 yrs	61 yrs	71 yrs	50 yrs	64 yrs	64 yrs	58 yrs	63 yrs	64 yrs
Range	30–92	30–82 yrs	34–74 yrs	51–92 yrs	30–64 yrs	34–82 yrs	48–92 yrs	46–92 yrs	30–82 yrs	50–85 yrs
Time since diagnosis										
Mean	12	17 yrs	13 yrs	7 yrs	15 yrs	12 yrs	11 yrs	18 yrs	11 yrs	10 yrs
Median	11	17 yrs	12 yrs	6 yrs	17 yrs	12 yrs	6 yrs	18 yrs	10 yrs	6 yrs
Range	1–40	1–31 yrs	1–40 yrs	2–15 yrs	3–31 yrs.	1–40 yrs	2–39 yrs	3–40 yrs	1–26 yrs	2–39 yrs
Education										
Less than high school	13 (29%)	4 (36%)	5 (22%)	4 (36%)	2 (22%)	6 (26%)	5 (38%)	7 (58%)	5 (22%)	1 (10%)
High school degree	9 (20%)	3 (27%)	5 (22%)	1 (9%)	3 (33%)	5 (22%)	1 (8%)	1 (8%)	7 (30%)	1 (10%)
Some college	4 (9%)	–	3 (13%)	1 (9%)	1 (11%)	2 (9%)	1 (8%)	1 (8%)	2 (9%)	1 (10%)
College diploma	14 (31%)	4 (36%)	9 (39%)	1 (9%)	3 (33%)	9 (39%)	2 (15%)	3 (25%)	8 (35%)	3 (30%)
Baccalaureate degree or higher	5 (11%)	–	1 (4%)	4 (36%)	–	1 (4%)	4 (31%)	–	1 (4%)	4 (40%)
Employment										
Never worked	3 (7%)	2 (18%)	1 (4%)	–	1 (11%)	1 (4%)	1 (8%)	1 (8%)	2 (9%)	–
Retired	18 (40%)	2 (18%)	8 (35%)	8 (55%)	1 (11%)	9 (39%)	8 (62%)	5 (42%)	7 (30%)	6 (60%)
On disability	10 (22%)	4 (36%)	6 (26%)	–	3 (33%)	6 (26%)	1 (8%)	4 (33%)	6 (26%)	–
Unemployed	7 (16%)	3 (27%)	3 (13%)	1 (15%)	3 (33%)	2 (9%)	2 (15%)	1 (8%)	3 (13%)	3 (30%)
Works part-time	2 (4%)	–	1 (4%)	1 (15%)	–	1 (4%)	1 (8%)	–	1 (4%)	1 (10%)
Works full-time	5 (11%)	–	4 (17%)	1 (15%)	1 (11%)	4 (17%)	–	1 (8%)	4 (17%)	–

profession or from the upper classes in the business or financial sector. Generally, respondents would not be described as among the very poor in society, but many still face significant challenges in their everyday lives that compromised their ability to manage their condition.

#### Characteristics of the groups

Table 2 also shows the characteristics of our three groups (Columns B, C, and D). The table shows a rough consistency with respect to rankings on the three key resource dimensions – bivariate correlations between average scores on economic and social resources ( $r = .729$ ), economic and cultural resources ( $r = .597$ ), and social and cultural resources ( $r = .524$ ) all were significant ( $p < .000$ ). A disproportionate number of men ranked in the higher subgroups, whereas women more likely occupied the medium subgroups. Living alone did not appear to impact economic, social, or cultural resources, perhaps, in part, because in our sample only women lived alone and this group tended to cluster in the medium subgroups. Those in the high-resource subgroups tend to be older (several retired from positions with generous pensions) than those in the lower group, and have had diabetes for a shorter period of time, suggesting that, overall, greater resources contribute to better health. While the numbers in these instances are small, they correspond with what we understand about economic and health inequalities.

Participants' rankings often showed differences across the dimensions, though mostly the differences were slight, resulting from a rank falling just above or below the threshold separating subgroups and hardly meaningful in terms of health capability or dietary management. Our interviews suggest that relevant social networks were constituted mainly by a few family members and friends. Some differences across dimensions were significant, however, and help illuminate the differing roles economic, social,

and cultural resources can play in affecting health capability and dietary management.

#### The "low-resource" group

##### Economic resources

The "low-resource" group ( $n = 11$ ) is defined as those who scored low on economic resources (i.e., having a z-score less than .75 below the mean on economic resources). Participants in this category were younger, on average, than those in the medium or higher categories, but none were employed – four received disability insurance, three were unemployed, and three were retired or never worked. All faced economic challenges. The expense of food directly impacted one respondent's ability to consume a diabetes-healthy diet. "I know I am supposed to eat right but it's hard to do on a limited income. The food I am supposed to eat is expensive" ["Newfie"]. The expense of food is complicated further for an elder female [Sherry] who is without ready access to supermarkets that offer less costly and healthier option: "the food part is very expensive, especially in certain [nearby] stores". Thus, she must enlist the help of her son for transportation to more economical stores located at a distance.

##### Social resources

In different ways the social environment can at least partially compensate for deprivations resulting from economic hardship. Four of the five men in this group to different degrees rely on the support of a spouse or parents for dietary maintenance. Although Elmer (70 years old) makes his own soups for dinner, he follows a traditional pattern in mostly relying on his wife to cook and manage his meals. Economic hardship required that Fred, Ken, and Larry move in with their parents: "If it wasn't for my parents, I would be dead" [Fred]. Yet it is easy to return to old patterns when parents prepare meals for their children (even adult children). The

foods and portions served often are ill-suited for diabetes management. Fred recognizes this so “keeps an eye on [his] portions. If it’s too much I will say I won’t eat it.” Likewise, Ken resists those meals deemed ill-suited for a diabetic diet, and prepared something on his own: “it’s not on my menu... If your body says no then don’t touch it. I am not going to eat it.” Both Fred and Ken were prepared to generate some disharmony in the household in order to better manage their diet. In contrast, Larry moved back with his parents after his heart surgery in 2006, after which he was laid off from work. While his parents were able to provide food and shelter, his mother mainly prepares meals to suit his father’s preferences and which do not accord with a proper diabetes diet. Established family patterns seem to inhibit his ability to counter the negative dietary norm. Maintaining harmony and pleasing his mother curtails his willingness to speak up about his own needs because “I don’t want to hurt her feelings. I am a good son.”

Three of the six women in this group lived alone, and were not subject to positive or negative influence of others. The three others were principally responsible for meal preparation, yet each faced their divergent circumstances differently. Daphne, who lived with a spouse who attempts to encourage healthy eating but she was largely indifferent to her eating habits, which she indicated has been a life-long problem: “my diet has never been good... I don’t have a reason why I shouldn’t [eat better]. I know my son would be saying ‘mom, straighten up and look after yourself’, but...” In contrast, Tammy, the youngest in our sample, plays a traditional role in preparing meals for her husband and toddler and puts her dietary needs second. She did not view the low-fat, diabetes-healthy diet prescribed to her as appropriate for her three-year old, while financial and other constraints limited her ability to prepare a separate meal for herself or her husband:

...trying to work on balance between making something that’s suitable for me and my husband’s dietary restrictions and my daughter, it kind of hard. They get taken care of before I do. And I kind of eat what is left over basically.

Finally, Linda, whose life was recently changed by a near-death “wake-up call”, now takes a more assertive stance in preparing foods for her husband and older son. “I was eating whatever I wanted to... things that weren’t good for me. I watch what I eat now.” Her husband “buys me stuff that I should have, but he buys himself all this nice stuff that I like [but shouldn’t have]... I ignore it.”

Social engagement beyond the household is comparatively limited among those in the low-resource group. People derive meaning from such engagement, which often offers a source of motivation for more healthy living. Since no one in this category is employed, work offers no source for social engagement or meaningful activities. Nonetheless, Larry expressed great enthusiasm for his participation in his weekly bowling league, while Elmer finds enjoyment in his twice-weekly cribbage play with fellow seniors. While most had time for socially engagement, economic constraints restricted the range of activities available to them. Tammy would like to ski, but her family has only one pair of skis. Perhaps adapting to her material circumstances – “we just don’t seem to have money to do anything” – Daphne remarked that she “doesn’t really like to go anywhere...”.

Three women from this category lived alone but were unable to engage socially. The cost of transportation hampers Lamb’s ability to visit her granddaughter who lives 25 kilometers away: “I drive. It’s not always that I have the money to get to [see her granddaughter]”. She suffers from depression, but most likely Lamb’s receives some spiritual sustenance from her bi-weekly bible study group. She does not exercise or engage in other outside activities, and shows little motivation to remain vigilant about her diet: “I eat

whatever I feel like eating.” Similarly, Sherry maintains that she is “not a joiner”, while Loretta suffers from fatigue, has little energy for exercise or other activities, rarely goes out, and “sleeps most of the time”. Her adult sons live nearby but do not visit her regularly, nor is she able to visit them. She takes little care in monitoring her diet. When asked about whether she eats foods that are diabetes-friendly, Loretta remarked: “I don’t think about it.” For this group, the dominant activities remain largely solitary – knitting, reading, watching TV, baking.

#### Cultural resources

Tammy graduated from a nearby health science training program and worked a laboratory technician before being laid off. She considers herself extremely knowledgeable about her health and, in view of her training and experience, likely is:

I have worked with a lot of patients that have diabetes. I love the medical profession and I am like a junkie when it comes to information about anything, not necessarily for me but if I have a patient, just for my knowledge I would go spending hours and looking into it to see different things. ... I have gone out of my way to research it more than just the diabetic class that every-body attends when they first get diagnosed.

Most others in the low-resource group were less confident in their knowledge about diet and about diabetes, and about their ability to access information when needed. “I manage it but I don’t think I am that knowledgeable” [Linda]. Apart from borrowing recipes from diabetes cookbooks, few seek information from sources besides the television or their physicians:

my main concern is not knowing what the disease is pretty much. I know I am supposed to eat right but what is eating right? I know there’s a lot of fruits and vegetables and that kind of thing and how does it progress. Because I can’t afford these things, is this really putting my health in jeopardy?

For Sherry uncertainty about what “the right foods are”, bears directly on what she eats: “I eat a lot of bread because I don’t know what to have.” She reads diabetes cookbooks but finds them complicated, requiring “a half-page of ingredients that I don’t have... I found they were very expensive.”

Beyond very basic knowledge, most expressed limited ability to find information through the computer or other sources. About half indicated that they had ready access to the computer, but just two considered themselves sufficiently savvy in computer use to answer their questions. The preference for most in this category was to seek diabetes knowledge from trusted friends or family members, but this network was more limited than those from the medium or high-resource category. No one in the low-resource group mentioned being able to consult with a knowledgeable and trusted relative or friend, suggesting how low social capital can hinder the development of cultural capital.

In sum, health capabilities and dietary management in the low-resource group is characterized by:

- (1) limited ability to afford and access healthy foods;
- (2) social ties that do not support or sometimes undermine a healthy diet;
- (3) low social engagement outside the household that can depress motivation to maintain health and a healthy diet, and
- (4) limited access to information resources (e.g., people, computer know-how) that might provide information or answer questions about dietary management.

### The “medium-resource” group

#### Economic resources

As the name implies, the *medium-resource* group ( $n = 23$ ) in our sample falls between the low- and high-resource groups. Participants identified certain challenges to dietary management that illustrate issues that commonly arose among members of the other groups, albeit to different degrees. While no one insinuated that they had access to much by way of discretionary financial resources, their economic status appeared sufficient to meet the basic dietary and other requirements for managing diabetes. No one in this group mentioned the costs of food as a concern, apart from Michelle's off-handed remark that “everything that is bad for you is cheaper than foods that are good for you.”

#### Social resources

In the medium resource group, the social milieu played a mixed role, sometimes supporting proper dieting, sometimes not. Support often comes in the form of constraint others pose by monitoring one's activities, by mutual participation in food preparation, and by the example others set with regard to consumption habits.

Traditionally, women and mothers play the principal role in food preparation, and this was the case for all but one of the eighteen women in the group (six lived alone). In four cases one or more children lived at home, adding to sets of tastes and preferences most aimed to please, as well as to the difficulty faced in accommodating their own needs as a person with diabetes. For instance, while Janice maintains that her family is “supportive”, her husband is a “picky eater” who does not enjoy vegetables, while “my son will say because it's healthy I like it he gets tired of it. But not that it's really negative. That's just a natural reaction. They are supportive.” Nini, a 60-year old, self-employed woman expressed the difficulties and frustrations she encounters in a less-than-hospitable environment for diabetes management. She is married to a “large man” who also has diabetes along with kidney problems, yet who remains a big eater and a snacker who sneaks food: “If it's there he eats it ... I have a lot of treats for the kids. I don't eat it but he does.” Nini remains unclear about what to eat for herself or how to reign in her husband: “I want to know what to do for both me and him.” This situation likely is not uncommon, as we regulate our own behaviors relative to those of others. Excessive portions can readily become viewed as “normal” over time. With her husband setting a low standard for proper eating, hers can only exceed it in comparison, and though she knows better, her larger situation makes it easy for her to snack significantly on “toast and butter” which she sees as her downfall. Here, the tendency to harmonize with the social environment becomes detrimental to healthy dietary management.

Other women suggest that their husbands serve a supportive role in the meal preparation process by grocery shopping, planning and preparing meals, or in monitoring food consumption. Mary used to nibble on things a lot, but since her husband retired “I don't do that... when he is home we kind of check each other.” Suzie's eldest daughter often serves a “no-no police” indicating that “[Suzie] shouldn't eat that 'cause that's got sugar in it.” Yet Suzie's other daughter “likes her sugar” and “likes to go for fast food”, while her husband's influence seems ambiguous – sometimes he cautions her that “[she] is eating too much sugar”, while at other times “he will say ‘you want some cake’? He is not watching as well as my little police daughter.” Sometimes couples worked as a team in planning, preparing, and consuming meals, helping to sustain the ability to appropriately manage diet. Mary's husband does the grocery shopping, and “he looks for the no fat if he can, if not then the low fat... He is really good, it surprises me sometimes.”

The medium-resource category included five men, all of whom indicated that they play a significant or primary role in the food preparation process. Frank is retired while his wife works, so he takes care of shopping and preparing meals: “I have to do something with my time.” But, he went on to indicate, “it's always been that way though. I have always cooked because of the work schedule. Even when the kids were little because she used to go to work early and there's more flexibility in mine you know.” Hectic schedules for two men in the group who work makes shared meals with others difficult. In these cases preparing and consuming food mainly is done individually: “Pretty well we are individual cooking. Although when I make something I may make a batch. We don't sit by the table as we used to a long time ago... like back in the olden days but now everybody is coming and going, and grabs their own thing” [Richie].

In three of these five cases, the household climate seemed largely supportive of the healthy dietary management, mainly by monitoring consumption. For instance, Frank's wife “asks me what my number [HbA1c] was and stuff like that”, while Harry's wife “is always telling me if I have two or three of them [sweets] I am having too many.” Lar's wife “will take them [chocolate bars] or eat them all, [although] she knows I am pretty much my own will.” In the other two cases, however, the milieu is viewed as unsupportive: Although Richie holds himself responsible for his food consumption, he also admitted that his home environment was not conducive to a healthy diet:

I guess you could also say at home that it would be my responsibility to do that too but when you have the pressure of the family and everybody doing this and that – different members wanting different kind of foods and not eating it. It's sometimes easier to bow and eat what's there... I think that if my partner would be more in tune to look after herself it would be a lot easier. So it's the food choices she makes often impact the whole house.

Similarly, Joe lives with his retired sister who also suffers from diabetes but who “Is very bad... she just doesn't seem to care anymore. She eats whatever she wants... as far as my diet goes, [I am] constantly fighting with my sister... she knows that I will only eat certain things and yet she tries to... you know.”

Respondents in the medium-resource category varied considerably in the extent to which they engaged in activities outside the household. Four had full-time and one had part-time work responsibilities, which can offer an important source of meaningful interaction in their own right. For instance, Richie is “consumed with work”, but also engages significantly in “household things” and “hockey games”. Others were involved in a range of different activities. Lucy oversees a busy household, with several children and a number of pets (dogs, ferrets, cats), takes long walks, and sees to other friends' needs. Joe goes to the lake on weekends, and spends time as a hockey volunteer. Others are variously involved with church activities, card tournaments, bowling, fitness classes, animal care gardening and other involvements.

Regular engagements expand one's social ties beyond the more immediate household, and offer a source of meaning and purpose. Some respondents were much less involved, however, often because arthritis or some other condition diminishes capabilities. Barbara's license was revoked because eye problems made driving unsafe; Donna's arthritis hinders activities, particularly in the cold weather, as does Sarah's bad knee. Finances do not create difficulties affording food for people in this group, but they do limit the extent of outside activities available. For Michelle “there is lots of stuff I like to do but can't afford to do it... [Instead] I do a lot of walking”, which becomes difficult in the wintertime. Likewise, Cecile participates in a “coffee hour for the ladies” and is involved in



the church, but claims that in a “one-income family, you don’t go out too much... I am stay at home, I am pretty home bound.”

#### Cultural resources

Most participants in this group were aware of the importance of diet and knowledge about which foods to eat and which ones to avoid. Rosie sometimes struggles with knowing what to eat, confronted with abundant, often conflicting, messages about what foods are appropriate:

You know I try to eat the right things and then I would tell Dr. James and s/he would say ‘AHH that one is loaded with sugar, don’t eat that.’ But you know you are eating a fruit and a vegetable for heaven’s sake... it’s supposed to be good for you. So it’s tough to sort them out.

Yet within or outside the scrutiny of others in the household, many were comfortable monitoring their food intake – constantly “reading labels” and “avoiding sugar and salts” – to ensure their diet remained under control. “I am more aware of what I eat definitely. I am always checking food for the carbs data” [Jane]. These respondents generally were interested in learning more about their condition, and comfortable seeking information from outside sources about diabetes- and diet-related issues. The “diabetes clinic” was available to everyone when first diagnosed, and while most were comfortable discussing questions with their physician, this provides help only during appointments. According to Sarah, “I ask Doctor Rivers, I read everything, when I go today to get medication I ask them for the information, and I read...” Also, most had access to computers and able to seek information from the internet, yet understood enough to remain skeptical of that which they received. Jane remarked:

You know, you have all these things, I am overwhelmed, I do go on vacations occasionally. I am not proficient in it but I go on and what frustrates me is all the other various things of people writing things that they have no knowledge of. So you are looking at all these sites and you do a search and you come up with 270 say sites related to that. How can you possibly make sure that you’ll get the right one that is knowledgeable?

The tendency was to trust more the information they received from various other sources, including books, magazines, health care professionals, and knowledgeable friends or relatives. Those in the medium resource group maintained a somewhat broader social network to draw upon for information than their low-resource counterparts. Richie actually worked in the health field as personal support worker, enabling access to health professionals of various sorts. Sally’s friend “...works at the diabetes health centre... If I need some information I have got a lot of places to get it”. Suzie seeks information from her naturopathic doctor nearby. Finally, participants in this group not only have access to a range of information sources to learn more about diabetes and dietary management, there seems to be a much stronger desire to do so than was evident from the low-resource participants. Sarah offers a strong case for this, viewing learning more almost as a moral obligation: “... I read, because it is our job to educate our self and get every help and I am not ashamed to ask for help, so we should know those stuff.”

Many suggested that they could do better regarding managing their diet, and most admitted succumbing to cravings of one form or another – e.g., for “sweets”, “diet pop”, “toast” – every now and then, and a few considered the occasional breach acceptable or even “good for the soul” [Jane]. Most expressed greater concern, as

Rosie did about her occasional “binges”... “Sweets are just a disaster for me. So I’m that person who just can’t eat half a square.” And almost everyone wished they could “take some pounds off” so that medications might be re-adjusted. As with most, old habits often are difficult to break, even when there appears good reason to break them. Reflecting on her own life and experience, Janice suggests the role socialization plays over a lifetime in shaping her orientation toward food:

I think for me it’s just me and my lifestyle because when I lived at home, years ago when I was young. There wasn’t money. My father was always very ill so the food in our house was what could be afforded which meant it was mainly food that put on weight. In other words it wasn’t always healthy. That’s the result. My lifestyle has been like that. I do find very difficult to follow a healthy diet because as child I never had to watch my plate. For some reason I did not put on weight. I was very thin as a child but after I had my son my weight gain was very easy for me. It was in the family, my father’s side. I take after his family a lot. I am finding that the hardest because I never had to watch my weight but now I have to, it’s difficult. I did for years and I maintained a good weight but you could say I got tired of everything I had to watch. I got tired of not being able to have some of those little things I wanted to. The problem is once I have it I want it so it’s going to be a little difficult for me.

Janice’s reflections capture well what Bourdieu and others suggest with regard to a person’s disposition to act – not normative patterns, but habitual, intuitive actions (Cockerham, 2005).

In sum, health capability and dietary management for the medium-resource group is characterized by:

- (1) Sufficient access to healthy foods;
- (2) Family contexts that offered varied support: in some instances family members were said to help respondents monitor their diet and encouraged healthy eating, while in other cases, others’ less-than-healthy habits dissuaded healthy food consumption;
- (3) Activity levels that varied: many worked, engaged in various community activities, while health or finances restricted others to less costly, homebound pursuits;
- (4) Motivation and ability to seek dietary information from food labels, the internet, books, and high trust in information received from personal contacts – e.g., knowledgeable friends, family, or physicians.

#### The “high-resource” group

##### Economic resources

The eleven respondents in the *high-resource* group expressed little concern about the cost of food. According to Andrew, “we are in a very comfortable position. If I want a certain kind of food, we get it. Simple as that”. Beatrice makes no mention of the added costs associated with the specialized diet products she obtains from the US to help manage her diabetes, along with a chronic digestive ailment. Just one other person in our sample even contemplated trying out alternative foods or diets to better manage their diabetes.

##### Social resources

The threshold for readily affording diabetes-healthy food is reached by most in the medium-resource group as well. Yet high-resource participants received additional support for dietary management from spouses and other family members, securing or expanding their health capability. With one exception, high-

resource participants also ranked either medium or high on the other two dimensions.

The gender distribution in this group skewed nine to two toward men, and several men in the group significantly relied on their wives for maintaining their diet. For instance, Doug was well supported by his wife and family in diabetes management, but is “his own worst enemy” when it comes to watching his intake of unhealthy foods. Yet, his wife (a former nurse) and daughter monitor him so when he falters “they just pull me back in and we will walk and get on the treadmill” until glucose levels come down again. Similarly, Bud’s wife “does everything foodwise.” For Paul, “my wife is my best control board when I get up and go for a second helping; she’ll say ‘do you really need that?’.” Mel’s wife ensures that “we don’t have tempting foods in the house or anything like that.” Even if “cheating” occasionally occurs, it remains within limits: “Now [my wife] will pick up sweets, but she can see pretty well tell what I can handle”. In two other cases, men played a more prominent role in food preparation largely due their wives’ health problems. Andrew’s wife suffers from macular degeneration, so they complement each other when it comes to meal preparation and food consumption: “I do all the shopping... She is still the one that cooks.” Joseph’s wife suffers from COPD, so he does most of the shopping and meal preparation. “There’s some things that you know instinctively aren’t good for you, like cake and so on, sugar and that sort of thing. And in large I try to stay away from all of that unless it’s a special occasion, and I watch my diet pretty close...”

Support is more moderate for those who operate largely independently from their partner. In reference to his wife and son, Lionel remarked: “they do what they want and I do what I need to do to care for myself.” Mark “cooks or makes my own [meals]... My wife is a picky eater so if she wants to eat it she can; if she doesn’t want to eat it [there will be] leftovers for me for a couple of days.” Among this group, “Randy” is the only person whose spouse negatively impacts his attempts to maintain a healthy diet: “... she brings home sometimes sweets and tries almost to undermine what I am trying to do. ... No, she is not [supportive]... if anything she is saying ‘Randy you got it under control, have a few chocolates’.”

Our high resource group included just two women, one of whom lived alone. Jennifer is concerned about “how her body processes carbs”, but maintains her fitness and a healthy diet: “that’s probably why I look so healthy, even though I got high blood sugar.” Beatrice described her husband as “really supportive”. “He knows I have eating problems... We don’t have any tempting foods in the house... he saw in the fridge that the rack (of Glucerna) was empty so he went out and filled it up.... He will make sure I eat on time because that’s something I am not good at.”

Finally, virtually everyone in the high-resource group engaged in various activities outside the household – e.g., osteo-fit and dance programs, music studies, gardening, caring for grandchildren, volunteering at a hospital, participating in programs at the Seniors Centre, pursuing advanced studies, and church involvement. This is in marked contrast to the low-resource group that is, on average, 15 years younger. Even into his 90’s, Mel serves as a bandleader for a local non-profit organization. As the oldest group, several also faced health issues besides diabetes, though none were restricted to their home. Jennifer, retired from the local auto plant after thirty-three years, and now works part-time in “astrology”. “I think my work is my labor of love. In a sense, it makes me want to be healthy because I want to work. So I know I have to be in a healthy state to work.”

#### *Cultural resources*

Knowledge and information about what are or are not appropriate foods for diabetics is abundant but can be unreliable,

conflicting, and overwhelming. All but one person in this group had ready access to a computer in their household, and four indicated that they used one to access information about diabetes. When Paul has a question, “first thing I do is go on the Internet... if I can’t find it on the internet, I ask my endocrinologist or my family doctor.” Although the Internet offers a convenient source of information, few seemed to trust their own skills to navigate the Internet and critically assess the information that is received from online resources: “you get computer information and how do you know that information is reliable? These sites can be set up by anybody. If you go to Diabetes Association and that’s fine. But sometimes people just type diabetes and you get 5000 entries” [Beatrice].

Many in the high-resource group read books about diabetes management and extracted recipes from diabetes recipe books. If available, most preferred to turn to professionals or trusted friends for dietary advice. They seemed to carry greater authority for respondents. Three of the eleven in this group had immediate family in the health profession to whom they turned when diabetes-related questions arose – a nurse, a pharmacist, and a naturopath. Beatrice’s case is complicated by other conditions, but she regularly consults with her daughter who lives nearby and essentially monitors her diabetes management:

she juggles everything for me. In fact my doctor is really good at giving me printouts and things and then I fax them to her. Sometimes she has called him to say let’s change this drug. So I am really lucky.

In sum, health capabilities and dietary management in the high-resource group is characterized by:

- (1) Ready access to healthy foods irrespective of costs; this sometimes includes certain more expensive, specialized foods;
- (2) A social environment that mostly encourages and monitors dietary management, and does not indirectly sabotage management by bringing in or consuming unhealthy foods;
- (3) Ready access to trusted sources for information about appropriate dietary management;
- (4) Meaningful social activities that motivate the management of diabetes and other health problems.

#### **Discussion**

The economic variation in our sample was far more limited than in society as a whole – roughly ranging from the lower working class to the upper-middle class. Our sample simply was too small and its variation too limited to detect clearly distinguishable “lifestyles” of the sort Bourdieu describes. Nevertheless, there remained substantial consistency in rankings across the three dimensions – i.e., those low in economic resources tended to rank low or medium on social or cultural dimensions as well, while those high in economic resources tended to rank high or medium on the other dimensions. These offer “pointers toward social groupings” that suggest variation in health capabilities or “health-enhancing privilege and opportunities” associated with different groups (Veenstra, 2007: 30). More narrowly, the contrasts between the low and high resource groups serve to highlight the role and impact of economic, social, and cultural resources on health capability and dietary management. Nonetheless, the size of the subsamples and other important differences between the groups – e.g., time since diagnosis, living alone or not – make it difficult to discern the relative impact of resources on dietary self-management.

The low and high resource groups each show an interactive relationship among economic resources, meaningful social

engagement, commitment to health, and health capability and management. If we extrapolate these relationships over time, the dynamic appears negative (generating a “vicious cycle”) for health capability and health among those in the low resource group: few resources limit chances for meaningful social engagement, reduce motivation to be healthy, and diminish health capability. In turn, this contributes to choices and actions that exacerbate current health problems and enhance risk for new ones, draining economic resources further, diminishing social engagement, health capability, and dietary management. In contrast, the dynamic is favorable for health capability and health in the high-resource group (producing a “virtuous cycle”): more economic resources provide more options for meaningful social engagements, elevates motivation to be healthy, enhances health capability, leading to choices and actions that improve management, lower risk and severity of co-existing conditions and, in turn, serves to sustain health capability and health over time. Moreover, these interactions are complicated by other differences between the groups – e.g., those in low-resource group were, on average, younger and had diabetes for longer, and also were more likely to live alone than those in the high-resource group. It remains uncertain how these differences might serve to exacerbate (or moderate) variation in economic, social, and cultural resources.

Our findings also suggest the importance of social resources for dietary management. They are crucial in at least two key ways: (1) by providing a household environment that is conducive to a healthy diet, and, less directly, (2) by providing meaningful social engagements to encourage and motivate health. A few in our sample continue to rely on direct social support to help compensate for economic deprivations – e.g., turning to parents for shelter and food well into adulthood – as a consequence of disabilities leading to unemployment. These social ties surely enhance health capability. In several instances, however, dietary health and health capability were compromised by an inhospitable social milieu rather than by a deficit in economic resources. Seldom is the non-support overt or hostile. Others may be indifferent to the dietary needs of those with diabetes, may offer a poor example of food consumption, or may bring tempting though unhealthy foods to the table. The habits of others are no easier to alter than are those of people with diabetes and, in fact, others’ motivation to change is likely to be lower. Still, when others remain inflexible with regard to change in eating habits to accommodate a person with diabetes, extra time, energy, and money must be devoted to preparing meals, resources that often are in short supply. In our sample this burden fell disproportionately on women rather than men, since the women often played a traditional role in meal preparation (planning, shopping, and preparing). Several male respondents indicated that they supported their spouse in meal preparation and this likely eased the burden, and two even claimed primary responsibility for preparing meals for themselves and others. It is difficult to know if the extent of support might be over-stated, as expectations for men in this regard traditionally are low, and a positive face is more often extended in the interview context. Either way, in these cases men did not encounter the same resistance to dietary adjustment that some women did. Further, in other cases where men who took primary responsibility for food preparation, they mainly did so for themselves rather than their spouse, reflecting a pattern of spousal “disengagement” regarding dietary change. These results support Miller and Brown’s (2005) suggestion that advancing dietary change benefits from, if not requires, participation in and flexibility regarding food preparation and consumption from others in the household. Short of gaining such cooperation, a person with diabetes must learn to “recognize and counter damaging social norms” regarding food preparation and consumption (Ruger, 2010b: 45), a particularly difficult proposition with dependent others in the

household. Finally, the challenge appears even greater for those from lower-resource households, as the supports for lifestyle changes often are fewer while the changes required often are greater than they are for higher-resourced counterparts (Lutfey & Freese, 2005).

Considerable research suggests various ways whereby social embeddedness impacts health via behavioral, psycho-social, and physiological mechanisms (Berkman, Glass, Brissette, & Seeman, 2000; Thoits, 2011; Umberson & Montez, 2010; Yang, McClintock, Kozloski, & Li, 2013). We suggest that social ties indirectly and directly impact health capability by adding meaning to everyday life, and extra motivation to be healthy. This appeared to be lacking for several from the low-resource group and abundant among those from the high-resource group. Some of what we found regarding social engagements corresponds with Veenstra’s discussions of culture and class (2007, 2010). Following Bourdieu, Veenstra demonstrates the relationship between socio-economic position and the range of cultural options available. Once again, higher incomes afford more freedom for some to pursue meaningful activities apart from what is required to make ends meet. It is understandable that one who “doesn’t have money to do anything” might be indifferent when it comes to making the lifestyle changes needed to better manage their health, and more disposed to fall back on longstanding habits. Although the mechanisms that connect social and cultural engagement to health are many and complex, our findings support the view that such involvements may impact individuals’ motivation and commitment to health, which may be integral to health capability.

#### *Implications for diabetes self-management*

Overcoming longstanding dietary habits to properly manage diabetes challenges all who confront the disease and success in doing so requires a “health capable” patient able to make the changes necessary. As our study suggests, however, health capability is not a property of the abstract individual; rather, it is a process that is shaped by the economic, social, and cultural circumstances that make choices real and available. People with diabetes require sufficient income to afford and gain access to foods that suit proper diabetes management, and many in our study and many more in society fail to reach that threshold. Even those who do may find their efforts to change undermined by others in the household who resist change and persist with old habits. The complexity of the condition and the overwhelming amount of information to sort through make it additionally difficult for many to know for sure even what sorts of changes to make. Failure to account for these circumstances may be a principal reason for the limited success of many health promotion efforts. Perhaps patients should never be advised to “eat right and exercise” until their health capability and the particular conditions that shape it are well understood. Instead, it would be more productive to expand efforts to enhance health capability by acknowledging and altering the conditions that shape it – e.g., reducing economic disparities, enhancing access to healthy foods, increasing family members’ role in lifestyle change, making health-relevant knowledge and information more accessible and useable. This might best serve to advance the prospects for improving diabetes self-management.

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