

Re-imagining the 'social' in the nutrition sciences

Lisa Schubert^{1,*}, Danielle Gallegos², Wendy Foley^{1,3} and Claire Harrison⁴

¹School of Population Health, The University of Queensland, Herston Campus, Queensland 4006, Australia:

²School of Public Health, Queensland University of Technology, Brisbane, Australia: ³Inala Indigenous Health Service, Queensland Health, Brisbane, Australia: ⁴Primary and Community Health, Queensland Health, Brisbane, Australia

Submitted 6 October 2010: Accepted 28 April 2011: First published online 23 June 2011

Abstract

Objective: In response to The New Nutrition Science Project's Giessen Declaration, we provide here a case for a more fully described and integrated 'social' dimension within the nutrition sciences.

Design: This paper explores what we mean when we argue for *socially engaged* nutrition sciences (SENS), and describes the disciplinary fields, epistemologies and methodologies that contribute to SENS' potential rich diversity and value. Additionally, the current positioning of 'social nutrition' research within the nutrition sciences is critiqued.

Results: There is fairly broad acceptance of the 'social' as an important contributor to successful public health nutrition situation analyses, intervention planning and implementation. However, we assert that the 'social' is not merely a contributor, the usual position, but is central. Implications for policy and practice that could follow from this shift in approach are outlined.

Conclusions: We call for researchers, educators, policy makers and practitioners alike to re-imagine the role and purpose of social science enquiry that could enable the delivery of more socially engaged nutrition sciences.

Keywords

Social nutrition
General theory of nutrition
Social reality
Social science enquiry in nutrition

Within The New Nutrition Science Project, the Giessen Declaration's proposal for a new general theory of holistic nutrition science has generally received a warm reception from the Australian academic public health nutrition (PHN) community. While we are in agreement that an expansion of the research, programmatic and policy agenda is critical for PHN in the 21st century, we assert here that the 'social' dimension within the nutrition sciences remains ill-defined, and is currently constrained by dominant positivist discourses and a focus on welfare issues.

There is general recognition that the 'science' of nutrition needs to be reconciled and contextualised within the social. As DeVault intimates⁽¹⁾:

The claims of science are, traditionally, presented as abstract, timeless, replicable, and universal. The social activities of producing, distributing, and using food, on the other hand, are more obviously relational, contextualized, politicized, and embodied activities. (p. 139)

This 'social turn' has been echoed in the broader health science literature over the last three decades, with a range of nutrition and social science scholars writing specifically about a 'social nutrition' agenda^(2–4) and engagement with social science research methodologies^(5–7). Some have highlighted the need for wider adoption of qualitative

methods^(8–12) and the specific applications of social science sub-disciplines to food and nutrition issues. The breadth of applications range from work that seeks to provide theoretically informed research^(13–16) in addition to interdisciplinary translational⁽¹⁷⁾ and implementation⁽¹⁸⁾ research programmes in nutrition. Each in its own way has provided a piece of the 'social' puzzle presented over this period to nutrition practitioners and policy makers, researchers and academics. However, we argue here that there has been a lack of synthesis of the threads that flow through this literature, and that a clearer picture of what is meant by the 'social' remains to be articulated.

The 2005 publication in this journal of papers that expounded the dawn of 'The New Nutrition Science Project' (NNSP)^(19–22) held out a promise that social science dimensions would now take their legitimate place. Against a backdrop of considerable disquiet regarding the state of the nutrition sciences, Cannon and Leitzmann⁽²¹⁾ have acknowledged that much of nutrition science (NS) has been analytic and reductionist, resulting in the comment by Lang⁽²⁰⁾ that 'today nutrition is highly fragmented intellectually' (p. 730). The proposal laid out in the NNSP's Giessen Declaration has sought to redraw the boundaries of the nutrition sciences by introducing a tripartite model which recognises the biological, the environmental and the social as essential components of the discipline. However, instead

*Corresponding author: Email L.Schubert@sph.uq.edu.au

of following through with the implications of this visionary re-conception, they fall back on a position that accepts nutrition as a biological science, but in need of assistance. The NNSP, while keeping the biological as a central tenet, has recognised that 'biology is not enough'⁽²¹⁾ (p. 683). We have here a recognition that 'the main solutions to nutritional problems lie less in unlocking biological pathways, and more in creating healthy societies and also environments'⁽²³⁾ (p. 793). A closer examination however has seen the NNSP fall short in delivering an expanded role for the 'social' in the nutrition sciences.

In this paper we set out to demonstrate a range of gaps and shortcomings in the interpretation of the 'social' in nutrition science literature, and, following this, we explore what we mean when we argue for *socially engaged* nutrition sciences (SENS). The 'social' is widely recognised as an important contributor to both nutrition and health. However, we argue that the 'social' is not merely a contributor but needs to be perceived as central. We propose a way for the nutrition sciences to celebrate a diversity of perspectives and complementary layers of understanding, while simultaneously becoming a more relevant and coherent discipline. The interpretation of, and the positioning of, the social is key to this vision.

Before continuing it is worth explaining what this paper is not. It is not simply a plea for more 'social' or qualitative research (and funds to support it), or a plea for greater recognition of its value. Others have put this case, and we will refer to some seminal literature addressing this topic in the following section. We are not advancing the 'social' as a new field but rather one in need of repositioning and redefinition. Further, space limitations mean that we do not engage in extensive justifications of the approaches that we advocate are incorporated into SENS. We do, however, have concerns that currently dominant research and educational practices in the nutrition sciences are at risk of leaving the discipline 'social-lite', and that the implications of this present a problem that needs addressing.

Then and now

The study of the 'social' in the nutrition sciences is not a new phenomenon; it could be argued that nutrition as a discipline in modernity emerged from nutrition as a social issue. Wilbur Atwater, credited with leading the nutrition movement in the USA in the late 19th century, linked nutrition with the labour unrest of the time and argued that 'optimal nutrition would increase productivity' while at the same time 'the application of sound nutrition principles would reduce worker expenditures for food, thereby increasing the buying power of existing wages'⁽²⁴⁾ (p. 478). The emergence of the discipline of nutrition, however, has more to do with the linking of nutrition to a social issue in order to access resources than to a genuine concern for addressing the issue.

Aronson makes the claim that, once established, nutrition scientists distanced themselves from the social issues, and that new disciplines 'emerging under conditions of marginal institutional support, to establish themselves "turn" the definition of political issues of class conflict into problems of deviance or moral order'⁽²⁴⁾ (p. 484). It comes as little surprise then that from the beginning of the 20th century a significant and intentional effort was made to dissociate the nutrition sciences from social issues and reconfigure them as biomedical⁽²⁴⁾.

Various attempts have been made to recover and rehabilitate the contribution that the 'social' can make to the discipline. Only three decades ago, 'Social Nutrition' was distinguished as an emerging sub-discipline that embraced 'the study of social, psychological and economic factors that determine food habits and of the means by which future choice may be influenced in the interests of better nutrition'⁽²⁾. In this same decade, Eide⁽³⁾ was also writing about the requirements for engaging with a social orientation in studying food access, and Rozin⁽²⁵⁾ was calling for a better balance between scientific-technical concerns and the realities of everyday life through a more active engagement with social science research paradigms.

Australian social nutritionist Crotty's⁽¹²⁾ observation that the act of swallowing divides nutrition into the post-swallowing domains of biology, physiology, biochemistry and pathology and the pre-swallowing domains of behaviour, experience, culture and society was (and remains today) important in characterising two necessary parts of the nutrition sciences. In 1993 she expressed concern that, despite the growing focus on PHN, there continued to be a dominance of the influence of the post-swallowing domains in nutrition policy making. Notably her concerns lay with gaps in social nutrition knowledge and methods of community engagement. Her interests included the social context of food behaviour and, in particular, aspects of domestic life, insiders' perspectives on food provisioning, and developing critical insights into dietitian-nutritionists'/policy makers' roles, interests and actions. Within the Australian context, the research needed to fill these gaps is not carried out as part of any integrated research strategy, and the challenge to integrate the two spheres of knowledge remains.

These pioneers of social nutrition were all writing at a time when having an understanding of 'social' context was seen as having relevance quite specific to the nutrition educator and particularly to action at the community level^(2-4,25). Today, the significant expansion of the PHN workforce, alongside an expanded and multi-strategy agenda, means that having quality social science research to inform policy remains critical.

If the authors of the Giessen Declaration have not given the status quo within the nutrition sciences a glowing endorsement, this NNSP-led critical self-reflection has been amplified by recent Australian sociological analyses. Critics of biotechnical hegemony in the traditional nutrition

sciences have variously argued that its dominant paradigm privileges *nutritionism*⁽²⁶⁾, where a nutritionally reductive approach to food has come to obfuscate other ways of engaging with food, and that rapidly evolving (and potentially profitable) biotechnologies, nutrigenomics and other biotechnical responses to nutrition problems have grown in significance, to the detriment of the promotion of a more socio-ecological model^(27–29).

Much, however, is changing in the nutrition sciences. In contrast to the 'social', the most recent decade has seen the 'environmental' dimension of the NNSP capture the attention of consumers, practitioners, researchers and increasingly policy makers. The imperative behind the NNSP has been that 'planet Earth is on the brink of major climate change, with its implications for food production, and of massive shortages of sustainable energy and safe water'⁽¹⁹⁾ (p. 766). Intensification of agricultural and animal-rearing practices and the concomitant risks associated with changing climatic patterns, industrialisation of food processing to meet consumer demand, global distribution of plant and animal varieties, and the reduction in food crop and livestock biodiversity will all impact on the ability of communities to grow and consume particular food types^(20,30,31). For those trained in the biological sciences, the integration of nutritional and environmental concerns represents a relatively safe ground for expansion in a number of ways: the shared research quest for knowledge and the 'truth' (epistemologies), the integration of environmental considerations into an expanded set of dietary guidelines, and a number of common or overlapping grassroots applications. Research in the fields of the environment, agriculture, climate change and biotechnology all have positivist science frameworks that can be applied at regional, local and household levels. There are clear levels of enquiry, hypotheses to be formed and researched, outcomes to be measured and funding available. The implications of major climate change on food production and on the sustainability of that production has resulted in the direct link with nutrition⁽¹⁹⁾. Internationally, dietary guidelines for sustainability were developed 25 years ago and more recently this has captured the imagination of consumers through the local food and Slow Food movements^(32–36). Concerted efforts in this arena have now placed the environment, the protection of natural resources and sustainability of the food supply on the agenda for the next iteration of the Australian Dietary Guidelines⁽³⁷⁾ and on the national food policy agenda⁽³⁸⁾.

Interpreting the social

Today, the word 'social' gets used by nutrition scientists, and especially those engaged in PHN, with relative ease – we look for the social determinants, aim to integrate the social with the biological and environmental dimensions,

and engage with the socio-cultural or socio-economic in order to influence environments and food choice for better health outcomes. Yet, the appreciation of what the 'social' encompasses is not clearly articulated.

What needs to be clearly delineated here is a more sociological way of thinking about the social dimensions of nutrition. Sociologists typically think about human behaviour in terms of the influence of structure and agency. In this context human 'agency' refers to the capacity of individuals to act independently and to make their own judgements and decisions in social life. In this sense the individual is seen to have control over his/her food choices. Germov and Williams explain social structure as referring to 'recurring patterns of social interactions by which people are related to each other through social institutions and social groups'⁽¹⁶⁾ (p. 10). If we were to accept structural forces as being a dominant factor in shaping our food choices, then we would support the idea that we are very much products of our society.

The position taken by many modern social theorists is to attempt to argue not solely for an explanatory role of agency or structure, but to attempt to find a point of balance between the two. Structure and agency are seen as complementary forces – structure influences human behaviour, and humans are capable of changing the social structures they inhabit. These views are now represented in contemporary literature in the sociology of consumption^(39–41) and the sociology of health⁽⁴²⁾.

While structural perspectives, and their associated analytical approaches, seek to explain social, political, economic and environmental structures and institutions and their shaping of population dietary practices, the agentic perspective takes as its starting point that human behaviour is based on individuals' interpretation of a situation and the meaning given to it. The latter tells us how, in a given social context, communities, households and individuals respond to the conditions in which they find themselves.

Concerns about the inability of research methodologies in the nutrition sciences to capture the dimensions of understandings required around 'pre-swallowing nutrition' have not gone unnoticed. Peltó and Freake⁽⁵⁾ provide a broad overview of social science contributions to the nutrition sciences, and a recent paper by Delormier *et al.*⁽⁴³⁾ has further advanced the theoretical argument regarding the perception of eating as a social practice rather than simply a behaviour. Notably, Delormier *et al.* highlight the misleading tendency of behaviour-oriented methodologies used to study food choice to 'exaggerate the extent to which rational choice drives what people choose to eat, and underestimates the extent to which eating is embedded in the flow of day-to-day life'⁽⁴³⁾ (p. 217). Yet by and large this is the dominant way in which the nutrition literature presents investigations of food choice. Some attention has been paid to research methodologies that explore approaches that move beyond

positivism and postpositivism by adopting alternative epistemological perspectives (e.g. constructivism, critical realism, feminism, symbolic interactionism) more amenable to investigation of the agential perspective^(8,11,44).

Research that explores structural concerns has grabbed the imagination of public health and sociology of nutrition and food policy scholars, particularly in the last decade^(20,45). As a result, terms like *food miles*, *\$/k analysis*, *food system analysis*, *food marketing environment* and *obesogenic environment* are used widely by nutritionists, something unheard of two decades ago. There is also a substantial body of research that measures the role of socio-economic disadvantage in nutritional inequalities. These advances in knowledge, while critical in building a framework for understanding of the multiple social structures, do not provide, in themselves, a complete picture. These perspectives tell us about the conditions that shape food choice, but illustrate neither the experience of living under these conditions nor how different individuals and households respond differently to similar conditions. The risk involved here is that in research and policy making there is a shift to a position where concerns with structure overshadow and override agency-oriented perspectives. This can lead to the mistaken belief of the 'social' in 'social nutrition' as a unidirectional process involving only structural forces. Nutritional scientists trained in the dominant biomedical paradigm⁽⁴⁶⁾ and enmeshed with deterministic research approaches have turned the 'social' into branches of behavioural epidemiology and quantitative nutritional sociology that adopt what Murcott⁽⁴⁷⁾ has referred to as *political arithmetic*, where links are made between social characteristics and nutritional deficits, with a view to 'proving' who or what should be the target of interventions. The ongoing research interest in the association between working mothers and forms of malnutrition (i.e. both undernutrition and obesity) in children^(48–50) is one example of such treatment. This approach to diet that reduces it to the primary causal factor for nutritional disease contrasts with a 'social' approach that recognises the narratives behind diets and constructs them as an outcome of a complex set of processes, leading to potentially more effective interventions. The social approach would also complement the 'food-based' approach providing local context for the translation of food and nutrition policy into communities and households⁽⁵¹⁾.

Structural research is significantly removed from the human level (the agential perspective) where nutritionists interact with real people and their dietary practices. SENS start at this point and propose a research agenda that serves first the needs of households and communities (in all their diversity) as well as the practitioners and policy makers who work with them. Research and practice at the agential level also allows understanding of, for example, local contexts and variation, the experience of populations living on the margin, of ethnically diverse and migrating communities, and of those living in diverse household forms.

There will always be a need for local context research methods, whether carried out by researchers, nutritionists or other community health workers equipped to undertake this work as part of their role. Socially engaged research makes it possible to tailor existing programmes, or devise original programmes to meet local conditions and communities via a range of critical methodologies^(52–55). Research that investigates either the structural or agential dimension, as well as research that investigates the interplay between these dimensions, can be paradigm shifting by contributing theoretical insights, and by generating new theory.

A proposal

In outlining the proposal for socially engaged nutrition sciences it is necessary to emphasise that there is no singular 'nutrition science' with roots in natural (biological) sciences, with a range of derivative sub-disciplinary fields, but rather the 'nutrition sciences' (pl.). It is also important to highlight that 'social nutrition' has played a significant role in the history of nutrition, but the time has come to revisit its definition, scope, and future requirements for its development and relevance to all nutrition endeavours. SENS would require an active engagement with the social sciences in training of nutrition professionals, in nutrition curriculum, and in research activities concerned with the study of human nutrition and in nutrition professionals' practices.

We have adopted the descriptor *socially engaged* for two reasons. First, we wish to highlight the desirability of a discipline that explicitly engages in its research agenda and scope, policy and practice with issues relevant to society, and in a way that reflects the values and ethical standards of the broader society, not just those of an academic community. Similar ideals have led movements of social engagement within disciplines (architecture and art), institutions (universities) and religious communities (Buddhism and Islam), where terms such as 'socially responsible', 'participation and collaboration' and 'engaged practice' reflect the move towards recognising the potential to contribute to social transformation and development. In more socially engaged nutrition sciences, the full spectrum from biological and chemical scientific perspectives to social scientific research that explores food consumption practices of real people living in society are given due weighting. For food and nutrition policy makers to move towards this, there is a need to recognise the centrality of the 'social' and that matters concerned with nutritional health and well-being of individuals, households, communities and populations in a life course perspective are mediated via the social roles and relationships, meanings, activities and organisations that tie food and people together.

Second, in order to understand this perspective a dedicated research agenda that privileges approaches that

Table 1 Examples of agent-focused socially engaged food and nutrition research

Theme	Paper reference	Methodology
Overweight and obesity	Warin M, Turner K, Moore V <i>et al.</i> (2008) Bodies, mothers and identities: rethinking obesity and the BMI. <i>Social Health Illn</i> 30 , 97–111.	Ethnographic study within a social epidemiology context
	Rich E & Evans J (2005) 'Fat ethics' – the obesity discourse and body politics. <i>Soc Theory Health</i> 3 , 341–358.	Discourse analysis
	Coveney J (2008) The government of girth. <i>Health Social Rev</i> 17 , 199–213.	Discourse analysis
Feeding families	Bava C, Jaeger S & Park J (2008) Constraints upon food provisioning practices in 'busy' women's lives: trade-offs which demand convenience. <i>Appetite</i> 50 , 486–498.	A multi-method approach including semi-structured interviews, diaries, participant observation and media analysis
	Engler-Stringer R (2010) The domestic foodscapes of young low-income women in Montreal: cooking practices in the context of an increasingly processed food supply. <i>Health Educ Behav</i> 7 , 211–226.	A participatory study using focus groups
	Ristovski-Slijepcevic S, Chapman GE & Beagan BL (2010) Being a 'good mother': dietary governmentality in the family food practices of three ethnocultural groups in Canada. <i>Health</i> 14 , 467–483.	A qualitative study based on a constructivist approach
Breast-feeding	Bowes A & Meehan Domokos T (1998) Negotiating breast-feeding: Pakistani women, white women and their experiences in hospital and at home. <i>Social Res Online</i> 3 (3); available at http://www.socresonline.org.uk/3/3/5.html	An interview study that focuses on women's own point of view
	Dodgson J, Duckett L, Garwick A <i>et al.</i> (2002) An ecological perspective of breastfeeding in an indigenous community. <i>J Nurs Scholarsh</i> 34 , 235–241.	A focused ethnography with an ecological framework
	Dykes F (2002) Western medicine and marketing: construction of an inadequate milk syndrome in lactating women. <i>Health Care Women Int</i> 2 , 492–502.	A longitudinal phenomenological study
	Hauck Y & Irurita V (2003) Incompatible expectations: the dilemma of breastfeeding mothers. <i>Health Care Women Int</i> 24 , 62–78.	A study utilising interviews, questionnaires, field notes, books, parents' magazines, local newspapers and websites, with symbolic interactionism as the theoretical framework
Food security	Quandt S, Vitolins M, DeWalt K <i>et al.</i> (1997) Meal patterns of older adults in rural communities: life course analysis and implications for undernutrition. <i>J Appl Gerontol</i> 16 , 152–171.	An ethnography
	Travers K (1996) The social organization of nutritional inequalities. <i>Soc Sci Med</i> 43 , 543–553.	An institutional ethnography
	Englberger L, Marks G & Fitzgerald M (2003) Factors to consider in Micronesian food-based interventions: a case study of preventing vitamin A deficiency. <i>Public Health Nutr</i> 7 , 423–431.	A focused ethnography, including key informant interviews and a literature review

are sympathetic to the provision of in-depth understanding of this social reality is needed. This would encompass the strategic engagement with more theoretically informed, qualitatively driven social science research that explores, and contributes to our understanding of, the myriad social dimensions of feeding and eating that play a role in human health in contemporary settings. While the nutrition sciences are lagging in their appreciation of the 'social', food- and nutrition-related research is being carried out by socially engaged scientists. This work rarely appears in nutrition journals, but interest is such that papers, special editions and dedicated conferences can be now seen in the fields of sociology, cultural studies and human geography. Some illustrative examples of agent-focused socially engaged research on the topics of overweight and obesity, feeding families, breast-feeding and food security are shown in Table 1. Additionally, research that contributes to a life course perspective to nutrition (as described by Wethington⁽⁵⁶⁾) for children⁽⁵⁷⁾ and in family households⁽⁵⁸⁾ demonstrates the potential of socially engaged research to enhance the nutrition sciences as a disciplinary field of

research and to inform professional practice. The *socially engaged* in socially engaged nutrition sciences is, therefore, both about processes (of engagement) and outcomes.

Implicit in SENS is the necessity for a multiplicity of perspectives and multidisciplinary social science research to underpin theoretically informed⁽⁵⁹⁾ and evidence-based⁽⁶⁰⁾ nutrition policy and practice. In this way SENS could substantially enhance the potential of the nutrition sciences to improve population health. The remainder of the paper will address this proposal, and briefly discuss some of the policy and practice implications of embracing a social engagement approach to nutrition.

Policy makers or practitioners need to view their analyses of nutrition issues and problems through both structural and agential perspectives in order to deliver actions/programmes/policies which deliver outcomes that work, given the social realities. Impregnation of the analytic lenses with research findings from both perspectives is necessary to achieve this.

A social engagement approach to nutrition includes attention to those aspects of the social, cultural, economic, geographic and political environment that have a direct

bearing on human nutrition, seeks to understand the role of structure and agency, and fosters research at these macro and micro levels. All these dimensions are important, but further critical attention needs to be paid to the understanding and interpretation of 'social', 'cultural', 'economic', 'geographic' and 'political' in the context of nutrition studies. Disciplines like cultural sociology, human geography, social anthropology, political science and health economics provide expertise that is currently underutilised in the nutrition sciences. While we acknowledge distinct sub-fields that now exist dedicated to the study of nutrition and food, particularly in sociology and anthropology, we believe that further diversity in social science perspectives and methodologies is necessary, and that, to date, the dominance of positivist approaches within the nutrition sciences has constrained the breadth of social science enquiry. Epistemologically, SENS research sets out to pioneer qualitatively driven, multidimensional approaches to social explanation that are pursued strategically in the service of research questions that encompass the range of food and nutrition issues in human populations where they present as social problems.

If the nutritional sciences were to more readily embrace an understanding of the field as suggested here, and if a SENS research agenda were used to inform PHN practice and policy, this would support a move towards a profession and discipline of human nutrition that holds values of social, economic and ecological sustainability at its core, understands dietary practices as socially constructed practices, and supports interventions, strategies and policies that are in tune with agential as well as structural impediments to good health outcomes.

Currently NS dedicates limited attention to these areas of investigation. We believe that this is partly due to an undervaluing of the 'social' and a lack a clarity regarding what the 'social' encompasses. This imbalance needs to be addressed. Increasing the appreciation of the 'social' can only be realised when it is fully integrated into curriculum design for degree programmes that have a nutrition focus, and when it becomes the norm for social scientists with an interest in food and health to be appointed in university schools of nutrition sciences. The failure of nutritionists' education to provide comprehensive access to and critical analysis of a more socially engaged approach will continue to limit the extension and expansion of nutrition.

Conclusions

Diverse critiques of the dominant paradigm within the nutrition sciences, along with the rise of literature promoting a sociological orientation to food and nutrition issues, together challenge the status quo in the nutrition sciences. Some of the shortcomings and potential dangers of a discipline that embodies a biomedical orientation,

a traditional realist epistemology and a reductionist approach to food and eating practices have been highlighted. Our collective experiences have brought us to the conclusion that while aspects of this dominant orientation have advanced the nutrition sciences to become the substantial and diverse field it is today, the failure to adequately address a range of existing and evolving PHN problems, in particular, calls out for reflection on the adequacy of current, ambiguously defined, disciplinary boundaries and the limitations of our research capacities.

In this paper we have proposed two things. First, a recognition of the potential contribution that can be gained from a fruitful engagement with a wider range of social science disciplinary areas and particularly their associated qualitatively driven and multidimensional approaches to social explanation, and a research agenda that is in tune with, and responsive to, real community food and health needs. Contrary to other commentators⁽¹⁸⁾, we maintain that to enable this, nutrition researchers *will* need to expand beyond the currently maintained disciplinary comfort zone. Second, and perhaps more controversially, we propose a positioning of social science research knowledge (as described here) as a necessary filter between basic, predominantly positivist nutrition science research, and food and nutrition policy and practice, in delivering outcomes that can serve households, communities and populations well in sustainable and ethical ways. As such it needs to be central to the enterprise of the nutrition sciences. Together these two things would contribute to a future which enacts SENS more widely.

Acknowledgements

An earlier version of this paper was presented at the Public Health Association of Australia's *Food Futures: An Australian Approach Conference*, 20–21 April 2010, Canberra. This research received no specific grant from any funding agency in the public, commercial or not-for-profit sectors. The authors declare no conflict of interest. All authors were involved in conceiving the idea of the manuscript, which originated out of a Brisbane-based Social Nutrition reading and discussion group. L.S., D.G. and C.H. were responsible for producing initial section drafts; L.S. led the analysis, interpretation and writing of the manuscript. All authors contributed to the review of the manuscript. The authors would like to thank the two anonymous reviewers who added considerably to deliberations on SENS and its importance. They also thank Emily Dickson for editorial assistance.

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