

# School tuck shops in South Africa—an ethical appraisal

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It can be postulated that schools have an ethical responsibility to protect children from an unhealthy food environment. Against the backdrop of stunting, overweight and micronutrient deficiencies prevalent in South African children, the aim of this scoping study is to review information available on foods sold to school children within an ethical framework. While some schools have a formal tuck shop, at other schools, food vendors sell food either on or outside the school premises. Ten studies, of which two were national, fit the selection criteria for this study. Available data show that mostly unhealthy food options are sold to South African school children; with low-nutrient energy-dense foods (e.g. chips, sweets) and sugar sweetened beverages being the most popular. The Integrated School Health Policy provide a policy framework for achieving healthy school food environments in South Africa, and several guidelines are available in South African to assist school tuck shops to sell healthier options. Children's preference for unhealthy foods, the cost of healthier food options and a lack of proper facilities may however be barriers for implementing healthy tuck shops. An action stronger than merely providing guidelines may therefore be needed. Cognisance needs to be taken of conflicting value based arguments within ethical perspectives. Given these conflicts, the authors argue that an Ethics of Responsibility contributes to the debate of the best and supports the notion that society at large has a responsibility to protect vulnerable communities of which school children are part. Presently an ethical vacuum exists in terms of rights and responsibilities which this study hopes to address.

**Keywords:** ethics, ethics of responsibility, school health policy, South African school children, unhealthy food environment

## Introduction

Overweight and obesity, with a prevalence of 36.9% in men and 38.0% in woman in 2010, is a major global health challenge.<sup>1</sup> Of particular concern is the increase in overweight and obese children and adolescents worldwide in both developed and developing countries.<sup>1</sup> Although healthy food consumption increased globally between 1990 and 2010, the consumption of unhealthy foods increased at a greater rate during the same period.<sup>2</sup> These unhealthy foods are often ultra-processed products, typically sold as ready-to-eat or ready-to-heat, which are characterised as typically energy dense, low in dietary fibre, and high in saturated fat, added sugar and sodium.<sup>3</sup> Researchers<sup>4</sup> argue that an increased supply of these cheap and palatable unhealthy foods; improved distribution systems to make food more accessible and convenient; and, more persuasive and pervasive food marketing play a major role in the global problem of overweight and obesity.

The World Cancer Research Fund International developed the Food Policy Framework for healthy diets and prevention of obesity and diet-related non-communicable diseases, also referred to as the NOURISHING Framework.<sup>5</sup> The NOURISHING framework identifies ten areas, which can be adapted according to country specific contexts, within three broad domains in which policy actions can be taken to address the aforesaid, namely the food environment, the food system, and behaviour-change communication.<sup>6</sup> The "O" in the framework acronym (NOURISHING) refers to offering healthy foods and set standards in public institutions and other specific settings.

In relation to the aforementioned the school food environment, which is a component of the broader food environment,

comprises children's lunch boxes, meals provided through school feeding programmes, and tuck shops, and must be critically evaluated. Since children spend in general between 4 – 8 h per day at school, the school food environment is an important component in effective school-based interventions to promote healthy eating.<sup>7</sup> It could thus be postulated that schools have an ethical responsibility to protect children from an unhealthy food environment while at school, which is in line with Lobstein *et al's* opinion<sup>8</sup> that nutrition security in childhood includes the provision of a supply of healthy foods and assurance that children's consumption of health foods is not jeopardised by the promotion of competing and less nutritious products.

It is disconcerting that South Africa does not only have one of the highest rates of overweight and obesity worldwide,<sup>1</sup> but is also amongst the 34 countries with the highest burden of childhood stunting,<sup>9</sup> and at the same time micronutrient malnutrition is of public health significance.<sup>10</sup> An estimated 13.5% children aged 6 – 14 years are either overweight or obese<sup>10</sup> Given the social disparity of the country, children attending schools located in the poorer socio-economic communities are provided with a school meal as part of the National School Nutrition Programme and are encouraged to carry a lunch box for later in the day.<sup>11</sup> Considering that a great majority of South African children consume a cereal based diet with little variety,<sup>12</sup> the "offering" of healthy food options at school is of the utmost importance. One of the strategies recommended by the Institute of Medicine's Committee on Accelerating Progress in Obesity Prevention in the USA is to implement, regulate and monitor strong nutritional standards for all foods and beverages sold or provided through schools.<sup>13</sup>

Many poorer South African households rely on social grants as a source of income<sup>14</sup> and have limited availability of food.<sup>15</sup> They are consequently seen as a vulnerable population that is often unable to anticipate, cope with, resist or recover from the impacts of harm, exploitation or unfair treatment.<sup>16</sup> Cheap and palatable unhealthy foods may pose a considerable health risk to such populations but according to Stuckler and Nestle<sup>17</sup> public health professionals have been slow to respond to this threat.

One of the reasons for this may be that when addressing vulnerable communities and risks, from an ethical point, policy in general defaults either to one of the traditional approaches (deontology or utilitarianism). However, applying either of these traditional approaches to vulnerable populations is contentious. One major objection the authors have with the deontological framework to ethical conduct is where there is a claim (which is applies across all policy) that the consequences of an act are of lesser importance when compared to the policy itself. When vulnerable communities are involved one cannot make meaningful moral decisions without paying at least a modicum of attention to the consequences of our acts. The main criticism to be levied against utilitarianism is that utilitarianism is often at loggerheads with the requirements of justice as it seems that justice can be relinquished in the name of the best consequences for the most people regardless of individual (also read vulnerable populations) rights. Given the clear position of the child (as emanated in the Children's Act, 35 of 2005) the aforementioned would not hold water in any policy discussion in South Africa.

The aim of this paper is to review information available on foods sold to South African school children through either tuck shops or food vendors; and, to comment on the ethical responsibility of the school community to address the concerns identified in the review. The ethical framework which will be employed will take into account the un-tenability of the traditional deontology and utilitarianism approaches to vulnerable populations, and will mainly draw on Hans Jonas' Ethics of Responsibility<sup>18</sup> which is an approach where, on the basis of recognition of the moral ambivalence associated with most of the phenomena in the social world, the main task of moral judgement is not deemed consistency within a single paradigm, but the acceptance of responsibility for whatever line of action is recommended. An ethics of responsibility is a form of ethics that makes all people, not only health care workers and moral philosophers – accept responsibility for the world in which we live and which we create by means of science and technology.<sup>18</sup>

## Materials and methods

A scoping review was done with the purpose to assess what proportion of children buy food at school and which food items are mostly available through tuck shops or food vendors in South Africa. A systematic methodology was followed which includes identifying the research question and parameters; identifying relevant studies; selecting the appropriate studies; charting all the relevant data; and, collating and reporting the data.<sup>19</sup>

Databases searched included Academic Search complete; Medline (Ebscohost) and Health Source Nursing/Academic edition. Keywords used were school health environment; school tuck shop; school food vendors; nutrition; and, South Africa. Inclusion criteria were that the school must be in South Africa and that the paper reports data on the source and/or type of foods purchased by school children.

## Results

Ten studies, of which two were national surveys, that fit the criteria were selected for this study, and the results are shown in Tables 1 and 2.

Five of the ten studies reported that school children in South Africa often rely more on bringing money to school, than on bringing a lunch box.<sup>21,22,24,26,27</sup> At national level, approximately 50% of learners buy food at school frequently.<sup>10,20</sup> Foods are sold through tuck shops, which are controlled by the schools, outsourced or privately owned;<sup>20,25</sup> and, food vendors either on or outside the school premises.<sup>22,24</sup> In some instances, children buy food from a shop nearby the school.<sup>23</sup> The majority of the studies reported that foods sold to learners are most unhealthy food options, with chips, sweets and chocolates generally being the most popular food items as presented in Table 2.

## Discussion

The strength of a scoping study is that relevant results are presented in an accessible and summarised format and that policy makers, practitioners and consumers are in a better position to use the finding effectively.<sup>19</sup> Available data, as summarised in Table 2, show that mostly unhealthy food options are sold to South African school children, with low-nutrient energy-dense foods (e.g. chips, sweets) and sugar sweetened beverages being the most popular. Ideally, healthier food items should be sold to learners, while the selling of unhealthy food items should be restricted or banned.<sup>13,20</sup> Studies have shown that should both healthy and unhealthy foods be available, children will probably choose the healthier options rather than healthy food.<sup>21</sup> Although older children may be more knowledgeable on healthier food choices, it does not necessarily affect their purchase choices.<sup>21</sup> There is some evidence that increasing the availability of healthy food options at school could positively influence food choices.<sup>22</sup>

The question at hand asks whether the school, through either the parents, the school's governing body or the government at large (i.e. the Department of Education) has an ethical duty or obligation to protect children from a food environment that encourages unhealthy food choices? The terms duty and obligation are generally used interchangeably as synonyms in most legal systems. These terms refer to a contractual relationship between two parties and what the one should do and what the other could expect to receive. The law, which at large is liberal and based on a non-consequential ethical tradition in specific deontology, argues similarly that the ends of a person's action can never justify the means. Although the law may not discriminate between obligation and duty, Kant (the father of deontology) argues that a duty is an action following from perfect normal ethical consideration on good practice (i.e. code of conduct, creed or specific value system).<sup>23</sup> On the other hand, an obligation, although related, is also different in as much as it is a relation between a moral agent (he/she who has an understanding of values) and an action (regardless of any relationship with a value system). Therefore, to argue one is morally obliged to do something is to argue that one has to, without any proviso, act in a particular way (which could imply one could act immorally). Therefore, in the true Kantian definition of the word, tuck shops have a duty to protect learners from an unhealthy food environment. As shall be argued later it is a matter of avoiding known risks and to first do no harm.

**Table 1:** Percentage of school children buying food, and most popular food items

| Study  | Study population   | Source of purchase   | % Children who bought food at school  | Foods mostly available  |
|--|--|--|---|---|
| Shisana <i>et al.</i> , 2013 <sup>10</sup>     | National sample<br>10 – 14 y old learners (n = 2 412)  | Not reported   | 51.3% took money to school, of whom 48.6% took money every day                                    | Not reported  |
| Reddy <i>et al.</i> , 2010 <sup>33</sup>       | National sample<br>Grade 8 – 11 learners (n = 9 836)   | Tuck shop/vendor <sup>b</sup>  | 44.7% bought food at least 4 days per week<br>15.1% did not buy in the week preceding the study   | Foods mostly commonly bought: see Table 2   |
| Temple <i>et al.</i> , 2006 <sup>34</sup>      | 14 schools in the Cape Town area<br>Grade 7 – 10 learners (n = 476)  | Tuck shop (72.9%)<br>Local vendor <sup>c</sup> (20.4%)<br>Both (6.8%)  | 69.3% (74.6% girls, 62.9% boys) bought food, of whom 70% purchased unhealthy foods                | Foods most commonly bought: see Table 2   |
| Faber <i>et al.</i> , 2014 <sup>35</sup>       | 90 quintile 1 – 3 primary schools (10 in each province)<br>Grade 5 – 7 learners (n = 2 547)                | Information on tuck shops available for 74 schools, of whom 11 did not sell any food on the day of the survey<br>Information for 63 schools:<br>Tuck shop (29%)<br>Food vendor on school premise (49%)<br>Food vendor outside school premise (22%) | 57% brought money to school on the day of the survey  | Foods sold: see Table 2   |
| De Villiers <i>et al.</i> , 2014 <sup>36</sup> | 100 quintile 1 – 3 primary schools in the Western Cape   | Tuck shop (64%)<br>Vendors outside school premises (33%)<br>Shop close to school (6%)  | Not reported  | Foods sold: see Table 2   |
| Abrahams <i>et al.</i> , 2011 <sup>37</sup>    | 16 primary schools<br>Western Cape<br>Grade 4 learners (n = 717)   | Tuck shop/Food vendor <sup>2</sup>   | 49% had consumed at least one food item purchased from tuck shop/vendor the day before the survey | Chips was the most popular food item  |
| Marraccini <i>et al.</i> , 2012 <sup>38</sup>  | 13 schools in the Cape Town area which were exposed to the Woolworths Healthy Tuck Shop Guide <sup>a</sup> | Tuck shop controlled by school (n = 5)<br>Tuck shop outsourced (n = 7)<br>Food vendor (n = 1)  | Not reported  | Chips, sweets and chocolates were the most popular food items.<br>Other items sold were doughnuts, pies, hamburgers, hot dogs, ice suckers, flavoured waters and sugar-sweetened beverages. Some sold a hot meal.<br>Fruit was rarely available |
| Wiles <i>et al.</i> , 2011 <sup>39</sup>       | 11 quintile-5 primary schools in Pietermaritzburg <sup>3</sup>   | 81.8% of tuck shops (9 out of 11) were privately managed   | Not reported  | Foods sold: see Table 2   |
| Feeley <i>et al.</i> , 2013 <sup>40</sup>      | Children from Soweto (n = 1 298)<br>Age groups 13, 15 and 17 years   | Not reported   | 50 – 70% bought 10 food items or more per week  | Not reported  |
| Feeley <i>et al.</i> , 2012 <sup>41</sup>      | Children from Soweto (n = 1 451)<br>Age groups 13, 15 and 17 years   | Not reported   | > 85% bought food from the school tuck shop   | Sweets, crisps, cold drink, fried chips, and white bread accounted for 62% of purchases   |

Notes: In South Africa, government schools are grouped in quintiles according to the poverty level of the community where they are located. Schools in quintile one are the poorest and all the school funds come from the government; quintile five is the least poor and the bulk of the school funds are generated through school fees (CREATE, 2009).

<sup>a</sup>No information for learners was reported.

<sup>b</sup>Not quantified.

<sup>c</sup>Not specified whether on or outside school premises.

Malnutrition impacts negatively on the health, development and educational achievement of children; nutrition interventions targeting school-aged children in developing countries or countries in transition is therefore important.<sup>24</sup> According to WHO's Global Strategy on Diet, Physical Activity and Health School Policy Framework schools should be encouraged to

replace energy-dense, micronutrient-poor products with milk, yogurts without added sugar, water, fruit juices without added sugar, sandwiches, fruits, nuts or vegetables.<sup>25</sup> Tuck shops particularly in low socio-economic schools may lack appropriate storage space and facilities to sell significant amounts of perishable foods, such as milk and fruit. Locally produced fruits,

**Table 2:** Percentage of school children buying food, and most popular food items

| Study    | Reddy <i>et al.</i> , 2010 <sup>a</sup> | Temple <i>et al.</i> , 2006 <sup>a</sup>                         | Faber <i>et al.</i> , 2014 <sup>b</sup>                                     | De Villiers <i>et al.</i> , 2014 <sup>b</sup>                         | Wiles <i>et al.</i> , 2011 <sup>b</sup>   |
|----------|---|--|---|---|---|
| >90%     |   |  |   | Chips; Sweets   | Frozen popsicles; Assorted cans <sup>a</sup>  |
| 80 – 89% |   |  |   |   | Powerade; Popcorn; Sweets   |
| 70 – 79% |   |  |   |   | Still water; Flavoured water; Sugar-free cans; Small corn crisps; Pies  |
| 60 – 69% |   |  | Chips/niknaks; Sweets/chocolates  |   | Hot dogs; Chocolate (mini size and normal)  |
| 50 – 59% |   |  |   |   | Canned fruit juice; Lollipops; Muesli energy bars   |
| 40 – 40% |   | Chips; Sweets/chocolates   | Biscuits; Ice lollies   | Soft drinks <sup>c</sup> Ice lollies <sup>c</sup>                     | Peanuts and raisins; Salad rolls; Toasted sandwiches; Pizzas  |
| 30 – 39% | Chips                                   | Soft drinks  | Fruit; Vetkoek; Popcorn   | Ice lollies <sup>d</sup>  | Mixed fruit blends; Samosas; Beef burgers; Hot chips  |
| 20 – 29% | Sweets/chocolates                       | French fries   | Polony; Atchar; French fries; Ice cream; Peanuts;                           | Chocolates <sup>e</sup> ; Fruit <sup>d</sup> ; Doughnuts <sup>d</sup> | Doughnuts; Corn crisps; Peanuts; Sausage rolls  |
| 10 – 19% | Sandwiches                              | Meat pies/sausage rolls<br>Cookies/cakes<br>Fruit                | Fruit juice; Eggs; Fish;<br>Cold drinks; Bread; Chips, bunny chows; Viennas | Hot dogs/burgers <sup>d</sup>   | Flavoured milk; Chocolate muffins; Biscuits; Dried fruit stick; Homemade crunchie; Health muffins; Pretzels; Bananas; Fruit salad; Jelly and custard; Yoghurt; Salads |
| <10%     | Hamburgers (10.8%)                      | Fruit juice; Fat cakes; Hot dogs; Nuts; White bread; Brown bread | Cake, doughnuts; Meat pie; Meat; Chicken; Fizzy drinks                      |   |   |

<sup>a</sup>based on foods bought by the children.

<sup>b</sup>based on food sold by the tuck shop/vendor.

<sup>c</sup>sold in the tuck shop.

<sup>d</sup>sold by food vendor.

<sup>e</sup>330 ml cans, as well as 500 ml and even 1 litre options for fizzy drink.

either at school or community gardens, can be sold through school tuck shops,<sup>26</sup> which will reduce the need for storage space. Although sponsorships from food companies may help to improve storage facilities for perishable foods, these sponsorships often come with conditions favouring the food company’s own products.<sup>26</sup>

Food/beverage companies often use school sponsorships to promote their (unhealthy) products. De Villiers *et al.*<sup>23</sup> report that in more than 60% of surveyed schools in the Western Cape, the school name was displayed on a branded food or beverage advertisement board. Moodley *et al.*<sup>27</sup> showed that in Soweto, South Africa, vendors selling sugar sweetened beverages and advertisements for sugar sweetened beverages are located in close proximity to primary and high schools. Regulating the food environment in and surrounding schools may therefore be necessary, particularly as research<sup>28</sup> has shown the influence of prolonged marketing on consumer choices. It should be noted that sponsorship *per se* is not a philanthropic act, but rather a business decision which holds mutual benefits for both parties involved. However, the issue of sponsorship hangs largely from an ethical point on the virtues and goal of the recipient of the sponsorship rather than from a duty and obligation point – which is arguable in cases like these.

Regulating and monitoring strong nutritional standards for all foods and beverages sold or provided through schools have been recommended.<sup>13</sup> Several programs/guidelines are available in South African to assist school tuck shops to sell healthier options. Evaluation of one of these guidelines, however, showed that children’s preference for unhealthy foods, the cost of healthier food options and a lack of proper facilities were barriers

for implementing the guidelines.<sup>25</sup> Also, it has been shown that healthy foods were more difficult to sell and often expired before being purchased.<sup>25,26</sup> Tuck shop owners may, therefore, be reluctant to stock healthier food options, as children may be reluctant to buy these healthy foods resulting in the food being thrown away. This may result in the tuck shop owner or food vendor failing to make a profit. Particularly in resource poor communities where this may be the only source of income for the household – from an ethics perspective, what weighs stronger – the school’s responsibility to not expose the children to an unhealthy food environment, or impact on the vendor’s/ tuck shop owner’s income? The object of the moral principle of non-maleficence is first to do no harm to any individual; this is strengthened by the fact that those who ought to benefit from the action of the caregivers (parents who are also the tuck shop owners or vendors) should always be to the benefit of those in a vulnerable state, which children are, according to the UN, the definition of vulnerability.<sup>29</sup>

**Conclusion**

Hawkes *et al.*<sup>30</sup> argued that school policies should be in place to enable a healthy preference-learning food environment through for example repeated and sustained exposure to healthy foods, and comprehensive and consistent food standards. An existing policy framework for achieving healthy school food environments exists in South Africa in the form of the Integrated School Health Policy (ISHP).<sup>31</sup> This policy is located within a legislative framework and deals with all aspects of school health. The ISHP is a joint initiative between the National Departments of Health and Basic Education. Theoretically, the ISHP could provide the platform for regulating nutritional standards of foods sold at school. However, in order for the ISHP to succeed professionals from both Public



Health and education will need to collaborate, which may be challenging as the priorities of these two disciplines differ. Public health professionals typically emphasise population level health promotion, while education professionals typically emphasise student academic achievement.

The question is, therefore, could/should tuck shops be forced to sell only healthier/perishable food options running the risk of not making a profit? Since different role players' happiness (consequently defined) are at stake the perspective of Hans Jonas' Ethics of Responsibility would best suit the question at hand. Jonas<sup>18</sup> argues, in agreement with Levinas,<sup>32</sup> that any crisis (even though only existential in this argument) could bring about a turning point in the discussion at hand. Jonas argues that society should take responsibility for the reach of their actions when vulnerable individuals are at risk and, therefore, not sell any unhealthy foods at tuck shops. In light of this, adults and policymakers have an elementary non-reciprocal responsibility and duty towards children. The duty to care, as Jonas<sup>18</sup> (p.39) points out "even without the incentive of feeling they belong to us" is one to be enacted as the obligation rests upon us to safeguard the future generations. However, the commodification and modification of food and all the marketing associated with it has contributed to an ethical vacuum where there has been a corrosion of belief in the objective value of food. This nihilism is the negation of values, meaning and desirability of healthy food and should be the focus of any debate concerning market value and health responsibility of learners – where the latter should be the focus.

## References

- Ng M, Fleming T, Robinson M, et al. Global, regional, and national prevalence of overweight and obesity in children and adults during 1980–2013: a systematic analysis for the global burden of disease study 2013. *Lancet*. 2014;384:766–81. [https://doi.org/10.1016/S0140-6736\(14\)60460-8](https://doi.org/10.1016/S0140-6736(14)60460-8)
- Imamura F, Micha R, Khatibzadeh S, et al. Dietary quality among men and women in 187 countries in 1990 and 2010: a systematic assessment. *Lancet*. 2015;3:e132–42.
- Monteiro CA, Levy RB, Claro R M, et al. Increasing consumption of ultra-processed foods and likely impact on human health: evidence from Brazil. *Public Health Nutrition* 2011;14:5–13. <https://doi.org/10.1017/S1368980010003241>
- Swinburn BA, Sacks G, Hall KD, et al. The global obesity pandemic: shaped by global drivers and local environments. *Lancet*. 2011;378:804–14. [https://doi.org/10.1016/S0140-6736\(11\)60813-1](https://doi.org/10.1016/S0140-6736(11)60813-1)
- WCRF. 2015. NOURISHING framework. World Cancer Research Fund International. [cited 28 Jul 2015]; Available from: <http://www.wcrf.org/int/policy/nourishing-framework>
- Roberto CA, Swinburn B, Hawkes C, et al. 2015. Patchy progress on obesity prevention: emerging examples, entrenched barriers, and new thinking. *Lancet*. [cited 18 Feb 2015]; doi: 10.1016/S0140-6736(14)61744-X.
- Story M, Nannery MS, Schwartz MB. Schools and obesity prevention: creating school environments and policies to promote healthy eating and physical activity. *The Milbank Quarterly*. 2009;87(1):71–100. doi: 10.1111/j.1468-0009.2009.00548.x.
- Lobstein T, Jackson-Leach R, Moodie ML, et al. 2015. Child and adolescent obesity: part of a bigger picture. *Lancet*. [cited 18 Feb]; doi: 10.1016/S0140-6736(14)61746-3
- Bhutta ZA, Das JK, Rizvi A, et al. Evidence-based interventions for improvement of maternal and child nutrition: what can be done and at what cost? *Lancet*. 2013;382:452–77. [https://doi.org/10.1016/S0140-6736\(13\)60996-4](https://doi.org/10.1016/S0140-6736(13)60996-4)
- Shisana O, Labadarios D, Rehle T, et al. South African National Health and Nutrition Examination Survey (SANHANES-1). Cape Town: HSRC Press; 2013.
- DBE National School Nutrition Programme. [cited 18 Oct 2016]; Available from: <http://www.education.gov.za/Programmes/NSNP/tabid/632/Default.aspx>
- Steyn NP, Nel JH, Nantel G, et al. Food variety and dietary diversity scores in children: are they good indicators of dietary adequacy? *Public Health Nutrition*. 2006;9:644–50.
- Institute of Medicine (IoM). Accelerating progress in obesity prevention: solving the weight of the nation. Washington, DC: The National Academies Press; 2012.
- Africa check. Fact sheets: Social grants in South Africa – separating myth from reality. 2015. [cited 18 Oct 2016]; Available from: <https://africacheck.org/factsheets/separating-myth-from-reality-a-guide-to-social-grants-in-south-africa/>
- Oxfam. Hidden Hunger in South Africa: the faces of hunger and Malnutrition in a food-secure nation. 2014. [cited 18 Oct 2016]; Available from: [https://www.oxfam.org/sites/www.oxfam.org/files/file\\_attachments/hidden\\_hunger\\_in\\_south\\_africa\\_0.pdf](https://www.oxfam.org/sites/www.oxfam.org/files/file_attachments/hidden_hunger_in_south_africa_0.pdf)
- Wisner B, Adams J. Environmental health in emergencies and disasters: a practical guide. Geneva: WHO; 2003.
- Stuckler D, Nestle M. Big food, food systems, and global health. *PLoS Med*. 2012;9(6):e1001242. doi: 10.1371/journal.pmed.1001242.
- Jonas H. The imperative of responsibility – in search of an ethics for the technological age. Chicago, IL: The University of Chicago Press; 1984.
- Arksey H, O'Malley L. Scoping studies: towards a methodological framework. *Int J Soc Res Methodol*. 2005;8:19–32. <https://doi.org/10.1080/1364557032000119616>
- Briefel RR, Crepinsek MK, Cabili C, et al. School food environments and practices affect dietary behaviors of us public school children. *J Am Diet Assoc*. 2009;109:S91–S107. <https://doi.org/10.1016/j.jada.2008.10.059>
- Warren E, Parry O, Lynch R, et al. 'If I don't like it then I can choose what I want': Welsh school children's accounts of preference for and control over food choice. *Health Promotion International*. 2008;23:144–51. <https://doi.org/10.1093/heapro/dam045>
- Cox DN, Anderson AS, Lean MEJ, et al. UK consumer attitudes, beliefs and barriers to increasing fruit and vegetable consumption. *Public Health Nutrition*. 1998;1:61–8.
- Kant I. Groundwork of the metaphysics of morals. New York, NY: Start Publishing; 2012.
- Best C, Neufingerl N, van Geel L, et al. The nutritional status of school-aged children: why should we care? *Food Nutritional Bulletin*. 2010;31:400–17. <https://doi.org/10.1177/156482651003100303>
- WHO. School policy framework. Global strategy on diet, physical activity. Geneva: Author; 2008.
- Guitart D A, P CM, Byrne JA. Color me healthy: food diversity in school community gardens in two rapidly urbanising Australian cities. *Health & Place*. 2014;26:110–7. <https://doi.org/10.1016/j.healthplace.2013.12.014>
- Moodley G, Christofides N, Norris SA, et al. Obesogenic environments: access to and advertising of sugar-sweetened beverages in Soweto, South Africa, 2013. *Preventing Chronic Disease*. 2015;12:140559. doi: 10.5888/pcd12.140559.
- Mela CF, Gupta S, Lehmann DR. The long-term impact of promotion and advertising on consumer brand choice. *J Mark Res*. 1997;34(2):248–61. <https://doi.org/10.2307/3151862>
- UNICEF. The convention on the rights of the child. [cited 18 Oct 2016]; Available from: <http://www.unicef-irc.org/portfolios/crc.html>
- Hawkes C, Smith TG, Jewell J, et al. Smart food policies for obesity prevention. *Lancet*. [cited 18 Feb 2015] doi: 10.1016/S0140-6736(14)61745-1
- Integrated School Health Policy. Integrated School Health Policy (ISHP) (DBE and DOH). 2012. [cited 18 Oct 2016]; Available from: <http://www.education.gov.za/LinkClick.aspx?fileticket=pj7clv8qGmC%3D&tabid=390&mid=1125>
- Levinas E. Ethics and infinity. Pittsburgh, PA: Duquesne University Press; 1985.
- Reddy SP, James S, Sewpaul R, et al. Umthente Uhlaba Usamila – The South African Youth Risk Behaviour Survey 2008. Cape Town: South African Medical Research Council; 2010.
- Temple NJ, Steyn NP, Myburgh NG, et al. Food items consumed by students attending schools in different socioeconomic areas in Cape Town, South Africa. *Nutrition*. 2006;22:252–8. <https://doi.org/10.1016/j.nut.2005.07.013>

35. Faber M, Laurie S, Maduna M, et al. Is the school food environment conducive to healthy eating in poorly resourced South African schools? *Public Health Nutrition*. 2014;17:1214–23. <https://doi.org/10.1017/S1368980013002279>
36. de Villiers A, Steyn NP, Draper CE, et al. "HealthKick": formative assessment of the health environment in low-resource primary schools in the Western Cape Province of South Africa. *BMC Public Health*. 2012;12:934. Available from: <http://www.biomedcentral.com/1471-2458/12/794> <https://doi.org/10.1186/1471-2458-12-794>
37. Abrahams Z, de Villiers A, Steyn NP, et al. What's in the lunchbox? Dietary behaviour of learners from disadvantaged schools in the Western Cape, South Africa. *Public Health Nutrition*. 2011;14:1752–8. <https://doi.org/10.1017/S1368980011001108>
38. Marraccini T, Meltzer S, Bourne L, et al. A qualitative evaluation of exposure to and perceptions of the woolworths healthy tuck shop guide in Cape Town, South Africa. *Childhood Obesity* 2012;8:369–77. <https://doi.org/10.1089/chi.2012.0034>
39. Wiles NL, Green JM, Veldman FJ. The variety, popularity and nutritional quality of tuck shop items available for sale to primary school learners in Pietermaritzburg, South Africa. *South Afr J Clin Nut*. 2011;24:129–35. <https://doi.org/10.1080/16070658.2011.11734364>
40. Feeley AB, Musenge E, Pettifor JM, et al. Investigation into longitudinal dietary behaviours and household socio-economic indicators and their association with BMI Z-score and fat mass in South African adolescents: the Birth to Twenty (Bt20) cohort. *Public Health Nutrition*. 2013;16:693–703. <https://doi.org/10.1017/S1368980012003308>
41. Feeley A, Musenge E, Pettifor JM, et al. Changes in dietary habits and eating practices in adolescents living in urban South Africa: The birth to twenty cohort. *Nutrition*. 2012;28:e1–e6. <https://doi.org/10.1016/j.nut.2011.11.025>

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