# The Importance of Parents and Teachers as Stakeholders in School-Based Healthy Eating Programs

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**Abstract**

Schools have a crucial role for promoting and establishing healthy behaviors early in the life-course. In recent years, a substantial effort and resources have been invested in attempts to change the 'food culture' in schools in westernized societies. Large school-based programs which promote healthy eating often utilize an ecological model for instigating behavior change amongst school children. An ecological model is a set of comprehensive intervention strategies that target a multitude of factors which influence the eating practices of children in the school setting. The cultural issues that necessitate these healthy eating programs mean that interventions are not without challenges to their application and effectiveness particularly as they rely on collaboration between stakeholders: teachers, parents, public health practitioners, policy makers and more. The stakeholder input and relations are key parts of planning, implementing and evaluating complex health promotion and education programs in schools. This commentary will outline the importance of considering both teachers and parents as influencing agents or 'enablers' in the process of creating change in this context. Parental perceptions and teachers' insights are critical for underpinning intervention feasibility, acceptability and performance. Their perceptions and understandings can provide ground-level and highly applicable expertise and importantly motivate children in the school environment. The philosophical principles behind parent and teacher integration into formal program evaluation are discussed, providing a theoretical basis for program evaluation. Recommendations are made for policy makers, researchers and professional evaluation experts' to consider and integrate these stakeholders in future programs.

**Keywords:** School food, food policy, social agents, nutritional interventions

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**Introduction**

In recent years the focus on promoting and improving nutrition and healthy eating has been elevated by both the English (DoH, 2011) and United States of America (USA) governments (USDA/HHS, 2010). The countries have a high prevalence of diet- and lifestyle-related diseases and medical conditions; obesity, heart disease, type II diabetes, metabolic syndrome and cancer (Wang et al., 2011, Swinburn et al., 2011).

There also seems to be no halt in the rise in childhood obesity cases and the related incidence of metabolic conditions in the younger members of the population in these countries (Biro & Wien, 2010). Future projections anticipate alarming increases in the population incidence of diabetic diseases below the age of twenty (Imperatore et al., 2012). To date, attempts to address this problem have ranged from equivocal findings to modest success, and to a large extent the 'obesogenic' environment offered by westernized societies is overwhelmingly preventing progress to tackle the issue (Chaput et al., 2011, Saelens et al., 2012, Williams et al., 2012).

Reported increases in childhood obesity have become a pressing concern and addressing the issue has become a governmental priority (Wang et al., 2011, Gortmaker et al., 2011) because the habits formed during childhood are thought to influence long-term health behavior over the life-course (Vengelers & Fitzgerald, 2005; Stewart-Brown, 2006). This has resulted in the school setting becoming a key focus for transmitting health promotion and education messages to children (Warwick et al., 2005, Rana & Alvaro, 2010). Government regulatory departments and health authorities in both America and England have taken action to change the school food system, policy and practices (Department of Health, 2005, Food Standards Agency, 2007, School Food Trust, 2008, Institute of Medicine 2009, USDA Food and Nutrition Service, 2010, Adamson et al., 2013).

In recent years, the emphasis has been to improve the food-culture in schools, moving beyond changes to just the food provision or education, but to improve the 'whole-school' learning environment (Warwick et al., 2005, Ofsted, 2010, Rana & Alvaro, 2010, Dick et al. 2012).

Schools have been faced with the ground-level challenge of implementing changes in order to improve the children's food environment and educational experience through the use of comprehensive healthy eating programs (Story et al., 2009, Briggs et al., 2010). School-based programs that use a whole-school or 'holistic' approach, which relies upon the engagement of a number of stakeholders including parents and teachers, have become increasingly commonplace (Bauer et al., 2006, Della Torre et al., 2010; Rana & Alvaro, 2010, Gooze et al., 2010, Lippevelde et al., 2012; Middleton et al., 2012, Dick et al., 2012).

The importance of the social relationships and teaching standard along with the degree of parental and child involvement at a school can enrich the experience and environment that a child is subjected to (Warwick et al., 2005). For example, if parents and teachers work together to create a consistent approach to improving diet, it could ensure that children do not receive mixed messages, which are believed to limit the effectiveness of healthy eating programs. However, increasing the number of social agents involved in an intervention simultaneously increases the complexity of the intervention, by expanding the network of relations at play. This complexity is particularly apparent when it comes to trying to evaluate the impact of programs in this setting.

This commentary aims to explore the role of parents and teachers acting as 'social agents' to understand how each can interact and motivate children within complex school-based nutrition programs. In addition, it outlines the philosophical principles of involving these social agents in the evaluation of school-based programs.

**School-Based Programs: Ecological Principles with Parents and Teachers as Stakeholders**

In line with an increase in the investment in and frequency of school-based programs, there has also has been a steady increase in the systematic reviewing and evaluation of such programs (Sharma, 2006, Brown & Summerbell, 2009, Waters et al., 2011, Verstraeten, et al., 2012). Research has paid particular attention to programs that use a whole-school approach which account for the wider social, cultural and environmental factors which influence children in the school setting. As such, programs when they are devised are theoretically informed by an 'ecological' model (Lee et al., 2010). According to Sallis et al. (2008) ecological models are comprehensive intervention strategies or frameworks that logically isolate 'change' mechanisms at multiple layers of influence over the key determinants of health. This approach has been advocated as a means for promoting wide-scale change in the child's learning environment in school (Lee et al., 2010, Lohrmann, 2010). In practice, this type of model proposes that practitioners take actions in many of the different social spheres in which children learn and develop early nutrition and healthy eating practices (Hemar-Nicolas et al., 2013). Consequently, when public health practitioners, evaluation specialists and researchers devise school-based programs they often have multiple interventions operating at the same time (Gregson et al., 2001). Inevitability, this has produced complex and multi-faceted programs with numerous interventions operating at different levels (age ranges, class groups, year groups) and possibly various stages during the child's schooling years. Furthermore, program interventions are delivered in multiple settings (classroom, canteen, in the community etc.) and although they regularly operate within one school, various collaborative programs have managed to work between several schools in a close geographic area at the same time (Dick et al., 2012, Middleton et al., 2012). Typical examples of intervention strategies in the literature range from cookery classes, breakfast clubs, classroom education, catering and/or vending machine changes and growing clubs (Brown & Summerbell, 2009, Wang & Stewart, 2012, Dick et al., 2012, Middleton et al., 2012). The challenge for researchers is to investigate the influencing factors which determine child health in this context: individual, interpersonal, social, economic, institutional and cultural (Story et al., 2002, Hemar-Nicolas et al., 2013).

Researchers in the field convey that the very nature of large and complex school-based programs produces problems in design, implementation, evaluation and sustainability of the interventions within (Bauer et al., 2006, Franks et al., 2007, Hammerschmidt et al., 2011, Middleton et al., 2012). Often the authors indicate a key influencing factor for program efficiency and success is collaboration between 'stakeholders' involved in the program (Bauer et al., 2006, Lawson et al., 2007, Middleton et al., 2012). Patton (2008) suggests that any person who has a 'stake' in a program at any level has a vested interest and therefore should be considered as a potential 'stakeholder'. Moreover, Greene (2006) stated that stakeholders can be an array of people involved in a program such as; decisions makers, policy makers, advisors, developers, designers, administrators, service staff, managers, and also people who are beneficiaries from the programs delivery (children,

families, community people). Indeed, all these stakeholders are regularly involved in program implementation and are consequently required to take responsibility and 'play a part' to instigate and install healthier behaviors early in a child's development (Bauer et al., 2006). Importantly, stakeholders must not be passive in the process of collaboration. Instead they must have an 'active role' in the program particularly if any evaluation is conducted (Greene, 2006).

Given that school-based programs (and the interventions within) rely on a range of stakeholders, the extent to which these particular stakeholders engage in any intervention can impact on the overall direction and outcome of the program. Two key stakeholder groups are teachers and parents. For example, an intervention that has the contributions of parents would have a different focus and design (i.e. through a first-hand appreciation of how messages can be supported in the home environment) and potential for sustainability than one that does not. Therefore, stakeholder input and relations should be considered as a key part of planning, implementing and evaluating complex school-based programs (Summerbell et al., 2005, Pettigrew et al., 2012). In particular, the role parents and teachers take is critical for underpinning any intervention feasibility, acceptability and overall performance (Della Torre et al., 2010, Bruss et al., 2010, Downs et al., 2012).

**Teacher and Parent Influence - Potential as 'Social Agents'**

Most readers of this chapter would accept as 'common sense' the idea that parents and teachers influence children's eating practices, but what is the magnitude of this influence, how does it act, and how can it go wrong? Children's eating habits are influenced by a multitude of factors, ranging from innate preferences, for example for sweet versus bitter flavours (Steiner, 1977), to wider societal and sociocultural influences. For example, in some cultures children will happily eat insects and grubs but not in others (Meyer-Rochow, 2009). All of these sources of influence can be thought of as 'social agents', often with different messages and often influencing the child through different mechanisms regarding provision of food choices (Jones et al., 2010), modeling of eating habits (Horne et al., 2011, Gregory et al., 2011) and setting of meal-time rules (Christina et al. 2013). To a very large extent, parents emerge as one of the biggest influences on children's diet (Patrick & Nicklas, 2005, Savage et al., 2007). Even though parents may consume quite different foods from their child (Wang et al., 2012), parents directly control: the choices offered to the child (including what is 'stocked' for snacks); portion sizes; time available for cooking; choices of home-cooked versus take-out or dine-out; role modeling of eating behaviors (Weber-Cullen, et al., 2000, Patrick & Nicklas, 2005, Ventura & Birch, 2008). As a result, the level of education of parents and the socio-economic status of the family become key drivers of nutritional habits, as knowing which foods are healthy and being able to afford those foods will largely determine the above 'direct' influences.

In contrast, most teachers do not pack children's lunches, or prepare any of their other meals for that matter. Very few people, when asked "Who has determined your dietary habits?"- would list their teacher(s). Yet a vital aspect of modern education, which is appearing on curriculums around the world, is an awareness of basic food groups, balanced diets, and the consequences of eating an unhealthy diet. Indeed, there may be more opportunity to explore a teacher's role during the dining experience where interaction and potentially modeling could occur (Osowski et al., 2013). A central reason why the school setting is so important is the opportunity it provides to deliver this vital and meaningful information to people at an early age that will inform their future activities, choices,

lifestyle and productivity (Stemler, et al., 2011, Stemler & Bebell, 2012). Many schools and even national curricula currently require that students, for example, understand basic food groups, or what might constitute a balanced diet. Some schools even go as far as encouraging children to grow (and eat!) their own vegetables (cf. Middleton et al., 2012). A child experiencing a supportive school-environment for learning as well as from her/his parents has been shown to be much more likely to exercise healthy choices when left alone, or when progressing to living alone in later life (cf. Birch & Fisher 1998). Likewise, conflicting messages, unhealthy messages, or even simply neglecting to address dietary issues (leaving the door open for advertising and simple availability to decide) can substantially decrease the likelihood that a growing child will make healthy dietary choices (Hemar-Nicolas et al., 2013). Overall, parents and teachers are two 'social agents' out of many, but each has tremendous potential to influence children's dietary intake, and perhaps working together this potential is even stronger (Sharma, 2006, Lindsay et al., 2006, Peters et al., 2009).

**The Importance of Teachers and Parental Inclusion on Intervention Programs**

Several studies have attempted to conduct interventions using both parents and teachers together, with a view to generating improved health outcomes (Vandongen, 1995, Hopper, 1996, Luepker et al., 1998, Werch, 2003, Haerens et al., 2006, Lippevelde et al., 2012). Such outcomes could range from 'making better choices' to measurable changes in adiposity or body mass index (BMI). The interventions in these studies ranged from 6-weeks to 3-years, and supported 'health education' through a combination of classroom activities, school events, promotional materials sent home from school, reward schemes for families, and even health-checks with feedback to parents. Specifically, these studies compared the effects of involving parents in school-based interventions versus restricting activities to the school environment, and four out of the five studies reviewed by Lippevelde et al. (2012) reported a beneficial effect of involving parents, with the fifth showing no difference. Involving parents in school-based interventions delivered stronger improvements in dietary knowledge (Hopper, 1996, Luepker et al., 1998), health behaviors (Vandongen et al., 1995), BMI and fat intake (Haerens et al., 2006) than exclusively school-based programs (Lippevelde et al., 2012). When asked how interventions could be tailored to optimize their involvement, parents suggested that interactive and practical activities, such as after school cooking classes or nutrition workshops may be ideal.

Additionally, attempts to involve parents should be affordable, convenient, focused on the child's health (and not the parents' potential shortcomings), and not 'preachy' or theoretical (Lippevelde et al., 2011). The qualitative evaluation of such a program performed by Middleton et al. (2012) largely supported these assertions, and flagged both opportunities and barriers to the successful delivery of teacher-parent interventions aimed at supporting children's dietary health.

**Evaluation of School-Based Programs**

Despite the work by Middleton et al (2012) and Lippevelde et al. (2012), there is however a need for greater coherence in approaches to both primary research and the monitoring and evaluation of school-based programs that incorporate both objective and subjective measures of program

competence, fidelity and efficacy (Evans & Sleap, 2013). Whilst experimental designs, such as methods-driven or outcome-oriented approaches, are incredibly valuable in terms of assessing whether or not a program is effective, they can be inflexible when investigating the first-hand experiences parents and teachers have of programs (Donaldson, 2003, Christie & Alkin, 2008). However, programs cannot be conceived as externally imposed forces which simply elicit responses from participants. Instead, they only become effective if subjects choose to make them work and are placed in the right conditions to enable them to do so (Pawson & Tilley, 1994, 1997). In complex community-based programs, many stakeholders may have no formal recognition of or input into program design, particularly those who sit aside from the strategic management team of a program. As outlined above, in school-based programs, such stakeholders can include teachers, other school staff, parents and the pupils themselves. Each group has the potential to interpret program goals in unexpected ways, which must be taken into account in evaluation design (Pawson & Tilley, 1994, 1997). There is therefore a need to adopt more sophisticated study designs that incorporate investigation into the subjective elements of how programs are designed and delivered at an early stage, as well as how program goals and impacts are perceived by these groups.

Consequently, a change of focus is required away from objectively outlining outcomes, towards implementing systematic approaches to evaluation which explore how program activities are experienced (Clarke, 1999). This means systematically exploring and describing the perceptions and experiences of those individuals and groups involved in a program, either formally as a recognized stakeholder group, or informally. Donaldson and Lipsey (2006: 17) refer to this requirement as the "systematic use of substantive knowledge about the phenomena under investigation and scientific methods to determine the merit, worth, and significance of evaluands". Such programs must focus on the development of program theory and evaluation, questions that are not limited to the use of a set of methods or a single theoretical framework, but which utilize a wide-range of approaches and methodologies that incorporates both objective measures of program impact, as well as the more subjective elements of how programs are perceived (Rossi et al., 2003, Donaldson & Lipsey, 2006, Evans & Sleap, 2013).

There is much to be gained in this respect by utilizing research methodologies from the social sciences. For example, there is growing recognition that the implementation of policy, and therefore program delivery, can be subtly resisted, reproduced and re-interpreted by networks of stakeholders and participants (Grix, 2010; Phillpots, et al., 2011). This can undermine the control of institutions and large governing bodies. Consequently, studies have increasingly focused upon the influence of interpretivist 'decentred' narratives, or the effect of governance of programs through networks and partnerships which include teachers, parents and other stakeholders (Grix, 2010, Phillpots et al., 2011). This approach recognizes how programs can be re-interpreted, resisted or adapted through networks of interdependent agents who have a stake in a program, rather than being enforced through a 'top-down' model of delivery (Elias & Schröter, 1991, Grix, 2010, Phillpots et al., 2011, Evans & Sleap, 2013).

In addition to the growing need for recognition of the impact of parents and teachers on program uptake, there is also a growing body of evidence that supports the notion that school children themselves, as recipients of many program actions, are worthy of consultation (Evans et al., 2013). The centrality of participants' perceptions of health programs has been outlined, but there is a tendency for practice in schools to view school children as passive recipients of health programs.

Such an approach can reduce people endowed with whole bodies, sentience, feelings and personalities embedded in class, gender and culture to the management of physiological and psychological part-processes (Tulle, 2008, Evans & Sleap, 2012). Instead, there is a growing appreciation that young people in schools can be regarded as expert 'knowers' of programs due to their first-hand experiences of program delivery, and as embodied individuals upon which 'health' ideologies are imprinted (Smith, 2007). Indeed, there is much to be gained by investigating young people's first-hand, embodied experiences of health-based programs because of the potential for target groups, as well as formal and informal stakeholders, to resist, re-interpret and contour the manner in which programs are received. Sociological and phenomenological studies of young people's embodied experiences are on the increase, which emphasize how young people negotiate ideologies of health and wellbeing within and through their bodies (Allen-Collinson, 2009). For example, the manner in which the politics of obesity are critically interpreted by young people has been investigated (Guthman, 2009, De Pian, 2012,), whilst other studies have focused upon how teachers can have a considerable impact on how the politics of health and healthy bodies are constructed and surveyed (Webb & Quennerstedt, 2010). However, such studies are rarely related to the evaluation of nutritional programs delivered in schools, and there remains considerable scope for the integration of such approaches into evaluation models which focus upon the efficacy of nutritional and health programs in schools in the future.

**Conclusion**

Large school-based nutrition programs which use a 'whole-school' approach reply on the insight and collaboration of teachers and parents. As stakeholders, they provide critical contact with children when healthy eating habits and education can make a significant impact on life-long health. Their roles as 'social agents' in this context is important when considering implementation and evaluation of school-based programs. Policy makers, researchers and other public health practitioners must avoid neglecting their contributions.

The potential for informal stakeholder perceptions to influence program delivery should not be overlooked and this chapter highlighted the theoretical importance of parental and teacher integration in program evaluation. Inclusion and participation early in the design and throughout can often determine feasibility, performance and subsequent outcomes that the program is projected to achieve. Although this chapter focused on parents and teachers, the active involvement of children in the design and implementation of programs should also not be ignored either. Their input will bring greater participation and tackle issues over barriers and palatability of interventions. Indeed, the creative 'Food Dudes' intervention illustrates how an intervention can be invented to support and encourage change by involving children from the outset (Lowe et al., 2004, Horne et al., 2009).

**Acknowledgement**

The authors would like to thank Dr Samantha Caton from the University of Sheffield (UK), for time and input which was critical in the creation and revision of this manuscript.

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