

# School Nutrition Policies: Shared and Complementary Perspectives of Lebanese Key Stakeholders

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## ABSTRACT

**Background:** Health promotion at schools has evolved during the past few years from practices centered on health education in class to adoption of comprehensive approach aiming attitudes, skills, and behaviors of youth and their environment. Various studies suggested the need for action by developing nutrition strategies and policies based on comprehensive approaches, reinforcing environments, and consolidating actions joining youth in the most favorable environments for nutrition and physical activity interventions including residence, schools, and communities. **Purpose:** The purpose of this study is to explore the determinants of an eventual School Nutrition Policy (SNP) development by studying the perceptions of different Lebanese key stakeholders. **Materials and Methods:** This qualitative exploratory study proposed an innovative conceptual framework based on social marketing approach and using several theories and models to approach the SNP development at different levels of action. Purposive sampling was used to recruit 32 multidisciplinary key stakeholders active in various communities and sectors, especially in health promotion in Lebanon (governmental parties, municipalities, non-governmental organizations, UN agencies, dietitians, pediatricians, food industry, school health advisers, journalists, health experts, and academic researchers). Directed and semi-structured individual interviews were conducted for a maximum duration of 60 min. Interviews were audio-recorded and analyzed using a thematic qualitative analysis. **Results:** The comprehensive conceptual framework amalgamates several variables involved in the process of health promotion under various categories (community/individual/organizational) to facilitate SNP development and evaluation. Variables are interconnected altogether to gain an insight of perceived barriers and facilitators to SNP development. Collaboration, coordination, public participation, partnership, advocacy, and leadership are identified as the main facilitating factors. However, the major barriers are the socioeconomic instability, the social structure diversity, and the political and religious divisions. **Conclusion:** By combining social, behavioral, organizational, and communication theories and models, this study offered opportunities to comment on how a SNP is intended to work to achieve the desired health goals. This study explored several determinants envisaged in the SNP development that helps the decision- and policy-makers in their promotion and communication practices.

**Key words:** Health promotion, key stakeholders, Lebanon, nutrition, perceptions, physical activity, school nutrition policies, schools

## INTRODUCTION

The prevalence of several chronic diseases is increasing rapidly worldwide and is emerging as a major risk factor for morbidity of public health significance<sup>[1-4]</sup> that can no longer be associated only to developed

country.<sup>[5,6]</sup> Changing risk factors related to lifestyle remain the cornerstone of public health efforts to minimize the burden of metabolic syndromes.<sup>[7,8]</sup>

Lifestyle change can be facilitated through a combination of learning experiences that enhance awareness, increase

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motivation, and build skills, and most important, through the creation of opportunities that offer environments (e.g., healthy schools) that make positive health practices the easiest choice.<sup>[9]</sup>

Among healthy lifestyle patterns are food related decisions influenced by personal, social and cultural variables.<sup>[4,10,11]</sup> The current numerous environmental factors that affect eating as well as physical activity behaviors may merely be symptoms of deeper social forces such as change of family structure and stressful life,<sup>[9]</sup> but still healthy lifestyle should be adopted at early ages.<sup>[12-14]</sup>

Various reports suggested the need for action by developing strategies and policies based on comprehensive approaches,<sup>[15,16]</sup> reinforcing environments, and consolidating actions joining youth in the most favorable environments for health interventions including residence, schools, and communities.<sup>[17-20]</sup> Of these environments, schools represent a proper place for health promotion to improve lifestyle and health of young people.<sup>[17,18]</sup>

Health promotion is a relatively recent dimension of intervention in public health made up around unifying and holistic concepts.<sup>[15,21]</sup> Health promotion at schools has evolved during the past few years<sup>[15]</sup> from practices centered on health education in class<sup>[11]</sup> to adoption of comprehensive approach aiming attitudes, skills, and behaviors of youth and their environment.<sup>[15,22-24]</sup> Thus, by acting on the determinants of health, the individual, and the environment, health promotion requires complex and multifactorial interventions.<sup>[5,21]</sup>

Lebanon is an ethnic, cultural, and religious mosaic subjected to strong pressures such as political divisions, economic instability, and civil and regional wars.<sup>[25-28]</sup> This unstable situation is responsible for the institutional, political, and programs weaknesses regarding agriculture, malnutrition, and food insecurity specifically among vulnerable groups and in rural regions.<sup>[28]</sup>

Lebanon has been experiencing a nutritional transition in food choices during the past years from the typical Mediterranean diet into the fast food pattern.<sup>[26,29]</sup> As a consequence, the dietary habits of youth have been affected; thus overweight and obesity are increasingly being observed among the youth, especially among boys.<sup>[4,30-32]</sup> Although risk and prevalence of obesity decreased with age in girls, they remain high among adolescents in private schools.<sup>[4,33]</sup>

In response to this alarming reality, in 2009, Lebanon proposed within the framework of a national plan a project named “Strategy of school health” (SSH). The aim of this strategy was to implement a comprehensive school health program to improve the health conditions of students and

school communities. SSH is a joint action between the World Health Organization (WHO), the Ministry of Health (MH), the Ministry of Education (ME), and the School national committee of Health.<sup>[34]</sup> SSH has not been deployed yet, and it is reasonable to believe that several factors are likely to act as facilitators or barriers to its implementation.

Thus, the purpose of this study is to explore the determinants of an eventual School Nutrition Policy (SNP) development by studying the perceptions of multidisciplinary Lebanese key stakeholders.

## MATERIALS AND METHODS

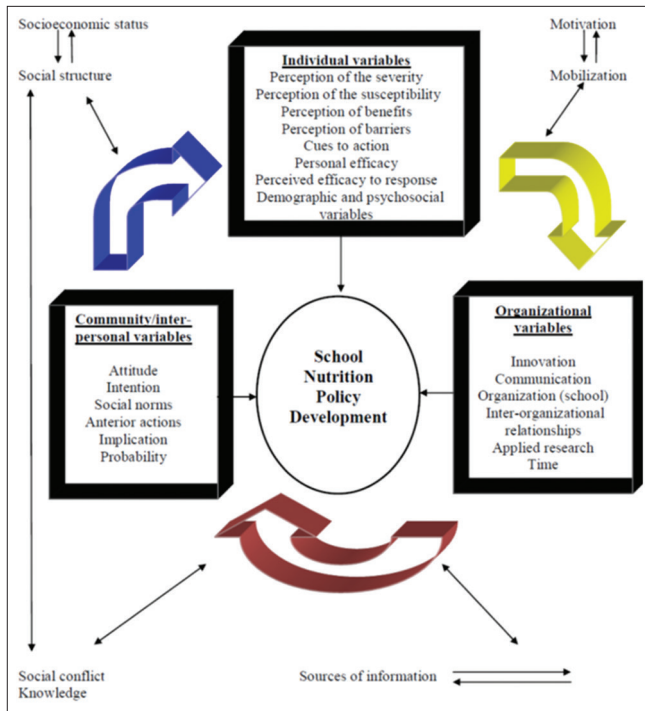
A conceptual framework is proposed [Figure 1] to explore those perceptions at the pre-implementation phase of the SNP from different perspectives where various levels of action, namely, community, individual, and organizational variables are presented. These levels integrate concepts to be retained issued from mixing theories and models used in health promotion programs and based on social marketing approach.<sup>[35,36]</sup> Theory of trying,<sup>[35]</sup> the Rossister-Percy Motivational Model,<sup>[35]</sup> the Health Belief Model,<sup>[35]</sup> the Protection Motivation Theory,<sup>[35]</sup> the diffusion theory,<sup>[35]</sup> the Theories of Organizational Change,<sup>[35]</sup> and the Communication Theory<sup>[35]</sup> were used to develop the innovative comprehensive conceptual framework of this study.<sup>[37]</sup> The value of this theoretical combination is to highlight the major variables involved in planning and developing a successful SNP.<sup>[21,37]</sup>

### Subjects

Social marketing suggests targeting not only the organizations concerned with a future health promotion program in schools but also the community either individual having some “leadership” in their environment, networks promoting support for programs, and coordinating agencies to maintain such programs.<sup>[38]</sup>

The target population of this study consists of various multidisciplinary key stakeholders active in Lebanese communities and/or experienced in health promotion and willing to express their perceptions to explore the determinants of an eventual SNP development in the Lebanese school context as different as rural, urban, public, and private sectors. No exclusion criteria were used in this study.

A total of 32 persons identified as active health stakeholders were contacted. The key stakeholders who participated in this study are the following: Two representatives of the municipalities (rural and urban), three representatives of the ministries (ME, MH, and Social Affairs), three representatives of the United Nations agencies in Lebanon (WHO, United Nations Family Planning Agency, and United Nations of Relief and Works Agencies for Palestine refugees in the Near East-UNRWA), 15 persons from the



**Figure 1:** Integrated conceptual framework to study perceptions associated with an eventual School Nutrition Policy development in Lebanon

academic and expert fields involved in health promotion selected from various disciplines (epidemiology, nutrition, public health, environmental health, food safety and insecurity, health promotion and education, community health, family health, pediatrics, journalism, communication, sociology, anthropology, health, and policy management), two school health advisers working in urban and rural public schools, four dietitians from the Lebanese Association of Dietitians (LDA) (LDA president and three influential dietitians in the media), two representatives of the mostly active non-governmental organizations (NGOs) in private and public schools, and the food industry represented by the person involved in the “Nestle healthy Kids Global Program” in Lebanon.

### Instruments

Directed and semi-structured individual interviews were conducted by a single interviewer (first author of this study) for a maximum duration of 60 min. The interview grid was written in three languages (English, French, and Arabic) to reach all participants according to their linguistic skills. The project was approved by the Ethics Committee of the Faculty of Medicine of the University of Montreal. Subjects who agreed to participate in this study were asked to sign a consent form.

### Procedure

The recruitment began at the end of September 2010 and was completed at the end of January 2011. The interview grid was structured around 25 questions related to the conceptual

framework of this study: Seven questions addressed the individual variables, six questions addressed the community variables, six questions addressed the organizational variables, and six questions addressed the other variables of the conceptual framework. Collected data were recorded followed by a transcription of each interview and production of fact sheets of the exchanges to facilitate the subsequent stages of data analysis.

### Data analysis

Data from this research study have been submitted to a thematic qualitative analysis.<sup>[39]</sup> The first stage of this analysis involved the production of major findings for each interview grouped and reduced into common themes. The analysis plan took into account all variable categories of the conceptual framework, the stakeholders’ profile, and their perspective whether they differ or not according to the school profile, namely, the geographic profile (urban and rural) and the socioeconomic school profile (private and public). The synthesis was iterative, and whenever new themes emerge, they were retained as new subcategories to be considered as facilitating factors or barriers of the eventual SNP development. Authors of this qualitative study discussed the synthesized themes, challenging the findings that lead to final exhaustive and complementary perspectives from all participants.

## RESULTS

A total of 32 subjects were participated in this study. Their profile analysis reveals that 23 participants (72%) have been implicated in past actions related to school health promotion. Only the pediatrics, the representative of the rural municipality, and few academics have never been active in this domain. In particular, NGOs were involved in all school health programs and were used to act as intermediaries between the decision-makers and the communities.

“NGOs are strongly present in Lebanese schools and they have the experience and the technical support needed to thrive any school health promotion program” (Public health representative).

All participants shared the same knowledge on healthy food “healthy food rich in nutriment can help to maintain a good health and to prevent from chronic diseases” (LDA representative), and on healthy lifestyle “healthy lifestyle is a state of physical, mental, and social well-being gained by healthy eating, regular physical activity, and managing stress” (NGO’s representative).

Furthermore, participants mentioned the same sources of health and nutrition information in Lebanon. The cited sources were: Mass media, advertising (television, billboards, radio, magazines, etc.), Internet, parents, health professionals,

alternative medicine marketers, neighbors, peers, and schools. The trust of the Lebanese is conferred to the mass media, especially the television, “Certainly mass media and TV health shows, are the main trustworthy sources of health information for the Lebanese population” (Pediatrician); to the physician especially in rural environment, “Lebanese rural communities act upon what their physicians demand and tell them to do” (Anthropologist); and to the Internet, especially among the youth, “young Lebanese trust whatever they will receive as health information in particular from Internet because they spend a lot of hours in front of the screen” (UN agencies representative).

All participants perceived that the Lebanese population and the communities, especially the highly educated ones, would be receptive and favorable to an eventual SNP “There are some groups of the community, especially the most educated and interested in their health, who will be of great support to the development of SNP” (Dietitian). Furthermore, they express an intention to accept and support its development if the resources (human and financial) and the social structures (socioeconomic, cultural, political, religious, and regional) were taken into consideration “SNP should be tailored according to the Lebanese socioeconomic and cultural context” (UN agencies representative). They also share the idea that public participation throughout the process of policy development would ensure the greatest acceptance of this project “SNP will be broadly accepted in Lebanon if we ensure the active participation of the lay public and the targeted people” (Food industry representative).

Moreover, almost all participants find that SNP would improve communities’ lifestyle if it is mainly structured according to the schools’ contexts, the efficient communication modalities of nutrition promotion, and the current health status and lifestyle behaviors of youth in their environments “SNP should move out of schools and emphasize on other environmental, social, and communication factors” (Academic).

Based on their previous experience and researches, our participants commented on the most common health problems (e.g., weight problems, malnutrition, and smoking) among Lebanese youth related to their unhealthy and sedentary lifestyles “Lebanon now is another fast food nation, the Lebanese lifestyle is very much resembling the lifestyle of the developed countries, and this is affecting the dietary habits of our youth generation” (LDA representative). Besides, economic status and mother educational level were identified by all participants as health determinants “Poverty and parental low educational level, especially of the mother, are related to the unhealthy dietary habits of youth” (the WHO representative).

According to the interviewed key stakeholders, these health problems require awareness campaigns and preventive intervention at school and other environments “Addressing

these problems at school is one of the effective preventive measures if supported by interventions involving the whole community and youth’s environment” (Academic).

Thus, they insist on the importance to act in synergy with other environments (family, peers, and neighbors) and on all the determinants of health (knowledge and individual/social/economical/political factors) “The SNP needs an interdisciplinary approach and requires a lot of team work efforts” (Ministries Representative). Moreover, all the participants perceive that youth participation in the SNP is likely to influence their life habits in all the environments if they were convinced by its content and if other environments have the will to act in the direction of the SNP “the participation of youth in the SNP will influence their lifestyle if the SNP is equitably implemented with the support of their environments” (School health adviser). They also shared the importance to evaluate the SNP on a regular basis “There is limited research about the effectiveness of nutrition education interventions in Lebanon. Now more than ever, nutrition education has to be regularly investigated and evaluated to ensure that we greatly educate our children on how to be healthy and productive adults” (LDA representative).

Only 10 participants (31.25%) believe that schools would perceive the SNP as an innovation. Another 10 participants found that schools would perceive it as innovation or Americanization according to (1) its mode of development and implementation “schools will perceive the SNP as innovation if only it is adapted to the Lebanese context” (Dietitian), (2) to its marketing “schools will perceive the SNP as Americanization if it is marketed as adoption of a pre-existent American school nutrition strategy” (Dietitian), and (3) to the mentality and attitude of schools’ principles “principles in Christian French schools may decline the SNP if it is not matching with the Francophone health strategies” (NGO’s representative). Other participants find a novelty in the SNP as a national policy “There is a lot of individual previous actions done in some schools, but SNP is a new approach as national policy and not a local or regional action” (Municipalities representative).

Finally, 21 respondents (65.6%) perceive that observing desired results will be relatively slow and that SNP development must be progressive in schools “moving progressively toward SNP development in schools would be an effective approach for observing results and allocated funds” (Academic).

Besides these shared perspectives on the determinants of SNP in Lebanon, data analysis of this study showed stakeholders’ complementary perceptions [Table 1] about facilitating factors and barriers associated to the eventual development of SNP.



## DISCUSSION

All key stakeholders are aware of the effect of nutrition transition in Lebanon<sup>[4,32]</sup> on communities' health, especially on the young population.<sup>[4,30-32]</sup> For these stakeholders, youth is a time when other perceptions become very significant and when social demands influence the individual.<sup>[40]</sup> In particular, adolescents are not a homogeneous group; therefore, caution

is needed before drawing approaches and SNP needs to be tailored to different segments.<sup>[5]</sup>

However, the focus on school apparently competent and convenient does not address larger upstream environmental factors which affect youth lifestyles.<sup>[41,42]</sup> More importantly, addressing the broader issue of the overall food environment and its impact on youth diet with intensified involvement of

**Table 1: Stakeholders' complementary perceptions of facilitating factors and barriers associated to SNP development in Lebanon**

Type of variables	Facilitating factors	Barriers
Community/ interpersonal variables	Presence of national support to develop, implement, and evaluate the SNP (municipalities)	Lack of reinforcing environments (MH)
	Design a SNP adapted to the Lebanese social norms to increase communities compliance (ME)	Diversity in Lebanese communities' intentions and attitudes to act in favor of the SNP (municipalities)
Individual variables	Encourage healthy lifestyle behaviors among youth by using stimulating arguments (body image, social acceptance, and self-esteem) (LDA)	Consider youth a homogeneous group with common interests and needs (Academic)
	Develop several types of nutrition interventions in different environments and from early ages (Pediatrics)	Youth resistance to adopt healthy recommendations and to act in favor of SNP (Health expert)
Organizational variables	Build a thriving advocate communities (UN Agencies)	Presence of contextual disparities between public and private schools (ME)
	Enhance teamwork to create a platform of coordinated activities (MAS)	Inappropriate physical environment in public schools (NGOs)
	Assess schools' profile before the SNP development (WHO)	Lack of human and financial resources in schools (School health advisor)
	Identify the governmental leadership (Food Industry)	Failure to integrate SNP components into schools' curriculum (MAS)
	Use variety of communication channels (ads, marketing, mass/social media, health clubs, popular figures, parental role-modeling, billboards) (Academic)	Underestimate the role of physical activity, in parallel to healthy dietary behaviors, at schools (ME)
	Establish a harmonious and transparent partnerships and alliances (UN Agencies)	Ignore the crucial role of municipalities (WHO)
	Undertake regular monitoring and evaluation of the SNP (NGOs)	Individualism and lack of collaboration between civil, public, and private sectors (School health advisor)
	Ensure the inclusion of capacity building efforts in the SNP development process (MH)	Undefined objectives terms (short or long term) of the SNP (Academic)
Other variables	Consider the diversity of the Lebanese context (cultural, social, regional, political, and ideological structures) (Academic)	Underestimate the political and religious impact on public health decisions and policy makers (LDA)
	Recognize the importance of role distribution between all Lebanese stakeholders (Food Industry)	Misevaluate the socioeconomic concerns and priorities of the Lebanese people (Academic)

key stakeholder is essential. Development of healthy eating zones inside and around schools including supermarkets, corner stores, and vending machines is a potential tool in the health promotion<sup>[41]</sup> but was only identified by the representatives of ministries and the dietitians.

Despite the heterogeneity of the perceptions analyzed in this study, one finds a certain complementarity in these results. All key stakeholders are conscious of their central roles in health promotion near the schools and the communities. They are also ready to share the burden responsibilities of the SNP if they have a clear national initiative ensuring multilevel coordination and multisectoral collaboration with a serious governmental commitment and leadership. It is obvious that NGOs in Lebanon are much experimented in the school health programs and have gained the confidence of the private and public sectors and of the communities.

Similar to other studies, the Lebanese stakeholders identified the major desirable determinants for a successful SNP development.<sup>[15,22-24,43-45]</sup> It is crucial to use multidisciplinary team acting in all sectors to ensure an active participation of the community throughout the project process and to reinforce participants' competencies and knowledge.<sup>[46]</sup> Furthermore, they stressed the importance to: (1) Select good collaborators (family, school, community, food industry, and decision- and policy-makers), (2) recognize the leadership allowing the interaction and feedback, (3) search for advocacy and partnership, (4) have an appropriate school environment, (5) establish different objectives terms, and (6) control and evaluate the elements of the policy, and finally, to make public the results of all activities.<sup>[22,37,46]</sup>

However, some findings are specific for the Lebanese context such as the remarkable impact of parental role modeling, especially mothers, in health promotion.<sup>[47]</sup> Furthermore, the role of political divisions, social structures, religion, peer pressure, and neighborhood influences in mediating the association between social networks and health promotion.<sup>[48,49]</sup>

In Lebanon as elsewhere, the best channels of communication are the innovative and pleasant programs near the youth, and the use of various methods simultaneously such as face to face approach, and parental and social role modeling technique. These methods help to reach all communities and to increase <sup>[43,47,50-52]</sup> Hence, the communicated messages must be simple, explanatory, positive, and attractive.<sup>[11,43,51]</sup> Similarly, to the findings in other surveys,<sup>[7,53]</sup> physicians are the preferred sources of health information for the Lebanese.

In short, the most effective interventions start with the targeted and concerned people. It is necessary to seek concrete solutions to their problems and not to provide pre-prepared answers.<sup>[21]</sup> Although knowledge is necessary, it

is clearly not sufficient.<sup>[45,54]</sup> The new concept of nutrition education and promotion should be a permanent dialog based on the reciprocal respect between health professionals and the population in a real process of participation.<sup>[11,21,43]</sup>

A great concern is the lack of publication and studies of nutritional and physical activity promotion in Lebanese schools and of monitoring and evaluation findings.<sup>[41]</sup> The UN agencies, NGOs, food industry, MAS, and some academics raised the lack of evaluation practices and indicator uses that help to measure outcomes and facilitate the understanding of where we are, where we are going, and how far we are from the underlying goals.<sup>[55]</sup>

Results of this study indicated clearly the pertinence and applicability of our conceptual framework that encompassed the proximal (cognitive and effective) and distal (environmental and relational) reasons of human behavior.<sup>[22,24]</sup> The organizational variables (collaboration, communication, and school environment) and the other variables of this conceptual framework (mobilization, motivation, and social structures) may dictate policymakers to develop and evaluate proper nutrition-related promotion programs that promote healthy food choices in schools and other environments (communities, families, and neighborhoods).<sup>[21,24,55]</sup> Whereas community variables are mostly perceived as facilitating factors to the SNP development, individual variables appear to be less significant. Finally, it is important to consider as well other subvariables, such as inadequate resources, political pressure, social networks (peer, neighborhood, and family) influence, mass and social media means, and regional disparities.<sup>[46,55]</sup>

The findings of this study are limited by the lack of documented results or working papers of past actions in the field of health promotion at schools to discuss the content of our findings. Obviously, leaders will be needed to facilitate the roles of key stakeholders<sup>[15,45]</sup> and to obtain a common interest toward the SNP. Furthermore, there is a great need for independent groups not influenced by governments, pharmaceutical companies, and political and religious associations to produce useful summaries of healthy lifestyle literature that are evidence-based and easily usable by the Lebanese.<sup>[56]</sup>

At all levels (local, regional, and national), it is necessary to make integrated efforts of acquisition, synthesis, application, and exchange of information on healthy diet and physical activity to guide the health promotion in schools in addition to support the community activities. It is important to integrate a global approach in the SNP development.<sup>[37]</sup> Thus, the integrated framework of this study offers many perspectives leading the respondents to comment on how a SNP is intended to work and to produce desired changes and goals.

Such a detailed framework can also form the basis for evaluating a policy's effect at various points in time. The

finality of health promotion and communication lies in making key stakeholders and communities responsible for their nutritional health. Therefore, nutritional promotion and communication should not be considered as a single short-term intervention. Such interventions should be regularly based and monitored for their effectiveness over the years.

## CONCLUSION

By combining social, behavioral, organizational, and communication theories and models, this study offered opportunities to comment on how a SNP is intended to work to achieve the desired health goals. This study explored several determinants envisaged in the SNP development that helps the decision- and policy-makers in their promotion and communication practices.

## DISCLOSURE STATEMENTS

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### Conflicts of interest

The authors declare that there are no competing interests.

### Authors' contribution

S.H. and M.M. conceived the concept of the study. S.H. designed the study, developed the integrative conceptual framework, collected and analyzed the data, and wrote the manuscript. M.M. assisted in data interpretation and critical revisions.

### Ethical standards disclosure

Ethical approval for this study has been obtained from the Ethics Committee of the Faculty of Medicine at the University of Montreal.

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