



## Community gardening in poor neighborhoods in France: A way to re-think food practices?



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### ABSTRACT

Social inequalities in diet are attributed to sociocultural determinants, economic constraints, and unequal access to healthy food. Fruits and vegetables are lacking in the diets of disadvantaged populations.

The objective was to test the hypothesis that, in poor neighborhoods, community gardeners will have larger supply of healthy food, especially fruit and vegetables, than non-gardeners. We examined community gardens from the perspective of production, economics and nutrition, and social and symbolic dimensions, through multidisciplinary investigations involving women with access to a community garden plot in a poor neighborhood of Marseille, France. Gardeners' monthly household food supplies (purchases and garden production) were analyzed and compared with those of women with a similar socio-economic profile living in the same neighborhoods, without access to a garden.

Twenty-one gardeners participated. Only eleven of them harvested during the month of the study, and the amount they collected averaged 53 g of produce per household member per day. Whether they harvested or not, most gardeners gave preference to diversity, taste and healthiness of produce over quantity produced. Interviews revealed a value assigned to social, cultural and symbolic dimensions: pride in producing and cooking their own produce, related self-esteem, and sharing their produce at the meal table. The only significant difference between the food supplies of gardener and non-gardener households was seen for fruit and vegetables (369 vs. 211 g/d per person). This difference was due to larger purchases of fruit and vegetables, and not to higher quantities produced.

In spite of the cross-sectional nature of our study and the small quantities harvested, our results suggest that having access to a community garden could encourage socio-economically disadvantaged women to adopt dietary practices that more closely meet dietary recommendations.

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### 1. Introduction

Urban community gardens are becoming increasingly popular in cities of industrialized countries. These gardens are multifunctional, providing residents with a space where they can grow fresh produce, relax in a natural environment, take part in an outdoor activity, forge social links, and acquire gardening skills (Duchemin, 2013; Duchemin, Wegmuller, & Legault, 2010). In the US this trend

is reflected in an increase in studies concerned with urban community gardens, particularly in terms of their relationship with food and social justice (Guitart, Pickering, & Byrne, 2012). Many gardens have been developed in disadvantaged urban neighborhoods (Ottmann, 2012; Paddeu, 2012; Shepard, 2013) and could contribute to food security among poor populations and ethnic minorities. Many urban gardeners participate, with the goal of producing their own fresh, healthy produce (Armstrong, 2000; Draper & Freedman, 2010). In Europe, and particularly in France, some studies have focused on the role these gardens play in the creation of social links and the engagement of disadvantaged populations (Cérézuelle & Roustang, 2010, p. 208; Dubost, 1997;

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Guyon, 2008; Weber, 1996), while others have explored gardeners' agronomic practices in an urban context (Consaès, 2003; Scheromm, 2015).

The function of community gardens as a source of food has been examined by several authors. Studies on gardens in Paris and Montreal suggest they can enable motivated gardeners to reach a level of autonomy in the production of fresh produce (Pourias, Aubry, & Duchemin, 2016). Based on interviews with gardeners and non-gardeners, various studies on US community gardens, both urban and rural, have found that gardeners appear to consume fresh produce more often than their non-gardening counterparts (Alaimo, Packnett, Miles, & Kruger, 2008; Barnidge et al., 2013; Blair, Giesecke, & Sherman, 1991; Johnson & Smith, 2006; Lackey, 1998; Litt et al., 2011). Regular physical activity and high consumption of fruit and vegetables are factors that directly impact health. Gardening is a way to take physical exercise, and could help prevent obesity in adults (Van den Berg, Van Winsum-Westra, De Vries, & Van Dillen, 2010; Zick, Smith, Kowaleski-Jones, Uno, & Merrill, 2013) and children (Castro, Samuels, & Harman, 2013; Davis, Ventura, Cook, Gyllenhammer, & Gatto, 2011; Wells, Myers, & Henderson, 2014). Children involved in gardening activities express a stronger preference for vegetables, and more motivation for tasting and cooking vegetables, possibly leading to more consumption thereof (Davis, Spaniol, & Somerset, 2015; Gibbs et al., 2013; Morgan et al., 2010; Robinson-O'Brien, Story, & Heim, 2009).

Social disparities in food consumption contribute to socio-economic inequalities in health (James, Nelson, Ralph, & Leather, 1997). The diet of disadvantaged individuals is characterized by a limited consumption of fruit and vegetables (Darmon & Drewnowski, 2008; Estaquio et al., 2008; Giskes et al., 2009), and particularly fresh fruit and vegetables (Plessz & Gojard, 2012). One line of argument suggests that it is more difficult to maintain a healthy diet on a smaller budget (Darmon & Drewnowski, 2015) and that diet cost mediates the relation between socioeconomic position and diet quality (Aggarwal, Monsivais, Cook, & Drewnowski, 2011). Lower-income respondents have consistently identified economic factors and the high perceived price of fruit and vegetables as barriers to the adoption of a healthier diet (Dammann & Smith, 2009; McLaughlin, Tarasuk, & Kreiger, 2003). Although fruit and vegetables are irreplaceable as sources of fiber, vitamins, and minerals, they are costly as sources of calories (Darmon, Darmon, Maillot, & Drewnowski, 2005). Additionally, produce is not always easy to transport, store, and cook, which means a higher risk of waste. This potential for waste is often difficult to accept in a poor household, and at least partially explains the limited variety of foodstuffs in diets associated with poverty (Dowler, 1997). Nevertheless, one study conducted in a poor neighborhood found that some low-income individuals developed strategies for procuring healthier food baskets, in spite of strong economic constraints (Marty et al., 2015).

The objective of the present study was to investigate the place of fresh garden produce in the food supply and food practices of women in community gardens of the northern districts of Marseille, neighborhoods reputed to be among the poorest in the European Union. We hypothesized that in poor neighborhoods, community gardeners will have large supply of healthy food, especially fruit and vegetables.

## 2. Methods

Urban community gardening was explored in terms of (i) food production, (ii) nutrition and economics, and (iii) cultural, social, and symbolic dimensions, by social and nutritional science approaches, involving informative questionnaires, semi-structured interviews, and a nutritional and economic analysis of household

food supplies (Fig. 1).

### 2.1. Context, gardens and plots, gardeners

This study took place in Marseille, France's second largest city. Marseille is a large port with a population originating from many countries around the Mediterranean sea and beyond. Its cultural diversity can be seen in a broad variety of lifestyles and dietary habits (Temime, Echinard, & Sayad, 2007).

The survey was conducted in the northern districts of the city where inhabitants are largely socio-economically disadvantaged, with low incomes well below national averages and a pronounced dependence on social programs and benefits. The unemployment rate was 22% in 2011 (INSEE, 2011).

Five community gardens located close to social housing were selected. The gardens had been created recently (two to five years), often in response to the demand of area residents. They were organized so that each gardener had their own plot. They were managed by the neighborhood's social center or by the heads of a charitable or social organization. Various programs assisting gardeners with their growing were organized on a weekly basis. The plots were cultivated on the ground, and gardeners shared access to water, tools, and composters. Limited urban space in these districts meant that plots were small (10–25 m<sup>2</sup>), but relatively numerous (20–90 plots per garden). Maintenance of each plot was the responsibility of the gardener granted gardening privileges. The Mediterranean climate enabled a variety of produce to be grown.

Gardeners were invited by local associations in charge of the garden to participate in the study on a voluntary basis with no financial motivation. Being mainly responsible for procuring household's food supply was the only inclusion criteria. Out of the 223 gardeners (25% men, 75% women) active in the gardens selected, twenty-one volunteered to participate in the study, and all of them were women. The collection of data took place in the gardens in May and June 2014, when the gardens were already productive. All participants provided written informed consent to participate in the study.

### 2.2. Survey methodology

#### 2.2.1. Informative questionnaire

An informative face to face administered questionnaire enabled the characterization of the 21 participants by gender, age, country of birth, number of household members, occupational status of the gardener and household members, and the gardeners' perception of their financial situation. The agronomic part of the questionnaire was constructed according to Scheromm (2015) and was administered to 18 gardeners. It provided information on garden use (past gardening experience, length of time in the current plot, time working in the garden), production management (choice of crops and cultivation practices, soil knowledge and preparation, seed and plant origins, methods of crop protection, training and learning methods, exchanges with other gardeners), and garden functions as perceived by the gardeners, together with their motivations for gardening.

#### 2.2.2. Semi-structured interviews

To identify the unique characteristics relative to each gardener, and their aspirations and dietary practices, semi-structured interviews (n = 17) were conducted and analyzed according to Combessie (2007). All interviews were conducted in French as all participants were French-speaking people. The interviews explored three principal themes: (i) personal history and biographical elements related to gardening, (ii) links between gardening activities and food practices (food supply practices, culinary habits and skills,

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