

## **Community Gardening Benefits as perceived Among American-born and Immigrant Gardeners in San Jose, California**

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**Abstract** Community gardens in urban neighborhoods, lacking sufficient open space, provide individual and social benefits. A mailed-out survey of gardeners in eight San Jose community gardens revealed that American-born and immigrant gardeners perceived most benefits similarly. As a hobby to most, gardening made them feel healthier, proud, and stress-free. Factors of term-use in the garden, age, employment status, and family help affected perceptions. In comparison to American-born gardeners, immigrant gardeners valued more benefits neighborhood beautification and access of hard to find vegetables. Among immigrants, gardeners from Laos valued the money saved from community gardening the most, whereas, European immigrants valued the stress relief more so. Recently established immigrants, particularly with previous agricultural experience, such as Mexican immigrants, used gardens to connect with their homeland and adjust to new life in United States. While few immigrants expressed interest in meeting people who spoke the same language, most did not use the gardens as a place to practice English.

## **Introduction**

At community gardens, people share land to grow plants for themselves and their communities. Introduced to the United States by European immigrants at the turn of the 20<sup>th</sup> century, community gardens gained popularity during the Panic of 1893 and the Depression of 1930s (Warner 1987). With the rise in unemployment during these periods, city leaders encouraged owners of vacant land to lend their property so the unemployed may grow their own food in these Charity Gardens.

The food shortages during wartime also caused city dwellers to use thousands of community gardens as their patriotic effort. In 1918, during World War I, Americans joined the Liberty Garden Campaign to help feed soldiers overseas (Hynes 1996). Similarly, the Victory Garden Campaign spread during World War II with slogans such as “marching to victory via the victory garden” (Hynes 1996). Once the patriotic need for the gardens ended, many of the community gardens vanished.

Today’s American urban community gardens, roughly estimated at 10,000, sprouted from the civil rights and environmental movements of the 1960s and 1970s (Warner 1987, Breslav 1991). In the 1950s, the suburban exodus led to ethnic minority migrations into urban dwellings (Hynes 1996). However, not enough newcomers replaced the emigrants, and with rising costs, landlords abandoned their property (Warner 1987). The public quality of the inner city declined as the comfort and services in the suburb rose (Warner 1987). No longer built upon charitable and war relief notions, community garden was seen as an urban renewal project with benefits to the individual gardener as well as to the community. Research indicates that benefits obtain from gardening provide a powerful motivator to participate in community gardening (Curran 1993, Gelsi 1999).

With the increase in food prices, community gardening gives an economic benefit to the gardener. The average American family spends 25 to 31 percent of its household budget on food, and community gardening saves a family an average of \$250 per 600 square feet of garden (Naimark 1982).

While gardening food does supplement income, previous studies show that they also have non-economic benefits at the individual and social levels. Gardeners say that community gardening enhances an individual’s psychological and physical sense of well being (Sommers 1984). Self-esteem, pride, and relieving stress are among the psychological benefits (Kaplan

1973, Lewis 1979, Jamison 1985, Landman 1993). Gardeners also gain the benefits of a healthy diet and exercise (Patel 1991, Armstrong 2000). Among the social benefits, community gardens build friendships, provide cultural diversity, reduce crime, and beautify neighborhood (Patel 1991, Curran 1993, Landman 1993, Dotter 1994, Schmelzkopf 1996). Although intangible and harder to measure, these benefits are vital for understanding the real worth of community gardening (Herbach 1998).

Factors such as gender, race, employment, place and length of residence can influence gardeners' perception of benefits. Waliczek *et. al* (1996) finds in their nationwide survey of community gardeners that female community gardeners placed higher value on the benefit of saving money, and African-American and Hispanic gardeners valued the gardens more than Caucasians and Asians. In Central City community garden of New Jersey, gardeners of housing projects and long-term gardeners appreciate the aesthetic improvements and the increased safety to their neighborhood (Curran 1993). Long-term residents of Puerto Rican ancestry near New Jersey's Loisada usually become gardeners (Schmelzkopf 1996).

Community gardens generally serve the urban poor in neighborhoods that lack open spaces. The majority of gardeners in such neighborhoods are minorities, including immigrants (Waliczek *et. al* 1996, Armstrong 2000). To many of the immigrant gardeners, community gardens are the only places they have to be around nature (Schmelzkopf 1996). Most also do not use other recreational venues in the area, whether due to economic, language, or cultural barriers (Dotter and Anderson 1998). It is the "leisure class" that usually has the ability and time to travel to other parks (Hynes 1996). Maller (1993) show that "race and income are significantly correlated to distribution and quantity of parkland per capita by community district."

All community gardens reflect, to some extent, the ethnic and cultural traditions of the people who create them. Immigrant gardeners, particularly, bring their cultural values to the gardens such as with their plants and gardening techniques (Dotter 1994). The Loisada study is among few studies that focus on how community gardens can specifically benefit immigrants. The Puerto Ricans of Loisada diminishes the immigrant experience of displacement and assimilation by transforming the community garden into their homeland or *casitas* (Winterbottom 1998). The *casitas* offer a place for refuge, recreation, cultivation, celebration, and expression. Many of the gardens prominently display Puerto Rican flags, along with statues of the Virgin Mary (Schmelzkopf 1996).

Likewise, Southeast Asian immigrants strive for similar benefits after arriving on the post-Vietnam war wave in late 1970s and early 1980s. These immigrants work a high percentage of community garden plots in Madison, Wisconsin because of the self-described “connection to home” benefit (Finkelstein 1997, Herbach 1998). The Finkelstein study reveal that some immigrants are not from rural settings in Southeast Asia, but they garden to get access to food and medicine that they cannot purchase elsewhere (Finkelstein 1997). “Gardening activities continue to define the day and season, to provide continuity in cultural traditions, and to constitute an arena of integration into U.S. society” for the Southeast Asian immigrant gardeners of San Jose community gardens (Dotter and Anderson 1998).

While most initially participate in community gardens to gain access to land not readily available, numerous other benefits blossom from the experience. With threats of development looming over community gardens, a greater understanding of how and to whom they benefit most have spurred interest and support for community gardens. In its 1994 survey, the National Gardening Association found that 6.7 million households, which are not currently engaged in gardening, would be interested in community gardening if there were a garden nearby (Hynes 1996). Information gained from my study may provide new avenues for promotion, development, and protection of community gardens.

My study of San Jose community gardens addressed two main questions:

- (1) How do gardeners perceive the individual and social benefits of community gardening?
- (2) What factors or characteristics may influence these perceived benefits?

I assessed the data at three intervals: First, among all gardeners with common factors; second, between American-born and immigrant gardeners; and third, among immigrant gardeners with the additional immigrant-specific benefits and factors.

## **Methods**

**Study Site** I conducted my survey of community gardeners in San Jose, California from March through June 2001. Administered by the San Jose Parks, Recreation and Neighborhood Services, the Community Gardening Program began with Mi Tierra -- the first community garden to open in 1976, but later an ice rink replaced it in 1991. Today there are 16 community gardens covering more than 35 acres of city-owned land (Dotter 1994). Some are property of neighboring schools or the Water District (Sanger 1999). Each community garden has between

29 to 120 plots ranging in size from 200 to 700 square feet. With more than 900 plots available to any resident who is willing to pay an annual water fee of approximately \$0.12/square feet, the Community Garden Program have waitlists of a year or more. As the City's population increases and the program matures, the demand for plots will continue to exceed the supply (Ferguson 1987, Dotter 1994).

The garden sites represent the ethnic diversity of their surrounding neighborhoods, a reflection of the City's increase in immigrant population. Ten of the gardens sites have one or another dominant ethnic group, most of whom arrived from Southeast Asia, Central America, and Europe (Dotter and Anderson 1998). In 1990, 23.2% of the City's population were foreign-born (San Jose PMSA 2001, elect. comm.). Much of the City's population increase from 1990-2000 is due to the rise in Asian and Hispanic population from 38.5% to 49.9% of the City's population (San Jose PMSA 2001, elect. comm.). Nationally, these two groups account for two-thirds of all immigrants.

**Survey Design** The questionnaire survey had three main sections (Appendix A). The first section dealt with personal backgrounds and gardening experience, factors or characteristics that may influence the respondents' perception of benefits. These common characteristics among all gardeners were: gender, age, American-born or immigrant, years of community gardening, employment status, space to garden at home, and family help in the plot. Additional characteristics considered for immigrant gardeners were: years lived in United States, age emigrated to United States (calculated by subtracting age from years lived in United States), previous garden/farm/agricultural experience in birth country, and languages spoken. The second section inquired about qualitative data on how they community garden: where they obtain their seeds/seedlings and what types of plants they grow and for what uses (food, medicine, or decoration).

The last section assessed what gardeners perceived as *most important* benefits, or reasons for community gardening, thereby showing what they value as most important about community gardening. The 20 listed benefit statements represented only some of the many possible community gardening benefits. Designed following the format by Waliczek *et. al* (1996) that based statements on Maslow's hierarchy of human needs model which progresses from physiological and safety needs, to higher psychological needs, such as social, self-esteem, and self-actualization, I categorized the benefit statements on two levels: the individual and social. I

addressed four benefit statements specifically to immigrant gardeners: ‘I feel connected to my birth country’, ‘I garden to help me adjust to my new life in the United States’, ‘I can meet people who speak my language’, and ‘I practice English with other gardeners’.

I administered a face-to-face questionnaire survey pretest at two visits to Green Thumb and Las Milpas community garden sites in May 2001. In general, community gardeners worked their plots at various times. With so few gardeners found at my time of visits, the pretest consisted of five Mexican immigrant and two American-born gardeners. Feed back from those surveyed suggested that immigrants were less likely to fill out a survey that was lengthy. In the pretest survey, the last section had asked for a rating of each benefit statement on a Likert-type scale (Likert 1967), ranging from one as ‘not important’ to five ‘extremely important’. The Spanish-speaking immigrants did not easily comprehend this section. Hence, I simplified this section to ask only to choose the benefit statements they find *most important*. Feed back from the American-born community gardeners surveyed in the pretest suggested that I clarify which question I intended only for immigrants. Hence, I added the phrase ‘Immigrants only’ to those specific questions.

**Data Collection** In June 2001, I mailed out 485 surveys with stamped, self-addressed return envelopes to eight community garden sites in San Jose, California. San Jose’s Department of Parks, Recreation and Neighborhood Services supplied a list of community gardeners’ contact name and address. The list contained all community gardeners that have garden plots as of March 18, 2001.

In this study, the community gardeners are from Calabazas, Cornucopia, Coyote, El Jardin, Laguna Seca, Nuestra Tierra, Mayfair, and Wallenberg garden sites. (Due to limited funds and time, I did not consider the other garden sites). Based on observations and/or informal interviews with gardeners I made at these eight sites, I designed a questionnaire survey. I had the survey translated into Spanish and Vietnamese, languages that are among the most commonly spoken by the community gardeners. While there was a known large number of Mien community gardeners, the non-existence of a Mien written language made such translation of my survey impossible. Being nomadic tribe people in Laos, I considered Mien ethnic group as Laotians.

From the mailing list, community gardeners that have Vietnamese last names received the Vietnamese-translated survey in addition to English survey and those with other Asian last

names received only the English version. All other community gardeners received both English and Spanish versions of the survey. Since there was no way to differentiate who was or was not an immigrant, all received the same formatted survey.

**Statistical Analysis** Data were analyzed using the Chi-square test at the 5% significance level for any association between respondents’ characteristics (aforementioned) and their choices of benefit statements. Basic descriptive statistics used in this study consisted of percentages. They described an overall ranking of the perceived benefits among all gardeners, and between American-born and immigrant gardeners.

## Results

One-hundred-forty-six (146) gardeners responded from the eight community gardens, resulting in a 30% response rate. This level of response was adequate for supplying ideas and trends for the given sample population, but was not intended for generalizations to other populations.

I grouped the surveys by birth country, thereby differentiating American gardeners (55.5%) from immigrant gardeners (44.5%). Table 1 reports the demographic characteristics of the total sample. Immigrant gardeners were from three main regions: Asia (39%), Latin America (39%), and Europe (20%). The most represented countries within each region were Laos (19%) and Vietnam (8%) of Asia, Mexico (36%) of Latin America, and Italy (9%) of Europe.

	Total (N=146)	American (N=81)	Immigrant (N=65)
Gender			
Female	41%	47%	34%
Male	59%	53%	66%
Mean Age	55.8 years	53.7 years	57.9 years
Employment			
Employed	55%	48%	63%
Unemployed	7%	5%	9%
Retired	38%	47%	28%
Years in San Jose			
Community Garden			
0-5 years	54%	61%	46%
6-10 years	26%	19%	35%
11+ years	20%	21%	19%
Has space to garden at home	40%	46%	32%
Has family help	69%	69%	69%
Obtain seed/seedlings			

Food markets	26%	32%	68%
Plant nurseries	74%	65%	35%
Other people	58%	55%	45%
Brought from birth country	31%	NA	31%

Table 1. Demographic characteristics

	Region of birth			Country of birth			
	<i>Asia</i>	<i>Latin</i>	<i>Europe</i>	<i>Laos</i>	<i>Vietnam</i>	<i>Mexico</i>	<i>Italy</i>
	US Residence (years)						
Recent (<21)	64%	24%	4%	40%	4%	24%	0%
Established (21-40)	24%	55%	21%	3%	14%	48%	10%
Long-established (41+)	9%	27%	55%	0%	0%	18%	27%
Age Emigrated (years)							
Child (<18 years)	15%	31%	46%	8%	8%	31%	15%
Young Adult (18-30)	23%	57%	17%	7%	3%	50%	10%
Adult (31+)	68%	18%	14%	36%	14%	18%	5%
Previous Experience	30%	44%	22%	22%	4%	41%	9%
Language							
Another only	19%	75%	6%	19%	0%	63%	0%
English only	29%	0%	57%	0%	29%	0%	29%
Both	48%	33%	18%	20%	8%	30%	10%

Table 2. Demographic characteristics of immigrant gardeners (N=65)

Overall, the top five choices of individual benefit statements ranked similarly among American and immigrant gardeners (Table 3).

American	Immigrant
89% I enjoy gardening as a hobby.	82% I enjoy gardening as a hobby.
78% I can share my vegetables with others.	66% I feel healthier when I eat my own produce.
65% I feel healthier when I eat my own produce.	65% I can share my vegetables with others.
54% I can feel proud of my garden.	52% I can feel proud of my garden.
51% I garden to relieve stress.	40% I garden to relieve stress.
46% I need the physical exercise.	37% I save money by growing my own food.

Table 3. Rank of top six perceived benefit statements among American-born and immigrant gardeners.

They were ‘hobby’ (statement 1), ‘share vegetables’ (statement 11), ‘feel healthier’ (statement 2), ‘feel proud’ (statement 4), and ‘to relieve stress’ (statement 5). Both groups similarly had statement 10, ‘I can grow plants that I use for medicine,’ rank the lowest among the choices of

benefit statements. Data for Section 2 show that all respondents grew vegetables for food, while the same 13% of American-born and immigrant gardeners grew medicinal plants. Furthermore, 50% American-born gardeners grew decorative plants, more than the 15% of immigrant gardeners.

From Chi-square analyses of all respondents, term-length in the garden, age, employment, and family help factors showed significant associations with eight benefit statements (Table 4a and 4b).

Statement	Age	Employment	Term in Garden	Family Help	Immigrant/ American
Individual Level					
3. I need the physical exercise.	0.012*	3.40E-05*	NS	NS	NS
4. I can feel proud of my garden.	NS	NS	NS	0.00129*	NS
7. I feel safe in the garden.	NS	NS	0.0441*	NS	NS
8. I grow vegetables that are hard to find in American food markets.	NS	NS	NS	NS	0.00947*

Table 4a. Factors associated significantly with individual benefits as perceived among gardeners, overall. Nonsignificant (NS) or significant (\*) at p=0.05.

Statement	Age	Employment	Term in Garden	Family Help	Immigrant/ American
Social Level					
11. I can share my vegetables with others.	NS	NS	0.0283*	NS	NS
12. I garden to make the neighborhood beautiful.	NS	NS	NS	NS	0.00239*
13. I enjoy working alone.	NS	NS	NS	0.05*	NS
14. I spend time with my family in the garden.	NS	NS	NS	0.00142*	NS
15. I can teach my children to garden.	NS	NS	NS	0.0083*	NS
16. I can learn from gardeners from different cultures.	NS	NS	0.0447*	NS	NS

Table 4b. Factors associated significantly with social benefits as perceived among gardeners, overall. Nonsignificant (NS) or significant (\*) at p=0.05

Short-term users (newcomers) found ‘share vegetables’ (statement 11), ‘learn from different cultures’ (statement 16), and ‘feel safe’ more important than gardeners who have been in community gardens longer than 5 years (Table 5).

Statement	Short-term (0-5 years)	Medium-term (6-10 years)	Long-term (11+ years)
Individual Level			
7. I can feel safe.	15% <sup>a*</sup>	3% <sup>a</sup>	3% <sup>b</sup>
Social Level			
11. I can share my vegetables with others.	78% <sup>a</sup>	55% <sup>a</sup>	76% <sup>b</sup>
16. I can learn from gardeners from different cultures.	42% <sup>a</sup>	29% <sup>b</sup>	17% <sup>a</sup>

Table 5. Term-use of the gardens associated significantly with individual and social benefits perceived among all gardeners, overall.

\*Percents followed by different letters within a row are significantly different at P=0.05.

Age of overall and American-born gardeners appear to parallel in their associations with ‘I need the physical exercise’ (statement 3) and ‘I garden to relieve stress’ (statement 5) (Figure 1 and 2).

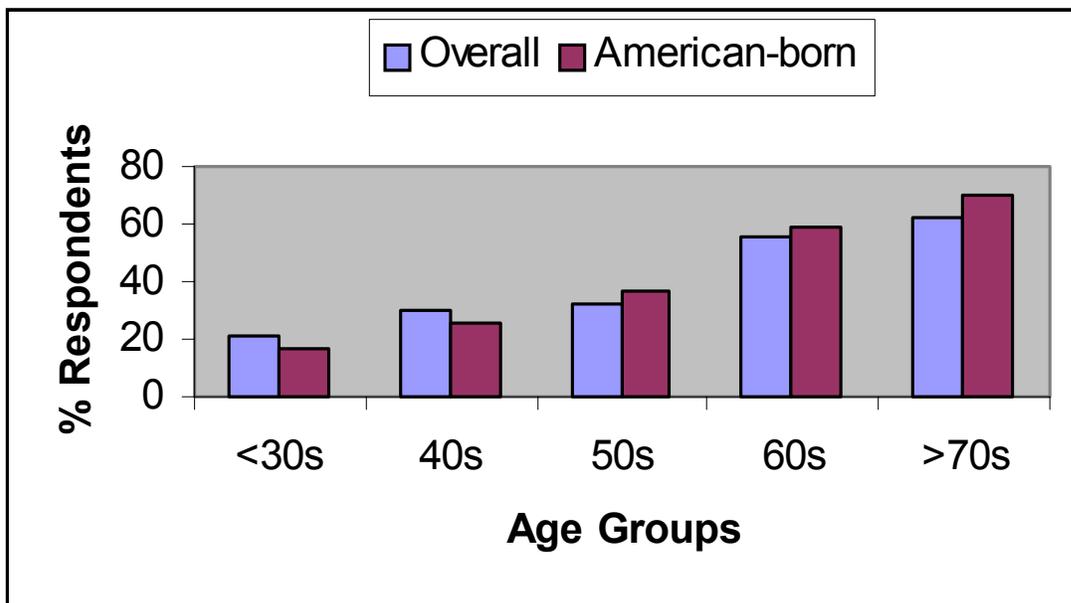


Figure 1. Age of Overall and American-born gardeners as associated with Statement 3 'I need the physical exercise.'

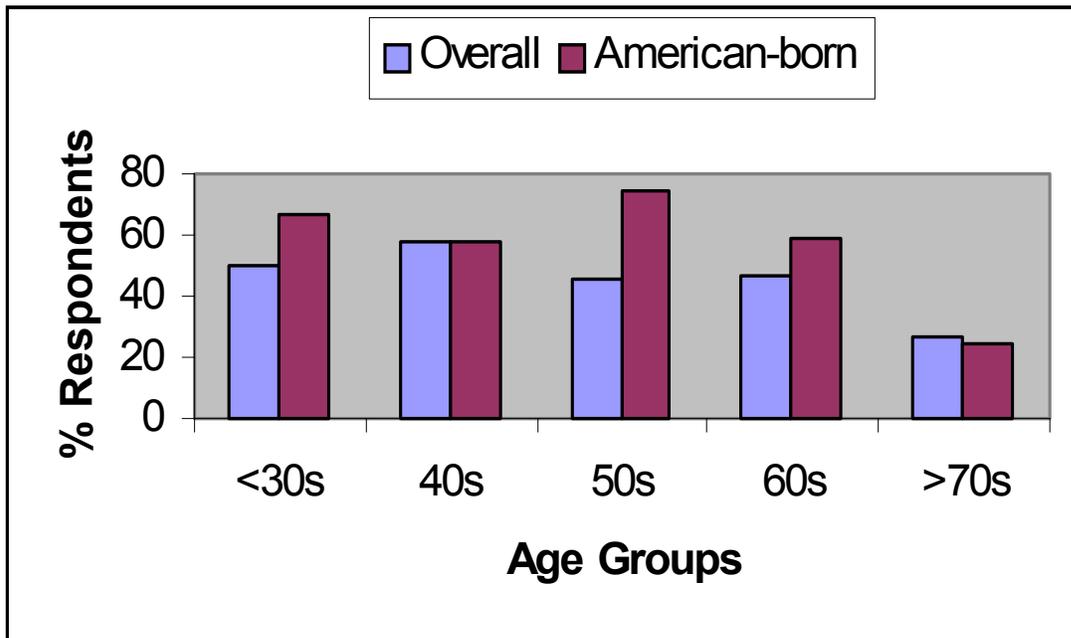


Figure 2. Age of Overall and American-born gardeners as associated with Statement 5 'I garden to relieve stress.'

As age increase, more respondents felt they need the physical exercise (Figure 1); whereas, more respondents less than 70 years old gardened to relieve stress (Figure 2). Age closely relates to employment status, since 64% retired respondents found physical exercise more important than the 28% employed respondents ( $X^2=6.8$ ,  $df=1$ ,  $P<0.05$ ). Overall, employed respondents gardened to relieve stress more than retired respondents. This was significant among American-born respondents ( $X^2=15$ ,  $df=1$ ,  $P<0.01$ ).

Respondents with family help perceived 'spend time with my family' (statement 14) and 'teach my children to garden' (statement 15) as more important than those with no family help (Table 6).

Statement	Has Family Help	Has No Family Help
Individual Level		
4. I can feel proud of my garden.	45%	73%
Social Level		
13. I enjoy working alone.	12%	24%
14. I spend time with my family in the garden.	24%	3%
15. I can teach my children to garden.	32%	11%

Table 6. Family help factor associated significantly with individual and social benefits among all gardeners, overall.

On the other hand, more respondents without family help found ‘I enjoy working alone’ (statement 13) and ‘I can feel proud of my garden’ (statement 4) to be important benefits (Table 6).

American-born and immigrant respondents significantly differed for two benefits. Twenty-eight percent of immigrant respondents chose ‘I garden to make the neighborhood beautiful’ (Statement 12), in comparison to only 9% of American respondents ( $X^2=10$ ,  $df=1$ ,  $P<0.01$ ). Likewise, more immigrant respondents chose ‘I grow vegetables that are hard to find in American food markets’ (statement 9) than American respondents ( $X^2=6.8$ ,  $df=1$ ,  $P<0.01$ ). Furthermore, the recently established immigrants (<20 years) found statement 9 more important than longer established immigrants (Table 7).

Statement	US Residence		
	Recent (<20 years)	Established (21-40 years)	Long Established (41+ years)
Individual Level			
3. I need the physical exercise.	28% <sup>a*</sup>	28% <sup>b</sup>	73% <sup>a</sup>
5. I garden to relieve stress.	32% <sup>a</sup>	31% <sup>b</sup>	82% <sup>a</sup>
8. I save money by growing my own produce.	52% <sup>a</sup>	31% <sup>b</sup>	18% <sup>c</sup>
9. I grow vegetables that are hard to find in American food markets.	36% <sup>a</sup>	24% <sup>b</sup>	9% <sup>c</sup>
17. I feel connected to my birth country.	36% <sup>a</sup>	28% <sup>b</sup>	18% <sup>c</sup>
18. I garden to help me adjust to my new life in the United States.	28% <sup>a</sup>	14% <sup>b</sup>	0% <sup>c</sup>

Table 7. Percentages of benefit statements for immigrant gardeners as influenced by length of US residence and age emigrated to US.

\*Percents followed by different letters within a row are significantly different at P=0.05

Among immigrant gardeners, birth region/country, period of US residence, emigrated age, previous gardening/farm/agricultural experience, and language were significantly associated with six individual benefit statements (Table 8).

Statement	Region	Country	US Residence	Age Emigrated	Previous Experience	Language
Individual Level						
2. I can feel healthier when I eat my own produce.	NS	NS	NS	0.0138*	NS	NS
3. I need the physical exercise.	NS	NS	0.0176*	NS	NS	NS
5. I garden to relieve stress.	0.0258*	NS	0.0374*	0.0439*	NS	0.0108*
8. I save money by growing my own food.	NS	0.048*	NS	NS	NS	NS
17. I feel connected to my birth country.	0.0254*	NS	NS	NS	0.0331*	0.0033*
18. I garden to help me adjust to my new life in the United States.	NS	NS	NS	0.0409*	0.0194*	NS

Table 8. Factors associated significantly with individual benefits perceived among immigrant gardeners. Nonsignificant (NS) or significant (\*) at p=0.05

Among the immigrant countries, Laos had the highest percentage of respondents (75%) that value ‘I save money by growing my own food’ (statement 8). This was significantly different from the percentages of respondents from Vietnam (20%), Mexico (39%), and Italy (17%), all at  $P < 0.05$ . In addition, more recent immigrant respondents, which are mostly from Asia and Laos (Table 2), valued statement 8 more than longer established immigrant (Table 8).

Similar to American-born gardeners, European immigrants (69%) were the most to perceive ‘I garden to relieve stress’ (statement 5) as important. In addition, 69% respondents that emigrated as a child chose statement 5, significantly different from those who emigrated as a young adult (37%,  $X^2 = 3.9$ ,  $df = 1$ ,  $P < 0.05$ ) or adult (27%,  $X^2 = 13$ ,  $df = 1$ ,  $P < 0.01$ ). Likewise, 86% of English-only speaking immigrants and 82% of long-established immigrants chose statement 5 (Table 8 and 9). These characteristics represented most immigrants from Europe (Table 2).

Statement	Another Only	English Only	Both
<b>Individual Level</b>			
5. I garden to relieve stress.	50% <sup>a*</sup>	86% <sup>a</sup>	29% <sup>b</sup>
17. I feel connected to my birth country.	63% <sup>ab</sup>	14% <sup>a</sup>	19% <sup>b</sup>
18. I garden to help me adjust to my new life in the United States.	25% <sup>a</sup>	0% <sup>b</sup>	17% <sup>c</sup>
<b>Social Level</b>			
19. I can meet people who speak the same language.	25% <sup>a</sup>	0% <sup>b</sup>	24% <sup>c</sup>
20. I practice my English with other gardeners.	0% <sup>a</sup>	0% <sup>b</sup>	10% <sup>c</sup>

Table 9. Language associated with individual and social benefits perceived among immigrant gardeners.  
\*Percents followed by different letters within a row are significantly different at  $P = 0.05$ .

Immigrants who have lived in the United States less than 40 years valued the benefits at the individual level -- ‘I feel connected to birth country’ (statement 17), and ‘I can adjust to my new life in United States’ (statement 18) -- more than long-established immigrants (Table 8). Forty-eight percent of Latin American immigrant respondents chose ‘I feel connected to my birth country’ (statement 17), significantly different from the 8% of European immigrant respondents ( $X^2 = 6.5$ ,  $df = 1$ ,  $P < 0.05$ ). Likewise, 41% of respondents with previous gardening/agricultural/farming experience, mostly from Mexico (Table 2), valued statement 17 as important, more than the 11% respondents without previous experience ( $X^2 = 4.7$ ,  $df = 1$ ,

$P < 0.05$ ). Similar trend was associated with 'I garden to help me adjust to new life in the United States' (statement 18), where 24% experienced respondents and none of inexperienced respondents valued the statement ( $X^2=5.3$ ,  $df=1$ ,  $P < 0.05$ ). Respondents that spoke only another language, 70% of which were Spanish-speakers, valued both individual benefits (statement 17 and 18) more than the other groups (Table 9).

Unlike the immigrant-specific benefits at the individual level, no factors were significantly associated with immigrant-specific benefits at the social level. Particularly, there was no association between the languages spoken and these social benefits: 'I can meet people who speak the same language' (statement 19) and 'I practice my English with other gardeners' (statement 20) (Table 9).

## **Discussion**

**Commonly Perceived Benefits Among All Gardeners** Overall, American-born and immigrant gardeners did not greatly differ in their perceived benefits. They all valued the same top four individual benefits. For most, they enjoyed gardening as a hobby; a recreational activity pursued for pleasure during leisure time. For immigrant gardeners, there may not be the "pressure of earning a living off the land," as done in their homeland, so gardening can be recreational (Dotter 1994). From a survey of home gardeners, hobby is the third reason to garden (Kaitz 1979). While most gardeners in this study had no space to garden at home, some who had noted the insufficient size or poor light quality of the space. Many studies show that community gardens gave them the land that they would not otherwise have had for gardening (Ferguson 1987, Landman 1993, Armstrong 2000). Herbach (1998) suggest community gardens should be a priority in areas with high concentration of apartment complexes, condominiums, and retirement homes; neighborhoods with little access to open space.

Along with access to land, gardeners in this study also gained other individual benefits from gardening as a hobby. Most gardeners felt healthier, proud of their accomplishments, and relieved of stress; benefits related to the physiological, self-esteem, and self-actualization needs of Maslow's hierarchy of human needs model. The national survey of community gardeners similarly find that community gardens meet quality of life needs on the higher levels of self-esteem and self-actualization (Waliczek *et. al* 1996). Likewise, Curran (1993) find community

gardeners emphasize personal and psychological benefits, but never environmental benefits or political effects as with the community garden organizers.

On the social level, most gardeners shared their vegetables with neighbors, family, gardeners, and others. With a 700 square feet plot, previous studies estimate it produces 540 pounds of vegetables in a growing season, more than sufficient for one person (Sommers 1984, Patel 1991). Some gardeners from San Jose community gardening program do “plant an extra row” for the hungry, distributing the produce through food banks and soup kitchens (Dotter and Anderson 1998).

**Characteristics Associated with Perceived Benefits Among All Gardeners -- Term-length of use of community garden** Since community gardens reflect the ethnic diversity of the neighborhood, the sharing of produce stimulates friendship building among various ethnic groups (Patel 1991). With only half of the garden sites sampled, my study had representation from 18 nations, including the United States. Newcomers (0-5 years) to the garden sites particularly valued sharing vegetables and learning from different cultures. To situate to a new place, newcomers are inclined to meet and learn from others. Among immigrant and American-born gardeners, the long-term-use gardeners are usually willing to assist the newcomers, of any ethnicity (Dotter and Anderson 1998). Cultural exchange is an additional benefit that naturally arises from the interaction. In Calabazas, Vietnamese immigrant gardener learned how to grow cactus from the Mexican gardeners, and now he “enjoys eating Vietnamese fish and Mexican cactus.” In addition to vegetables, gardeners share tools, cultivating techniques, and common experiences (Armstrong 2000). In other studies, sharing of vegetables bring together people to feel a sense of belonging, creating a sense of community (Lewis 1979, Gelsi 1999). By also feeling safer in the gardens, newcomers may possibly enjoy the interaction with others in the community more so.

**Age and employment** Age and employment status, similarly related characteristics, influenced perceived health benefits. Those over 70 and retired usually garden for physical exercise, particularly among American-born gardeners. In a previous study, horticultural therapy is beneficial to elderly since “vegetable gardening requires the use of many different muscles, while fine motor skills are involved in activities such as potting seedlings” (Relf 1979). The Loisada study show that the mostly Latino gardeners – retired, unemployed, or non-working – find gardening as their only productive activity, devoting long hours even in the winter as

weather permits (Schmelzkopf 1996). Elderly Mexican gardeners from Mayfair mentioned that being outside gardening was more beneficial for their health than “sitting in front of the TV.”

While older gardeners were concern with physical health, younger gardeners exhibited more interest in mental health, particularly among American-born gardeners. Usually under 60 and employed, these gardeners relieve their stress in the community gardens. A visit to even a small garden can offer a person the feeling of “being away” from a stressful setting, such as work (Kaplan and Kaplan 1989). One gardener in Calabazas, an intensive care nurse at a local hospital, uses the garden as an “effective way to cope with her high stress job” (Dotter 1994).

Regardless of age or employment status, all felt healthier when they ate their fresh grown produce. The Patel (1991) study find 35% of the gardeners cite improved diets as one of the primary benefits of gardening. The Philadelphia study supports this claim, showing gardeners are more likely to eat raw vegetables in salads than non-gardeners (Blair *et. al* 1991). Other studies note produce grown in community gardens tastes better, possibly an attribute to its organic and pesticide-free quality (Dotter 1994, Armstrong 2000). Home gardeners most often mention their preference for this better taste or quality of produce (Kaitz 1979).

**Family help in the garden** Time spent in the community garden is quality time, whether spending it with family or alone. Those with family help enjoy the time with them as well as the opportunity to teach their children or grandchildren about gardening. In previous studies, 43% of plot holders shared their plot with family members (Taylor 1979), and over 28% became involved largely to educate the children (Fox *et. al* 1985). Those with no family help enjoy their time alone. In a comparison study of benefits between community gardens and parks, gardeners are more likely to use the land alone than park users (Francis 1985). In working alone, gardeners also gain pride in their accomplishments.

**Differences of perceived benefits between American-born and Immigrant Gardeners** While American-born and immigrant gardeners shared many similar perceived benefits, immigrant gardeners appear to benefit more from the community gardens’ beautification of the neighborhood. Since most minorities, including immigrants, are residents of poor neighborhoods, they are four times more likely to cultivate gardens located in low-income neighborhoods compared with those not located in low-income areas (Armstrong 2000). Besides having little green space, these neighborhoods exist amid crime and trash. Community gardens improve the neighborhoods’ image (Patel 1991). In the Loisada study, gardeners notice

vacant lots “wrenched away from drug dealers” and “transformed from junk-laden spaces ...into productive places full of color, camaraderie, and safety” (Schmelzkopf 1996).

From my observations, immigrant gardeners tend to cultivate gardens in lower-income neighborhoods than American-born gardeners. The majority of American-born gardeners used the Wallenberg garden site, located in a “nicer” neighborhood. Since the creation of Mayfair community garden, residents have noticed the neighborhood’s improved appearance (Dotter 2001, pers. comm.). In addition to providing coloring, the garden site was a meeting ground for residents, building the sense of community and pride in the neighborhood. Teens, showing more pride for their neighborhood, no longer vandalize it (Dotter 2001, pers. comm.).

Aside from aesthetics, residents in low-income neighborhoods find it difficult to obtain fresh produce due to lack of availability or high cost in markets, while inadequate transportation limits their access to other markets (Warner 1987). More so with recently established immigrants, such as Laotians who have lived in the United States on average of 20 years, it was even more difficult to find vegetables specific to their ethnic cuisine in American food markets. However, once immigrants establish communities in San Jose, ethnic markets do serve groups such as the Vietnamese and Mexicans. Unlike Southeast Asians, Bosnians arrived in San Jose less than 10 years ago and do not have prominent ethnic markets, especially to obtain their culinary and medicinal herbs (Dotter and Anderson 1998).

Immigrant gardeners obtained most of their seeds and seedlings from food markets; whereas, American-born gardeners obtained them from plant nurseries. This suggests plant nurseries, like American food markets, do not cater to immigrants, but rather, they provide common varieties of plants popular in American horticulture. Even with ethnic markets, immigrants may still have little access to seeds of plants native to their homeland (Dotter and Anderson 1998). Thus, many had brought seeds from their homeland, and once harvested, gardeners easily share them with others, including ethnic markets (Dotter and Anderson 1998). An ethnobotanist estimates that new immigrant gardeners introduced over 100 cultivars of chile to one garden site (Dotter and Anderson 1998). Many immigrant gardeners reveal many common vegetables shared within the group, such as bittermelon and mustard greens among Asian gardeners, and chile and tomatillos among Mexican gardeners (Warner 1987). While food was the most common use of the plants grown, some immigrant and American-born gardeners did grow medicinal plants. The lack of availability of medicinal plant seeds may hinder gardeners from growing them, more so than

their lack of interest. Since immigrant gardeners grow for food more than for decoration, this indeed showed that immigrants efficiently cultivated their plots with the hard to find food. As a model, the Lettuce Link program in Seattle, Washington purchase and receive in-kind donations of seeds significant in the diets of the many immigrant populations (Lee 1999).

**Perceived Benefits Among Immigrant Gardeners - Laos** While American-born and immigrant gardeners both noted the benefit of saving money from community gardening, gardeners from Laos especially valued it more than other immigrants. Being the most recent immigrants, living in low-income neighborhoods, these gardeners tend to have less access to their food vegetables. Many of the Southeast Asian gardeners are elderly and supported by family or welfare (Dotter and Anderson 1998). For low-income gardeners, community gardens are a potential source of fresh produce at relatively low cost (Landman 1993). Sommers (1984) find that gardeners can save approximately \$450 with a 600 square feet plot.

**Europe** While immigrants from Laos emphasized the economic benefits, European immigrant gardeners placed more value on the mental health benefit than other immigrants. Most emigrated as a child, establishing themselves longer in the United States. They also tend to speak only English, evidence of assimilation into the American society. As seen among American-born gardeners younger than 60 and employed, community garden was tool to relieve stress for these immigrants. (European immigrants in this study did not include Bosnians which are the most recent immigrants and the least assimilated).

**Individual Benefits** At the individual level, immigrants who spoke only English felt no connection to their homeland or needed any adjustment to the new life. However, immigrants who have the experience of displacement value these benefits to some extent. Asian and Latin American immigrants may have a harder time assimilating like the Europeans since most arrived less than 40 years and not as a child. Immigrants from Laos, particularly Hmong mountain tribesman, many of them farmers, have a great difficulty adjusting to San Jose area, leading them to alcohol, drug abuse and unemployment (Dotter 1994). Mexican immigrants may have more difficulty to assimilate than some Southeast Asian groups (Young 2001, pers. comm.).

There is agricultural knowledge and experience from all around the world at these gardens (Azcona 1986). Emigrated as young adults or adults, these immigrants may remember traditions in their agricultural based societies. Therefore, they connected to their homeland, which helped them also to adjust to the new life in the United States. This was particularly true for those with

previous gardening, farming, or agricultural experience. Mexican immigrants especially had strong ties with agricultural traditions. In addition, Spanish-only speakers expressed similar perceived benefits. At community gardens in my study, immigrant gardeners equally valued the connection with their homeland and the opportunity to teach their children about gardening, including their traditions. The Loisada study clearly reveal community gardeners use the garden sites to recreate Puerto Rico, where traditions still prosper on the new soils of America (Schmelzkopf 1996, Winterbottom 1998).

**Social level benefits** While adjusting to the new life in the United States, immigrant gardeners similarly valued meeting people who spoke the same language. Interest in gardening among “familiar” face lead to certain garden sites having long waitlist (Dotter 2001, pers. comm.). Some garden sites are dominant in one ethnic group, such as Southeast Asians at Coyote and Mayfair, Italians at Wallenberg, and Bosnians at Green Thumb. Mexicans garden in most of the sites. These reputations develop mostly because specific immigrants reside in certain neighborhoods, surrounding the garden site. Immigrants seeking people who speak same language will learn of these garden sites through word of mouth.

While some immigrant gardeners expressed interest in meeting people with similar culture, only the few bilingual immigrants expressed interest in practicing English. Since most immigrants from Asia and Latin America emigrated as an adult and a young adult, respectively, there may be greater difficulty in learning a new language. Immigrants can easily learn most their English if they have children who know English (Green Thumb Assistant Manager 2001, pers. comm.). Used not as an English classroom, community gardens still provide cross-cultural learning. Mexican gardeners communicate with Southeast Asian gardeners through gestures (Dotter 1994). Francis and Hester (1990) writes: “No American verbal skills are needed in the garden, there are no pressures to understand, to translate, to feel judged...Having a garden offers a social outlet.” One American-born gardener commented that “gardening is the universal language.”

**Conclusion** American-born and immigrant gardeners, overall, perceived most of the benefits similarly. The hobby of gardening provided benefits that anyone, regardless of the many of the characteristics discussed, can enjoy. Community gardens essentially gave access to land, along with all its associated benefits, to those who would otherwise not have it. This included immigrant gardeners, where those with previous agricultural experience or less years of living in

United States, were able to connect with their homeland and adjust to the new life through gardening. While garden sites were not meeting places for English lessons, they did foster cultural exchange among many gardeners because of its diverse makeup.

Since most community gardens are on borrowed land, building construction can easily replace these gardens, thereby, eliminating all their associated benefits. While affordable housing needs are undeniable, adding more residents to neighborhoods, already lacking sufficient open space and recreational opportunities, act against the urban revitalization process (Nemore 1997). Perceived benefits of community gardens may be difficult to quantify, and as such, comparisons to economic data of land developments may be difficult. However, this qualitative nature makes them more important valuable for people to take notice.

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## Appendix A: Questionnaire Survey

Environmental Science Department  
University of California, Berkeley

Dear Gardeners,

I am a UC Berkeley student passing out a survey on how San Jose community gardens can benefit gardeners. This survey is for all gardeners: immigrants, refugees, or American born. My study may provide valuable knowledge for future developments of community gardens. I very much need and appreciate your participation in this study, and I do not need your name. Please take a few minutes to answer the questions and return it in the pre-paid, self-addressed envelope.

Thank you so much,  
Sinang Lee

**SAN JOSE COMMUNITY GARDEN SURVEY**

1. Gender:  Female  Male 2. Age: \_\_\_\_\_ 3. Birth Country: \_\_\_\_\_
4. How many years have you lived in United States? (immigrant only) \_\_\_\_\_ years
5. How many years have you gardened in San Jose's community garden(s)? \_\_\_\_\_ years
6. What is your employment status?  Employed  Unemployed  Retired
7. Did you garden, farm, or do other agricultural work in your birth country?  Yes  No  
(immigrant only)
8. Do you have space to garden at your home?  Yes  No
9. Does your family ever help you in the garden?  Yes  No, I work alone.
10. What language(s) do you speak in the garden? \_\_\_\_\_
11. Where do you get the seeds or seedlings that you grow? (Check all that apply.)  
 Food markets  Plant nurseries  Brought from birth country  
 Friends, relatives, or other gardeners  Other \_\_\_\_\_

**PLEASE FILL OUT THE BACK ....**

12. Please list the plant names and check the appropriate boxes:

Plant Name	Food	Medicine	Decoration

13. Why do you garden in San Jose Community Gardens?

Pick *the most important benefit(s)* for you.

I enjoy gardening as a hobby.

I need the physical exercise.

I feel healthier when I eat my own produce.

I can share my vegetables with others.

I enjoy working alone.

I garden to make the neighborhood beautiful.

I save money by growing my own food.

I grow vegetables that are hard to find in American food markets.

I feel connected to my birth country because I am an immigrant/refugee.

I can feel proud of my garden.

I spend time with my family in the garden.

I can meet people who speak my language.

I feel safe in the garden.

I garden to relieve stress.

I can learn from gardeners from different cultures.

I like to see my progress.

I can grow plants that I use for medicine.

I can teach my children to garden.

I practice English with other gardeners because I am an immigrant/refugee.

I garden to help me adjust to my new life in the United States because I am an immigrant or refugee.