Variations of landscape preferences among Phoenix residents: A socio-demographic analysis.
Louis Machabee1, Ann Kinzig1, Jacob Oleson2
1 International Institute for Sustainability, ASU PO Box 873211, AZ 85287-3211
2 Department of Biostatistics, The University of Iowa, 200 Hawkins Drive Iowa City, IA 52242-1009

Introduction
The City of Phoenix is becoming more diversified. People of different ages, incomes and ethnicities are reshaping its social composition. These changes are taking place in the Sonoran Desert, a fragile and complex ecosystem, pose significant challenges for recreation agencies and public managers. They must continue to meet the needs of a diversifying constituency and also continue to make sound decisions about natural use and protection. In 2003, we initiated a research project designed to better understand Phoenix residents' landscape preferences and environmental preferences. The information derived from this study may eventually be used to enhance planning and decision making.

Objectives
The objectives of this study were threefold:
1) To capture the park and yard landscaping preferences of Phoenix residents
2) To better understand the relative importance of different demographic characteristics in explaining variations of landscape preferences
3) To determine whether there exist patterns of landscape preferences for groups with different demographic attributes

Methodology
The information was compiled from a survey self-administered questionnaire. Residents living within one half mile around six parks, located in three socio-economic categories, were polled. Using a rating scale from "very important" to "not important", they were asked to indicate which types of landscapes they preferred for their neighborhood park and for their home yard:

1) Closer to nature (with native vegetation and a natural appearance)
2) Looking like a garden (with ornamental vegetation, well maintained, providing an aesthetic experience)
3) Mainly open (with large grassy areas, some trees, playing courts and fields)
4) With built structures (for picnicking, buildings for programs, pools, patios, etc.)

Residents were also invited to check the categories that best resembled their age, gender, education, ethnicity, income, occupation, type of residence, homeownership, the number of other people living at home and the age of these other occupants. In April 2003, 638 residents completed the questionnaire.

Questionnaires’ answers were entered into an SPSS database spreadsheet. A frequency table was then produced for each variable. Then, associations between independent variables (the socio-demographic characteristics) and dependent variables (the park and yard settings) were measured. Logistic regression models were generated. The Cochran-Mantel-Haenszel test for a linear trend, the Spearman’s rank correlation coefficient, the Kolmogorov-Smirnov test, and the multinomial logistic regression were used. The goal was to determine which socio-demographic variables were the strongest predictors of each park and yard landscaping preferences.

Results

1) Landscaping preferences for all residents

- Parks Phoenix residents prefer: "Nature" (30%), "Garden" (29%), "Mainly open" (30%), "Built" (29%). Although less popular, parks "Garden" and "Built" are each considered important or very important by 22% of the respondents.

- Yards there are little differences in Phoenix residents’ preferences for types of yards settings. "Nature" (25%); while residents in the higher socio-economic category prefer either "Nature" (54%) or "Garden" (45%) yards.

Table 1 shows the socio-demographic variables that are strongly correlated with each park landscaping preference. Four logistic regression models were generated: the Cochran-Mantel-Haenszel test for a linear trend, the Spearmans rank correlation coefficient, the Kruskal-Wallis test, and the multinomial logistic regression. The goal was to determine which socio-demographic variables were the strongest predictors of each park and yard landscaping preferences.

2) Landscaping preferences by socio-economic category

- Parks Phoenix residents prefer: "Nature" (30%), "Garden" (29%), "Mainly open" (30%), "Built" (29%). Although less popular, parks "Garden" and "Built" are each considered important or very important by 22% of the respondents.

- Yards There are little differences in Phoenix residents’ preferences for types of yards settings. "Nature" (25%); while residents in the higher socio-economic category prefer either "Nature" (54%) or "Garden" (45%) yards.

Table 2 displays the socio-demographic variables that are strongly correlated with each yard landscaping preference:

3) The socio-demographic factors that predict the park and yard landscaping preferences

- Closer to nature: This type of setting is the primary source of space for those who want their children to move around and play safely.
- Mainly open: This type of setting is the primary source of space for those who want their children to move around and play safely.
- Mainly open: This type of setting is the primary source of space for those who want their children to move around and play safely.
- Mainly open: This type of setting is the primary source of space for those who want their children to move around and play safely.
- Mainly open: This type of setting is the primary source of space for those who want their children to move around and play safely.
- Mainly open: This type of setting is the primary source of space for those who want their children to move around and play safely.

Analysis and Conclusion
This study addresses Phoenix residents' park and yard landscaping preferences. It shows that settings dedicated to recreation ("open") and "built") are more popular then those dedicated to conservation ("nature" and "garden") (Figure 1). When residents are broken down into socio-economic categories, those in the lower and middle socio-economic categories are roughly the same, while residents in the higher socio-economic category are more likely to prefer "Nature." Those in the higher socio-economic category have a higher preference for the type of landscape ("Nature" and "Garden").

Socio-demographic variables including gender, education, ethnicity, and age play a significant role in explaining landscape preferences. Women and people with a low level of education, for example, tend to prefer a more developed and organized setting that meets physical amenities (with built structures and well-maintained natural landscaping) (Table 1).

This study implies that the influence of what urban residents need and want is engaged in parks, and types of residences. The more residents have other household members living with them and the younger these members are, the more likely it is that they prefer a park and yard "mainly open." The older the family members are, the more likely they prefer a park and yard "closer to nature."