

FINAL REPORT
FOREST SERVICE GRANT NO. WAUF-97-002

Period covered by this report: August 18, 1997 through December 31, 2000

NOTE: Please review the following information and revise/complete as necessary.

Issued to: Washington State University
Address: Dept. Of Horticulture & Landscape Architecture, Pullman, WA 99164-6414

Congressional District Number: 5

Project Name: A Multicultural Survey of the Influences of Childhood Environmental Experiences on Adult Sensitivities to Urban and Community Forestry

Contact Person/Principal Investigator:

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Grant Modifications: No-cost time modification from July 31, 1999 to December 31, 1999
No-cost time modification from December 31, 1999 to December 31, 2000

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Funding: Federal Share: \$90,698 plus Grantee Share: \$90,698 = Total Project: \$181,396

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Please provide an abstract on your project and its results. This abstract will be posted on the NUCFAC internet site. (approximately 200 words or less).

See attached.

Abstract:

The goal of this project was to examine the relationship between childhood contact with nature and adult attitudes toward urban forests. More than 80% of the U.S. population lives in urban areas, where there are few chances to interact with nature. As the U.S. becomes more urbanized, more trees will be threatened to make room for development. Will children raised in such stark surroundings fail to develop strong, positive responses to nature?

A telephone survey of 2,004 adults in large metropolitan areas across the U.S. was conducted. Participants were asked about their memories of their childhood experiences with nature and their current understanding and appreciation of urban trees. Demographics, including multicultural background, were gathered.

Overall, respondents of all ethnicities expressed positive attitudes toward trees in urban areas. People appear to understand the diverse benefits trees provide. Childhood participation in active and passive outdoor activities, including tree plantings and being raised near trees, appears to influence adult attitudes positively.

These results indicate that childhood experiences with nature have a strong influence on adult sensitivities to trees. This information could be used to tailor children's environmental and gardening activities more effectively to engender appreciation for nearby nature in adult citizens.

Project objectives:

The goal of this project was to examine the relationship between childhood contact with nature and adult attitudes toward the urban forest. Participants were surveyed regarding their childhood memories of the surroundings where they were raised and their early experiences with nature. Respondents also were surveyed regarding their current understanding and appreciation of urban and community forests. General demographics, including multicultural background, were gathered. The specific objectives of this project were to:

1. assess the public's understanding of trees and their benefits in urban areas,
2. examine the relationship between childhood contact with nature and adult attitudes, and
3. determine if there are differences in these relationships based on demographic factors, such as ethnic backgrounds or gender.

Objectives met successfully:

The WSU Social and Economic Sciences Research Center (SESRC) completed telephone interviews with 2,004 adults and provided a Data Report. The final project report contains a data book with a description of the survey administration, description of the data, survey results, a SAS program that we used to generate descriptive statistics, and the survey instruments that were used in the study. A file of interviewer notes to augment respondents' answers to closed-ended questions, as well as respondents' answers to open-ended questions, was also provided.

Randomly selected adults in the **112** most-populated metropolitan areas in the continental U.S. were interviewed. Three types of questions were included in the survey.

1. *Demographics.* Background data about the participants, such as age, education, ethnicity, and income, were gathered.
2. *Adult attitudes and actions.* Participants were surveyed regarding their current understanding and appreciation of urban trees. Questions assessed different types of values that people assign to trees, including utilitarian and social benefits. Respondents also were questioned about their participation in various activities, such as community service and gardening classes. These questions were designed to examine whether adult attitudes toward trees would translate into tangible actions.
3. *Childhood contact with nature.* Participants were surveyed regarding their childhood memories of the surroundings where they were raised and their early experiences with nature, both active and passive.

An overall survey response rate of 52% was achieved. Respondents ranged in age from 18 to 90 years with an average age of 42 years. Forty-four percent were male; 56% were female. Less than half had completed a 4-year college degree.

A majority (76%) of the respondents identified themselves as White or of European background. This trend was anticipated and was the main reason for sampling such a high number of randomly selected people. While the percentage of people from non-European backgrounds was small, the number (477) was large enough to yield meaningful information about people of a variety of heritages, including African American, Hispanic, and Native American.

Detailed statistical analyses of selected data have been completed. These analyses were undertaken to more thoroughly examine the data provided by the SESRC in the Data Report. Questions for the selected analyses were chosen based on our estimation of their potential usefulness to urban and community foresters. Data were analyzed for the entire survey population, as well as by ethnic group.

Objectives not met:

All stated objectives were met.

List the major research or policy findings of your project.

In general, respondents, regardless of ethnicity, expressed positive attitudes toward both the utilitarian **and** social benefits of trees in urban areas. People appear to appreciate trees and understand the diverse benefits they provide. We anticipated this trend, but were surprised by the magnitude of the response. For example, more than 60% of the respondents strongly agreed that trees should be planted to reduce smog and dust in cities, and more than 80% strongly agreed that trees were important to their quality of life.

We also found that, in many cases, there appear to be strong relationships between childhood experiences with nature and people's current attitudes toward trees. For example, people who reported that they had frequently spent time in the outdoors with trees or actually had planted trees as children were more likely to have positive attitudes toward trees as adults. Participation in organized nature or environmental education outside of school, such as through summer camp or scouts, also appeared to positively influence adult attitudes.

These results indicate that childhood experiences with nature influence adult sensitivities to trees and that the influence is very strong. By understanding the relationships between childhood experiences and current attitudes toward trees in urban areas, we can better understand the influence of childhood participation in tree planting and gardening programs on the perspectives of those same children as adults. This information could be used to tailor children's environmental and gardening activities more effectively to engender appreciation for nearby nature in our adult citizens.

When the data were examined by ethnic group, no striking differences were noted. While there appear to be some minor differences by ethnic background in the relative strength of the responses to particular questions, the overall trends are consistent across groups. Almost all respondents of all ethnicities felt very positively towards nearby nature. Adults of all ethnicities who report having had more experiences with nature as children are the same adults who report the most positive current attitudes towards trees.

This research only begins to address these important relationships; it was based on *memories* of childhood nature contact. It was designed to point the way to promising further studies. The raw data will be made available to other researchers for this purpose. More information on this project, its results, and the raw data are available at <<http://www.wsu.edu/~lohr/hih/nucfac>>.

If not apparent in the above, or if your project did not involve research, how did the project increase the knowledge we have about urban forestry? How did (will) the public benefit?

The importance of trees and plants for the health of our urban, rural, and natural environments is well-documented. By better understanding why some people appreciate trees more than other people, we are in a better position to enhance people's understanding of the importance of plants for our survival. This, in turn, will

help justify the time, money, and space that people are willing to devote to keeping and enhancing nearby, as well as distant, nature.

What recommendations might you make for community foresters or others who might benefit from your project?

Most people who are involved in tree programs with children intuitively believe that they are important to the future attitudes of the children. These results help to justify such programs and could be used to justify their expansion. Getting children actively involved with nature, for example, through tree planting, seemed to be particularly valuable, but even passive contact, such as simply playing in parks with trees also had value. This indicates that any and all types of contact with nature are valuable for children. Community foresters and others who are working with people of various ethnic backgrounds would benefit citizens by getting involved with any type of nature program, such as tree planting or urban vegetable gardening.

Attach copies of reports, publications, or videos. If your work has been published (journals, popular press, etc.), provide where they have been published or reported and how copies can be obtained.

See enclosed SESRC Data Report and Project Summary. One article has been submitted for publication and complete citation information about it will be published on the Internet at <http://www.wsu.edu/~lohr/hih/nucfac>. Other information about this study, including the content of a presentation of the results of the study, has also been published there.

How were your results disseminated to the public?

The raw data from this project is available for use by other researchers to develop hypotheses and stimulate additional research. The data will not be copyrighted. Information about how to obtain the data is available at our web site: <http://www.wsu.edu/~lohr/hih/nucfac>.

The Social and Economic Sciences Research Center (SESRC) entered all questionnaire data into a machine-readable format as a survey database on computer disks. The data set can be provided in ASCII format, as a SAS data set, or as an SPSS set. The SESRC also created a code book and instructions for accessing the database. All open-ended comments to questions in the interview will be available as a text file that can be imported into any word processing software. A brief report on the response rates achieved for the survey and the principal findings according to the objectives of the survey were provided. Copies of all survey materials and the computer assisted telephone interview screens can be provided, as well. —

Data summaries and their implications have been communicated to national audiences through poster presentations at the 1999 National Urban Forest Conference and the 1999 annual meeting of the American Society for Horticultural Science. A presentation was made at the Sixth International People-Plant Symposium (July 2000), and the slides from the presentation are available for viewing at our web site. The written proceedings from this symposium are expected to be available in 2002.

List the active partners (key individuals or organizations) involved in the project:

Virginia I. Lohr

Professor in Environmental Horticulture

Caroline H. Pearson-Mims

Research Technologist in Horticulture

John Tarnai

Director of the Social and Economic Sciences Research Center (SESRC)

Don Dillman

Deputy Director for Research and Development, SESRC

Photo or Illustration: If possible, please provide a photo or illustration for our use that summarizes or represents the project. Indicate how this illustration should be credited.



Credit: Virginia I. Lohr

This picture illustrates a simple form of childhood contact with nature: climbing a tree. A high quality, color version of this photo may be downloaded from:

<<http://www.wsu.edu/~lohr/hih/nucfac/TreeClimb.JPG>>. It will be available there through June 1, 2001. After that, it will be available by request.

If a no-cost time extension was granted for this project, why was it needed?

The SESRC's original estimate of the time required to obtain 2,004 completed interviews — a larger sample than they typically survey — took longer than they had anticipated. We did not receive the Data Report from the SESRC until early in 1999. Additional time was needed to thoroughly analyze and interpret this large data set.

We also had planned to attend particular conferences, such as the 1999 National Urban Forest Conference, to share the survey results. The time extension allowed us to attend this meeting and present a poster based on some of the preliminary results. The extension also provided the opportunity to attend the Sixth International People-Plant Symposium in July 2000, where we gave a presentation based on the survey results.

How would you evaluate the grant process? What changes, if any, would you recommend?

The process seemed fair and the agency expectations were reasonable. We appreciated having the opportunity to apply for a large enough sum of money to thoroughly address an issue.

Comments considered of importance but not covered above:

This report was prepared by:

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Date: January 10, 2001