

Investigating Social and Demographic Change in America

Abstract:

This project proposes to develop an undergraduate honors course which will introduce freshman- and sophomore-level students to major social, economic, and political influences that have affected the demographic structure of the national population over the past four decades. The course will permit students, working in small teams, to investigate the ways in which changes in race relations, family living arrangements, the status of women, and the nation's industrial structure affect particular birth cohorts, population subgroups, and geographic areas. This investigation will employ computerized census tabulations (to be constructed by the Project Director), and a "user-friendly" program tailored for their analysis on the Apple Macintosh computer.

Development of this course will occur over a two-year period and provide for significant student involvement. In the summer after the course's first offering, selected students will be employed by the Project Director to help him develop a workbook of exercises and illustrations to be used in future offerings of the course. Additional student involvement is planned for the summer after the course's second offering. It is anticipated that the course will continue to be offered beyond the second year. However, the costs for further revision and student involvement would be minimal and could be borne by the Department of Sociology or the Population Studies Center.

Project Director:

William H. Frey
Assistant Professor, Department of Sociology
Research Associate, Population Studies Center

Funds Requested:

September 1, 1987 - August 31, 1988	\$25,949
September 1, 1988 - August 31, 1989	\$11,175

Investigating Social and Demographic Change in America

A. Purpose:

This project proposes to achieve the following objectives:

- (1) To introduce into the curriculum a beginning-level social demography course with linkages to upper-level social science courses, and to course sequences that lead to career development in demographic specialties.
- (2) To make available to freshmen and sophomores an introductory-level course that will expose them to the empirical and analytic strengths of the social sciences.
- (3) To expose beginning-level students to principles of social data analyses with "user friendly" computer programs, based on a team learning approach.
- (4) To permit significant student involvement in the initial development of this course.

RATIONALE The proposal of this project is motivated by three considerations. First, that a basic understanding of the way the population's social and demographic structure changes is becoming increasingly important for addressing a variety of social problems and issues--both among academics and in the arenas of business and government decisionmaking. This is pointed up by the attention that has been given to the appetites and attributes of the postwar "baby boom" cohorts as they have aged through the lifecourse. Some of this attention must be attributed to these cohorts' large sizes. Yet the members of these cohorts bore both the brunt and benefits of significant social and economic changes during their formative years (in the 1960s) and, therefore, differ sharply from their predecessor cohorts on a wide range of societal dimensions. The course to be developed by this project will provide students with a framework with which to evaluate how society-wide change can become adopted and transmitted across birth cohorts, population subgroups, and geographic areas. By extension, it will also introduce them to demographic specialties within a wide range of fields and professions.

The second consideration in proposing this project is to develop a lower-level undergraduate offering that emphasizes the empirical and quantitative aspects of social science. Though a large number of the 300-400-level offerings in sociology, political science, and related disciplines emphasize empirical studies, such an emphasis is less prevalent among the 100-200-level offerings. Many students who take these courses as freshmen and sophomores never fully appreciate the potential that social science data and methodology holds for theory testing, problem solving, and decisionmaking. Some students, with

particularly strong quantitative skills and interests, are discouraged from pursuing the social sciences further when they are exposed to many of the current introductory-level offerings. The course, to be developed with this project, attempts to establish a balance between theoretical and empirical emphases. Through simple table analyses of U.S. census data, students will gain an intuitive feel for the nature of social science research in their first or second exposure to the field.

The third consideration draws from the view that a new course of this nature can benefit from significant student involvement in the course development process. Such involvement with the course's initial development will help to ensure that the course's topics and approaches are being made relevant to students while they are taking the course.

COURSE CONTENT The specific content of the course will introduce students to major social, economic, and political influences that have effected the nation's demographic structure since the end of World War II. Concurrently, through small group investigations, students will see the specific ways these changes become introduced, using the cohort progression framework (refer to the illustration on page 3).

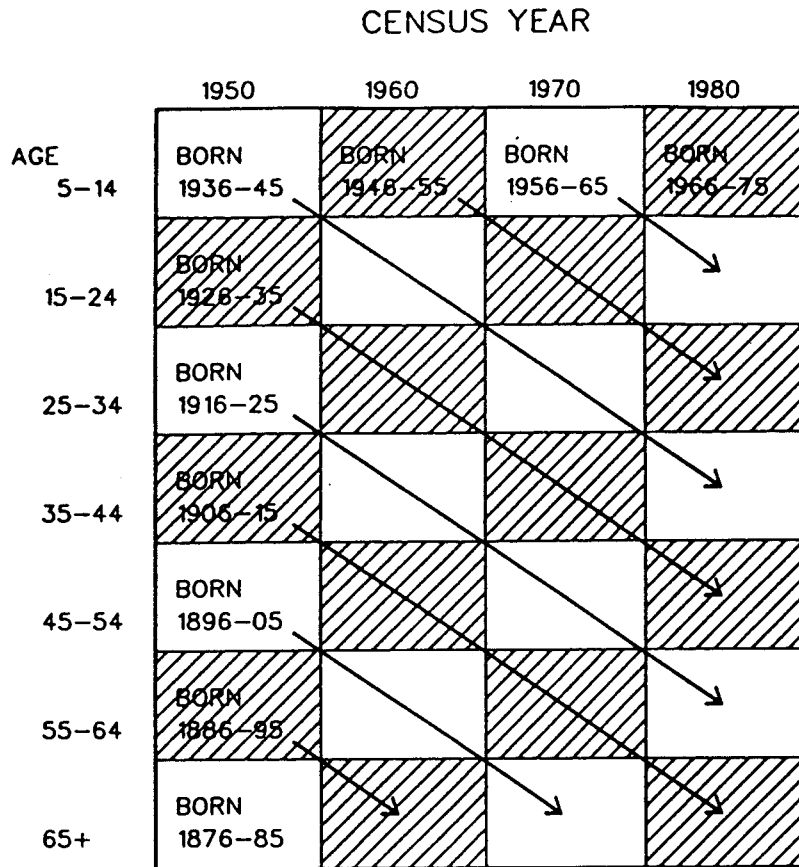
The classroom portion of the course will be structured around the following topics:

- Weeks 1 and 2 -- An introduction to the cohort progression model of demographic change
- Weeks 3 and 4 -- Changes in the nature of racial inequality
- Weeks 5 and 6 -- Changes in marriage, families, and households
- Weeks 7 and 8 -- Poverty and welfare dependency
- Weeks 9 and 10 -- The changing nature of work
- Weeks 11 and 12 -- The changing status of women
- Weeks 13 and 14 -- Industrial change and regional restructuring

In the first two weeks, students will be introduced to the cohort progression model of demographic change. This will provide them with an understanding of how past fertility and immigration patterns continue to affect the sizes of different cohorts as they age over time and why broad societal changes that occur over a given period, affect cohorts in different ways. Assigned readings for this portion of the course and for other selected topics will draw from:

Louise B. Russell. The Baby Boom Generation and the Economy. Brookings Studies in Social Economics. Washington, D.C. 1982.

The remaining topics will introduce students to the major explanations that social scientists have proposed to account for changes in race relations, family



THE AGING OF BIRTH COHORTS OVER TIME

living arrangements, size of the poverty population as well as for the other topics listed above. Lectures, readings and classroom discussions will be based, to a large extent, on a newly released series of census monographs that is being published by the Russell Sage Foundation; on selected topical articles that are distributed by the Population Reference Bureau; and on volumes from the Harvard Social Trends in the United States series (a selected bibliography is shown in Appendix B). Each of these series are current, empirical based, and appropriate for beginning-level undergraduates. Some assigned readings will be taken from these series volumes. However, all of them will be available for reference to students in the Undergraduate Library. Students will also be encouraged to examine the treatment of demographic trends in current periodicals and magazines. They will be assigned some readings from American Demographics, a popular periodical among business demographers.

STUDENT TEAM INVESTIGATIONS While classroom lectures and discussions will point up important period explanations for societywide demographic changes, student "teams" will investigate how these changes become adopted and transmitted across birth cohorts and population subgroups. For this part of the course, the class will be divided into 6 four- or five-member teams where each team will be responsible for making a particular subgroup comparison. When a new aspect of social change is introduced into the course (i.e., the changing nature of racial inequality) each student team will investigate how this change affects the subgroup it has been assigned to compare.

The student team comparisons are linked to the cohort progression model shown in the illustration. On the topic of changing racial inequality, for example, one team will compare differential impact that the 1960s civil rights legislation had on the inequalities experienced by the early baby boom cohorts (those born between 1946-55) and by the cohorts immediately preceding them (those born between 1936-45). This team will find that the former cohort was able to take far greater advantage of the increased access to schooling, housing, and related opportunities than their older counterparts. By 1980, the black-white status gap on a variety of measures, has become more significantly reduced among 25-34 year olds than among 35-44 year old. Other teams will be assigned different cohorts and age groups to compare. These team comparisons will be written up and reported on in class, so that the entire class will gain an understanding of how each societal change is transmitted across the nation's demographic structure. The team reports will not just interpret statistics. They are expected to assess broader implications of these demographic changes, drawing from class discussions and the reference volumes that will be made available for the course.

The statistical comparisons undertaken in these reports will employ specially prepared census table computer files which will be constructed by the Project Director and a computer programmer from larger census data files available at the Population Studies Center and the ICPSR. Tables will be prepared so that they can be accessed by the computer program CHIPENDALE on the Apple Macintosh computer. The Chipendale program was developed by Professor James Davis of the Harvard Sociology Department to enable novice social science analysts to undertake simple table analyses. (A short description of the Chipendale program appears as Appendix A.) The program accepts small aggregated tables usually consisting of three to six variables, and allows the students to collapse these data into standard two- or three-way tables with simple interactive commands on the Macintosh. This course will not require students to engage in statistical analyses any more complicated than comparisons that can be made with simple two- or three-way tables. Student teams will be able to choose from a large number of such tables, that will be available to them on their disks. One common aspect to all of the tables available to the students will be the inclusion of basic dimensions of the cohort progression model shown in the earlier illustration (i.e. each table will include these seven categories of age and four census years). As the students become more familiar with table comparisons and the Macintosh computer, the instructor will occasionally introduce additional software, available at University installations, to aid them in their comparisons. One such program is Microsoft Chart, a simple graphing program, which can simplify their analyses and presentation of subgroup comparisons.

FORMAT AND STUDENT INVOLVEMENT The format of this course will be structured so as to maximize the teams' involvement with the demographic comparisons. On the advice of the LSA Counseling Office, this course will be offered as an honors seminar with a maximum of 25 students. Such a class, it is felt, will maximize the contact between the instructor and student teams. A large portion of the final grade for this course (approximately 40 percent) will be based on reports that are submitted and presented by the teams. (The remaining 60 percent will be based on an individual paper and on two written examinations.) Also, in lieu of the traditional section meeting, the course will require students to attend regular informal computer laboratory sessions during which the instructor and the course's teaching assistant will assist each team in undertaking their computer analyses and statistical comparisons.

After the initial offering of the course, four selected students will work with the Project Director over the summer to develop a workbook of illustrations and exercises that will be used in subsequent offerings of the course. A similar, though more limited effort will be made in the summer after the course's second offering in order to revise the course's workbook and format in accordance with student reactions and additional suggestions. In addition, a survey of the course's initial cohort of students will be undertaken a year after they take the course in order to benefit from their further reactions.

B. Course Development Plan:

The plan of this project will occur over a two-year period beginning September, 1987. The activities in the development process will be directed to: (1) the construction of computerized census tables for use with the Chipendale analysis program (Fall, 1987, with revisions in Summer 1988, and Summer 1989); (2) the preparation of a student workbook with exercises and illustrations to be used with the analysis part of the course (Summer 1988, with revisions in Summer 1989). Several aspects of this project were determined on the basis of consultations with the Department of Sociology Chairman, the LSA Counseling Director, and the Department of Sociology's Undergraduate Coordinator. These discussions suggested that the course would be most effective if offered as a limited enrollment (25 students) honors sections so as to permit the close direction of student team activities. It was also felt that the course should be developed around the Apple Macintosh (as opposed to the IBM or Zenith) computer, given the wider availability of the Macintosh across public user sites and student residence halls, and the likelihood that students will make more use of the Macintosh in their later undergraduate coursework.

ACTIVITIES FOR PERIOD SEPTEMBER, 1987 - AUGUST, 1988 The course development process will commence in the Fall Semester, 1987 when the Project Director, computer programmer (Cathy Sun), and two upper-level undergraduate student assistants will be involved with: preparing computerized census tabulations for use with the Chipendale program; and employing these tables in order to develop exercises that will be used in the initial offering of the course.

Much of the overall effort, during the Fall Semester, will be involved with constructing the user-oriented computer census tables. This effort will require the Project Director and computer programmer to extract appropriate census tables from existing microfiles from the 1950, 1960, 1970, and 1980 census, as

well as from appropriate published tabulations. Most of these materials are available at the Population Studies Center or ICPSR and both the Population Studies Center and Sociology Department will donate computer time on the University's MTS system for this effort.

These interim data will then be transferred to the Macintosh with the use of the Excel spreadsheet program and will be reformatted according to specifications required by the Chipendale program. This effort will produce 40-50 small tables that students can access, with the Chipendale software, to evaluate the issues discussed above. These tables will cover a wide range of racial, social, and economic measures and can be incorporated on one microcomputer disk.

Also during the Fall, the Project Director will work with the upper-level undergraduate research assistants who will aid in planning and developing the computer exercises for use in the course's first offering. At the beginning of this semester, they will assist in determining which tables are most appropriate and also feasible for incorporation in the original data set; and after the tables have been compiled, they will work with the Project Director in testing and developing preliminary exercises for use in the course.

The course will first be offered in the Winter Semester, 1988. The Sociology Department has agreed to provide the Project Director with a graduate student "grader level" assistant to work with him in assisting team activities and regular grading duties. Undergraduate research assistants who worked during the Fall Semester will also stay on to assist in revising the development of classroom exercises as the course progresses. Throughout the course's first offering, an attempt will be made to monitor the success or failure of different comparisons with an eye toward revising the data sets and exercises that are employed. Finally, four students who take the course will be selected to work with the Project Director over the subsequent summer to produce the workbook of course exercises and illustrations.

During the summer of 1988, the Project Director, four students selected from the course's initial offering, and a computer programmer will prepare a student workbook to be used in subsequent offerings of this course. The students will be given space and access to an Apple Macintosh computer to work with the Project Director in preparing seven separate modules, corresponding to each of the major topics taken up in the course (shown earlier). Students will be employed over a 12-week period for approximately 20 hours per week and each will be responsible for developing exercises and illustrations for one or two of the modules in the course. Students will be working closely with the Project Director and with each other over this period and it is expected that "brainstorming" sessions will lead to further innovations in the course's development. The computer programmer will also be available to produce new or revised tables which seem appropriate to incorporate in the course's next offering. It is expected that a draft copy of the workbook will be completed by the end of the summer for circulation to appropriate faculty, colleagues, and students for further comments. The final copy of the workbook will be ready for distribution prior to the course's second offering, tentatively scheduled for Winter Semester, 1989.

ACTIVITIES FOR SECOND PERIOD SEPTEMBER, 1988 - AUGUST, 1989

During this time, the course and workbook will be further revised in response to reactions of the course's first two cohorts of students. For the second offering of the course, the Sociology Department will again provide a "grader-level" teaching assistant to assist the Project Director in the team activities, and to elicit reactions of students to the course's format and workbook exercises. At the end of this course, two students will be selected to work with the Project Director over the summer of 1989 for the purpose of revising the course's workbook and eliciting the reactions of the first two cohorts of students. As in the previous summer, these students will have the opportunity to develop new exercises for each of the course's seven modules. They will also assist the Project Director in analyzing the survey of all students who have taken the first two offerings of the course, for the purpose of incorporating further revisions into the course's format and activities. On the basis of these efforts, a revised workbook will be available at the end of the summer of 1989 for use in further offerings of the course.

It is expected that this course will be offered on a regular basis beyond this development period. Although no additional funding is requested beyond the first two years, efforts will be made to obtain minimal funds from the Sociology Department or Population Studies Center to provide for continued student-initiated revisions on an annual or biannual basis.

C. Impact on the Undergraduate Experience and Beyond

This course is expected to contribute to the undergraduate experience and later professional development in several ways. First, it will provide students with a frame of reference for understanding the ways in which a variety of societal changes--that they will consider in their later reading and in upper-level courses--become adopted and transmitted through the demographic structure. The cohort progression perspective has been shown to be a useful one in evaluating changes in consumer patterns, political attitudes, public service requirements, and a host of other phenomena. Through their considered examination of this perspective across major social and demographic strata, the graduates of this course will adopt a new framework for evaluating social change, as well as a strong substantive familiarity with the major racial, social, and economic dimensions of the nation's demographic structure.

Second, this course will represent one of the few lower-level courses which enable students to examine substantive questions, using social science data and methodologies. As such, it should stimulate more quantitatively oriented students to become interested in social science courses, concentrations, and careers. Moreover, by striving to achieve a balance between theoretical and empirical considerations, in a beginning-level course, students will be able to place in broader context the more specialized theory and methods courses that are offered at upper levels.

This course's emphases on the early use of the computer and on the team approach to learning should affect the undergraduate experience in positive ways. The experience of performing meaningful census data analyses on the Apple Macintosh, with user friendly programs such as CHIPENDALE and Microsoft Chart, should motivate graduates of this course to undertake further applications of these data and programs in later course offerings. The team

approach, adopted in this course, should serve to relieve freshman and sophomore anxiety toward quantitative analyses and alleviate much of the "computer shock" that upper-level social science students have been known to experience. Indeed, it is expected that the significant involvement of students, proposed with this course's development, will solicit even further suggestions toward making this early foray into quantitative analyses a more inviting, less threatening experience.

Finally, for some students this course should contribute to career development beyond the undergraduate experience. The increasingly widespread usage of the (unfortunate) term "demographics" by business leaders and policy makers reflects the importance that is becoming attached to the ability to assess, interpret, and make decisions on the basis of demographic patterns. While a primary motivation for developing the course, "Investigating Social and Demographic Change in America," is to introduce this particular perspective toward social change into the undergraduate curriculum, the course should also serve to stimulate some students to enter demographic-related specialties beyond graduation. Specializations in demography are available in a variety of fields and professions (i.e., market research, government planning, policy analysis, journalism), and several distinct paths toward such specialties are available at the University of Michigan. In offering this course, the Project Director would be able to act as an advisor or potential counselor to those students who develop an interest in specializing in some aspect of social demography as a career.

D. Project Personnel

The project will involve the Project Director, a computer programmer, two upper-level undergraduate student research assistants, six freshman- or sophomore-level undergraduate student research assistants, and some secretarial support.

The Project Director, William H. Frey, is Assistant Professor, Department of Sociology, and Research Associate, Population Studies Center. In addition to teaching the course that this proposal plans to develop, he will devote two months FTE effort during the project's first year and one month FTE during its second year. His activities will involve: directing the preparation of computer tables that are required, developing the course and the classroom exercises to be used in its initial offering, and organizing, writing, and revising a workbook of exercises and illustrations that will be produced as part of the course development process. In each of these efforts, he will be responsible for directing and coordinating the activities of the computer programmer, student research assistants, and secretary according to the plan and schedule specified under "Course Development Plan."

The computer programmer is Cathy Sun, a Programmer Analyst I at the Population Studies Center who is experienced in the use of U.S. census data microfiles. She will devote two FTE months during the project's first year and one FTE month during the project's second year to converting existing census microdata files and published tables to user-oriented tables suitable for analysis on the Apple Macintosh. An initial set of tables will be prepared prior to the course's first offering, and revisions to these tables will be undertaken during

the development of the workbook to be prepared for this course. The scheduling of these activities and their relation to their overall project objectives is also discussed in the section "Course Development Plan."

Two upper-level undergraduate student research assistants will be hired for a total of 300 hours during the 1987-88 academic year. These students will assist the Project Director in developing the initial data sets and classroom exercises for the course's first offering.

Four freshmen or sophomores, selected from the course's first offering, will be employed as research assistants over the summer of 1988; and two freshmen or sophomores, selected from the course's second offering, will be employed as research assistants during the summer of 1989. Each of the first four students will work approximately 20 hours a week for 12 weeks to assist the Project Director in preparing the workbook that will be produced for subsequent offerings of the course. Each of the latter two students will work approximately 20 hours a week for 10 weeks in order to revise the workbook on the basis of instructor and student experiences during the Winter Semester, 1988 offering of the course. The activities of these six students are specified in more detail in the "Course Development Plan" section.

Finally, partial support in each of the first two years is requested for the secretary, Ingrid Naaman, Population Studies Center, who will be responsible for typing and revising the workbook that will be produced during the summers of 1988 and 1989. Requested is five hours a week in the first summer and two and a half hours a week in the second summer.

BUDGET JUSTIFICATION

First period: September 1987 - August 1988

W. Frey, Project Director 2 months, summer 1988	8,889
C. Sun, Programmer 25% fall 1987, 1 month summer 1988	3,501
I. Naaman, Secretary 5 hrs./week, summer 1988	528
Fringe benefits @ 25%	3,230
Student research assistants: 2 students, 300 hrs. U-Year	1,650
4 students, 960 hrs. summer 1988	5,280
Equipment: Apple Macintosh microcomputer with hard disk, printer and appropriate software	2,371
Supplies: disks, photocopying, consumable office supplies	500
	<u>\$25,949</u>

Second period: September 1988 - August 1989

W. Frey, Project Director 1 month, summer 1989	4,778
C. Sun, Programmer 1 month, summer 1989	1,891
I. Naaman, Secretary 2.5 hrs./week, summer 1989	351
Fringe benefits @ 25%	1,755
Student research assistants: 2 students, 400 hrs. summer 1989	2,200
Supplies: photocopying, consumable office supplies	200
	<u>\$11,175</u>

Total, 24 months: \$37,125

Budget Notes

1. Personnel

Amounts shown for project personnel are based on current actual rates with expected annual increments. Student assistant hourly rates are held constant at \$5.50. Fringe benefits are estimated at 25% of salaries, not including student assistant wages.

2. Equipment

An Apple Macintosh microcomputer with hard disk, printer, and appropriate software is requested at the outset, for use by all project personnel throughout both budget periods. While other types of computer equipment are available to the project director and programmer at the Population Studies Center, the Center's configuration does not include any Macintoshes. It is central to the project's aims to develop the course around the Macintosh, since those are the microcomputers most widely available to undergraduates in student residence halls and other public user sites. The cost shown is a current quote from University Stores, which stocks all requested items.

3. Supplies

As itemized in the budget, the amounts shown are a modest estimate of the expected charges for computer disks, photocopying, and consumable office supplies which will be required in the production and revisions of the workbooks.

4. Cost-Sharing

Additional support which will be available at no cost to the project will be provided by the Department of Sociology and the Population Studies Center. Specifically, the Department has agreed to support a "grader level" teaching assistant both times the course is offered; the Center will provide working space for the eight undergraduate assistants to be involved; and the Department and Center will jointly contribute an estimated \$2,250 in mainframe computer use time over the term of the project.

CHIPENDALE

A System for Sociological Table-building

by
James A. Davis

True
BASIC
Software from the Creators of BASIC

Apple
Macintosh™

Introduction

CHIPendale is a microcomputer program for the statistical analysis of contingency tables (cross-tabulations). While it is designed for use by novices in social science data analysis, CHIPendale includes a number of advanced statistical features, such as direct standardization and 2x2x2 interactions, which are of interest to advanced users.

Your diskette contains two programs, CHIP1 and CHIP2. CHIP1 is primarily for beginners—it emphasizes the table-building and analysis features and does not include all of the advanced capabilities. CHIP2 includes all of the features of CHIP1 as well as the more sophisticated capabilities of the system. CHIP1 is better as a learning device—once you feel comfortable with everything in that program, you're ready to move ahead to the more extensive options in CHIP2.

Your disk also contains a number of data sets. These data sets are named according to the references in *Social Differences*, by James A. Davis. You can also use data sets from another disk, or create your own.

Requirements

You need at least 512K of memory to run CHIPendale. One disk drive is adequate, but you may find CHIPendale more convenient to use if you have a second drive.

Short Description of Chipendale Program

APPENDIX A

APPENDIX B

Series and Periodicals to be used as Reference Sources

Russell Sage Foundation (New York) 1980 U.S. Census Monograph Series

Example: Suzanne M. Bianchi and Daphne Spain
American Women in Transition (1986)

Population Reference Bureau (Washington, D.C.) Population Bulletin

Example: William P. O'Hare
"Poverty in America: Trends and New Patterns" (1985)

Harvard University Press, Social Trends in America Series

Example: Reynolds Farley
Blacks and Whites: Narrowing the Gap (1984)

American Demographics (Ithaca, New York)

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