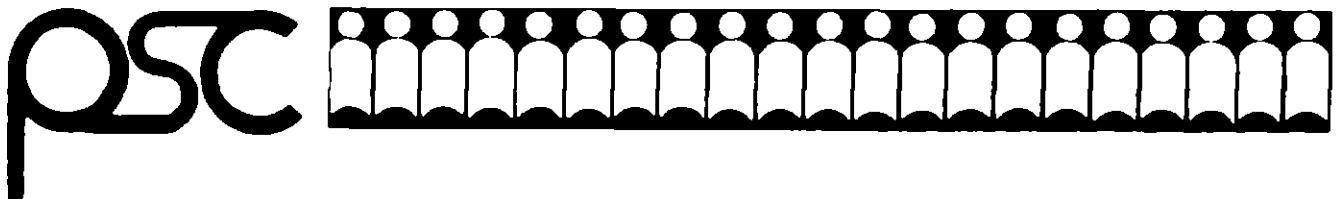


THE UNIVERSITY OF MICHIGAN

**POPULATION  
STUDIES  
CENTER  
1981-1982**



*Acknowledgements:*

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**1981-1982  
Annual Report  
of the  
Population Studies Center**

*Susan Van Eck and Kathleen Duke, Editors*



**University of Michigan  
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Ann Arbor, Michigan 48104**

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## The Economic Role of Women in Developing Countries

The status of women is an important concern of governments in less developed countries (LDCs) and of international agencies helping in the development effort. As a result, demographers and other social scientists focus considerable research on the circumstances of women in LDCs.

Professor Eva Mueller of the Population Studies Center has approached this area as an economist attempting to determine, first, the factors which contribute to women's generally less-favored economic status, and second, ways to improve the status of both women and their families through education, government-sponsored loans, rural works projects, and cooperatives.

Professor Mueller has concentrated on rural populations because, despite a tendency to urban migration, most people in the Third World still live in rural areas. In many countries, women and children are left behind on small landholdings when men migrate to areas of greater economic opportunity. The risk of desertion, divorce or early widowhood is substantial. In general, rural women are poorer than the rural population as a whole.

To measure women's poverty and establish public policy to reduce it, Professor Mueller advocates microlevel study of three central aspects: employment problems, support systems and women's economic behavior as a result of social customs and employment options.

Employment data for women in LDCs are often inadequate. Traditionally, censuses or other official surveys have relied on information supplied by heads of household (usually males). Underreporting is common. In some cultures, it is socially demeaning to allow one's wife to work. Further, the definition of employment may not include all female occupations that affect family income. A woman may work without pay in the family farm or business. She may weave baskets, brew beer for sale, or take in laundry, in addition to her household and child care responsibilities. These activities are income-earning in some way, but often none or only some are reported. Clearly the best person to question about work is the person who does that work; Professor Mueller recommends gathering data from women themselves.



Eva L. Mueller

Social support systems are of greater importance to women, children and the elderly. Social support may come from the government, through health clinics, social security or school lunches, or from private sources, such as family and friends. It may be monetary, as when migrants send money to their rural families, or it may take the form of child care, help at harvest time, gifts associated with special occasions such as birthdays, or providing a home for aging parents or a widowed sister.

Professor Mueller believes that one problem faced by women during a time of rapid socioeconomic change is deterioration of the private support system before the economy can afford public programs to replace it. Because of childbearing and childrearing responsibilities, greater longevity, and social restrictions on employment, women tend to be more dependent than men on social support. Without it, they may cling to the old ways, fear to strike out on their own, and desire large numbers of children.

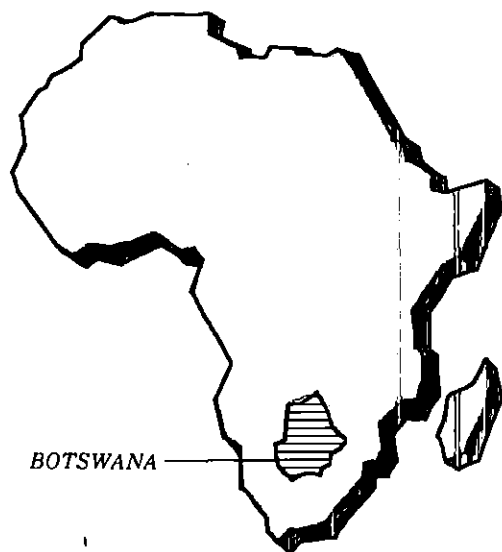
The support system available to women in LDCs needs careful study, according to Professor Mueller. Important aspects include: 1) the likelihood of receiving support in a given situation; 2) amounts of money, goods or services received; 3) characteristics of both donor and recipient; 4) circumstances prompting the transfer; and 5) dependability of the system.

Customs regarding property ownership and traditional views of proper working roles for women aggravate their poverty. These customs have not changed during a period when men are less willing to support female relatives or wives or marry the women who bear them children. Thus women suffer from a lag in cultural adaptations to a new economic situation.

Professor Mueller served as consultant to the World Bank Population and Human Resources Division on a research project dealing with socioeconomic and demographic aspects of household economy in rural Botswana. Botswana is of particular interest to the study of rural women because it is an extreme example of a pattern common to many African countries — male migration from rural areas. The wage labor market of rural Botswana is severely limited, even for adult males; many men must live and work away from home (usually in the South African mines) for a large part of the year. This creates female-headed households, which are significantly poorer than other households in the same rural areas.

The World Bank Survey shows that absence of adult male earning power is an important factor in this poverty,

since the number of dependents per household remains about the same for all households regardless of number of earners.



A second obstacle to economic advancement by rural women is a cultural tradition of male dominance. By tribal law, women are considered minors under the guardianship of male relatives, and so cannot inherit property. Cattle wealth is concentrated in male-headed households by bequest from father to son. Men are particularly likely to migrate from households that are cattle-poor, leaving women who cannot earn enough to buy livestock of their own. Land is allocated by the tribal authorities. Although women are eligible to receive land grants, they must be able to cultivate the land to qualify for a holding. Women are handicapped if they have no oxen or lack the physical strength to handle them.

A third factor contributing to the poverty of rural women in Botswana is cultural restriction of occupations that may be undertaken. Chores needing little or no capital and characterized by low productivity — tending crops, gathering wood, food processing and service activities — are performed by women, while more productive work such as raising cattle is done by men. This differentiation is present in the wage labor market as well. Where women work for wages, they tend to remain in traditional sex-specific roles, such as servants, farm laborers or gardeners. Very few have been able to enter the newer semi-skilled and skilled occupations, such as drivers, mechanics, construction workers, or office clerks. Consequently, male wage workers earn nearly twice as much as female wage workers of the same age and education.

“The institutional and cultural constraints under which rural women operate in Botswana are formidable,” says Professor Mueller.

Traditional customs concerning ownership of property and the sexual division of labor may have functioned well in the 19th century when labor supply and demand were in balance and men did not need to leave home to find work. In the late 20th century, however, not enough rural jobs are available for a rapidly growing population. In asset-poor households, women have few opportunities to become self-supporting. They desire children to extend their kinship network and provide a source of support in old age. Generally in rural areas, children may be valued as a source of labor, but in a female-headed household, they contribute little to productivity. “Work opportunities for children in rural Botswana depend on access to productive assets,” says Professor Mueller. Thus in cattle-poor households with small landholdings, the contribution of children is small.

In 1974/75, the Central Statistical Office of Botswana, with financial assistance from the World Bank, conducted the Rural Income Distribution Survey (RIDS). Data from this survey indicate that, in Botswana at least, rural women are dealing resourcefully and energetically with the adverse conditions we have discussed.

Women appear to be engaging in entrepreneurial activities, such as handicrafts and beer brewing, which can be undertaken with a minimum of capital. Professor Mueller notes that earnings from these activities are sometimes used to acquire more productive assets.

Another positive aspect of women’s circumstances has been that Botswana is one of the few places in the world where females obtain more schooling than males, mainly because boys are herders of cattle and so are away from the village most of the time. Since women have somewhat more education than men, and there is a strong link between parents’ education and that of children, one would expect that where women make the decisions, children would be better educated. Data from RIDS support this conclusion.

The World Bank study suggests several ways that the government of Botswana could improve the economic position of rural women: provide special credit facilities for households headed by women, urge tribal chiefs to encourage bequests of cattle to daughters as well as sons, and make draft power (such as oxen) available for hire on reasonable terms at critical times. Agricultural extension services should aim their instruction at both women and men. Cottage industries, promoted by villages, would provide opportunities for women to earn wages. Rural cooperatives should welcome female members and act as an umbrella organization for women’s activities, crafts and service occupations; instruction in nutrition, health, child care and family planning could be an additional benefit.

Efforts to increase the earning potential of men would help reduce the male-migration that intensifies rural poverty. However, Professor Mueller believes that government policy maker in LDCs should make women a prime target in their attempts to raise and equalize rural incomes.



# CENTER HISTORY

The Population Studies Center of the University of Michigan has three objectives: 1) to foster basic research on the determinants and consequences of population trends and patterns; 2) to train American and foreign students in population studies and demography; and 3) to help governments and non-profit organizations establish demographic programs, especially in developing countries.

Established in 1961 with a grant from the Ford Foundation, the Population Studies Center reflects a long tradition of interest in population and human ecology within the Sociology Department that dates back to the early 1930's. Especially instrumental in the founding of the Center was Professor Ronald Freedman, a member of the Sociology Department, who served as its first director. Since 1965 the Center has been one of the three components of the University of Michigan Population Program, which also includes the Reproductive Endocrinology Program, a part of the Medical School, and the Population Planning Program, a part of the School of Public Health. The latter two components have a bio-medical and

public health orientation while the Population Studies Center has a demographic and socioeconomic focus.

Through 1976 the Center received continuing support from the Ford Foundation, which in 1977 provided an endowment fund to the Center. Funds for general operations have also come from grants by the Rockefeller Foundation and the National Institute of Child Health and Human Development (NICHD). Individual research projects are supported by a variety of governmental and private sources, notably the NICHD, the National Science Foundation, and the Agency for International Development. Since 1979, the Andrew W. Mellon Foundation has provided money to support assistant professor-level appointments to the Center's staff. Funds for the support of Center students come from two main sources: 1) a grant from the William and Flora Hewlett Foundation to support the training of students from the developing world, and 2) two NICHD training grants (one in sociology and one in economics) to support American students.



*Center students in 1979 review distribution of educational attainment in large metropolitan areas. Pictured from left to right: Vasantha Kandiah, Osman Nur, Roger Brown, Ved Sharma, and Melissa Clark.*



# RESEARCH

## Research Facilities

The Center has no centrally directed research program; instead, research reflects the interests of the professional staff and doctoral candidates. Our purpose is to provide facilities and services which enable individuals to work effectively on the problems of their own choosing. To this end, the Center has expanded its data processing section and the reference collection.

The data processing facilities are headed by J. Michael Coble and Albert Anderson; other members of the programming and data processing staff are Fran Cartford, Amy Hsu and Linda Rentfro. All computing work is channelled through the University of Michigan Computing Center. The Center's library of data files has grown to over 750 reels of magnetic tape.

The data processing section has four hard-copy computer terminals and seven "intelligent" CRT terminals for interactive processing and analysis of data, with plans to install more. A data station with line printer allows for the printing of larger quantities of output on-site. A portable terminal allows for the preparation of data files and programs outside the physical confines of the Center. A word processor is used for the preparation of texts and editing manuscripts and correspondence. The Center now has the capacity for interactive processing of data sets containing hundreds of thousands of case records. A remote data concentrator allows connection of Center terminals to the Michigan Computing Center over a single high-speed line, thus avoiding delays that normally occur through telephone connections. Much of this equipment has been acquired through a grant from the National Science Foundation.

With readier access to the computer facilities of the University of Michigan, the computer skills of the support staff are developing rapidly. Under the guidance of Fran Cartford, the secretarial staff is being introduced to the text processing facilities available on-line through the University system.

The reference collection at the Center has developed in response to the data and research needs of individual staff members rather than attempting to cover the entire area of population studies. At present it consists of over 5,800 volumes plus journals, United Nations publications, selected reprints and foreign materials. Over half of the collection consists of volumes from the U.S. decennial cen-

suses of 1900 to 1980. Susan Van Eck serves as librarian with half-time assistance from Kathleen Duke. During the past year they have cataloged most of the previously uncataloged items, developed a subject classification system to represent this specialized collection, and now are engaged in collaboration with the data processing section to facilitate computerized searching of the library's holdings and automated production of catalog cards for new items.

## Abstracts of Current Research

The research at the Center reflects, in the main, the current interests of the staff, and as such is difficult to subsume under a few headings. Nevertheless, much of the research may be seen to fall under seven categories. Fertility, Population Mobility and Distribution, and Methodology have characterized much of the Center's activity; in recent years it has become useful to specify and extend this classification to include: Historical Demography, Economic-Demographic Interactions, Marriage and Family Structure, and Social-Demographic Interactions.

The first category includes studies of the social and economic consequences and causes of fertility levels and changes, and incorporates studies of attitudes and values related to fertility. Research on fertility and family planning has been carried out for a number of developing countries as well as for the United States. Increasing attention has been paid to changing nuptiality patterns which influence fertility levels, and studies with this focus will be found under Marriage and Family Structure. Other fertility studies with an historical-demographic focus are included with the Historical Demography category. Many fertility studies emphasize the role of income, assets, or other economic variables. These, along with studies of other economic-demographic relationships, appear under Economic-Demographic Interactions. Similarly, studies which focus on the interrelations between social characteristics and demographic variables other than fertility are included under the Social-Demographic Interactions category.

The second area of research, Population Mobility and Distribution, includes studies of migration, of socio-economic, racial and ethnic patterns of residential location and school composition, as well as the relation of attitudes and behavior to location.

A portion of the research at the Center is of necessity methodological, as the staff seeks to refine existing techniques or develop new tools in pursuing a given substantive problem. Current methodological research, including techniques of estimation, that does not clearly fit into any of the other six substantive areas is shown here.

The remaining part of this section is a collection of abstracts describing basic research underway at the Center during 1981-1982, and a list by author of the staff publications for the same period.

## FERTILITY

### *Taiwan: A Profile of Mortality and Fertility in Taiwan, 1905-1940*

Neil G. Bennett and Yat-Ming Siu, a PSC trainee, are evaluating the quality of Taiwanese vital registration and census data for the period from 1905 to 1940. From the data, they are estimating the levels and trends in fertility and mortality during this interval.

### *Taiwan: The Changing Family Network and Fertility in Taiwan*

This research is a joint project between Ronald Freedman, Deborah Freedman and Arland Thornton from the Population Studies Center and Dr. Ming-Cheng Chang of the Taiwan Provincial Institute of Family Planning, assisted in the earlier phases by Lolagene C. Coombs of the Center. The project aims to analyze how the changing mix of traditional and modern elements in the family are related to reproductive behavior. The project began with an island-wide KAP survey in 1980 which included a block of questions on the family. Following some exploratory investigation of four villages by Taiwanese anthropologists, a subsample of about 250 families selected from the KAP survey were interviewed. For this intensive interview the wife was reinterviewed, and interviews were also taken with the husband and his mother. The interviews were either in one of the five largest cities or in the rural area. The field work for this intensive phase was done in the fall of 1981 and the early winter of 1982. The detailed coding and tape preparation proceeded in the spring. NICHD provided funding.

### *Thailand: A Comprehensive Study of Determinants of Fertility Levels and Change in Thailand*

Professor John Knodel, in collaboration with Bangkok researchers Aphichat Chamratrithirong of Mahidol University and Nibhon Debavalya of Chulalongkorn University and PSC graduate student Napaporn Chayovan, recently completed a detailed study of fertility trends, differentials and proximate determinants of Thai fertility. The project was sponsored by the Committee on

Population and Demography of the National Academy of Sciences. The Population Council is sponsoring a continuation and extension of this research with a goal to produce a more comprehensive and detailed study of determinants of fertility in Thailand during the last decade and a half. Thailand is unusual among developing countries in combining a dramatic decline in fertility with an abundance of data on reproductive behavior and fertility determinants.

This past year the focus of investigation was proximate determinants (especially nuptiality, infant feeding practices, and contraceptive behavior). Continuation of the research will examine village-level contrasts in fertility behavior, and relative role of husbands and wives in fertility-related decisions, role of organized family planning programs, the social, cultural and material environment as it relates to fertility, and the interaction between social norms and family limitation behavior as a process accounting for rapid diffusion of family planning practices. This will be done by analyzing existing data from more than 10 surveys conducted in the last 15 years, obtaining additional information through collection of village-level data, review of existing studies, and conducting a small number of in-depth interviews with a selected sample. The researchers will thus bring together a large number of complementary data sets bearing on fertility and integrate the results into a single coherent study. The major work will be done at Chulalongkorn University during Dr. Knodel's sabbatical year.

### *Thailand: Availability of Family Planning Services in Rural Thailand*

Barbara Entwisle and Albert Hermalin, in collaboration with Bangkok colleagues Peerasit Kamnuansilpa of the National Institute of Development Administration and Aphichat Chamratrithirong of Mahidol University, are carrying out a series of analyses to trace the implications of availability of family planning services in rural Thailand. The investigators have developed a multilevel model linking actual availability of services, perceived availability of services, and contraceptive use. Based on data from the Contraceptive Prevalence Survey (CPS) of 1981, they have found that actual availability (a village-level variable) increases the probability of contraceptive use (an individual-level variable) and heightens the effect of a desire for no more children on the probability of contraceptive use. They have also found little support thus far for the notion that prior experience with a particular contraceptive method affects the perceived availability of that method. Dr. Entwisle has been a post-doctoral fellow under a grant to the Center from the Andrew W. Mellon Foundation.

### *United States: Medical and Demographic Factors in Infertility in the United States*

Neil Bennett is collaborating with Ila Maslar of the University of Michigan's Reproductive Endocrinology Program on a subject which examines the medical and demographic determinants of infertility. By accumulating and analyzing data from many university-based infertility clinics around the country, they hope to add to the knowledge of the etiology of involuntary sterility.



### ***United States: Intergenerational Consequences of Fertility Behavior***

Arland Thornton and Deborah S. Freedman continue their extensive analysis of data obtained from the mothers (sixth wave) and from their 18 year old children in the 18th year of a longitudinal study of a sample of mothers originally living in the Detroit metropolitan area. One study documented attitudes concerning marriage, remaining single, and divorce, including some indicators of changes in these attitudes over time. Although most of the 18 year olds stated that they did plan to marry at some time, a substantial majority of them accepted the idea of remaining single as a reasonable life style and would not be significantly bothered if things turned out so that they did not marry. Although Americans still appear to value marriage, they are increasingly accepting of a variety of life styles.

Another study using the same data documented the greater completed fertility of women who began childbearing at an early age and examined what characteristics were associated with the likelihood of being young at first birth.

A methodological paper set forth strategies used in this study which the investigators believe accounted for the continuing high response rates through the 18 years of the study.

Another study examined the effects of levels of income on the fertility behavior of these couples. Although many respondents cite economic reasons for downsizing their families, husband's income itself did not make a meaningful contribution to decisions about family size.

Studies also are being conducted of determinants of divorce behavior, of how adolescents form their aspirations for material goods, and of achievement goals and motivations of young persons. NICHD is supporting this work.

### ***Cross-Cultural: Comparative Analysis of World Fertility Survey Data***

With funds provided by the National Institute of Child Health and Human Development, the National Academy of Sciences and the Andrew W. Mellon Foundation, this study employs a multilevel approach to the analysis of micro and macro mechanisms responsible for varying fertility patterns across social groups, within and across societies. It involves the full collaboration of Center researchers Barbara Entwisle, Albert Hermalin and William Mason. The investigators have devised a cohort-specific model of fertility behavior suitable for WFS data which distinguishes three components of the fertility process: onset, early fertility, and later fertility. The model specifies how socioeconomic characteristics of couples, such as education and residence, affect each aspect of the fertility process. It is expected that the nature of the *relations* between socioeconomic factors and the components of the fertility process will vary from country to country. The investigators use macro indicators, such as family planning program effort and per capita income, to explain between-country variability in the parameters of the micro model. Preliminary analysis, based on a single cohort from 15 WFS countries, supports the multilevel approach proposed and developed by Entwisle, Hermalin and Mason.

### ***Cross-Cultural: Fertility Determinants in VOC Countries***

With a grant from the National Research Council, David Goldberg is studying fertility determinants in several countries participating in the Value of Children studies: Indonesia, Philippines, Taiwan and the United States. Data from these countries will be combined with other data sets from Taiwan, Turkey, and Mexico to enable him to examine the effects of a wide range of measures that seek to define sex role status, time constraint, and normative signals on fertility behavior and values. The work is scheduled for completion in the fall of 1982.

### ***Cross-Cultural: Determinants of Fertility Regulation***

In connection with a National Academy of Sciences project to review theory and research pertaining to the determinants of fertility in developing countries, Albert Hermalin has been reviewing models and measurements used in studying the process of fertility regulation, particularly the concepts of motivation and costs. A critical essay on the topic is being prepared for the National Academy for inclusion in their final report.

### ***Cross-Cultural: Forecasting Fertility in Post Transitional Societies***

Robert Kleinbaum has submitted a research proposal to NICHD to develop methods of forecasting age-specific fertility rates in the United States and Western Europe. He hopes to use methods stemming from recent advances in the statistical literature, specifically the development of Stein, Ridge and Bayesian estimators used in conjunction with advanced time series models.

Scholars engaged in fertility forecasting are presently divided into two camps. One group, led by Richard Easterlin, expects fertility rates to rise as children from the birth-death cohorts enter the prime reproductive ages. The second school, led by William Butz and Michael Ward, predicts a continuation of low fertility rates as female labor force participation rates and female wages continue their secular increase. The Easterlin hypothesis is difficult to test, but several researchers have cast serious doubt on its validity. Considering the lack of theoretical guidance, Kleinbaum believes that forecasts of fertility which use recent advances in statistics should be developed.

Starting with the work of Stein in 1956, James and Stein (1965), and given further impetus by Efron and Moris (1973 and 1975), considerable work has been done in developing estimation procedures for prediction. Lee and McDonald's work has pointed out the power of time series methods in forecasting fertility. Kleinbaum intends to merge the two approaches, giving special attention to developing models of fertility rates that imply cycles driven by changes in the age structure of the population.

## POPULATION MOBILITY AND DISTRIBUTION

### *United States: Migration and Redistribution: SMSA Determinants*

Funded by NICHD, William H. Frey's study compares the residential mobility and migration dynamics of city-suburban redistribution and population deconcentration across the 65 largest U.S. SMSAs. It employs migration stream data from the U.S. Census, Current Population Survey and Annual Housing Survey. Assistance in this research was rendered by Center trainee Mark Langberg.

In a collaborative paper, Dr. Frey and Professor Frances E. Kobrin of Brown University found that neither trends toward smaller, childless and primary individual households, nor the propensity to choose a central city destination over the 1955-1975 period will yield a significant increase in the household populations of declining central cities.

In another paper, Dr. Frey combined this study's intrametropolitan city-suburb projection framework with the multiregion projection methodology developed by Dr. Andrei Rogers of IIASA in Austria, to show that there is no projected "return to the city" movement in either the Detroit, Atlanta, or Houston SMSAs.

### *United States: Regional and Metropolitan Growth and Decline in the United States*

In a joint project commissioned by the National Committee for Research on the 1980 Census, William H. Frey and Professor Alden Speare, Jr., of Brown University, plan to analyze new patterns of regional and intrametropolitan growth and decline in the U.S. during the decade from 1970 to 1980, and contrast these with patterns which characterized redistribution in the U.S. during the period from 1935-1970. The investigators will employ migration and population change data from various U.S. Census and vital registration sources, including the series of 1940, 1950, 1960, 1970 and 1980 public use sample files distributed by the U.S. Bureau of the Census.

### *United States: Analyses of Residential Segregation*

Professor Albert Simkus' research on residential segregation involves developing segregation indices appropriate for utilizing cluster-based sample survey data in measuring residential segregation. He is developing proposals to support this methodological component of the research and for a study of changes in socioeconomic residential segregation in the United States between 1940 and 1980.

### *Cross-Cultural: Metropolitan Migration in Europe and North America*

William H. Frey has a research proposal pending before NICHD to: 1) assemble a set of comparably defined migration data for the largest metropolitan areas in Europe, Canada, and the U.S. (those with populations exceeding one million) that will permit an examination of migration stream components of core-periphery redistributions and metropolitan population change that occurred over the course of the 1970s, and 2) to analyze these data

in order to evaluate how closely the migration stream components, their determinants and projected future consequences for large metropolitan areas in other industrialized nations compare with migration processes that are now affecting large metropolitan areas in the U.S. The cross-national migration data will be obtained from the censuses and the population registers of the respective countries. The research will examine the validity of claims that the post-1970 migration processes which are contributing to declining growth in large U.S. metropolitan areas and to population losses in their central cities are subject to period-specific influences that are affecting similar consequences on large metropolitan areas in other developed countries.

## METHODOLOGY

### *U.S.S.R.: Adult Mortality and Overstatement of Age in the Soviet Union, 1959-1970*

Neil G. Bennett and a colleague from Princeton University, Lea Keil Garson, have attempted to estimate the level of mortality in the Soviet Union and various regions within the country for the period 1959 to 1970. They found the true expectation of life and the number of centenarians in the USSR to have been greatly overestimated by the official Soviet figures. Using a method developed by Bennett and Samuel Preston, they were able to circumvent the (up until now) prohibitive problem of the unorthodox interval length between Soviet censuses (in this case, 11 years), and thus derive adequate estimates of the levels of mortality.

### *United States: Black/White Crossover Mortality in the United States*

Dr. Neil Bennett has submitted a grant proposal to the National Institutes of Health to be considered for a New Investigator Research Award. The study, if funded, will begin in the spring of 1983. It focuses on crossover mortality in the United States (where blacks have higher mortality rates than whites until about age 75, after which their relative positions switch). With a recently developed array of techniques, he hopes to determine whether the crossover phenomenon is actual or, rather, a function of differential age misstatement between the races.

### *United States: Local Population Projections and Time Series Studies*

David Goldberg is beginning a project to develop substantively based local population projections. He is also involved in two time series studies: one of college enrollment in the United States, and one of demand for automobiles. All three are scheduled to be underway in the fall of 1982.

### *Cross-Cultural: Evaluation of Family Planning Programs Through Multi-Level Analysis*

The availability of data on the characteristics of individuals obtained through surveys, coupled with information on community characteristics and the structure of the family planning program in each community, permit the employment of multi-level analysis for assessing the role of program factors in contraceptive use and fertility. Albert

Hermalin and Barbara Entwisle have been developing the application of this strategy to a number of key issues in family planning evaluation. They are also adapting this strategy to cross-cultural analysis of family planning program effects by combining data from the World Fertility Survey with information on the level of development and family planning program characteristics of each country. A preliminary outline of these strategies was presented by Dr. Hermalin at the U.N. Third Expert Group Meeting on Methods of Measuring the Impact of Family Planning Programs on Fertility, in Geneva in April 1982.

***Cross-Cultural: Improved Methods of Short-Term Population Projection***

In preparation by Neil Bennett and Robert Kleinbaum is a proposal to develop means to improve the accuracy of short-term projections of national populations. A major portion of the research will be devoted to the study of age patterns in mortality. By taking into account trends in cohort, as well as period, mortality in countries with accurate data, they will be developing models which will attempt the short-term forecast of age-specific mortality rates.

***Cross-Cultural: The Suitability of 1960s KAP Surveys for Comparative Analysis***

Barbara Entwisle, Albert Hermalin and William Mason will examine the suitability for comparative analysis of surveys of contraceptive Knowledge, Attitudes, and Practice (KAP) undertaken during the 1960s. The goal of the research is to supplement the World Fertility Survey (WFS) and other recent surveys with data from the extant KAP surveys of an earlier period. The availability of two cross-sections of survey data will make possible a wide range of analyses whose general purpose is to study the determinants of fertility change. Preliminary assessment of the number of extent surveys was encouraging, and a formal feasibility study will be carried out with the support of the Population Council.

***Cross-Cultural: Methodological and Substantive Investigations in Cohort Analysis***

Professor William Mason, sponsored variously by the National Science Foundation, the Office of Naval Research, and NICHD, has been involved for the past three years in research concerning formal statistical developments in age-period-cohort (accounting framework) modelling, as well as substantive explorations to assess the properties and usefulness of the general framework. Mason and former PSC student Herb Smith (now with Rockefeller), in PSC Research Report No. 81-15, "Age-Period-Cohort Analysis and the Study of Deaths from Pulmonary Tuberculosis," illustrate what they take to be the appropriate kind of conceptual and substantive sensitivity necessary for adequate use of the accounting framework. They show how the framework can be employed to test hypotheses, given a relative lack of appropriate measured substantive variables. They also illustrate empirically the use of interactions above and beyond age, period and cohort terms in the specification.

Professor Stephen Fienberg of Carnegie-Mellon University and Professor Mason, in PSC Research Report No.

82-18, "Specifications and Implementation of Age, Period, and Cohort Models," develop methods of including identifiable interactions in the accounting framework, present new results on specification bias for a variety of situations involving grouped data, provide a framework for deciding on the purpose of cohort analysis, and discuss erroneous objections to age-period-cohort analysis often put forward.

***Cross-Cultural: The Statistics of Multi-Level Analysis***

William Mason and George Wong of the Statistics Department of the University of Michigan and the Sloan-Kettering Memorial Institute are developing maximum likelihood estimators for hyperparameter models in which second-level parameters are modelled by a linear structure using measured data. This work, partially sponsored by the NICHD, provides a statistical framework for multi-level or contextual analysis. Its immediate application is in the Entwisle-Hermalin-Mason project on the comparative analysis of fertility. In the basic conceptual framework of that project there are two levels of structured variability — the micro or individual level, and the macro or country level. For each macro unit a generalized linear model can be fit to the micro observations. At the same time, a macro model is specified and estimated, using the micro parameters as the response variables. The Mason-Wong statistical models enable this estimation to be carried out efficiently. Albert Anderson is programming the various statistical models.

## ECONOMIC-DEMOGRAPHIC INTERACTIONS

***United States: Time Allocations of Married Workers in the United States, 1965-1970***

With Martha Hill of the University of Michigan Institute for Social Research, Deborah Freedman has investigated the substantial shifts between 1965 and 1970 in the amount of work done by housewives, married working women and married working men. Housewives have substantially decreased the amount of time spent on housework. Married working women also have decreased their total work time, mostly through a decrease in hours spent in market work. Married men, too, work less than formerly, having reduced their hours in market work. By 1975 the amount of total work time (housework plus market work) of married working women and married men was almost identical. The National Science Foundation provided partial funding.

***United States: The Effects of Language Ability on Earnings and Occupation of Immigrants in the United States***

Robert Kleinbaum, assisted by Center trainee Sherrie Kossoudji, is investigating the importance of language ability in determining the labor market experience of immigrants in the United States. The data being used are from the 1976 Survey of Income and Education, a survey of over half a million individuals that contains detailed in-

formation on language ability, employment, wages and assets. Most of the research in this field has concentrated solely on Hispanics and ignored the effects of different labor markets. A primary goal of this research is to examine the importance of language ability for as many immigrant groups as possible and to ascertain differences between local labor markets.

## HISTORICAL DEMOGRAPHY

### *Germany: Population Dynamics During the Demographic Transition*

The National Institutes of Health have sponsored Professor John Knodel's two-year study on the early stages of the demographic transition as it occurred in rural Germany, using data from 14 villages covering the period from the early eighteenth to the early twentieth centuries. Evidence from the study clearly points to an increase in the level of natural fertility, perhaps due to improving nutrition, changes in relations between the sexes, or changes in extent and nature of women's participation in economic activities. Attempts to limit family size before reaching some target number of offspring were an important factor in the decline of fertility, but changes in birth spacing were not. Dr. Knodel found substantial variations across villages, even neighboring villages, most notably in the timing and emergence of deliberate family limitation.

An interesting interaction between two trends was evident, in that the increased ability to have children counteracted the attempt to limit family size for at least part of the nineteenth century. Changes in age at marriage had little effect on the fertility decline and typically operated in the opposite direction at the end of the nineteenth century. Reductions in child mortality over the age of one year generally preceded improvements in infant mortality rates, although there was little overall improvement in the age 0-15 mortality rates until the last quarter of the nineteenth century.

Surprisingly, there is little evidence of any relationship between increasing family limitation and improvements in child mortality at the village level, although investigation at the individual family level shows a strong correlation: those couples with favorable experience with child mortality seem to have adopted family limitation earliest and most decisively, while those who had unfavorable experiences were slower to adopt limitation where they adopted it at all. Local data of the type used in this project are invaluable in expanding the knowledge of behavioral processes underlying the demographic transition.

Professor Knodel is preparing a monograph on demographic behavior in the past, based on his studies of historical German village populations.

### *United States: The Organization of Households and the Individual Life Course in 19th Century Los Angeles*

Professor Karen Mason, jointly with Professor Barbara Laslett of the University of Southern California, is analyzing data for Los Angeles from the U.S. Census manuscripts of 1850-1900 in order to answer a series of related questions about household organization and the individual life course in a period that witnessed rapid population growth and economic development. Specific

topics include the employment of women, the changing nature of adolescence, stability and change in household structure, demographic changes (especially in nuptiality and fertility), and the changing living arrangements of the aged.

## SOCIAL-DEMOGRAPHIC INTERACTIONS

### *Hungary: Historical Changes in Social Mobility in Hungary*

Professor Albert Simkus' work on changes in Hungarian social mobility is directed at describing the ways in which a regime of social mobility can be transformed through the processes of economic development and radical political change. These analyses involve fitting models of change to retrospective survey data on labor force life-histories. The topics being studied include inter- and intragenerational social mobility, assortative marriage, changes in labor force structure, and women's labor force participation. This work is partially funded through a Rackham faculty research grant and fellowship.

### *Hungary and Ireland: Comparative Change in Social Mobility in Hungary and Ireland*

Professor Albert Simkus is also studying cross-national differences in social mobility in Hungary and Ireland. Based on retrospective reports of occupational residential mobility for national samples of persons in both countries in 1973, this study deals with comparative processes of change in two countries having relatively similar levels of economic development.

### *United States: Social Indicators of Political Alienation in America*

In collaboration with Professor James S. House of the University of Michigan's Sociology Department and Institute for Social Research, Professor William M. Mason is attempting to delineate the causes and consequences of political alienation in the United States. The project is using subjective indicators of alienation available in a time series of National Election Studies running from 1952 to 1980. The major emphasis in the research so far has been on the conceptual adequacy of the subjective indicators, and the results appear in Population Studies Center Research Report No. 81-11.

Other areas receiving attention are (1) the issue-attitude determinants of political alienation, (2) the conceptual basis of over-time variation in alienation—whether cohort or period, (3) the nature of variability over time in the socioeconomic determinants of political alienation. The ultimate goal of the research is to devise a conceptually sound and empirically adequate time-series model of political alienation. Center trainee Joan Kahn, and sociology students Cedric Herring and Richard Mero, both of the Institute for Social Research, have assisted in the work, funded by the National Science Foundation.

### *United States: Social Inequality and the Fall of Mortality in the U.S., 1910-1970*

*United States: Socioeconomic Measurement in Mortality Research: An Examination of U.S. Data in the Twentieth Century*

*Cross-Cultural: Patterns of Differential Mortality During Rapid Economic Development*

*Cross-Cultural: Changes in Income and Occupation Before Death*

Miriam Kadin, with the support of the NICHD, is conducting a number of related projects on the socioeconomic determinants of mortality. These are wide-ranging, treating methodological, theoretical and substantive concerns. Both the United States and less developed countries (Sri Lanka, Taiwan) serve as areas of analysis. Although current research is restricted to macro analyses, Dr. Kadin plans to include survey data in the near future.

## Publications

This listing includes papers written by members of the Center staff (as authors or co-authors) which have been published or accepted for publication since the Center's last annual report, Fall 1981. Publications of student apprentices are listed in the Training section.

Listings of PSC Research reports, Center reprint series and other available publications by the staff are circulated twice yearly (Fall and Spring) to over 500 individuals, libraries, and agencies working in the population field or indicating an interest in demographic research and requesting inclusion on the Center's mailing list. Approximately 600 publications were mailed out in the 1981-82 academic year in response to some 156 requests from people in the United States and in 32 foreign countries. In addition to requests for publications from this list, the Center staff answered many questions about research materials that may be useful to researchers in the United States and other countries.



Neil G. Bennett

### Neil G. Bennett

(with Shiro Horiuchi) "Estimating the Completeness of Death Registration in a Closed Population," *Population Index* 47(2): 207-221, Summer 1981.

(Samuel H. Preston and Neil G. Bennett) "A Census-Based Method for Estimating Adult Mortality," Research Report No. 81-16, Population Studies Center, University of Michigan, December 1981.

to appear in *Population Studies* 37(1), March 1983.

*Sex Selection of Children* (editor). New York: Academic Press, in press.

(with Andrew Mason) "Decision Making and Sex Selection with Biased Technologies," Research Report No. 82-21, Population Studies Center, University of Michigan, March 1982.

in *Sex Selection of Children*, edited by Neil G. Bennett. New York: Academic Press, in press.

(with Gilbert Rozman) "Prefectural Variations in Szechwan: Population Growth, Mean Household Size, and Sex Ratios," in *Population and Marketing Settlements in Ch'ing China*, by Gilbert Rozman. Cambridge, England: Cambridge University Press, 1982, pp. 139-143.

(with Shiro Horiuchi) "Life Table Construction from Incomplete Death Registration Data," Research Report No. 82-26, Population Studies Center, University of Michigan, June 1982.

### Lolagene C. Coombs

(with T.H. Sun) "Familial Values in a Developing Society: A Decade of Change in Taiwan," *Social Forces* 59(4): 1229-1255, Summer 1981.

(with M.C. Chang) "Do Husbands and Wives Agree? Fertility Attitudes and Later Behavior," *Population and Environment* 4(2): 109-127, Summer 1981.

### Lee E. Edlefsen

"An Investigation of the Timing Pattern of Childbearing," *Population Studies* 35(3): 375-386, November 1981.

"The Effects of Sample Truncation on Estimates of Fertility Relationships," *Research in Population Economics*, Vol. 3, edited by Julian L. Simon. Greenwich, Conn.: JAI Press, 1981, pp. 41-66.

"The Comparative Statics of Hedonic Price Functions and Other Non-Linear Constraints," *Econometrica* 49(6): 1501-1520, November 1981.

(with S.S. Lieberman) "The Use of Aggregate Data in Economic-Demographic Analysis," *Research and Policy Issues in the Analysis of Fertility Behavior in Developing Countries*, edited by G. Simmons and G.M. Farooq, forthcoming.

### Barbara Entwisle

"CBR Versus TFR in Cross-National Fertility Research," *Demography* 18(4): 635-643, November 1981.

(with Albert I. Hermalin and William M. Mason) "Socioeconomic Determinants of Fertility Behavior: A Processual Approach Using World Fertility Survey Data," Research Report No. 82-17, Population Studies Center, University of Michigan, January 1982.

(Albert I. Hermalin and Barbara Entwisle, editors) *The Role of Surveys in the Analysis of Family Planning Pro-*

grams. Liege, Belgium: Ordina Editions, 1982.

(Albert I. Hermalin and Barbara Entwisle) "Surveys and Their Use in Family Planning Analysis," in *The Role of Surveys in the Analysis of Family Planning Programs*, edited by Albert I. Hermalin and Barbara Entwisle. Liege: Ordina, 1982, pp. 3-22.

(with C.R. Winegarden) "Fertility and Pension Programs in LDC's: A Model of Mutual Reinforcement," *Economic Development and Cultural Change*, forthcoming.

(with Albert I. Hermalin and William M. Mason) "Socioeconomic Determinants of Fertility Behavior in Developing Nations: Theory and Initial Results," Final Report to the National Academy of Sciences, not yet published.

#### Reynolds Farley

"The White Flight Controversy: Policy Implications," *Research in Sociology of Education and Socialization*, Vol. 3. Greenwich, Conn.: JAI Press, 1982, pp. 207-232.

(Suzanne M. Bianchi, Reynolds Farley and Daphne Spain) "Racial Inequalities in Housing: An Examination of Recent Trends," *Demography* 19(1): 37-51, February 1982.

(Patricia Taylor, Patricia A. Gwartney-Gibbs, and Reynolds Farley) "The Changing Structure of Earnings Inequality, 1960-1978," submitted for publication.

#### Deborah Freedman

(with Arland Thornton and Sirilaksana Chuticul) "A Premarital Pregnancy: Its Effect on Investments and Returns to Human Capital," Research Report No. 81-12, Population Studies Center, University of Michigan, August 1981.

(with Arland Thornton) "Income and Fertility: The Elusive Relationship," *Demography* 19(1): 65-78, February 1982.

(with Arland Thornton and Donald Camburn) "Obtaining Respondent Cooperation in Family Panel Studies," *Sociological Methods and Research* 11(1), August 1982.

(with Arland Thornton and Lynn Wallisch) "Age at First Birth and Family Size: Evidence from a Longitudinal Study," *Social Biology*, August 1982, forthcoming.

#### Ronald Freedman

(with Siew-Ean Khoo and Bondan Supraptilah) "Modern Contraceptive Use in Indonesia: A Challenge to Conventional Wisdom," World Fertility Survey (London), *Scientific Report* No. 20, March 1981 (published March 1982).

(with John Casterline) "Nuptiality and Fertility in Taiwan," in *Nuptiality and Fertility: Proceedings of the IUSSP Seminar held in Bruges, January 1979*, edited by L.T. Ruzicka. Liege, Belgium: Ordina Editions, 1982, pp. 61-99.

"Introduction," in *Nuptiality and Fertility: Proceedings of the IUSSP Seminar held in Bruges, January 1979*, edited by L.T. Ruzicka. Liege, Belgium: Ordina Editions, 1982, pp. 1-6.

"Theories of Fertility Decline: A Reappraisal," in *International Encyclopedia of Population*, edited by John Ross.

New York: Macmillan/Free Press, 1982, pp. 258-266.

(with Ming-Cheng Chang and Te-Hsiung Sun) "Household Composition, Extended Kinship and Reproduction in Taiwan: 1973-1980," forthcoming in *Population Studies*, March 1983.

#### William H. Frey

(Larry H. Long and William H. Frey) "Migration and Settlement: 14. The United States," International Institute for Applied Systems Analysis Research Report, Laxenburg, Austria: IIASA, 1982.

(with Frances E. Kobrin) "Changing Families and Changing Mobility: Their Effect on the Central City," *Demography* 19(3), August 1982.

#### David Goldberg

(H. Smith, S. Vargas, A. Beck and D. Goldberg) "The 93 Cent Husband: Income Returns Among Mexican-Americans in Detroit," *Proceedings of the American Statistical Association, Social Statistics Section, 1981*, pp. 412-417.

#### Albert Hermalin

"Issues in the Comparative Analysis of Techniques for Evaluating Family Planning Programmes," in *Evaluation of the Impact of Family Planning Programs on Fertility: Sources of Variance*. New York: United Nations, 1982.

"Some Cautions in the Use and Interpretation of Regression Analysis for the Evaluation of Family Planning Programmes," in *Evaluation of the Impact of Family Planning Programs on Fertility: Sources of Variance*. New York: United Nations, 1982.

"Techniques for Measuring Family Planning Program Effects on Fertility," in *International Encyclopedia of Population*, edited by John Ross. New York: Macmillan/Free Press, 1982, pp. 228-235.

(editor with Barbara Entwisle) "The Role of Surveys in the Analysis of Family Planning Programmes." Liege: IUSSP/Ordina Editions, 1982.

(with B. Entwisle) "Surveys and Their Use in Family Planning Analysis," in *The Role of Surveys in the Analysis of Family Planning Programmes*, edited by A. Hermalin and B. Entwisle. Liege: Ordina, 1982, pp. 3-22.

(Barbara Entwisle, Albert I. Hermalin and William M. Mason) "Socioeconomic Determinants of Fertility Behavior: A Processual Approach Using World Fertility Survey Data," Research Report No. 82-17, Population Studies Center, University of Michigan, January 1982.

(with Judith A. Seltzer and Ching-Hsiang Lin) "Transitions in the Effect of Family Size on Female Educational Attainment: The Case of Taiwan," *Comparative Education Review* 26(2): 254-270, June 1982.

"Using Individual and Areal Data in the Evaluation of Family Planning Programs," Proceedings of Third UN Expert Group Meeting on Methods of Measuring the Impact of Family Planning Programs on Fertility, forthcoming.

"The Relation of Fertility Desires to Contraceptive Use: Interpreting Changes Over Time and Place," Proceedings of Third UN Expert Group Meeting on Methods of Measuring the Impact of Family Planning Programs on Fertility, forthcoming.

#### **Miriam Kadin**

"Socioeconomic Measurement in Mortality Research: An Examination of U.S. Data in the 20th Century," Research Report No. 82-25, Population Studies Center, University of Michigan, May 1982.

#### **Robert Kleinbaum**

"A Note on the Use of Stein Estimators in Forecasting First Nuptial Confinement," submitted to *Demography*.

#### **John Knodel**

"Remarriage and Marital Fertility in 18th and 19th Century Germany: An Exploratory Analysis Based on German Village Genealogies," in *Marriage and Remarriage in Past Populations*, edited by J. Dupaquier, et al. London: Academic Press, 1981, pp. 591-604.

"Breastfeeding: Demographic Aspects," in *International Encyclopedia of Population*, edited by John Ross. New York: Macmillan/Free Press, 1982, pp. 71-76.

"Natural Fertility: Patterns, Levels, and Trends," in *Determinants of Fertility in Developing Countries: A Summary of Knowledge*. National Academy of Sciences, forthcoming.

(with Etienne van de Walle) "Fertility Decline: European Transition," in *International Encyclopedia of Population*, edited by John Ross. New York: Macmillan/Free Press, 1982, pp. 268-275.

(Peerasit Kamnuansilpa, Aphichat Chamrathirong and John Knodel) "Thailand's Continuing Reproductive Revolution: An Update," *International Family Planning Perspectives* 8(2): 51-56, July 1982.

also issued as Research Report No. 82-19, Population Studies Center, University of Michigan, March 1982.

(with Peerasit Kamnuansilpa and Aphichat Chamrathirong) "Breastfeeding in Thailand: Data from the 1981 Contraceptive Prevalence Survey," Research Report 82-20, Population Studies Center, University of Michigan, March 1982.

to appear in *Studies in Family Planning*.

"Child Mortality and Reproductive Behavior in German Village Populations in the Past: A Micro-Level Analysis of the Replacement Effect," *Population Studies* 36(2), July 1982.

originally issued as Research Report No. 81-1, Population Studies Center, University of Michigan, March 1981.

(with Aphichat Chamrathirong, Napaporn Chayovan and Nibhon Debavalya) *Fertility in Thailand: Trends, Differentials, and Proximate Determinants*. National Academy of Sciences, 1982 (forthcoming).

"Demographic Transition in German Villages," in forthcoming volume on European Fertility Transition, edited by Ansley Coale and Susan Watkins.

also issued as Research Report No. 82-22, Population Studies Center, University of Michigan, May 1982.

#### **Karen Oppenheim Mason**

(with V.T. Palan) "Female Employment and Fertility in Peninsular Malaysia: The Maternal Role Incompatibility Hypothesis Reconsidered," *Demography* 18(4): 549-575, November 1981.

partly overlapping version issued as Research Report No. 81-4, Population Studies Center, University of Michigan, August 1980.

"Norms Relating to the Desire for Children," in *Determinants of Fertility in Developing Countries: A Summary of Knowledge*. National Academy of Sciences, 1982, forthcoming.

#### **William Mason**

(with Herbert L. Smith) "Age-Period-Cohort Analysis and the Study of Deaths from Pulmonary Tuberculosis," in *Analyzing Longitudinal Data for Age, Period and Cohort Effects*, edited by H.H. Winsborough and O.D. Duncan. New York: Academic Press, 1982 (in press).

also appeared as Research Report No. 81-15, Population Studies Center, University of Michigan, September 1981.

(Barbara Entwisle, Albert I. Hermalin and William M. Mason) "Socioeconomic Determinants of Fertility Behavior: A Processual Approach Using World Fertility Survey Data," Research Report No. 82-17, Population Studies Center, University of Michigan, January 1982.

(Stephen E. Fienberg and William M. Mason) "Specification and Implementation of Age, Period, and Cohort Models," in *Analyzing Longitudinal Data for Age, Period and Cohort Effects*, edited by H.H. Winsborough and O.D. Duncan. New York: Academic Press, 1982 (in press).

also appeared as Research Report No. 82-18, Population Studies Center, University of Michigan, January 1982.

(Barbara Entwisle, Albert I. Hermalin and William M. Mason) "Socioeconomic Determinants of Fertility Behavior in Developing Nations: Theory and Initial Results." Washington: National Academy of Sciences, to be published.

#### **Eva Mueller**

(Barbara Watanabe and Eva Mueller) "A Poverty Profile for Rural Botswana," Discussion Paper No. 81-43, Population and Human Resources Division, The World Bank, October 1981.

"The Value and Allocation of Time in Rural Botswana," Discussion Paper No. 81-44, Population and Human Resources Division, The World Bank, November 1981.

(with Julie Anderson) "The Economic and Demographic Impact of the Comilla Project in Bangladesh: A Case Study," in *Case Studies in the Demographic Impact of Asian Development Projects*, edited by Robin Barlow. Ann Arbor: University of Michigan Center for Research on Economic Development, 1982, pp. 1-57.

"The Allocation of Women's Time and its Relation to Fertility," in *Women's Roles and Population Trends in the Third World*, edited by Richard Anker, et al. London:

Croom Helm, 1982, pp. 55-86.

(Sherrie Kossoudji and Eva Mueller) "The Economic and Demographic Status of Female Headed Households in Rural Botswana," Research Report No. 81-10, Population Studies Center, University of Michigan, March 1981. also to appear in *Economic Development and Cultural Change*, 1983.



*Albert Simkus*

**Albert Simkus**

"Socioeconomic Careers and Radical Social Change," in *Aging from Birth to Death, Vol. 2*, edited by Matilda White Riley. Washington: American Association for the Advancement of Science, 1982, pp. 163-180.

"Comparative Research on Social Stratification and Mobility," *International Journal of Comparative Sociology*, November 1981.

"Social Mobility in Eastern Europe: How Has State Socialism Made a Difference?" Research Report No. 81-13, Population Studies Center, University of Michigan, September 1981.

"Socialist Structural Transformation and Social Mobility: Hungary 1938-1973," Research Report No. 81-14, Population Studies Center, University of Michigan, September 1981.

"Structural Transformation and Social Mobility: Hungary 1938-1973," *American Sociological Review*, forthcoming.

"Changes in Equality of Educational Attainment in Hungary, 1928-1973," *American Sociological Review*, forthcoming.





# TRAINING PROGRAM

## Description

The Population Studies Center provided the opportunity for on-the-job training to 30 graduate students and one post-doctoral student during the 1981-82 academic year. During the past year, 11 students have completed their doctoral requirements and gone on to professional work.

The Center emphasizes that it is a training and not a teaching institute. Graduate students are first admitted to either the Sociology or the Economics Department of the University of Michigan before admission to the Center. Courses, both those designed primarily for demography students and those of a more general interest, are taken under the auspices of the departments, although many of the demography courses are taught by Center staff members.

The major support for American pre-doctoral students comes from a training grant from the National Institute for Child Health and Human Development. The sociology training grant supports one post doctoral fellow per year. The recipient of the Center's one-year sociology fellowship for 1981-82 was Miriam Kadin, from Brown University. Foreign students are largely supported by a grant to the Center from the Hewlett Foundation. In addition, some students receive support from other sources, including the Ford Foundation; the Rockefeller Foundation; the U.S. Department of Labor; the Population Council; the Horace H. Rackham School of Graduate Studies, University of Michigan; the National Science Foundation; the Barbour Fellowships and the Department of Sociology, University of Michigan.

The goal of the training is to provide students with substantive and methodological skills that permit independent research on a broad range of problems, working either in academic or non-academic settings. Training focuses on the technical and substantive research literature necessary to understand the social and economic causes and consequences of population size, composition, distribution and change, with particular emphasis on the basic demographic processes of mortality, fertility, nuptiality and migration.

The Center's unique contribution to student training is practical research experience under the supervision of a professional staff member. This apprenticeship involves 12 hours of work per week during the first two years in residence at the Center. During this apprenticeship, students typically work on one of their advisor's research projects, or in some cases work on an independent project under the advisor's supervision, with the expectation of a joint publication.

Class work for the Ph.D. usually requires five to six terms for students in Sociology and slightly longer for Economics students. It includes at least five of the following courses in sociology: Population Problems, Regional Population Problems, The Urban Community, Human Ecology, Research Methods in Population and Human Ecology, Advanced Population Methods, Proseminar in Historical Demography, and Seminar in Population and Human Ecology, or in economics: Economics of Population, The Economics of Population Growth, and Seminar in the Economics of Population. (For a short description of each course, see "Courses in Demography" on page 21 of this section). Other courses are taken in accord with the student's particular interests. By May of their third year, all Center students are expected to have completed all course requirements, preliminary examinations and the dissertation prospectus. The fourth year is devoted to the dissertation. During this period the student may also gain some teaching experience prior to entering the job market.

In addition, the Center offers the student a number of other formal and informal educational experiences. In a series of one-hour noncredit training sessions organized by J. Michael Coble and Albert Anderson, first year students learn basic computer techniques and are given the opportunity to familiarize themselves with the Center's library of tapes and programs and their application to problems of population analysis. This training is required of all Center students.

A part of the program in Economic Demography, supported by a National Institute of Health training grant, is carried out at the Center in cooperation with the Department of Economics. Students in economics who are interested in population issues receive demographic training through participation in the Center's apprenticeship program and through taking appropriate courses in popula-

tion. The Economic Demography Seminar meets at the Center three times a month during the academic year and is attended by both economics and sociology students. It brings in distinguished outside scholars and allows students in the Economic Demography program to present their research findings in a collegial format. In the 1981-82 academic year, this seminar was coordinated by Center students Charles Calhoun and Scott Grosse. Some students also participate in the Survey Research Center summer program, which provides training in various facets of survey research.

Students and members of the staff attend weekly informal seminars at which a staff member, advanced student or visitor reports on current research activity. Barbara Entwistle coordinated the seminar this year. Seminar titles included: "Roman Life Tables;" "Socialist Structural Transformation and Social Mobility in Hungary, 1923-1973;" "Nutrition, Fatness, Puberty and Fertility;" "Economic Polarization; Is it Occurring Within the Black Community?;" "Modeling Push-Pull Migration;" "Pooling the Schooling in Old Magyaroszag;" and "Population Changes in Villages of Finland."

Both staff and student offices are housed on the second floor of a large building at the edge of the University of Michigan's central campus. Students and most staff members spend most of their non-classroom time at the Center, working on current research projects or preparing teaching assignments. Students occasionally publish with their advisors, and are also encouraged to publish their own research. Student publications are listed separately at the end of this section, although work co-authored with staff members also appears in the Research section.

## Visitors

Visiting the Center this academic year were representatives of a number of universities and population-related organizations in the United States, as well as several representatives of foreign governments and institutions. In August of 1981, PSC hosted a delegation of five population scientists from the People's Republic of China. They came to visit demographic research centers throughout the United States, with a view to establish or expand government- and university-based population study groups in China.

In September, Professor Kalevi Rikkinen of the University of Helsinki's Geography Department lectured at PSC during his visit to the University. Dr. Alfred Adewuyi of the University of Ife, Nigeria spent two days conferring with colleagues in the Sociology Department and with researchers at the Center.

Informal seminars were presented in November by Professor Frances Kobrin of Brown University's Sociology Department and by Rose Frisch, from Harvard University's Center for Population Studies. Professor Waldo Tobler, a geographer from the University of California-Santa Barbara, lectured; Alan Nash visited from Queen's University in Kingston, Ontario, to consult on the establishment of a population studies facility there.

Professor Richard Freeman of Harvard University gave an informal Economic Demography seminar in March, and Nancy Tuma of Stanford also lectured. The South African Institute for Sociological, Demographic and Criminological Research in Pretoria sent Dr. J.A. Van Tonder, who consulted with several other American institutions as well. Peerasit Kamnuansilpa and Aphichat Chamratrithrong spent two weeks in Ann Arbor consulting with John Knodel on their joint research into Thai fertility. In June we were visited by John Bongaarts of the Population Council, who gave an informal seminar while he was here.

## Dissertations Completed 1981-82

August 1981      Sou-Pen Wei: "The Effect of Family Structure on Sibling Status Achievement: The Case of Taiwan."  
Albert Hermalin, chair  
Ronald Freedman, William Mason, Eva Mueller, members

Sou-Pen Wei is at the Computer Science Department at Arizona State University.

November 1981    Osman Nur: "On the Validity of Fertility Analysis for Jordan."  
Albert Hermalin, chair  
Ronald Freedman, John Knodel, Yuzuru Takeshita, members

Dr. Nur returned to Ann Arbor for the month of July 1982 as a visiting scholar from Khartoum, where he is Director of Educational Statistics for the Sudan Ministry of Education and Guidance.

November 1981    Herbert Smith: "Determinants of Higher Education Enrollment in the United States, 1946-1980."  
David Goldberg and William Mason, co-chairs  
Albert Hermalin, William Peterson, members

Dr. Smith has joined the staff of the Rockefeller Foundation in New York.

December 1981    Robert Kleinbaum: "An Analysis of the Wisconsin Time-of-Day Electricity Pricing Experiment."  
E. Philip Howrey, chair  
Lee Edlefsen, Hal Varian, Roger Wright, members

Dr. Kleinbaum was appointed a Mellon Research Fellow at the Population Studies Center of the University of Michigan upon his graduation.

February 1982    Mark Browning: "The Effect of Population Growth on Income Growth in LDCs."

Ronald Lee (Berkeley) and Thomas Weisskopf, co-chairs  
Saul Hymans, George Simmons, members

Dr. Browning will be Assistant Professor of Economics at the University of Illinois, Urbana-Champaign.

February 1982 Susan De Vos: "The Economic Old Age Security Value of Children in the Philippines and Taiwan in the Middle 1970's."  
Ronald Freedman, chair  
Lois Hoffman, Martin Whyte, Meyer Zald, members

Dr. De Vos is presently a postdoctoral scholar in Sociology at the University of Wisconsin-Madison.

April 1982 Roger L. Brown: "Mental Health and the Economy: A Disaggregated Analysis."  
Ronald Kessler, Chair  
Duane Alwin, James House, Colin Loftin, Richard Price, members

Yale University has awarded Dr. Brown a postdoctoral fellowship in Economics.

May 1982 Napaporn Chayovan: "A Contextual Analysis of Demographic Phenomena in Rural Thailand."  
Ronald Freedman and John Knodel, co-chairs  
Albert Hermalin, Yuzura Takeshita, members

Dr. Chayovan will return this fall to Chulalongkorn University's Institute of Population Studies.

May 1982 Hallie Kintner: "The Determinants of Infant Mortality in Germany from 1871 to 1933."  
John Knodel, chair  
Albert Hermalin, William Mason, George Simmons, members

Dr. Kintner is a Research Associate in the Department of Physical Medicine and Rehabilitation at the University of Michigan.

June 1982 William R. Lavelly: "Industrialization and Household Structure in Rural Taiwan."  
Ronald Freedman, chair  
Albert Hermalin, Eva Mueller, Arland Thornton, members

Dr. Lavelly joined the Population Studies Center staff as ACLS/Mellon Fellow for Chinese Studies upon completion of his degree.

July 1982 Sara Millman: "Breastfeeding in Taiwan: A Study of Change."  
John Knodel, chair

Ronald Freedman, Karen Oppenheim Mason, Eva Mueller, members

Dr. Millman has been named Assistant Professor of Sociology at Brown University.

## Prospectuses Approved 1981-82

September 1981 Mark Montgomery: "Sequential Fertility Choices Under Risk of Child Mortality."  
Frank Stafford, chair  
Lee Edlefsen, Albert Hermalin, E. Philip Howrey, Ronald Lee (Berkeley), members

Mr. Montgomery will be joining Princeton's Economics faculty this fall, upon completion of his degree.

February 1982 Kathy London: "Geographic Mobility in the Detroit SMSA."  
David Goldberg, chair  
Reynolds Farley, William Frey, Eva Mueller, members

March 1982 Lynn Wallisch: "The Effect of Maternal Employment and Other Family Factors on Mother-Adolescent Relations."  
Karen O. Mason, chair  
Lois Hoffman, William Mason, Arland Thornton, members

May 1982 Muhammad Faour: "Determinants of Female Age at First Marriage in Jordan."  
Karen O. Mason, chair  
Ronald Freedman, Albert Hermalin, Eva Mueller, members

May 1982 Paul P.L. Cheung: "The Temporal Structure of Pre-Adulthood Life Events: The Early Lives of Women in Thailand."  
Albert Hermalin and Rosemary Sarri, co-chairs  
Yeheskel Hasenfeld, William Mason, members

## Publications and Achievements

The following lists the individual publications and papers of Center students as well as their collaborative publications with the professional staff. Also included are papers or other presentations at meetings and conferences.

### **John Bauer**

"The Fertility Impact of the Mahaweli Ganga Development Project, Sri Lanka," in *Case Studies in the Demographic Impact of Asian Development Projects*, edited by Robin Barlow. Ann Arbor: University of Michigan Center for Research on Economic Development, 1982, pp. 101-143.

(with Scott Grosse) "Accounting for Fertility Decline in Sri Lanka: Income Redistribution Versus Policies Concerned with Basic Human Needs." Paper presented at Annual Meeting of the Population Association of American (San Diego) April 1982.

### **Allen Beck**

(Herbert Smith, S. Vargas, Allen Beck and David Goldberg) "The 93 Cent Husband: Income Returns Among Mexican-Americans in Detroit." Paper presented at Annual Meeting of the American Statistical Association (Detroit) August 1981. Social Statistics Section, pp. 412-417.

### **Suzanne Bianchi**

*Household Composition and Racial Inequality*. New Brunswick, N.J.: Rutgers University Press, 1981.

### **Roger Brown**

"Economic Downturns and Depression: A Disaggregated Analysis." Paper presented at Annual Meeting of the Society for the Study of Social Problems (Toronto) August 1981.

### **Napaporn Chayovan**

(J. Knodel, A. Chamrathirong, N. Chayovan and N. Debavalya) *Fertility in Thailand: Trends, Differentials and Proximate Determinants*. Washington: National Academy of Sciences, forthcoming.

(with John Knodel, A. Chamrathirong and N. Debavalya) "Summary of Fertility Determinants in Thailand." Paper presented at Annual Meeting of the Population Association of America (San Diego) April 1982.

### **Paul Cheung**

(with Walter W. Hudson) "Assessment of Marital Discord in Social Work Practice: A Revalidation of the Index of Marital Satisfaction," *Journal of Social Service Research* 5(1), 1982, to appear.

(with Herbert Smith) "Logistic Regression Models with Continuous Independent Variables: A Comment on Swafford," *American Sociological Review* 46(6): 946-949, December 1981.

### **Susan De Vos**

"Women's Role Orientations and Expected Fertility: Evidence from the Detroit Area, 1978," *Social Biology* 27(2): 130-137, Summer 1980, published Summer 1981.

### **Scott Grosse**

(John Bauer and Scott Grosse) "Accounting for Fertility Decline in Sri Lanka: Income Redistribution Versus Policies Concerned with Basic Human Needs." Paper presented at Annual Meeting of the Population Association of America (San Diego) April 1982.

"The 'Moors' of Sri Lanka: Ethnic Accommodation in a Plural Society," *Ethnic Groups*, forthcoming.

"On the Alleged Antebellum Surge in Wage Differentials: A critique of Williamson and Lindert," *Journal of Economic History* 42(2): 413-418, June 1982.

"The Politics of Family Planning in Maghrib," *Studies in Comparative International Development*, forthcoming.

"Regime Type and Performance: A Blind Alley? Comment on King," *Comparative Political Studies*. 14(4): 543-548, January 1982.

"Rural Development and Retention of the Rural Population in the Republic of Korea: A Macro-Level Analysis." Paper presented at the Conference on Rural Development and Retention of Rural Population in the Countryside of Developing Countries (Ottawa) October 1981.

### **Patricia Gwartney-Gibbs**

(Patricia Taylor, Patricia Gwartney-Gibbs and Reynolds Farley) "The Changing Structure of Earnings Inequality, 1960-1978," submitted for publication.

### **Sherrie Kossoudji**

(with Eva Mueller) "The Economic and Demographic Status of Female Headed Households in Rural Botswana," to appear in *Economic Development and Cultural Change*, 1983.

### **Bill Lively**

"China's Rural Population Statistics at the Local Level," *Population Index*, to appear.

### **Mark Montgomery**

Discussant, Contributed Papers on Fertility, Session 2, Population Association of American Meetings (San Diego) April 1982.

### **Herbert Smith**

(William Mason and Herbert Smith) "Age-Period-Cohort Analysis and the Study of Deaths from Pulmonary Tuberculosis," PSC Research Report 81-15, Population Studies Center, University of Michigan, September 1981.

to appear as a chapter in *Analyzing Longitudinal Data for Age, Period, and Cohort Effects*, edited by H.H. Winsborough and O.D. Duncan. Academic Press, 1982 (in press).

(Paul Cheung and Herbert Smith) "Logistic Regression Models with Continuous Independent Variables: A Comment on Swafford," *American Sociological Review* 46(6): 946-949, December 1981.

(with S. Vargas, A. Beck and D. Goldberg) "The 93 Cent Husband: Income Returns Among Mexican-Americans in Detroit." Paper presented at Annual Meeting of the

American Statistical Association (Detroit) August 1981.  
Social Statistics Section, pp. 412-417.

**Lynn Wallisch**

(Deborah S. Freedman, Arland Thornton and Lynn Wallisch) "Age at First Birth and Family Size: Evidence from a Longitudinal Study," *Social Biology*, August 1982, to appear.

## Former Students

Typically, upon completion of their training at the Center, students obtain employment in academic institutions. In recent years, however, both business and government have recognized the importance of demographic research to policy making; consequently, more recent graduates are accepting non-academic positions both in the United States and abroad. Of the 11 trainees who graduated during 1981-82, five took positions in non-academic institutions and six went to universities. A list of the 102 Center trainees who have received Ph.D.'s in Sociology or Economics since the Center's inception in 1962 is given below. The variety of institutions with which they are now affiliated gives an overview of the scope of preparation provided at the Center.

In addition to the Ph.D. recipients listed, many students from the U.S. and abroad have received shorter-term Center training. In all, over 80 former trainees currently hold academic positions at about 32 universities in the United States and seven universities abroad. More than 60 are involved in research in about 18 national, 10 foreign, and seven international organizations concerned with population issues. (Modern mobility complicates any attempt to account for all the students who have had training at the Center, and thus we acknowledge that this list may not be complete.)

### Former Population Studies Center Trainees with a Ph.D. from the University of Michigan

**Arjun L. Adlakha** 1970  
Professor (Biostatistics) and Research Associate (POPLAB)  
University of North Carolina

**John Ellis Anderson** 1974  
Demographer, Family Planning Evaluation Division  
Center for Disease Control  
Atlanta, Georgia

**Richard B. Anker** 1973  
Project Director, World Employment Program  
International Labor Organization  
Geneva, Switzerland

**Fred Arnold** 1972  
Assistant Director  
East-West Population Institute - East-West Center  
Honolulu

**Makoto Nohara Atoh** 1980  
Director, Division of Population Quality and Human Reproduction  
Ministry of Health and Welfare  
Tokyo, Japan

**Ernest B. Attah** 1980  
Associate Professor (Sociology)  
Atlanta University

**Tattamangalam R. Balakrishnan** 1963  
Professor (Sociology)  
University of Western Ontario

**Roberta Barnes** 1977  
Assistant Professor  
Department of Textiles and Consumer Economics  
University of Maryland

**Suzanne Bianchi** 1978  
Demographer  
U.S. Bureau of the Census  
Washington, D.C.

**Gordon S. Bonham** 1971  
Survey Statistician  
Division of Health Interview Statistics  
National Center for Health Statistics

**Larry L. Bumpass** 1968  
Associate, Center for Demography and Ecology and Professor (Sociology)  
University of Wisconsin - Madison

**Frederick L. Campbell** 1967  
Professor (Sociology)  
University of Washington

**John Casterline** 1979  
Research Associate, Analysis Division  
World Fertility Survey  
London

**Joseph Chamie** 1976  
Demographer, Population Division  
United Nations  
New York

**Kim-Loy Chee** 1981  
Senior Research Fellow, Centre for Policy Research  
University of Science  
Penang, Malaysia

**Hsiao-Chang Chen** 1974  
Visiting Scientist, Family Planning Evaluation Division  
Center for Disease Control  
Atlanta, Georgia

**Solomon S. P. Chu** 1969  
Assistant Professor (Epidemiology and Biometry)  
School of Public Health  
University of Illinois - Chicago Circle

**Carol Clark** 1979  
Assistant Professor (Economics)  
Guilford College  
Greensboro, N.C.

<b>Melissa H. Clark</b> Assistant Professor (Sociology) University of Mississippi	1980	<b>Katharine Gaskin</b> London	1979
<b>Diane Colasanto</b> Assistant Professor (Sociology) University of Wisconsin - Madison	1977	<b>John Leroy Goodman</b> Senior Research Associate The Urban Institute Washington, D.C.	1974
<b>James C. Cramer</b> Associate Professor (Sociology) University of California - Davis	1975	<b>Patricia A. Gwartney-Gibbs</b> Assistant Professor (Sociology) University of Oregon	1981
<b>John Czajka</b> Research Sociologist Mathematica Policy Research, Inc. Washington, D.C.	1979	<b>Robert M. Hauser</b> Professor (Sociology) and Director (Training Program in Social Methods) University of Wisconsin	1968
<b>Barbara Devaney</b> Assistant Professor (Economics) Institute of Policy Sciences and Public Affairs Duke University	1977	<b>Martha Hill</b> Study Director, Survey Research Center Institute for Social Research University of Michigan	1977
<b>Hasan Zafer Dogan</b> Research Associate The Population Council, Yozgat Project Ankara, Turkey	1974	<b>Paul M. Hirsch</b> Associate Professor (Sociology and Graduate School of Business) University of Chicago	1973
<b>Barry James Edmonston</b> Assistant Professor (Sociology) Cornell University	1974	<b>Howard M. Iams</b> Statistician Office of Research and Statistics Social Security Administration	1973
<b>Eugene P. Ericksen</b> Head, Sampling Division Institute for Survey Research Temple University	1971	<b>Anrudh K. Jain</b> Senior Associate (International Programs) The Population Council New York	1968
<b>Mark Evers</b> Assistant Professor (Sociology) University of Oregon	1974	<b>George K. Jarvis</b> Associate Professor (Sociology) University of Alberta	1972
<b>David L. Featherman</b> Professor (Sociology) and Director, Institute on Aging University of Wisconsin - Madison	1969	<b>Allan Griswold Johnson</b> Hartford, Conn.	1972
<b>Allan G. Feldt</b> Professor (Urban and Regional Planning, Natural Resources) University of Michigan	1963	<b>Robert A. Johnson</b> Assistant Professor (Sociology) Iowa State University	1979
<b>Greer L. Fox</b> Professor (Sociology); Director, Family Research Center and Associate Director, Merrill-Palmer Institute Wayne State University	1970	<b>Vasanthia Kandiah</b> Population Affairs Officer United Nations Population Division	1980
<b>Thomas Fraker</b> Research Economist Mathematica Policy Research, Inc. Washington, D.C.	1981	<b>Charles R. Kinderman</b> Assistant Director Bureau of Justice Statistics U.S. Department of Justice	1969
<b>Judith L. Friedman</b> Associate Professor (Human Ecology) Cook College, Rutgers University	1970	<b>Robert Klein</b> Survey Statistician Office of Research and Statistics Social Security Administration	1978
<b>Samuel R. Friedman</b> Research Associate VERA Institute of Justice New York City	1970	<b>Michael Koenig</b> Post-Doctoral Fellow Department of Population Dynamics Johns Hopkins University	1981
		<b>Raymond Langsten</b> Post-Doctoral Fellow Carolina Population Center	1980

<b>Robert Lapham</b> Staff Director, Committee on Population and Demography National Research Council - National Academy of Sciences	1970	<b>William S. Pooler</b> Associate Professor (Sociology) Syracuse University	1968
<b>Rex Y. Leghorn</b> Assistant Professor (Sociology) Emory University	1977	<b>William F. Pratt</b> Chief, Family Growth Survey Branch National Center for Health Statistics	1965
<b>Paul K.C. Liu</b> Economist, Institute of Economics Academia Sinica, Taiwan	1973	<b>Toni Richards</b> Post-Doctoral Fellow Office of Population Research Princeton University	1980
<b>Maurice M. MacDonald</b> Associate Professor School of Family Resources University of Wisconsin - Madison	1973	<b>Shea O. Rutstein</b> Research Associate, Analysis Division World Fertility Survey London	1971
<b>Jennifer Madans</b> Statistician, Division of Analysis National Center for Health Statistics Hyattsville, Maryland	1977	<b>Patricia Ferman Ryan</b> Professor (Sociology) Eastern Michigan University	1968
<b>Albert M. Marckwardt</b> Demographer CELADE Santiago, Chile	1968	<b>Allan Schnaiberg</b> Professor (Sociology) Northwestern University	1968
<b>Robert Mare</b> Associate Professor (Sociology) University of Wisconsin	1977	<b>Judith Seltzer</b> Post-Doctoral Fellow Department of Social Relations Johns Hopkins University	1981
<b>Elizabeth Martin</b> Research Associate Bureau of Social Science Research Washington, D.C.	1974	<b>Lois B. Shaw</b> Senior Research Associate Center for Human Resource Research Ohio State University	1973
<b>Andrew Mason</b> Research Associate, East-West Population Institute East-West Center, Honolulu and Associate Professor (Economics) University of Hawaii	1975	<b>Mohammad K. Siddiqui</b> Demographer/Statistician United Nations Economic Commission for Europe Geneva, Switzerland	1978
<b>David D. McFarland</b> Associate Professor (Sociology) University of California - Los Angeles	1971	<b>Nelson Silva</b> Director, Department of Population Studies Brazilian Census Bureau Rio de Janeiro, Brazil	1978
<b>Partha S. Mohapatra</b> Deceased 1976	1966	<b>William Smit</b> Professor (Sociology) Calvin College	1964
<b>Baron L. Moots</b> Assistant Research Scientist Population Studies Center University of Michigan	1970	<b>Stanley Smith</b> Director, Population Program Bureau of Economic and Business Research and Associate Professor (Economics) University of Florida	1976
<b>Krishnan Namboodiri</b> Professor (Sociology) University of North Carolina	1962	<b>Alden Speare</b> Associate Professor (Sociology) Brown University	1969
<b>Margaret O. Nielsen</b> Assistant Professor (Sociology) School of Social Work Michigan State University	1977	<b>Kodagallanur Srikantan</b> Gokhale Institute of Politics and Economics Poona, India	1967
<b>James F. Phillips</b> Associate, Population Council and Scientist, International Center for Diarrhoeal Disease Research Dacca, Bangladesh	1980	<b>Jay I. Stark</b> Director, Overseas Sales Analysis General Motors Corporation Detroit, Michigan	1969

<b>Ross Stolzenberg</b> Senior Social Scientist Rand Corporation Santa Monica, California	1973	<b>Napaporn Chayovan</b> Research Scientist Institute of Population Studies Chulalongkorn University Bangkok, Thailand	1982
<b>Te-Hsiung Sun</b> Director Taiwan Provincial Institute of Family Planning	1968	<b>Susan De Vos</b> Postdoctoral Fellow Center for Demography and Ecology University of Wisconsin - Madison	1982
<b>James A. Sweet</b> Professor (Sociology) and Associate, Center for Demography and Ecology University of Wisconsin - Madison	1968	<b>Hallie Kintner</b> Research Associate Department of Physical Medicine and Rehabilitation University of Michigan	1982
<b>David S. Thompson</b> Assistant Research Scientist Highway Safety Research Institute University of Michigan	1980	<b>Robert Kleinbaum</b> Mellon Research Fellow Population Studies Center University of Michigan	1981
<b>Arland Thornton</b> Assistant Professor (Sociology) and Senior Study Director, Survey Research Center Institute for Social Research University of Michigan	1975	<b>William Lavelly</b> ACLS/Mellon Fellow for Chinese Studies Population Studies Center University of Michigan	1982
<b>Roy C. Treadway</b> Associate Professor (Sociology) Illinois State University	1967	<b>Sara Millman</b> Assistant Professor (Sociology) Brown University	1982
<b>Boone A. Turchi</b> Associate Professor (Economics) University of North Carolina	1973	<b>Osman Nur</b> Director of Educational Statistics Sudan Ministry of Education and Guidance Khartoum, Sudan	1981
<b>Lois Verbrugge</b> Associate Research Scientist Institute for Social Research University of Michigan	1974	<b>Herbert Smith</b> Program Associate, Population Sciences Division Rockefeller Foundation New York	1981
<b>Paul Ronald Voss</b> Research Specialist Department of Rural Sociology University of Wisconsin - Madison	1975	<b>Sou-Pen Wei</b> Computer Science Department Arizona State University	1981
<b>Linda Waite</b> Social Scientist Rand Corporation Santa Monica, California	1976		
<b>Bruce L. Warren</b> Associate Professor (Sociology) Eastern Michigan University	1970		
<b>Eugene Won</b> Systems Development Corporation Santa Monica, California	1978		

#### New PSC Graduates for 1981-82

<b>Roger L. Brown</b> Postdoctoral Fellow (Sociology) Yale University	1982
<b>Mark Browning</b> Economist Potomac Electric Power Company Washington, D.C.	1982

#### Courses in Demography

Many members of the Center's professional staff also serve on the faculty of either the Department of Sociology or the Department of Economics. Their instructional responsibilities include teaching the following graduate courses, which Center students are either required or encouraged to take. Center fellows (students in the Sociology Department) are required to take one of the following courses every semester they are enrolled until they achieve candidacy.

**Sociology 530 - Population Problems.** An intensive analysis of the basic demographic processes and their causes. How variations in mortality, fertility, nuptiality and migration arise and how they affect society. Illustrations are drawn from the United States and a variety of developed and underdeveloped countries.



**Sociology 531 - Regional Population Problems.** This course focuses on the population aspects of social problems - food, energy, pollution, etc. - the role of population variables in the problems of social development, and social policies that are concerned with the population aspects of these problems. It considers these issues in the context of specific countries representing a range of demographic situations.

**Sociology 535 - The Urban Community.** A descriptive study of the form and development of the urban community with respect to demographic structure, spatial and temporal patterns and functional organization, with attention to the sources of data and techniques of analysis appropriate to the study of population distribution.

**Sociology 630 - Research Methods in Population and Human Ecology.** An examination of the nature and structure of a large number of demographic techniques useful for studying population composition or analyzing population dynamics. Topics include models for studying stable populations, the reproduction processes and the translation of period to cohort rates. Attention is also given to data sources and statistical techniques used in studying the interrelationships of population distribution, division of labor and community structure. Involves both review of literature and computations using the techniques.

**Sociology 631, 632 - Advanced Population Methods.** These courses focus on the formal development of models to study the growth, distribution, change and movement of human population with emphasis on mathematical models which lead to empirically verifiable theory.

**Sociology 633 - Proseminar in Historical Demography.** A survey of the data sources and the methods of data organization and analysis peculiar to historical demographic research along with selected substantive topics.

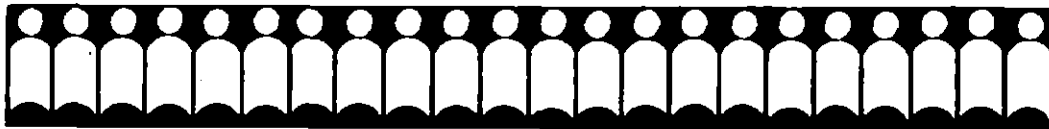
**Sociology 636 - Human Ecology and Social Organization.** Deals with the forms and modes of change of social structure as affected by interactions with the environment and population.

**Sociology 830, 831 - Seminar in Population and Human Ecology.** A variety of substantive and methodological topics are taken up in a seminar format.

**Economics 466 - Economics of Population.** Analysis of the causes and effects of population changes from the standpoint of economic theory. (For upper-class undergraduates and as an introduction for graduates.)

**Economics 667 - The Economics of Population Growth.** Examines the economic determinants of demographic behavior, with a focus on the economics of fertility, as well as the consequences of demographic change in both developed and less developed countries and the economic aspects of population policy and family planning programs.

**Economics 867,868 - Seminar in the Economics of Population.** A seminar covering a variety of topics in the form of (1) a detailed discussion of an important recent article or series of articles; (2) presentation of research plans or findings by trainees or faculty members; (3) presentation of research by a visitor.



# PROFESSIONAL ACTIVITIES

## MEETINGS ATTENDED:

*Population Association of America Meeting,  
San Diego, 29 April-1 May 1982*

### Neil G. Bennett

(with Samuel Preston) Presented paper: "A Census-Based Method for Estimating Adult Mortality."

(with Lea Keil Garson) Presented paper: "Old-Age Mortality in the Soviet Union, 1959-1970."

**Barbara Entwisle, Albert I. Hermalin and William Mason**  
Presented papers: "Comparative Analysis of Socioeconomic Factors Affecting Fertility, Using WFS Data."

and "A Processual Model of Fertility Behavior for Comparative Analysis Using the World Fertility Survey."

### Deborah Freedman

Presented paper: "Attitudes Toward Marriage and Single Life in the 1980's."

### Ronald Freedman

Chaired session on Fertility Determinants: Findings from Comparative Analysis.

### William H. Frey

Presented paper: "Projecting City-Suburb Redistribution Within U.S. SMSAs: An Extension of the Multiregional Methodology to the Intraregional Case."

### Miriam Kadin

Presented paper: "Socioeconomic Measurement in Mortality Research: An Examination of U.S. Data in the 20th Century."

### Robert Kleinbaum

Chaired session on Labor Force Activity.

### John Knodel

Organized session on Historical Demography.

Presented paper: "Summary of Fertility Determinants in Thailand."

### Albert Simkus

Chaired session on Demographic Studies of Social Stratification.

*American Sociological Association Meetings,  
Toronto, August 1982:*

### John Knodel

Discussant, Session on Fertility and Family Planning.

### Karen Oppenheim Mason

Organized, chaired and participated in a session on Change and Resistance to Change: The Occupational Participation of Women.

### William Mason

Discussant for the session titled "Methodology — Issues in the Analysis of Change."

Presented a paper authored with J.S. House and S.S. Martin: "Dimensions of Political Alienation in America: Theoretical and Empirical."

*Seminar on the Analysis of the WFS Family Planning  
Module and Related Protocols,  
Genting Highlands, Malaysia, December 1981*

Albert Hermalin served as Organizer of the Seminar.

Barbara Entwisle and Albert Hermalin presented a paper written jointly with William Mason: "A Model for the Comparative Analysis of WFS Contraceptive Use Data."

*General Meetings of the International Union for the  
Scientific Study of Population,  
Manila, December 1981*

Barbara Entwisle and Albert Hermalin attended.

Albert Hermalin organized a formal session on Methodological Issues in Family Planning Programme Evaluation.

*UN Third Expert Group Meeting on Methods of Measuring the Impact of Family Planning Programmes on Fertility, Geneva, April 1982*

**Albert Hermalin** presented a paper: "Using Individual and Areal Data in the Evaluation of Family Planning."

*Other Meetings:*

**Ronald Freedman** attended the September 1981 meeting of the NAS Panel on Fertility Determinants in Woods Hole, Mass.

**Ronald Freedman** attended two meetings of the Population Advisory Committee of the Rockefeller Foundation held in New York City in October 1981 and January 1982.

**John Knodel** presented a paper titled "Child Mortality and Reproductive Behavior in German Village Populations in the Past," at the Social Science History Association's Annual Meeting in Nashville, October 1981.

**John Knodel** and two Thai colleagues presented a draft of their joint research report on fertility in Thailand at a workshop conference on fertility determinants sponsored by the NAS in Washington, D.C. in January 1982.

**Karen Oppenheim Mason** was one of about 15 participants in a workshop conference sponsored by NICHD, titled Research Conference on Delayed Childbearing, held at the Belmont Conference Center in Elkrige, Md., September 1981.

**Karen Oppenheim Mason** was the discussant for a session on the Cultural Bases of Job Segregation by Sex, presented at a Workshop on Job Segregation by Sex, sponsored by the NAS Committee on Women's Employment and Related Social Issues, held in May 1982 in Washington, D.C.

**Albert Simkus** presented a paper titled "Educational Structure and Equality of Educational Opportunity in Hungary, 1923-1973" at the September 1981 meeting of the American Association for Advancement of Slavic Studies in Monterey, California.

**Albert Simkus** presented a paper on "Social Mobility in Two Countries: A Detailed U.S.-Hungarian Comparison" at the World Congress of Sociology in Mexico City, August 1982.

**OTHER PROFESSIONAL ACTIVITIES**

**Neil G. Bennett:**

Referee, *Demography*, *Social Science Quarterly*.

**Barbara Entwisle:**

Copy editor for book manuscript, IUSSP, November 1980 through September 1981.

Reviewer for book manuscript, University of California Press, March 1982.

**Ronald Freedman:**

Consultant to the Taiwan Provincial Institute of Family Planning, Taichung, Taiwan

Member, Population Advisory Committee, The Rockefeller Foundation.

Member, Committee on Population and Demography, National Academy of Sciences.

Member, Panel on Determinants of Fertility, National Academy of Sciences.

Member, Committee on Comparative Analysis of Fertility, IUSSP.

Member, Interdisciplinary Science Advisory Committee, Alan Guttmacher Institute.

Member, Committee on the Taeuber Award, Population Association of America.

Member, Ad Hoc Committee on Research on the Population of China, Social Science Research Council.

**William H. Frey:**

Consultant to the Urban Institute, Washington, D.C. on project sponsored by NICHD on urban residential mobility in the 1970's, July 1980-present.

Consultant to the NSF-sponsored project at the University of Wisconsin-Madison: "Maintaining Production of Public Use Sample Files from the 1940 and 1950 Censuses of Population," May 1981-present.

Editorial consultant, *Demography*.

Consulting reviewer for the Rose Monograph Series of the American Sociological Association.

Consulting reviewer for the National Science Foundation.

**Albert I. Hermalin:**

Chair, IUSSP Committee for the Analysis of Family Planning Programs, through December 1981.

Member, International Advisory Board, *Studies in Family Planning*.

Member, Public Affairs Committee, Population Association of America.

Member, Population Research Committee, NICHD.

Member, Board of Directors, Population Association of America.

Member, Advisory Panel to the Committee on Gender Research of the University of Michigan.

**Robert Kleinbaum:**

Editorial consultant, *Journal of Macroeconomics*, 1982-

**John Knodel:**

Consultant, analysis of second Thailand Contraceptive Prevalance Survey.

Member, Board of Directors, Population Association of America.

Referee, *Social Science History*, *Science, Population Reports*, *Population and Development Review*, and the *American Journal of Sociology*.

Referee/dissertation reviewer, Trinity College, Cambridge, England.

**Karen Oppenheim Mason:**

Member, Advisory Board, National Opinion Research Center's General Social Survey, 1981-present.

Member, Committee on National Statistics, American Sociological Association, 1982-1984.

Member, Advisory Board, Committee on Gender Research, University of Michigan.

Member, Jessie Bernard Award Committee, American Sociological Association, 1981-83.

Editorial consultant, *Demography*, *American Sociological Review*, *American Journal of Sociology*, Academic Press.

**William Mason:**

Consultant to the National Institutes of Health, Bethesda, on a post doctoral fellowship applications study panel, May 1982.

Presented lecture on Comparative Analysis of Reproductive Behavior Using the World Fertility Survey, Carnegie-Mellon University, Pittsburgh, April 1982.

Presented lecture on Cohort Analysis, Biostatistics Department, University of Michigan, February 1982.

Reviewer, National Science Foundation.

Reviewer, NICHD.

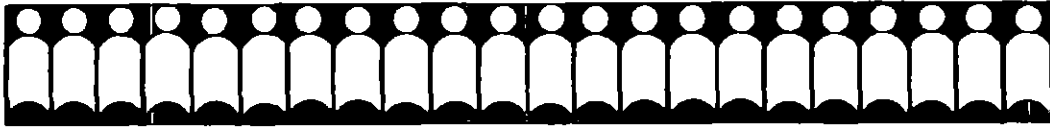
**Eva Mueller:**

Consultant, AID project on Evaluation of Integrated Population and Development Planning, May 1982.

Consultant, World Bank, Living Standard Measurement Study, October 1982.

Member, Board of Directors, Population Association of America, 1982-1984.

Presented lecture on "The Economic Determinants of Rural Fertility in Developing Countries" at the Institute of Statistical Studies and Research, Cairo University (Egypt), December 1981.



# STAFF ROSTER

Below is a list of staff members currently serving at the Population Studies Center for the academic year 1982-83.

## **Director**

Albert I. Hermalin, Professor of Sociology (on leave, Fall semester)

David Goldberg, Professor of Sociology (Acting Director, Fall semester)

## **Associate Directors**

Ronald Freedman, Roderick D. McKenzie Professor of Sociology (Development)

Karen Oppenheim Mason, Associate Professor of Sociology (Training)

## **Research Associates**

Albert Anderson, Assistant Research Scientist

Neil G. Bennett, Mellon Assistant Professor of Sociology

J. Michael Coble, Assistant Research Scientist

Reynolds Farley, Professor of Sociology

Deborah Freedman, Assistant Professor of Economics

William H. Frey, Mellon Assistant Professor of Sociology

Miriam Kadin, Post Doctoral Fellow, Adjunct Assistant Professor of Sociology

Robert Kleinbaum, Mellon Adjunct Assistant Professor of Economics

John Knodel, Professor of Sociology (on leave)

William M. Mason, Professor of Sociology

Eva L. Mueller, Professor of Economics

Albert Simkus, Assistant Professor of Sociology

## **Visiting Scholar**

Walter Bien, Institut für Psychologie, Rheinisch-Westfälische Technische Hochschule, Aachen

## **Supporting Staff**

Susan Etter, Administrative Associate

Mary Scott, Administrative Assistant

Susan Van Eck, Information and Resources Coordinator

Betty Alberts, Receptionist

Fran Cartford, Programmer Analyst

Ruth Crankshaw, Secretary

Carol Crawford, Secretary

Kathleen Duke, Library Assistant

Lois Groesbeck, Secretary

Amy Hsu, Programmer

Peggy Jones, Accounts Clerk

Judy Mullin, Secretary

Lora Myers, Research Assistant

Lisa Neidert, Data Analyst

Linda Rentfro, Data Processing Clerk

Dorothy Strand, Secretary

Mary Claire Toomey, Secretary