

Duke University

Department of Sociology

GRADUATE QUALIFYING EXAMINATION

POPULATION STUDIES

August 28, 2003

This examination has three sections. You must answer *one* question in Section I, Section II and Section III. Your answers should be as complete as possible. Your examination should not exceed a total of sixteen(16)double-spaced, typed pages, excluding the references. You should follow a journal format (e.g. American Sociological Review) for references and citations. You have 24 hours from the time you pick up your examination to return it to Claudette Parker

Please sign below at the time you pick up this examination and again when you return it. No discussion of any Qualifying Examination with any other person is permitted until after August 29, 2003, when all examinations have been completed.

Date and Time of pick up: _____

Signature: _____

Date and Time of return: _____

Signature: _____

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POPULATION STUDIES

I. Methods. Answer one of the following two questions.

Ia. Surveys and retrospective data have become a major resource for the study of fertility. Recently several journal articles have used information reported by the respondent about the survivorship of their parents and siblings in order to estimate past mortality. Examples are:

Merli, M. Giovanna. 2000. "Socioeconomic Background and War Mortality during Vietnam's Wars." *Demography* 37:1-15.

Hirschman, Charles., Samuel H. Preston, and Vu Manh. Loi. 1995. "Vietnamese Casualties During the American War: A New Estimate." *Population and Development Review* 21:783-812.

Discuss the strengths and limitations of this approach. Construct a "skeleton table" and describe how you would organize the data to calculate key life table functions. Will this strategy be widely used in the future?

Ib. The life table is at the core of demography and population studies, both methodologically and conceptually.

- (a) Describe the main features (survival function, person-years function, life expectancy function) of the classical population life table and how they are related to each other.
- (b) Describe a typical method (e.g., exponential, linear survival function) for transforming occurrence/exposure mortality rate data into a population life table.
- (c) There are two perspectives on the life table model: (i) the cohort survival perspective, and (ii) the stationary population perspective. Describe these.
- (d) Describe how sample survey data on a demographic event (e.g., age of transition from childless to first birth for women, age to first Activity of Daily Living Disability for older persons) can be used with event history/hazards regression models to develop sample-based life tables of age to this transition.

II. Substance, first substantive question: Answer one of the following two questions.

IIa. Professor Atlas examines data for her home country. She finds that the 2000 total fertility rate is only 1.4. The parity specific components (TFR1, TFR2, TFR3 and TFR4+) are .6, .5, .2 and .1. A decade earlier the TFR was 2.0 and all components were correspondingly higher. In her capacity as advisor to the Secretary of Health and Welfare, she argues that these parameters imply a disastrous demographic future requiring immediate policy responses. She argues that these numbers portend, for instance, 40% of women never having children. She also claims that this TFR implies a sharply declining population (unless this population reach replacement level fertility through a remarkably low mortality level, say a life expectancy at birth of 100)?

Given this limited information, would you reach the same conclusion? What policies would you recommend to remedy the problem (as you define it)? Could low mortality get this population to “replacement level fertility”?

IIb. Give a concise statement of the “demographic transition theory” as formulated in the 1940s and 1950s. Describe how this theory has been altered by research findings of the last 50 years. Do we need a “new” theory to account for post-transition, very-low fertility? Or can transition theory account for very low fertility? If new theories are needed for very low fertility, what would be several key elements?

III. Substance, second substantive question. Answer one of the following two questions.

IIIa. You have just been appointed Director of the brand-new United States Department of Population. This cabinet-level position was created by the President in response to concerns over the aging of the American population. Your first task is to prepare a report on population aging to educate the president and congress about the issue. Your report should cover the causes of population aging as well as the consequences. You should be sure to stress the difference between known consequences and potential consequences – and the reasons some of the consequences are only “potential”. You might wish to frame your report around major social institutions (e.g. the economy, the family). Finally, although your focus is the United States, you may want to draw on data from other nations to put the U.S. experience in perspective.

IIIb. One of the widely studied and debated propositions in the demography of aging is the “compression of morbidity hypothesis.” State this hypothesis, cite the original article thereon, and review various empirical contributions up to the present that pertain thereto. Then stated your own opinion on the veracity of this hypothesis, supporting your opinion with the findings and literature you have surveyed.