Discussion: Potential Contribution of and Current Obstacles to the Collection of Life History Data on Aging

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There seems to be no question about the need for longitudinal research which spans the individual’s lifetime. Questions do arise, however, about the most effective and efficient way to pursue this type of research. Unfortunately, there is no consensus about how to conduct longitudinal studies and there are few, if any, examples of excellent research on a group from cradle to grave. This paper is devoted to discussing the potential contributions of a life history approach to research, some obstacles which impede its development and suggestions for overcoming these obstacles.

The need to locate one or more age cohorts at birth, or early in life, and to follow them over the course of a lifetime seems obvious from at least three points of view: the sociological, the psychological and the medical.

Sociologically, life history research is needed to determine the impact of
social and cultural changes on a generation’s life style and behavior. In a society in which social change is rapid, the sociological definition of a generation probably differs from that in a society in which change rarely occurs. Thus, in the U.S. a generation may span as few as ten years, while in primitive countries it may span a much longer time period. In the U.S. each successive generation, spanning only ten years, may differ markedly in health, values and behavior from the last, depending on a variety of social changes, especially in technology. For example, the current crop of 20-29 year-olds seems markedly different from 30-39 year-olds in several respects: They seem to use drugs freely, seem to start working at a later age, seem to be sexually and physically active, and seem very free-ranging. If longitudinal data were available on a random sample of both of these age groups, we might learn that child-rearing practices experienced in early life were related to current behavioral differences in the two groups. If we were to continue to follow the two groups, we might find that one group ages more successfully and/or lives to an older age than the other. To date, we have no adequate scientific way to determine how much of an impact social change has on the behavior, the health or longevity of successive generations of age cohorts.

From the psychological point of view, life history research is needed to describe the impact of a trait or behavior exhibited early in life on other traits or behaviors which develop over the individual's lifetime. Many more discrete behaviors and individual characteristics are known to psychologists today than were studied years ago. For example, data are just beginning to accumulate on responses of neonates; were these to be supplemented with life-long follow-ups, we might learn if neonate behavior is related to adult behavior and to successful aging. Also, information is lacking on which behaviors span the lifetime and which do not, which behaviors remain constant and which change.

From the medical point of view, life history research is needed to determine if physical and mental disease, particularly if severe and chronic, result from, or result in, “pathological” styles of life.

For the reasons listed above, it would be advantageous to survey and follow on a national basis random samples of age cohorts at frequent intervals, preferably once a year. Such direct observation of processes and behaviors would also be more reliable than information based on recall. Needless to say, this is more easily said than done. We might ask why it is not feasible to study successive age cohorts over a lifetime. Surely, it is not because we lack the technology for conducting such research. High powered computers make it easy to record, store, collate and analyze life history data on random samples, if not the entire neonate population of the United States.

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The obstacles which seem to stand in a routine basis are:

1- Theoretical uncertainty about which should be studied.

2-Lack of methodological sophistication.

3-Lack of personnel who routinely collect data.

4-Lack of adequate financial support.

Once the obstacles are pin-pointed, immediately practicable. Let us turn to uncertainty.

In her paper, “Adaptability of Life Adult Development” Thurner (1974) schedule which “focuses on changes in conceptual areas, the purposeful domains, the behavioral style (all including both cognitive and affective). The end state to be predicted was the variables or predictors were “the pur- at different life stages.” The intricacy of a long administration the schedule containing the following seven section: (2) Health history and psycho- Daily and yearly cycle of activities; (4) on goals; (3) Social system data (information on social activities); (6) Evaluations of the course, and associated tests and measures).

Jarvik et al. (Chapter 14) were based on the construction of a life history scheme comprehensive and not limited to different states to be predicted a sample consisted of pairs of monozygotic twins, however, in the manner in which they were not. Their interview schedule was “consistent structured and codifiable interview” follow: (1) Nutrition; (2) Health an relationships, including isolation of Psychological data.

In both studies mentioned above,
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The obstacles which seem to stand in the way of life history research on a routine basis are:

1. Theoretical uncertainty about which processes, variables and end states should be studied.

2. Lack of methodological sophistication which limits us to the use of crude measures.

3. Lack of personnel to routinely collect and analyze masses of longitudinal data.

4. Lack of adequate financial support.

Once the obstacles are pin-pointed, solutions seem available, if not immediately practicable. Let us turn to the first obstacle, that of theoretical uncertainty.

In her paper, "Adaptability of Life History Surveys to the Study of Adult Development" Thurnher (Chapter 15) describes a life history interview schedule which "focuses on changes in the inter-relationship between two conceptual areas, the purposeful domain (aspirations, objectives and commitments) and the behavioral style (the patterning of day-to-day activities, including both cognitive and affective aspects) at different life stages" (p.137). The end state to be predicted was the process of adaptation. The independent variables or predictors were "the purposeful domain" and "behavioral styles at different life stages." The intricacy of these three variables led to the development of a long (administration time 6-8 hours) and complex interview schedule containing the following seven sections: (1) Sociodemographic data section; (2) Health history and psychiatric symptom questionnaire; (3) Daily and yearly cycle of activities; (4) Purposeful system data (information on goals); (5) Social system data (information on interpersonal relationships); (6) Evaluations of the life course; and (7) Personal system data (psychological tests and measures).

Jarvik et al. (Chapter 14) were basically atheoretical in their approach to the construction of a life history schedule. They assigned one which was to be comprehensive and not limited to any particular type of predictor variables; the end states to be predicted were successful aging and longevity. The sample consisted of pairs of monozygotic and dissimilar twins who appeared to differ in the manner in which they aged and the age at which they died. Their interview schedule was "conceived as a standard, comprehensive, structured and codifiable interview" which contained sections on the following: (1) Nutrition; (2) Health and medication; (3) Activities; (4) Social relationships, including isolation and stress, (5) Personal history and (6) Psychological data.

In both studies mentioned above, the end states were sufficiently complex
to require the collection of data on a wide range of variables spanning the individual's lifetime. Even though there was no consensus on which variables to observe, Thurnher and Jarvik et al. selected similar predictor variables despite differences in end states.

Despite the absence of a general theory of the life cycle, we should nonetheless be able to develop some guidelines for collecting life history data. Determination of which variables are crucial and which periods of time are critical should depend on which end states we wish to predict or influence. In other words, a core life history interview schedule can be designed, as Jarvik et al. suggest, particularly when concerned with predicting complex end states, such as adjustment or mental health in old age, to mention but two.

Some processes and variables probably should be studied only because good (valid and reliable) tests are available to measure them. Since there seems little agreement on which are the critical time periods for obtaining initial and follow-up measures, why not keep testing throughout the lifetime of an individual? There are some tests for which this is possible. There are others which measure a specific behavior, but which differ in complexity so as to mirror developmental changes, e.g., tests of cognitive performance. The only way in which nurture-nature types of theoretical controversies will be resolved will be by routine collection of both longitudinal and cross-sectional life history information. Thus far, it seems difficult to argue the merits of one theoretical framework, e.g., the environmentalist approach, over another, e.g., the organic approach, when two diametrically opposite research designs are used to test them.

In a review of the literature on cognitive performance in the aged, Weinstock and Bennett (1968) found that in cross-sectional studies, old people usually performed poorly on some cognitive tests when compared to young people, while in longitudinal studies they rarely showed significant decrements. A group of papers in this book, namely Rhudick and Gordon (Chapter 2), Eisdorfer and Wilkie (Chapter 4), and Blum et al. (Chapter 3) appear to bear this out. They report that, over time, when decrements in scores on tests of cognitive performance in the aged occurred, they could best be explained as the result of processes other than aging per se. Two interpretations of these apparently contradictory findings are: (1) Cross-sectional studies do not indicate the true nature of old people's cognitive ability. Possibly, this is due to the testing situation which puts old people at a distinct disadvantage; (2) Longitudinal studies do not indicate the true nature of old people's abilities. Possibly, they underestimate the cognitive decrements because the behaviors measured are trivial, or the periods selected for repeated measurement do not span enough time and may miss points of rapid negative change.

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It should be reiterated that this type of data is not only by routinely collecting test data on different age cohorts.

The second obstacle to routinizing the collection of data on any but crude measures, and seen as critical for predicting important social and psychological outcomes, is the lack of cooperation in some research settings. Most of the available life history schedules are unstructured, rely on recall of events, and are data collected quantitatively in any form. Therefore, that maximum cooperation is crucially dependent on the development of good, comprehensive life history schedules.

Thus, Jarvik et al. (Chapter 14) felt that if designed, a core life history questionnaire useful in all studies, irrespective of additional items or sections can be appended to the orientation of the investigators. While some of the content and methods varied widely: Thurnher (Chapter 12), while Jarvik et al. used tests, measures instead. There are other life history schedules: Morin et al. (1968), relies heavily on open-ended and concentrates on social relationships.

It seems reasonable to expect other investigators to devote some of their efforts to history which sections could be added. A standard and widely used life history would be comparable and interpretation of the results in most studies that slight differences which are not comparable. Before long we need to find a way of bringing all investigators agree on the use of some standard measure.

The problem of locating, training, and analyzing longitudinal data on national memory and medically-related problems for which data are needed is the most difficult one to solve. Apparatuses in Denmark, where scientists are able to make longitudinal research based on Danish
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A wide range of variables spanning the life cycle of the life cycle, we should not anticipate one for collecting life history data. The crucial and which periods of time states we wish to predict or influence, an interview schedule can be designed, as long as concerned with predicting complex health in old age, to mention but two. A study should be conducted only because repeatable to measure them. Since there are critical time periods for obtaining a test throughout the lifetime for which this is possible. There are two, which differ in complexity so e.g., tests of cognitive performance. Three types of theoretical controversies will affect both longitudinal and cross-sectional studies far, it seems difficult to argue the e.g., the environmentalist approach. It is clear, when two diametrically opposite cognitive performance in the aged, Weinberg in cross-sectional studies, old people cognitive tests when compared to young people rarely showed significant decrements. Rhudick and Gordon (Chapter 2), Blum et al. (Chapter 3) appear to bear when decrements in scores on tests of occurred, they could best be explained as being per se. Two interpretations of these are: (1) Cross-sectional studies do not suffer from cognitive ability. Possibly, this is due to people at a distinct disadvantage; (2) the true nature of old people’s abilities. Cognitive decrements because the behaviors selected for repeated measurement do not show points of rapid negative change.

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It should be reiterated that this type of apparent paradox can be resolved only by routinely collecting test data over the lifetime of successive groups of age cohorts.

The second obstacle to routinizing the collection of life history data is the unavailability of any but crude measures, applicable to the entire lifespan, and seen as critical for predicting important and complex end states such as successful aging and mental health in senescence.

Most of the available life history schedules are crude. For the most part, they are unstructured, rely on recall of another person and self-reports. Little is known about the reliability and validity of the items used. Rarely are the data collected quantifiable in any meaningful sense. It would seem, therefore, that maximum cooperation is in order among behavioral scientists concerned with developing good, comprehensive and methodologically sophisticated life history schedules.

Thus, Jarvik et al. (Chapter 14) felt that there was a need to use, and therefore designed a core life history questionnaire (administration time: two hours) useful in all studies, irrespective of the cohort sampled, to which additional items or sections can be appended depending on the theoretical orientation of the investigators. While some of the factors studied overlapped in the papers listed above, the content and phrasing of items and observation methods varied widely: Thurnher (Chapter 15) used items and procedures heavily on self-reports, while Jarvik et al. used tests, measures and pre-coded items whenever possible. There are other life history schedules in preparation; one of these, Morin et al. (1968), relies heavily on open-ended questions rather than pre-coded items and concentrates on social relationships.

It seems reasonable to expect other scientists concerned with life history interviews to devote some of their efforts to developing a standard core life history to which sections could be added as new knowledge is accumulated. A standard and widely used life history schedule would mean that results would be comparable and interpretation would be facilitated. It is commonly accepted in most sciences that slight differences in method result in data which are not comparable. Before longitudinal studies are begun, perhaps we need to find a way of bringing life history researchers together to try to agree on the use of some standard measures and data gathering techniques.

The problem of locating, training, and funding personnel to routinely collect and analyze longitudinal data on national samples of age cohorts seems to be the most difficult one to solve. Apparently, this is done with great efficiency in Denmark, where scientists are able to conduct longitudinal research on medically related problems for which data are routinely collected. An example of longitudinal research based on Danish data is the work of Mednick and
Sculsinger (1968), which examines long-term impact of schizophrenic parents on their children. Longitudinal studies have also been conducted in Sweden (Hagnell, 1966) on the relationship of personality traits to serious physical illness in adults. Probably, in the absence of consensus on which stages or ages are crucial, annual testing should be conducted routinely on age cohort samples.

Few question the importance of longitudinal research to determine factors which predict successful aging and longevity. We should now begin to address ourselves to overcoming the obstacles standing in the way of formulating guidelines, categories and/or schedules for collecting life history data, perfecting measures of behaviors relevant throughout the life-cycle, and developing an organization responsible for ongoing life history data collection and analysis which will make these data readily available to scientists.

The chapters of this book show that one of the most important is, “How do man’s intellectual edge of the relationships and may expect to be able to move on the other hand, to maxim his environment during his era.

For some investigators the psychology to an examination the life span. There has alwa