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Events Information and the Life Course Framework in Young Adult Reproductive Health (YARH) Survey Studies of Adolescent Risk

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Peter Xenos is a Senior Fellow with the East-West Center's Research Program, Population and Health Studies. In response to increasing concern about adolescent risk-taking behavior in Asia, the East-West Center is coordinating a project to analyze and compare results from youth surveys in Hong Kong, Indonesia, Nepal, the Philippines, Taiwan, and Thailand. Initiated in 1998, the Asian Young Adult Reproductive Risk project is supported by the United States Agency for International Development.

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AYARR

Asian Young Adult Reproductive Risk Project

This research is a product of the East-West Center's Asian Young Adult Reproductive Risk (AYARR) project, supported by USAID through its MEASURE Evaluation Project. The AYARR project supports a research network devoted to producing an Asian regional perspective on young adult risk behaviors through secondary and cross-national comparative investigation of large-scale, household-based surveys of youth.

The project presently involves investigators and national surveys in six Asian countries. The government of **Hong Kong** (now the Hong Kong Special Administrative Region) has supported area-wide youth surveys, both household-based and in-school, in 1981, 1986, 1991, and 1996. The 1994 **Philippines'** Young Adult Fertility and Sexuality Survey (YAFS-II) was conducted by the Population Institute, University of the Philippines, with support from the UNFPA. **Thailand's** 1994 Family and Youth Survey (FAYS) was carried out by the Institute for Population and Social Research at Mahidol University, with support from the UNFPA. In **Indonesia**, the 1998 Reproduksi Remaja Sejahtera (RRS) baseline survey was funded by the World Bank and by USAID through Pathfinder International's FOCUS on Young Adults program. The RRS was carried out by the Lembaga Demografi at the University of Indonesia under the supervision of the National Family Planning Coordinating Board (BKKBN). The **Nepal** Adolescent and Young Adult (NAYA) project, which includes the 2000 NAYA youth survey, is being carried out by Family Health International and the Valley Research Group (VaRG) with support from USAID to Family Health International (FHI). The **Taiwan** Young Person Survey (TYPF) of 1994 was carried out by the Taiwan Provincial Institute of Family Planning (now the Bureau for Health Promotion, Department of Health, Taiwan) with support from the government of Taiwan.

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Peter Xenos, Senior Fellow, East-West Center

(September 1999)

“... life records, as complete as possible, constitute the perfect types of sociological materials...”
Thomas and Znaniecki, *The Polish peasant in Europe and America* (1918–1920, pp. 1832–33).

This paper considers the advantages and insights, as well as data requirements, of the life-course approach as applied in the study of adolescent risk-taking behaviors and their consequences. Discussion centers on the transition to adulthood and on data for studying that transition drawn from young adult reproductive health (YARH) surveys. Such surveys almost always provide at least some basic events information, and a few YARH surveys have been designed to provide considerable detail on the life events of adolescence and young adulthood. I draw almost exclusively upon my own experience with YARH surveys in Asian societies. Two of these, conducted in Hong Kong in 1986 and Thailand in 1994, collected a rich array of life-events information using a life-history matrix approach.

The brief review of issues offered here is hardly adequate to the topic. My hope is to provide sufficient comment to establish the domain under consideration and provoke others to contribute their own experiences. Some of the relevant Asian experience is introduced by reviewing the kinds of life-event information that have been obtained from youth respondents in Asian surveys.

The Life-Course Approach

The life course framework addresses the whole of individual lifetimes. It is a frame of reference, a descriptive tool, and in some respects a theory or montage of theories. Though it is often considered in terms of biological age, the life course is, *sui generis*, a social rather than biological phenomenon. Unlike the life span, which has biological underpinnings, the life course reflects the intersection of social and historical factors with personal biography (Cain 1964; Elder 1975; George 1993; Hareven, T. 1978; Hareven, T.K. 1978; Kertzer and Schaie 1989).

Individual life-course change lies at the heart of the demographic transition. That broad historical transformation at the population level inevitably involves significant individual life-course change: a longer period of adolescence no matter how that is defined, or in some settings its very emergence; a much shorter period of childbearing; a somewhat shorter period of child rearing; and a very much longer period of post-reproductive independent life, only a part of which occurs during old age. Both formal and social demography are prominent in life-course analysis and can even be said to form its very backbone (Ryder 1960; 1969; 1992). Life-course analysis can be a primary tool in sorting out broad historical transformations and the corresponding changes in event sequences and interdependencies within individual lives, in the manner of Tamara Hareven distinguishing transformations of “personal time,” “family time,” and “historical time” (Hareven, T. 1978; Hareven, T.K. 1978).

Another important theme in life-course studies is the causal interdependence and interpretive meaning of personal histories—defined as meaningful, self-explaining individual biographies (Bertraux 1981; Angrosino 1989). These studies generally consider the whole of the life course, or large segments of it, and track sequelae or even the interplay of multiple biographies (excellent on this is Plath (1980) on “long engagements”), which may be played out over many years. For example, there are studies of the lifetime, long-term sequelae stemming from disadvantages suffered by female children during their years from conception up to adolescence (for example, Craft 1997).

Elder (1985) writes of a *life trajectory*, made up of *life events*, *life transitions*, and *life roles*. The life-course literature of primary concern to us here examines the life events involved in one important transition among the many—the transition to adulthood. It is well recognized that childhood and adulthood are different, but research and theory grapple with the fact that the transition from one to the other is complex, involving multiple events, which for each individual may or may not occur, and in sequences that may vary among youth within a society and that do vary in configuration across societies (Hogan 1978; Hogan and Astone 1986). The precise identification of what the transition to adulthood consists of and when the transition occurs is illusive and perhaps cross-culturally variable as well (Schlegel and Barry 1991; Schlegel 1995; Whiting et al. 1986).

Defining the Transition to Adulthood

It was Phillipe Aries (1962) who described the appearance of childhood and youth in the Western societies and observed that where we were once “ignorant of adolescence,” this is now the favored period of life: “We want to come to it early and linger in it as long as possible” (1962, p. 30). John

Gillis, the noted historian of youth, has observed (Gillis 1993) that appearing concurrently with the Aries book was an influential book by Edgar Friedenberg called *The vanishing adolescent* (1959), in which it was argued that adolescents were becoming more like adults. So is the adolescence that Aries and Friedenberg are describing unique and desirable, or is it much like adulthood? The disagreement is only apparent, says Gillis, because both Aries and Friedenberg are contending with increasingly blurred definitions and boundaries. Increasingly, there is a gradual and not very well defined transition from childhood to youth, and an equally complex and varied transition to adulthood. In the language of Ronald Rindfuss (1991), the transitions are not at all crisp. In contrast, Gillis believes that "...the passage to [Western] adulthood has become in many ways more uniform and compressed" (Gillis 1993). This commentary, uncertain as it is, deals only with Western youth. Indeed, the preponderance of our stock of research and theory on the transition to adulthood has been directed to Western youth transitions.

It is important to recognize that much of our understanding and theory reflect the Western societies at a time of quickening transitions to adulthood and also during an age of declining youth numbers. In much of the rest of the world, the facts are fundamentally different. First, across much of the developing world a youth boom has been underway for some time, just now abating in some countries and just getting started in many others (Xenos 1990). Moreover, there is clear evidence of an expanding rather than contracting period of adulthood transition. The worldwide developing-area shift toward later marriage is one of the underpinnings of this (Singh and Samara 1996; Xenos and Gultiano 1992).

One of the difficulties in this research area is the ambiguous role and meaning of chronological or biological age. Settersen and Mayer (1997) offer a useful critique of chronological age, noting that this is a proxy for biological age, maturation, psychological development, social membership, and other aspects of age-graded social life. It is generally felt for the West, and perhaps for other areas of the world as well, that age may be less and less useful as a marker of personal progress thorough life; that is, that there is more and more variability among similarly aged individuals (Dannefer 1987).

It should then be no surprise that the consideration of age range has an uncertain quality in much of the scientific and policy discussion of youth and the transition to adulthood. Comparative analysis has had to contend with real and important differences across societies, but also with the need for a common empirical referent. Often the census quinquennia are used for gross comparisons: 10–14 as young teens, 10–19 as adolescents, 15–24 as youth, 20–24 as young adults, and so forth. In survey

analysis, it is often convenient to identify adolescence as the duration between the events of menarche and marriage. For the purposes of my discussion here, youth is defined as the age range 15–24, and the transition to adulthood is defined as a practical matter from puberty to first union or first live birth. These are necessary simplifications of a complex issue.

Collecting Life-Event Indicators of the Transition to Adulthood

A central concept in life-course analysis is the *life trajectory*: “...a pathway defined in the aging process or by movement across the age structure” (Elder 1985). Trajectories are populated by *life events*, *life transitions*, and *life roles*. Life events are discrete in time, and life transitions are more gradual changes (Settersten and Mayer 1997, p. 252), often comprised of multiple events. Another key feature of a transition to adulthood, in keeping with demographic usage, is that it is, as a practical matter, irreversible. Youth do not later become children, and adults do not become youth—generally, anyway. The life roles of each are notably different. Thus, we want to characterize the transition to adulthood—something that is really made up of many events, no one of them absolutely essential. To talk about this transition, we must obtain information on a spectrum of events spanning a set of relevant life domains.

What are the relevant events? As we will be seeing shortly, data collection generally concentrates on relatively “factual” events—age at school leaving, age at marriage, and the like—the ones we think we can measure reasonably well. But are these the events that define the transition to adulthood? Consider, for example, the findings of Arnett (1994; 1997), who asked U.S. college students about their conceptions of the transition to adulthood. His respondents indicated the characteristics necessary for a person to be considered an adult on a questionnaire containing 40 possible criteria. The top criteria by number of endorsements emphasized aspects of individualism, including “accept responsibility for the consequences of your actions,” “decide on own beliefs and values independently of parents or other influences,” and “establish a relationship with parents as an equal adult.” In contrast, the “factual” role transitions typically associated with research on the transition to adulthood, such as finishing education, entering the labor force, marriage, and parenthood, were rejected as criteria for adulthood by a large majority.

Table 1 gives an overview of the various kinds of event information available in a set of important Asian YARH surveys plus the Demographic and Health Surveys (DHS) and the Center for

Disease Control and Prevention (CDC) surveys for comparison.¹ The standard datum reflected in these tables is an “age at [event],” but certain additional kinds of variable are also indicated when it seems that they might help to describe the transition to adulthood.²

This table describes personal event-timing information that was recorded as responses to direct questions about those events imbedded in structured-questionnaire interviews. Many kinds of event can be and are recorded in this way. Demographic surveys routinely obtain pregnancy and birth histories and sometimes marriage histories. Depending on the purpose, a questionnaire might include details on migration or residence histories, education histories, or other domains of life. Table 1 demonstrates that some of the Asian YARH surveys have obtained a considerable range of events information using the structured-questionnaire format.

It is argued by many, however, that the most powerful approach to obtaining event-history information involves a very different kind of instrument and a very different kind of interview. Borrowing from anthropological field methods, sociologists and others of a more quantitative orientation have developed the “life-history matrix” (LHM) format. An early version of this format, as applied to large-scale survey work, is found in Jorge Balan’s important and innovative study of geographic and social mobility in the city of Monterey, Mexico, for which the life-history matrix was developed (Balan et al. 1969).³ The life-history matrix was adapted for use in the Hong Kong Adolescent Sexuality Survey (ASS) of 1986 and the Thailand Family and Youth Survey (FAYS) of 1994.

¹ This summarizes a detailed tabular presentation (not included) indicating where in the data file (under what field name) each piece of information can be found, or what transformations are required to generate each of the variables.

² Some entries are expressed as durations, when this kind of information is available as a variable in the main file. Many other durations can be calculated based upon the available events information. In addition, there are a few entries for variables reflecting opinions, ideals, preferences, or understandings, rather than actual events. These are included when they seem to be directly relevant to life-course issues. Finally, current status or lifetime status (“ever experienced”) information is indicated when this seems relevant. Most information is available for the entire youth cohort, but when a variable is available only for specific demographic groups this is indicated (by M: male; F: female, etc.).

³ I do not know what other paths this methodology has taken in other parts of the world, but in Asia Jorge Balan’s device served well in the Asian Marriage Survey of the early 1980s, which looked at gender, marriage, and status-attainment issues in Indonesia, Thailand, the Philippines, and Pakistan (Cheung et al. 1985). From there, the method was adapted for the migration histories in the national migration surveys proposed (but never implemented) by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) (ESCAP 1980; 1982a; 1982b). Rand’s Malaysian and Indonesian Family Life Surveys have also used the life-history matrix. Other studies of this kind at a more local scale include Cheung (1984), Lauro (1980), and Siddique (1983). Also see Pryor (1979) and the contributions by Lauro and Young in that volume.

The LHM interview is relatively unstructured, although not completely so. Domains or topics are identified in advance along with the required events relevant to each topic, and guidelines are prepared to ensure that all areas are covered. The interview does not follow a predetermined sequence, however. Instead, the respondent determines the sequence by the events that he or she reports. The process begins with birth time and place and early-life events such as school entrance or family changes of residence when the respondent was very young. That information typically leads to events in other life domains. If so, the interview pursues these. Otherwise, the movement is generally chronological through the respondent's life. In one Asian application, for example, the topic areas were residence/mobility, marriage, pregnancy/childbearing, and education. The matrix is a formatted sheet containing columns for these topic areas and single years of age along the stub. In a typical YARH interview, these ages need only extend through 24.

It would be difficult to exaggerate the value of true life-history information or the power of the LHM device for data collection. It would be equally difficult to exaggerate the practical difficulties involved, from determining the subset of events information to be targeted and training a staff capable of carrying out the interviews to actually utilizing such information in anything like the depth that might be possible. The good news is that respondents seem to understand readily and actually enjoy such interviews, something that cannot normally be said of conventional structured-questionnaire interviewing.

LHM applications are highly recommended, but with some important caveats. First, the LHM content must be as simple and as factual as possible. The method begins to break down when subjective or attitudinal information is sought retrospectively or when the instrument is overburdened with detail. Second, a very large investment must be made in interviewer training and field supervision. Third, it is very important to consider analytic uses of the event-history information in advance, so that the necessary detail, and only that level of detail, is obtained.

The more conventional, much-abbreviated scheme involves direct, retrospective "age at occurrence" questions for specific events of interest. Table 1 indicates that many of the Asian surveys obtained a considerable amount of this kind of information. It is also clear that the coverage of events is very uneven across the countries.

Issues of Data Collection

Events are selected from a universe of events, and the selection is tailored to the sample and purposes at hand. Negative events (thought to be linked to undesirable outcomes) are given greater coverage,

and non-events are ignored. Positive events, especially unexpected ones, may have a considerable impact on individuals. Non-occurrences may merely reflect that an individual was not eligible (e.g., to experience divorce one must first marry).

We must recognize that a brief questionnaire inquiry cannot substitute for in-depth information collected over time. The epigram at the beginning of this paper by Thomas and Znaniecki refers to a comprehensive analysis of full, in-depth life histories, collected with great effort over an extended period (Thomas and Znaniecki 1918–1920). Caspi et al. (1998) illustrates the power of in-depth, longitudinal data collection. They collected data longitudinally covering lives from birth through age 21, and on the basis of these data they predict unemployment as a reflection of human capital, social capital, and personal capital. They have appropriately subtle measures of each.

Recall over long periods is certainly a problem (somewhat minimized in youth samples). Some events are well defined, yet chronological age may not be an important feature of the definition. An example is menarche. And the male equivalent of menarche is not very well defined. Some events in some societies are marked by well recognized and perhaps well-attended rituals, which can be recalled readily and which have important influences on people's lives (e.g., menarche in Bangladesh; see Paige and Paige (1981), especially chapter 3), while the same occurrence may pass by without fanfare in other settings.

A comment is necessary on the issue of culture, or setting, and the question of whether the same events should be of interest in all settings, and whether the same data-collection instruments can be equally effective in all settings. It is generally presumed that relatively factual kinds of information (e.g., age at school leaving) have similar meanings and applicability across countries, while the more subjective kinds of information will generally be less comparable cross-nationally. In the domain of psychology, for example, Cheng (1997) uses a Chinese Adolescent Life Event Scale (CALES) of 44 items in Hong Kong study. This performs better (e.g., gives a stronger relationship with a depression scale she is interested in) than the Western-origin scale she initially experimented with. The Hong Kong Adolescent Sexuality Survey includes some of her 44 items (e.g., conflict with parents, became a member of a church) but omits many, particularly items relating to the youth's parents and changes in the home situation (e.g., parent lost job, grandparent joined household).

Issues of Analysis

We want to characterize the transition to adulthood, which is really (at least) two transitions, that from childhood to youth and that from youth to adulthood. To talk about these transitions, we have obtained

information on a variety of events in sets of relevant life domains. The initial analysis problem is to describe these sets of events in terms of timing, sequencing, duration, and spacing. Timing refers to the age of occurrence and for any population group has a central tendency as well as a dispersion. For two events occurring to an individual, we can consider the duration of time separating them as well as their sequencing. The analysis of sequencing becomes complicated when three or more events are considered. Spacing refers to the time separating transitions—in the present context, for example, between the transition to youth and the transition to adulthood.

The initial stage of a life-course analysis might be an effort to identify the core events in the transition to adulthood. Among these are societally recognized markers of adulthood, which are virtually necessary for a person to claim adult status. Certain other events may be recognized as important in the transition to adulthood although not absolutely necessary and not actually experienced by a significant proportion of each cohort. This initial reconnoiter might also examine a further set of events that may not be markers of adulthood but which nevertheless tend to cluster during the life stage of adolescence or young adulthood. Finally, consideration might be given to certain events that are not at all common during this stage of life but that may occur to some persons and may have important implications when they do.

All these events can be identified and variations in their occurrence described both within and between countries. In so doing, it is necessary to deal with the fact that the youth age range often provides truncated event distributions—only an incomplete picture of lifetime experience of certain events. Choe discusses analytic problems arising from the truncated measurement inherent in youth survey data and offers some solutions.

Age Norms and Subjective or Cognitive Age

Age structuring is one of the most pervasive and revealing aspects of social organization. All societies, in varying ways and to varying degrees, associate social roles, statuses, and expectations with chronological age or some variation of chronological age. These social definitions are expressed as age norms or sometimes even as age-specific legal enactments. Societies sometimes enact age-specific law—for example, relating to age at majority or age at marriage—in order to influence age norms and, thus, age-graded behavior.

Settersten and Mayer (1997) examine these issues and distinguish several kinds of age norm. Statistical age norms form around the empirical distributions of ages at which particular events tend to occur to individuals in the society. One may be judged early or late (early to begin dating, late to

marry) relative to the prevailing statistical distribution. There are also optimal age norms that are group ideas about the ideal or preferred ages for particular events to occur. That these optimal age norms typically vary by sex and other population sub-group is only testimony that they reflect something genuine about the society. Finally there are proscriptive/prescriptive age norms that have to do with group notions of ages at which particular events should or should not occur. [Distinction between optimal and prescriptive age norms unclear?] Whether an individual will be influenced by these norms depends, at a minimum, on whether he or she is aware of them. Statistical age norms, in particular, may be known to the researcher-observer but to no one else. The Asian YARH surveys provide a variety of kinds of information on each of these types of normative age data.

The use of such data to study optimal and proscriptive/prescriptive norms has been approached in several ways. See Settersten and Mayer (1997) for recent reviews and Hagestad (1990) and Birrin and Cunningham (1985) for earlier reviews. Of the many approaches summarized by these authors, we can highlight Neugarten and Petersen's (1957) Kansas City Study of Adult Life, with its Timetables for Men and Women and its Age Norm Checklist, and also Wood's (1972) Age-Appropriate Behavior instrument.⁴

Chronological age can be significantly redefined and rescaled by individuals in physiological, social, or other terms. Subjective age identification is concerned with how young or old a person feels, with what age category he or she identifies, how young or old he or she would wish to be. For example, the Barak and Stern (1986) "Ages of Me" instrument assesses Feel Age, Look Age, Do Age, and Interest Age (all defined as one might guess from the labels), which are taken to be dimensions of cognitive age.

Some Important Interdependencies

A core, motivating idea in studies of the transition to adulthood is the notion that the way the transition is experienced can have important effects on how the remainder of one's life is played out. This seems sensible enough, although when researchers have operationalized these ideas the results frequently have been mixed. For example, Marini et al. (1989) looked at panel data on American youth to relate transitional events (both timing and sequencing) to adult attainment (wages) and found no support for

⁴ We pass over a set of additional approaches focusing on images of the incumbents of various ages, such as Neugarten and Peterson's (1957) Age Association Items.

an effect of the overall timing of the transition or of experiencing events in an atypical sequence. They did find effects of specific transitional events on the attainment outcome, however. They also find that most effects are mediated via educational attainment. Also, entry to adult family roles has an influence on earnings but in the opposite direction for males and females.

Another genre of adulthood-transition research has examined “social clock theory” (Rook et al. 1989). This expresses the idea that because social norms govern the timing of major life events, events that are experienced off time or out of sequence are stressful and may have other undesirable sequelae.

Menarche/Puberty and the Transition to Adulthood

The objective here is to identify implications of menarche (age at first female menses or male puberty) on the transition to adulthood generally and on other specific events. It is recognized that the age at puberty has moved downward in the past century under the impetus of improved nutrition (Eveleth and Tanner 1976; Marshall and Tanner 1986; Van der Eng 1993 on Asian populations). There is also research suggesting that precocious menarche, other things being equal, influences how a person is regarded, whom she associates with, how early or late her parents seek to complete a marriage arrangement, and so forth (Brooks-Gunn 1988; Buck and Stavraky 1967). Risk behaviors may also be associated with age at puberty, notably the early onset of sexual activity and even pregnancy (Udry 1979). Some YARH surveys provide the information required to examine age at menses in relation to the knowledge a young girl had and the counseling she did or did not receive at that point in her life. Such information makes it possible to assess the consequences of early menses without the necessary knowledge or understanding of what is occurring (e.g., Skandhan et al. 1988 on India).

The Significance of Educational Attainment and School Leaving

How is schooling, and specifically school leaving as a life-course event, related to other events in the transition to adulthood (Pallas 1993)? One focus here is on how school leaving and marriage are sequenced, and the conditions, if these can be identified, under which one influences the other. Another is the set of social and policy issues revolving around the relative timing of school leaving and marriage and the duration of time between these events. Preliminary examination of some of the Asian YARH data suggests that relatively late school leaving is partially compensated by a relatively quick transition to marriage, and also that this pattern differs markedly for males and females.

A central issue is how the pattern of the transition to adulthood, not to mention adulthood itself, may be related to human-capital aspects of schooling versus the knowledge and skills gained through schooling, versus the culture and values including personal goals absorbed in school. For example, Blossfeld and Huinink (1991) ask if women's schooling, as a feature of their transition to adulthood, has an effect on reproduction due to human-capital aspects (e.g., opportunity costs) versus altered childbearing and other life-goal preferences.

For some data sets it is possible to explore certain social and life-course implications of the historical extension of time spent in school. For example, it would be revealing to look at the proportion of youth who experience menarche or puberty while still in school versus after they have left school. We can also consider the proportion of youth who have lost a parent, or both parents, or who have a sibling who has married or become a parent, by the time they have left school.

Sex in the Transition Sequence

A core YARH interest is in the timing of first sexual experience within the sequence of events running from menarche/puberty to first union. This will no doubt also be of interest to those looking into varieties of sexual experience, including premarital sex. One focus might be on how the different sequences of these events fit into a larger sequence of events marking the transition to adulthood. One such set of events might be called the "dating sequence." YARH surveys often obtain event information on a set of "dating behaviors." In the Asian YARH data, these events encompass a sequence from holding hands to sexual intercourse. With these data it is possible to consider the proportions of youth who engage in combinations of such activities at each age and how these behaviors fit into the transition to adulthood. Needless to say, the determinants of first sex are a primary interest that can be examined in a life-course framework (Dorius, Heaton, and Seffen 1993). Another topic of interest is the obviously complex temporal and causal connections between the timing of first sex and the timing of first marriage. Examples of this kind of analysis include Koyle et al. (1989) and Xenos, Raymundo, and Berja (1999) using the 1994 Young Adult Fertility and Sexuality (YAFS-II) survey of the Philippines.

Parental Information: The Family Life Course of Children and Youth

Life histories are conceptualized at the individual level, but much can be learned by linking family information to personal histories. Life histories have been employed to build up family histories when that is the primary interest (Siddique 1983), but the focus here is on enhancing our understanding of

individual transitions to adulthood by considering information about families. Fixed features of family background (e.g., mother's educational level or place of birth) can be examined, but data can also be collected on changing or time-dependent aspects of family life. Examples of this kind of data collection in the Asian surveys include the survivorship of individual parents, parental joint continuity as a couple, and sibling-roster information on the growth of the respondent's sibling set and his or her place within it. Some complex and potentially important hypotheses can be examined with data of this kind, relating to the influences of family structure, changes in the family situation, and disturbances to family life on a young person's transition events.

Conclusion

The life-course framework has many applications, but it has a special relevance for analysis of YARH surveys. This is for the straightforward reason that the youth age range, no matter what specific definition we use, is all about important life events. Many events occur for the first time during youth. Others have their most dramatic impacts on a person's life when they occur during the transition to adulthood. Others are themselves essential elements of that transition, or have the potential to speed up or delay the transition or otherwise throw the transition off of the track or timetable it would otherwise be on. In this paper we have looked at the life-course literature focusing especially on the transition to adulthood. Even the cursory review offered here should have hinted at the rich research agenda that can be generated by life-course ideas.

We have also looked at the collection of event-history information, using some of the Asian YARH surveys as illustrations. It should be clear from this discussion that the collection of event-history information can be very difficult but also very rewarding.

References

- Angrosino, M. V. 1989. Documents of interaction: Biography, autobiography, and life history in social science perspective. Gainesville: University Presses of Florida.
- Aries, P. 1962. *Centuries of childhood*. New York: Vintage.
- Arnett, J. J. 1994. Are college students adults? Their conceptions of the transition to adulthood. *Journal of Adult Development*, pages 154–68.
- Arnett, J. J. 1997. Young people's conceptions of the transition to adulthood. *Youth and Society* 29:3–23.
- Balan, J., H. L. Browning, E. Jelin, and L. Lee. 1969. A computerized approach to processing and analysis of life histories obtained in sample surveys. *Behavioral Science* 14:105–20.

- Barak, B., and Stern, B. 1986. Subjective age correlates: A research note. *Gerontologist* 26:571–78.
- Bertraux, D. 1981. *Biography and society: The life history approach in the social sciences*. Beverley Hills: Sage Publications.
- Birrin, J. E., and W. R. Cunningham. 1985. Research on the psychology of aging: Principles, concepts and theory. In J. E. and D. E. D. Birrin, eds., pp. 3–34. *Handbook of aging and psychology*. New York: Van Nostrand Reinhold.
- Blossfeld, H.-P., and J. Huinink. 1991. Human capital investments or norms of role transition? How women's schooling and career affect the process of family formation. *American Journal of Sociology* 97:143–68.
- Brooks-Gunn, J. 1988. Antecedents and consequences of variations in girls' maturational timing. *Journal of Adolescent Health Care* 9(5): 365–73.
- Buck, C., and K. Stavraký. 1967. The relationship between age at menarche and age at marriage among childbearing women. *Human Biology* 39:93–102.
- Cain, L. D., Jr. 1964. Life course and social structure. In Robert E. George, ed. *Handbook of modern sociology*. Chicago: Rand McNally.
- Caspi, A., B. R. E. Wright, T. E. Moffitt, and P. A. Silva. 1998. Early failure in the labor market: Childhood and adolescent predictors of unemployment in the transition to adulthood. *American Sociological Review* 63:424–51.
- Cheng, C. 1997. Assessment of major life events for Hong Kong adolescents: The Chinese adolescent life event scale. *American Journal of Community Psychology* 25:17–33.
- Cheung, P. P. L. 1984. Early life events and the transition to marriage in Thailand: An event history analysis of marriage process. In Apichat Chamratrithirong, ed., pp. 133–78. *Perspectives on Thai marriage*. Bangkok: Sri Ananta Press.
- Cheung, Paul, Josefina Cabigon, Aphichat Chamratrithirong, Peter F. McDonald, Sabita S. Syed, Andrew Cherlin, and Peter C. Smith. 1985. Cultural variations in the transition to marriage in four Asian countries. In *International Population Conference, Florence, 1985*. Vol. 3, pp. 293–305. Liege, Belgium: IUSSP.
- Choe, Minja Kim.
- Craft, N. 1997. Life span: Conception to adolescence. *British Medical Journal* 315:1227–30.
- Dannefer, D. 1987. Aging as intracohort differentiation: Accentuation, the Mathew effect, and the life course. *Sociological Forces* 2:211–36.
- Dorius, G. L., T. B. Heaton, and P. Steffen. 1993. Adolescent life events and their association with the onset of sexual intercourse. *Youth and Society* 25:3– .
- Elder, G. H. 1985. Perspectives on the life course. In G.H. Elder, ed. *Life course dynamics: Trajectories and transitions, 1968–1980*. Ithaca: Cornell University Press.
- Elder, G., Jr. 1975. Age differentiation in the life course. *Annual Review of Sociology* 1:165–90.
- ESCAP (Economic and Social Commission for Asia and the Pacific). 1980. *National migration surveys: II. The core questionnaire*. Bangkok: ESCAP.

- ESCAP (Economic and Social Commission for Asia and the Pacific). 1982a. *Migration, urbanization and development in Thailand*. Comparative Study in Migration, Urbanization and Development in the ESCAP Region, Country Report V. Bangkok: ESCAP.
- ESCAP (Economic and Social Commission for Asia and the Pacific). 1982b. *National migration surveys: X. Guidelines for analyses*. New York: United Nations.
- Eveleth, Phyllis and J. M. Tanner. 1976. *Worldwide variation in human growth*. Cambridge: Cambridge University Press.
- Friedenberg, E. Z. 1959. *The vanishing adolescent*. Boston: Beacon Press.
- George, L. K. 1993. Sociological perspectives on life transitions. *Annual Review of Sociology* 19:353–73.
- Gillis. 1993.
- Hagestad, G. O. 1990. Social perspectives on the life course. In Robert H. Binstock and Linda K. George, eds., pp. 151–68. *Handbook of aging and the social sciences*. New York: Academic Press.
- Hareven, T. 1978. Cycles, courses and cohorts: Reflections on theoretical and methodological approaches to the historical study of family development. *Journal of Social History* 12:97–109.
- Hareven, T. K. 1978. *Transitions: The family and the life course in historical perspective*. New York: Academic Press.
- Hogan, D. P. 1978. The variable order of events in the life course. *American Sociological Review* 43:483–507.
- Hogan, D. P., and N. Astone. 1986. The transition to adulthood. *Annual Review of Sociology*, 12:109–130.
- Kertzer, D. I., and K. Warner Schaie. 1989. *Age structuring in comparative perspective*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- Koyle, P. F. C., Larry Cyril Jensen, Joe Olsen, and Bert Cundick. 1989. Comparison of sexual behaviors among adolescents having an early, middle, and late first intercourse experience. *Youth and Society* 20:461–76.
- Lauro, Donald J. 1980. *The demography of a Thai village: Methodological considerations and substantive conclusions from a field study in a central plains community*. Canberra: Australian National University.
- Marini, M. M., Hee-Choon Shin, and Jennie Raymond. 1989. Socioeconomic consequences of the process of transition to adulthood. *Social Science Research* 18:89–135.
- Marshall, W. A. J. M. 1986. Puberty. In W. A. Marshall and J. M. Tanner, eds., pp. 171–209. *Human growth*. London: Plenum Press.
- Neugarten, B. L., and W. A. Peterson. 1957. Proceedings of the 4th Congress of the International Association of Gerontology.
- Paige, K. E., and J. M. Paige. 1981. *The politics of reproductive ritual*. Berkeley: University of California Press.
- Pallas, Aaron M. 1993. Schooling in the course of human lives: The social context of education and the transition to adulthood in industrial society. *Review of Educational Research* 63(4): 409–47.
- Plath, D. W. 1980. *Long engagements: Maturity in modern Japan*. Stanford, California: Stanford University Press.

- Pryor, Robin J. 1979. *Residence history analysis*. Studies in Migration and Urbanization, No. 3. Canberra: Department of Demography, Australian National University.
- Rindfuss, R. R. 1991. The young adult years: Diversity, structural change, and fertility. *Demography* 28:493–512.
- Rook, K. S., Ralph Catalano, and David Dooley. 1989. The timing of major life events: Effects of departing from the social clock. *American Journal of Community Psychology* 17:233–59.
- Ryder, N. 1960. The cohort as a concept in the study of social change. *American Sociological Review* 23:843–61.
- Ryder, N. 1969. Notes on the concept of a population. *American Journal of Sociology* 5:447–63.
- Ryder, N. 1992. The centrality of time in the study of the family. In E. Berquo and P. Xenos, eds. *Family systems and cultural change*. Oxford: Clarendon Press.
- Schlegel, A. 1995. The cultural management of adolescent sexuality. In Paul Abramson and Steven Pinkerton, eds. *Sexual nature, sexual culture*. Chicago: University of Chicago Press.
- Schlegel, A., and Herbert Barry 1991. *Adolescence: An anthropological inquiry*. New York: Free Press.
- Settersten, R. A., Jr., and Karl Ulrich Mayer. 1997. The measurement of age, age structuring, and the life course. *Annual Review of Sociology* 23:233–61.
- Siddique, Sharon. 1983. *The family trajectory: An alternative to the family life cycle model*. Paper presented at the Research Seminar on Third World Urbanization and the Household Economy, 27–29 June, Penang, Malaysia.
- Singh, Susheda, and Renee Samara. 1996. Early marriage among women in developing countries. *International Family Planning Perspectives* 22:148–57, 175.
- Skandhan, K. P., Amita K. Pandya, Sumangala Skandhan, and Yagnesh B. Mehta. 1988. Menarche: Prior Knowledge and Experience. *Adolescence* 23:149–54.
- Thomas, W. I., and Znaniecki, F. 1918–1920. *The Polish peasant in Europe and America: Monograph of an immigrant group*. Chicago: University of Chicago Press.
- Udry, J. R. 1979. Age at menarche, age at first intercourse and at first pregnancy. *Journal of Biosocial Science* 11:433–41.
- Van der Eng, P. 1993. *Economic growth and the age at menarche in Asia*. Unpublished paper.
- Whiting, J. W. M., Victoria K. Burbank, and Mitchell S. Ratner. 1986. The duration of maidenhood across cultures. In Jane B. Lancaster and Beatrix A. Hamburg, eds. *School-age pregnancy and parenthood: Biosocial dimensions*. New York: Aldine de Gruyter.
- Wood, V. 1972. *Role allocation as a function of age*. Paper presented at the annual meeting of the Gerontological Society of America. San Juan, Puerto Rico, 17–21 December.
- Xenos, Peter. 1990. The social demography of Asian youth populations: An analysis of projections to 2010. Background Paper No. 3, Analysis of Population Trends and Projections in Asia 1980–2010. Honolulu: East-West Population Institute.

Xenos, P., C. Raymundo, and C. Berja. 1999. Union formation and premarital sex. In C. Raymundo, P. Xenos, and L.J. Domingo, eds. *Adolescent sexuality in the Philippines*. Quezon City: University of the Philippines Population Institute.

Xenos, P., and Socorro A. Gultiano. 1992. *Trends in female and male age at marriage and celibacy in Asia*. Honolulu: East-West Center, Program on Population.

Table 1. Summary of Life Events and Closely Related Information Available in Asian YARH Surveys and Other Surveys										
Life Course Event Information	Philippines (YAFS-II 1994)	Thailand (FAYS 1994)	Indonesia (RRS 1998)	Hong Kong (AAS 1986)		Taiwan (TYPS 1995)		Other Survey Systems		
				In-School	Households	Unmarried	Married	Student Survey	Demographic and Health Survey (DHS)	Center for Disease Control YARH Survey
CURRENT AGE/BIRTH DATE										
AGE	X	X	X	X	X	X	X	X	X	X
DATE OF BIRTH (Yr, Mo)	X		X		X	X	X	X	X	X
SPOUSE INFORMATION										
AGE OF SPOUSE (AT INTERVIEW)	X[1]	X			X				X	X
RESIDENTIAL EVENTS										
A. GENERAL										
AGE FIRST LIVED IN (COUNTRY)					X		X			
DURATION IN (THIS) CITY [2]	X					X	X		X	
1ST RELOCATION AFTER MARRIAGE			X				X			
NOW LIVING IN A CITY/URBAN	X	X	X				X		X	
DURATION IN THIS HOUSEHOLD [3]			X						X	
Ever changed residence?	X	X	X						X	
B. BOARDING/DORMITORY LIVING										
AGE FIRST LIVED IN [ANY] BOARD./DORM [4]	X						X	X		
AGE FIRST LIVED IN THIS BOARD./DORM	X		X							
DURATION IN THIS BOARD./DORM	X		X							
DURATION IN ANY/ALL BOARD./DORMS [4]	X						X	X		
NOW LIVING IN A BOARDING/DORM RESIDENCE	X		X				X	X		
Ever lived in a boarding/dorm residence	X									
UPBRINGING/HOMELEAVING										
Age ended living with father		X			X	X	X			X
age ended living with mother		X			X	X	X			X
age first lived away from father		X			X	X	X			
age first lived away from mother		X			X	X	X			
AGE FIRST LIVED AWAY FROM PARENTS	X	X			X	X	X			
Now living away from father		X			X	X	X			
Now living away from mother		X			X	X	X			

Table 1. Summary of Life Events and Closely Related Information Available in Asian YARH Surveys and Other Surveys									
Life Course Event Information	Philippines (YAFS-II 1994)	Thailand (FAYS 1994)	Indonesia (RRS 1998)	Hong Kong (AAS 1986)		Taiwan (TYP5 1995)		Other Survey Systems	
				In-School	Households	Unmarried	Married	Student Survey	Demographic and Health Survey (DHS)
Now living away from both parents		X			X	X	X		
Ever away from father/mother	X	X			X				
SCHOOLING									
AGE LEFT SCHOOL	X	X			X	X			
Now out of school	X	X	X		X	X	X		
AGE 1ST FAM PL/POP ED IN SCHOOL	X[5]		X						
Ever attended school	X	X	X		X				
Ever had Fam Pl/Pop Ed. In school	X		X						
WORK									
AGE FIRST WORKED		X			X	X	X		
DURATION OF FIRST EMPLOY. IN YRS [6]		X			X				
DURATION OF MILITARY EXPERIENCE		X							
Ever worked [7]	X	X	X		X	X	X		
Ever in military		X							
RELIGION									
AGE FIRST CONVERTED TO CUR. RELIGION [8]	X				X				
AGE BECAME A NOVICE (BUDDHIST)		X							
DURATION AS A NOVICE (BUDDHIST)		X							
Age ended as a novice (Buddhist)		X							
AGE BECAME A MONK (BUDDHIST)		X							
DURATION AS A MONK (BUDDHIST)		X							
Age ended as a monk (Buddhist)		X							
Ever changed religion	X								
Ever a novice		X							
Ever a monk		X							

Table 1. Summary of Life Events and Closely Related Information Available in Asian YARH Surveys and Other Surveys									
Life Course Event Information	Philippines (YAFS-II 1994)	Thailand (FAYS 1994)	Indonesia (RRS 1998)	Hong Kong (AAS 1986)		Taiwan (TYP5 1995)		Other Survey Systems	
				In-School	Households	Unmarried	Married	Student Survey	Demographic and Health Survey (DHS)
SUBSTANCE USE AND OTHER RISKS									
AGE FIRST SMOKED	X	X	X						X
AGE FIRST DRANK	X	X	X						X
Age first used drugs	X	X	X						
AGE LAST SERIOUS ILLNESS		X							
AGE LAST TRAFFIC ACCIDENT		X							
AGE LAST STD		X							
Ever smoked	X	X	X			X	X	X	
Ever taken betel-nut						X	X	X	
Ever drank	X	X	X						
Ever used drugs	X	X	X			X	X		
Ever had serious illness									
Ever had traffic accident									
Ever had an STD									
SEXUAL EVENTS									
AGE FIRST CONSUMED PORNO MATERIALS					X	X	X	X	
AGE START TO MASTURBATE				X	X			X	
AGE AT MENSES/EMISSION/EJACULATION	X	X		X	X	X	X	X	X
NOTION WHEN BOYS START PUBERTY			X						
NOTION WHEN GIRLS START PUBERTY			X						
NOTION WHEN BOYS END PUBERTY			X						
NOTION WHEN GIRLS END PUBERTY			X						
AGE AT FIRST COMMERCIAL SEX VISIT					X				
AGE AT FIRST JIABU					X				
YEAR OF FIRST SEXUAL INTERCOURSE	X				X	X	X	X	
AGE AT FIRST SEXUAL INTERCOURSE	X	X	X		X	X	X	X	X
Age at first sex--premarital	X	X	X		X	X	X	X	
Age at first sex--w/ CSW	X	X			X			X	
AGE OF PARTNER AT R'S FIRST SEX	X							X	
AGE/TIME OF LAST INTERCOURSE	X								

Table 1. Summary of Life Events and Closely Related Information Available in Asian YARH Surveys and Other Surveys									
Life Course Event Information	Philippines (YAFS-II 1994)	Thailand (FAYS 1994)	Indonesia (RRS 1998)	Hong Kong (AAS 1986)		Taiwan (TYP5 1995)		Other Survey Systems	
				In-School	Households	Unmarried	Married	Student Survey	Demographic and Health Survey (DHS)
Ever consumed porno materials	X				X	X	X		
Ever masturbated				X	X				
Ever had menses/nocturnal emission/ejaculation	X			X	X				
Ever visited CSW	X	X			X				
Ever had jjabu									
Ever had sexual intercourse	X	X	X		X	X	X		
FAMILY EVENTS									
A. SIBLING INFORMATION									
Age of R at birth of sibling A through O	X				X				
Age of R at birth of next sibling	X				X				
age of R at birth of last sibling	X				X				
AGE OF MARRIAGE SIBLING A THRU O	X								
Age of R at first sibling marriage--same sex	X								
Age of R at first sibling marriage--opposite sex	X								
Age of R at first sibling marriage--either sex	X								
Age when first no same sex siblings living with					X				
Age when first no opposite sex siblings living with					X				
B. PARENT/GUARDIAN INFORMATION									
FATHER'S AGE		X		X					
MOTHER'S AGE		X		X					
Age of R when mother was 50??		X							
DATE OF BIRTH OF 1ST PERSON RAISE R TO 15	X								
DATE OF BIRTH OF 2ND PERSON RAISE R TO 15	X								
Age when father first not the main supporter					X				
Age when father first not the main decisionmaker					X				
Age when father first not the main caretaker					X				
age when mother first not the main supporter					X				
age when mother first not the main decisionmaker					X				
Age when mother first not the main caretaker					X				
age when neither parent is the main supporter					X				

Table 1. Summary of Life Events and Closely Related Information Available in Asian YARH Surveys and Other Surveys									
Life Course Event Information	Philippines (YAFS-II 1994)	Thailand (FAYS 1994)	Indonesia (RRS 1998)	Hong Kong (AAS 1986)		Taiwan (TYPs 1995)		Other Survey Systems	
				In-School	Households	Unmarried	Married	Student Survey	Demographic and Health Survey (DHS)
age when neither parent is the main decisionmaker					X				
Age when neither parent first not the main caretaker					X				
age when non-family or self is main supporter					X				
age when non-family or self is main decisionmaker					X				
Age when non-family first not the main caretaker					X				
Current age of 1st person raise R to 15	X								
Current age of 2nd person raise R to 15	X								
AGE WHEN PARENTS FIRST DISUNITED					X				
AGE WHEN PARENTS REMARRIED [9]					X				
Age of R at mother's death		X			X	X	X		
Age of R at father's death		X			X	X	X		
Age of R at mother-in-law's death							X		
Age of R at father-in-law's death							X		
SOCIAL EVENTS (HETEROSEXUAL)									
AGE FIRST CRUSH	X								
AGE FIRST ADMIRE OPPOSITE SEX	X								
AGE FIRST SOUGHT AFTER	X								
AGE FIRST GROUP DATE	X								
AGE FIRST SINGLE DATE	X				X				
AGE AT FIRST PAITOU						X	X		
AGE AT FIRST LOVE IN PAITOU						X			
AGE FIRST BOY/GIRL FRIEND	X	X	X						
AGE AT FIRST KISSING IN PAITOU						X	X	X	
AGE FIRST HAVE PETTING IN PAITOU						X	X	X	
AGE STEADY WITH CUR/LAST B/G FRIEND	X								
DURATION STEADY W/ CUR/LAST B/G FRIEND	X								
DURATION COURTSHIP BEFORE STEADY	X								
IDEAL AGE MEN TO HAVE GIRL FRIEND		X							
IDEAL AGE WOMEN TO HAVE BOY FRIEND		X							

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Life Course Event Information	Philippines (YAFS-II 1994)	Thailand (FAYS 1994)	Indonesia (RRS 1998)	Hong Kong (AAS 1986)		Taiwan (TYP5 1995)		Other Survey Systems
				In-School	Households	Unmarried	Married	Student Survey
UNION FORMATION EVENTS								
AGE AT FIRST ENGAGEMENT		X				X		
AGE AT FIRST COHABITATION	X	X					X	X
AGE MET FIRST SPOUSE	X							
AGE/MO-YR AT 1ST MARRIAGE/COHAB.	X	X	X		X	X	X	X
AGE OF SPOUSE AT FIRST MARRIAGE	X							
YR MARRIED/START LIVE W/ CURRENT SPOUSE	X	X				X	X	
AGE OF R AT UNION WITH CUR. SPOUSE	X	X				X		
AGE OF CURRENT SPOUSE AT UNION	X[10]	X			X			
DURATION OF COHAB. BEFORE CUR. MAR.	X	X				X	X	
IDEAL AGE AT MARRIAGE FOR MEN	X		X			X	X	
IDEAL AGE AT MARRIAGE FOR WOMEN	X		X			X	X	
# YRS HUSB. SHOULD BE OLDER THAN WIFE						X		
AGE R EXPECTS TO MARRY	X	X	X			X		
YEAR FIRST MARRIAGE ENDED	X		X				X	
Age of R at end of first marriage	X						X	
CHILDBEARING EVENTS [F]								
AGE AT FIRST PREGNANCY	X		X		X	X	X	X
AGE AT FIRST PREMARITAL PREGNANCY	X				X	X	X	X
DURATION MARRIAGE TO FIRST CHILD		X	X			X	X	X
Age at birth first child		X	X			X	X	X
AGE AT FIRST MISCARRIAGE			X			X	X	X
MO-YR PREG. TERMINATED, 1 THRU N	X					X	X	X
MO. OF GESTATION OF CURRENT PREGNANCY	X						X	X
LAST PERIOD	X					X	X	X
AGE AT FIRST CONTRACEPTION			X			X	X	X
WANTED DURATION MARRIAGE TO 1ST BIRTH	X		X					
TIME EXPECT TO HAVE FIRST CONCEP./BIRTH			X					
IDEAL BIRTH INTERVAL FOR WOMEN	X		X					
IDEAL AGE FIRST CHILD, MOTHER	X							
IDEAL AGE FIRST CHILD, FATHER	X							