The Transition to Adulthood: Life Course Structures and Subjective Perceptions[*]

Scott R. Eliason[**],
University of Arizona

Jeylan T. Mortimer, and
University of Minnesota

Mike Vuolo
Purdue University

Abstract

We examine the relationships between objective life course structures and the subjective sense of timing of adult roles and acquisition of adult identity. Hierarchical latent class analysis is applied to longitudinal data from the Youth Development Study, describing roles related to school, work, family formation, and living arrangements from age 17 to 30. The transition to adulthood in this cohort is well-represented by five pathways probabilistically mapping the timing and sequencing of these roles and their configurations. Three pathways are characterized by a school-to-work transition with on-time, delayed, or negligible family formation. The remaining pathways involve early parenthood with either a partner and stable full-time work or the lack of a partner and low labor force attachment. We then show that the subjective sense of timing with respect to certain adult roles and adult identity acquisition is empirically tied to these life course structures.

Keywords

Life Course; Self and Identity; Age Norms; Transition to Adulthood; Attitudes

Much contemporary life course scholarship is premised on a two-fold conceptualization of human lives. The first encompasses the age-graded social roles that define life stages, each associated with distinct activities, opportunities, constraints, and rewards. This objective dimension of the life course consists of sequences of roles and the transitions between them that define careers within particular institutional domains (e.g., school, work, community

participation, etc.). The ordering of social roles, the timing of transitions, and their implications for attainments have long been of central interest to life course analysts (e.g., Hogan 1978, 1980; Marini 1984a, 1984b; Mouw 2005).

The second conceptualization references the person's recognition, interpretation, and evaluation of experiences associated with those trajectories. Phenomena of relevance to the subjective life course include individual recognition and salience of distinct phases of life, social comparisons of where one stands relative to significant others at the same or other life stages, and stage-specific personal identities and behaviors. For example, a youth who feels fully like an adult may want to embrace adult roles and responsibilities, and to relinquish "adolescent" deviance and non-conforming behavior (Massoglia and Uggen 2010). Recent qualitative studies document the ambivalence and ambiguity contemporary youth experience given the absence of clear "rites of passage" and the highly individualized character of the transition to adulthood (Aronson 2007; Hartmann and Swartz 2007; Silva 2012).

While key objective transitions are usually examined singly (e.g., the timing of parenthood), or in pairs (does marriage occur before or after educational completion?), individuals occupy several roles, such as student, worker, spouse, or parent, simultaneously. The temporal features of specific role configurations (when do they begin? how long do they last?) are essential to understanding the dynamic character of both the objective and the subjective life course. The meaning of particular roles and transitions depends on their contextual placement relative to other role trajectories. For example, the transition to independent residence will be understood quite differently depending on whether other markers of adulthood (e.g., full-time work, marriage) have yet been acquired (Hogan and Astone 1986). Although the life course encompasses multiple role configurations and their sequences, little is known about how these are reflected in subjective perceptions and identities. In advocating a social psychology of the life course, George (1996: 251) calls for research on the effects of "heterogeneous life course transitions" on subjective states. The present study, rooted in the social structure and personality and life course traditions of social psychology, responds directly to this call.

The non-trivial task of conceptualizing and empirically identifying multiple role-configured pathways is clearly preliminary to an attempt to link objective life pathways to subjective perceptions and understandings. We first offer a conceptualization of the life course as consisting of social roles, role configurations, and pathways of role configurations through time, and select a statistical methodology tightly tied to this conceptualization. This methodology – an application of hierarchical latent class models to the role-configured life course –reveals pathways of transition to adulthood for a contemporary cohort of young people from adolescence to the age of 30–31. We then show that these objective routes to adulthood are significantly associated with the sense of being an adult, as well as evaluations of being early, on-time, or late with respect to key markers of adult transition.

We begin with a discussion of the contemporary transition to adulthood in the United States, addressing the link between objective pathways and the subjective sense of timing and adult identity. We then elaborate our conceptualization of the life course, bringing together objective and subjective components. Next, we describe the data and measures, as well as

the latent life path model. Finally, we examine the character of distinct role-configured pathways to adulthood, and the relationship between these pathways and subjective assessments of adult role-related timing and identity.

The Contemporary Transition to Adulthood

The Acquisition of Adult Roles

The transition to adulthood has garnered much recent scholarly attention, given its marked consequences for adult socioeconomic attainment, family life, and health (Shanahan 2000; Settersten, Furstenberg, and Rumbaut 2005; Benson and Furstenberg 2007; Settersten and Ray 2010; Waters, et al. 2011; Booth, et al. 2012). This transition is distinguished by its prolonged character and increasingly individualized quality in the United States, which makes it more precarious and uncertain now than in prior cohorts (Shanahan 2000). The extension of higher education has prolonged youth's residential and economic dependence on parents, and has delayed the acquisition of full-time work and family formation (especially parenthood). Loose institutional connections between school and work (Schneider and Stevenson 1999; Kerckhoff 2002; Shanahan, Mortimer, and Krueger 2002) are accompanied by increasingly prevalent "non-standard" employment relations that reduce the capacity to acquire and to maintain jobs that provide sufficient compensation for family formation (Kalleberg, Reskin, and Hudson 2000; Heinz 2003; Kalleberg 2011).

Along with the lengthening transition to adulthood has come increasing diversity, individualization or disorderliness in role acquisition (Settersten 1999; Shanahan 2000; Settersten and Ray 2010; Benson 2013). Youth increasingly alternate or combine higher education and full-time work, while moving in and out of various cohabiting and marital arrangements. These transitions may be accompanied by return to the parental home after acquiring initial residential independence. Mean trends, such as delayed parenthood, hide large subgroup differences, as youth of upper and middle-class origins pursue higher education and postpone family formation, while their less advantaged peers cohabit and become parents at much younger ages (Furstenberg 2008). With increasing variability in the transition to adulthood, some question whether anything resembling common, institutionalized pathways to adulthood still exist (Buchmann 1989).

Subjective Timing and Adult Identity

While research continues to document the variable nature of contemporary pathways to adulthood, other studies address individuals' subjective perceptions and interpretations of their age-graded life experiences (Neugarten, Moore, and Lowe 1965; Neugarten 1969; Neugarten and Datan 1973; Hagestad and Neugarten 1985; Settersten 2003; Johnson and Mollborn 2009; Schafer and Shippee 2010). Work is directed to understanding conceptions about the "right time" to undergo transition markers; for example, the "best time" to finish education, start a full-time job, marry, or have children; "deadlines" or the oldest ages by which these transitions should be accomplished (Heckhausen, Wrosch, and Fleeson 2001); or about age ranges reflecting "on time," "early," or "late" transitions.

Foundational to this line of thinking is Neugarten's early work (Neugarten, Moore, and Lowe 1965) conceptualizing the life course as a normative regime, with individuals

recognizing their own and others' adherence to age norms. According to this analysis, persons who deviate from age norms are subject to a variety of social sanctions. If age norms are truly operant, it is reasonable to expect that in the face of their own deviations from such norms, individuals would have difficulty acquiring age-graded self-perceptions and identities. (Marini, 1984, however, questions whether age regularities do, in fact, reflect norms and sanctions.) In fact, research subjects are generally able to make judgments about the appropriate age to undergo various age-graded transitions. While recognizing that difficulties often accrue when one is off-time, they express tolerance for trajectories that deviate from central tendencies (Settersten 2003). Variability in estimates of appropriate ages for life course events is linked to social characteristics that differentiate the objective life course, such as gender and social class. Expected deadlines for marriage and parenthood are earlier for women than for men, in accord with reproductive realities (Modell 1980; Settersten 2003). Older age deadlines held by persons of higher socioeconomic status (Settersten 2003) correspond to the objective delays in life course transitions that accompany extensive higher education and, perhaps, anticipated longer life expectancy.

Most research on subjective timing, however, has been conducted by asking subjects to make judgments for *people in general* about the "ideal," "best," "preferred," or "latest" ages for life course transitions. Rarely are they asked to apply such judgments to themselves, and to our knowledge, *self-perceptions* of being "on" or "off" time have never been linked to objective sequences of multiple role configurations, or long-term pathways, to adulthood.

According to Higgins (1989), people are motivated to reach a condition in which their self-concepts, or "actual" selves, match their "ideal" (aspirational) or "ought" (obligational) selves. Adherence to age norms might constitute elements of both the "ought" self, or one's perception of the general social norm, and the "ideal" self, or what one wishes to achieve. Such judgments about one's own timing may be critical in motivating behaviors related to adult role markers. For example, one who feels "late" with respect to family formation could have stronger motivation to pursue an intimate relationship than one who feels "on time" in this sphere. Failure to achieve life course markers "on time," or discrepancies between the actual and the "ought," could have negative implications for mental health.

Another way of linking the objective and subjective life course is by examining "subjective age identification" (Settersten 1999), or a young person's identity as an adult. To fully comprehend the relation of life pathways to adult identity it may be insufficient to simply know what markers have been "accomplished" at any given time; consistent with Neugarten's normative timetables, the age at which markers of transition to adulthood occur may be critical.

These ideas elaborate Elder's more general principle of timing (Elder, Johnson, and Crosnoe 2003:12). Parenthood in the teen years, unaccompanied by marriage and gainful work, will likely have different consequences for an individual's adult identity than would becoming a parent in the mid-to-late twenties following completion of education, marriage, and acquiring full-time work. The teen mother and her child may live with her own or her boyfriend's parents; in doing so she assumes the status of economically and residentially dependent "child" along with her own child.

If the biographical sequences of role configurations during the transition to adulthood were not upheld by something akin to sequencing norms, one might expect that objective timing, or the degree of adherence to orderly sequences of positions or deadlines, would have little association with one's identity as an adult. If, however, individuals believe that adults should have completed school, acquired full-time work, married, or had children by particular ages, by a certain deadline, or in an orderly fashion, then those who have not accomplished such milestones in the expected and accepted ways would have more uncertain or precarious adult identities (Stryker 2003). Their claims to adult status would not be in accord with widely-held beliefs about appropriate biographical pathways toward adulthood.

Bringing Together Subjective and Objective Components of the Life Course

Despite its relevance to these long-term speculations and controversies about the subjective process of transition to adulthood, little empirical research has been directed to understanding subjective age identification in relation to objective transitions to adult roles. Arnett (2000), in heralding a new life stage he calls "emerging adulthood," posits that young people between ages 18 and 25 do not consider themselves adults. Arnett's empirical studies (e.g., 1997, 2003) address the criteria youth use in determining whether a person has achieved adult status. Since his respondents highlight the importance of adult-like character traits, especially the capacity to make decisions autonomously, Arnett claims that the individualized character of the transition to adulthood renders traditional objective demographic markers superfluous with respect to acquisition of adult identity. (See also Cote 2000.)

Shanahan, et al. (2005) subject this claim to empirical test by pitting Arnett's emphasis on character traits and decision-making against sociologists' reliance on demographic markers in signifying adulthood. Their study, unusual in its capacity to link subjective conceptions of adult identity (applied to oneself) to objective transitions to adulthood, finds that having ever experienced a set of markers of family formation (i.e., cohabitation/marriage, owning or renting one's own home, and parenthood) is a positive correlate of adult identity; having ever experienced a set of attainment-related transitions (i.e., completion of education or full-time work) is not. Arnett (2003) himself reports that 18–29 year old parents are more likely to think that they have "reached adulthood" than non-parents. Benson and Furstenberg (2007) show that establishing an independent household and parenthood foster an adult identity, and that transition reversals (e.g., losing a full-time job) challenge it. Johnson, Berg, and Sirotzki (2007) find that five transition markers (not in school, full-time work, independent residence, marriage/cohabitation, parenthood) and three personal characteristics (financial self-sufficiency, maturity, independence) predict feeling like an adult, but these associations vary by SES and race.

Prior studies have thus focused on the criteria youth apply when considering whether a person is an adult, or on the relationships between self-perceptions and transition markers (prior or current adult roles considered as achievements); they do not consider the timing or sequencing of multiple markers of transition to adulthood. Indeed, no studies of which we are aware examine adult identity in the context of long-term pathways of interlocking role

configurations through the transition to adulthood. To inform our central research questions, we draw on Macmillan and Eliason's (2003) conceptualization of the life course, which builds on the foundational work of Riley (1985), Neugarten (Neugarten and Datan 1973; Hagestad and Neugarten 1985), Elder (1975), Sewell (1992), and Stryker (1994). They conceptualize the life course as sets of age-graded roles embedded in differentially legitimated, age-graded role configuration schemas, which, in turn, are embedded in life path schemas that stretch across the age range.

In times of social change, new rules, patterns and forms arise that compete with previously established social phenomena and challenge existing assumptions (Stryker 1994). The increasingly prolonged and individualized transition to adulthood has diminished correspondence between prior expectations and realities, reducing enactment of age-graded transitions according to traditional timetables, and changing cognitive orientations toward those transitions. In the face of great heterogeneity in pathways to adulthood, the timing of role transitions could be seen as solely a matter of personal preference, rendering the very concept of "timeliness" as archaic or obsolete. More likely, as new life course schemas appear, older ways of thinking hold sway for a time, as a result of prior socialization and institutional and cultural "lags." These would be superseded eventually by recognition of new patterns as "the ways things are," followed by acceptance and approval.

The manner in which life path schemas are linked to the meanings of those patterns at any given historical moment becomes an important empirical question. Our analysis is in two parts. After describing the data and measures, we estimate latent life path probability models for a community-based panel of transitioning young adults. We then turn to the relationship between these pathways and cohort members' subjective sense of timing of adult roles and identity acquisition. We show that long-term pathways of interlocking role configurations through the transition to adulthood are significantly associated with adult identity and the subjective timing of key markers of becoming an adult.

Data and Measures

The sample comes from the Youth Development Study (YDS) panel of 1,010 high school freshmen randomly selected from students registered in the St. Paul, Minnesota Public School District in Fall 1987. Initially, 64 percent of those invited consented to participate. U.S. 1990 Census data indicate that this site was comparable to the nation as a whole with respect to several economic and social indicators (Mortimer 2003). For the 13 years following high school (1992–2004), respondents provided monthly records of educational attendance, unemployment, and both part- and full-time employment via life history calendars (Freedman, et al., 1988), and detailed information about family formation, attitudes and self-concepts. Surveys were completed annually, except in 1996 and 2001 (1997 and 2002 life history calendars covered two-year periods to obtain continuous records).

By 2004, when most respondents were 30 and 31 years old, 71% of the initial participants had been retained. Panel retention in the later years of the study is not associated with numerous indicators of socioeconomic origin, delinquency, extracurricular involvement,

mental health, and prior attitudes, although males and non-whites had a higher risk of survey attrition, and youth who resided in households with no family members employed in 1987 had lower retention than those in families with at least one parent employed (Mortimer 2003; Staff and Mortimer 2007). To minimize attrition bias and to boost the accuracy of estimates, a supplemental data collection for respondents who only missed one wave of the survey was undertaken in 2002, yielding a total sample size of 732.

The measures used to examine latent pathways to adulthood reflect key demographic markers of school, work, living arrangements, and family roles. To gauge the student role, respondents were considered to be in school if they attended school at least one month of the year (irrespective of level). To obtain a more sensitive indicator of work during this transition than what is usually studied (i.e., acquisition of full-time employment), we distinguish duration, measured in months (stable = 11–12 months of employment in a given year), and intensity, or hours per week. Thus, stable full-time employment indicates being employed 35 or more hours per week for at least 11 months of the year, stable "other" employment indicates any mixture of full-time and part-time employment that endures at least 11 months, and unstable employment indicates any mixture of hours for less than 11 months. Those without employment in a given year are coded "none."

Respondents were coded as living with parents if they resided with their parent(s) at least one month of the year. This standard was set to characterize students as "living with parents" who might live in dormitories or apartments during the school year, but return to their parents' homes during the summers. Respondents were coded as married if they reported being married in or before a given year; those cohabiting, divorced, or separated were grouped with singles in a not married category. Respondents were considered parents if they had a child born in or before a given year.

A battery of questions in the YDS survey assessed a respondent's self-evaluation of progress in becoming an adult at the age of 25–26. This age is old enough so that issues of timing and adult identity are likely quite salient, but young enough to have not yet acquired all the adult role markers, nor assumed a taken-for-granted identity as an adult. Respondents were asked if they felt they were very early, early, on-time, late, or very late regarding the timing of particular life course transitions, including living with a partner or spouse, marriage, parenthood, financial independence, owning a home, job and educational attainments, and acquiring a career. If they had not yet experienced a transition, they were asked where they felt they would place themselves upon its completion. Respondents were also able to indicate that they never planned to make each transition. (For the construction of this measure, see Online Appendix A.) Descriptive statistics demonstrate a close alignment of these subjective measures with objective transitions. For example, the percentage who had married by the end of the observation period (age 30) follows the response categories as we would expect (very early: 100%; early: 97%; on-time: 85%; late: 45%; very late: 26%). Among the first four categories containing enough data for meaningful analysis, the average ages for those actually making the transition also align as expected (VE: 19.8; E: 21.3; OT: 24.3; L: 27.5). We find the same pattern for parenthood (VE: 99%, age 18.1; E: 99%, 20.4; OT: 73%, 23.8; L: 35%, 26.9; VL: 19%). Following a series of questions about how the respondents usually feel in several situations (e.g., at work, with my spouse or partner, etc.),

we asked whether they feel like an adult "most of the time." The response options were "not at all like an adult," "somewhat like an adult," "entirely like an adult," and "does not apply." These measures, coupled with yearly information about role acquisitions, make the YDS panel well-suited to examine our central research questions.

Methods: Latent Life Path Probability Model

Our first empirical task is to estimate the mixtures of role configurations and life pathways in the transition to adulthood for the YDS cohort. Following recent research (Oesterle, et al. 2010; Amato and Kane 2011; Vuolo, Staff, and Mortimer 2012; Vuolo, Mortimer, and Staff 2014), we estimate a nonparametric two-level hierarchical latent class model with a set of latent variables capturing the within-age configurations (that is, the combinations of roles at each age) and a latent variable capturing the across-age pathways (that is, the patterns of movement between such role configurations over time).

Following the notation of Macmillan and Eliason (2003), let X_{it} be the set of t = 1, …, T unobserved attainment configurations, and Y_i be the unobserved pathways. The latent pathway model is

$$\Pr\{R_{i11}, \ldots, R_{iJ1}, X_{it}, \ldots, R_{i1T}, \ldots, R_{iJT}, X_{iT}, Y_i\}=$$
$$[(\Pr\{R_{i11}|X_{i1}\} \cdots \Pr\{R_{iJ1}|X_{i1}\}) \cdots (\Pr\{R_{i1T}|X_{iT}\} \cdots \Pr\{R_{iJT}|X_{iT}\})][\Pr\{X_{i1}|Y\} \cdots \Pr\{X_{iT}|Y\}]\Pr\{Y\}$$

where the probability on the left-hand-side of the equal sign is the joint probability over the set of observed and latent variables, and where the conditional probabilities on the right-hand-side consist of (1) the product of the set of conditional probabilities for the observed attainments R_{ijt} given the latent attainment configurations X_{it} at times t = 1,…, T and for observed role indicators j = 1, …, J (given in the first set of brackets), (2) the product of the conditional probabilities of the latent attainment configurations X_{it} given the latent pathway Y (given in the second set of brackets), and (3) the unconditional probability of the latent pathway variable Y (given outside the last set of brackets). For the YDS cohort, the R_{ijt} are defined as the school, work, living arrangement, marital, and parental roles described across ages of 17 to 30 inclusive, such that J = 5 and T = 14. Each role indicator includes a category for missing responses, such that missing data are directly and properly accommodated in the likelihood function.

Estimates of the conditional probabilities $\Pr\{R_{ijt}|X_{it}\}$ give the degree to which the j'th observed role at age t, R_{ijt}, is embedded in, or constituent of, the age-graded latent role configuration X_{it}. Similarly, estimates of the conditional probabilities $\Pr\{X_{it}|Y\}$ give the degree to which the latent role configuration X_{it} is embedded in latent pathway Y. Finally, $\Pr\{Y\}$ gives the degree to which each life path Y is a component of the overall structure of the life course for the studied cohort. By exploiting the person-period nature of the data, we estimate the model in a single stage using a nonparametric multilevel latent class specification in Latent Gold (Vermunt, 2003; Vermunt and Magidson 2005).

Latent Life Path Model Results for the YDS Cohort

Given that traditional goodness-of-fit statistics – such as the likelihood ratio and Pearson chi-square statistics – are not applicable, we rely on the BIC statistic to guide model selection (Vermunt and Magidson 2005). The BIC statistic reaches a minimum for models with five latent life paths, and six and seven latent role configurations (see Online Appendix B). Given that (1) the BIC statistic for the model with seven latent role configurations (63479.94) is nearly 100% (99.55%) of that for the model with six latent role configurations (63765.20), (2) the classification error rate for the two models are identical to three decimal places (0.053 for role configurations and less than 0.01 for life paths), (3) the bivariate residuals of the observed role indicators for the two models are identical for inferential purposes, and (4) the model with seven latent role configurations involves an additional 81 parameters, we use the more parsimonious model with six latent role configurations to describe the structure of the life course.

Interpreting Role Configurations

Row 1 in Table 1 gives estimates of the prevalence of each role configuration, ordered left to right from most to least prevalent. The remaining rows give, for each of the five role domains, estimates of the observed role probabilities given each role configuration; that is, the $\Pr\{R_{ijt}|X_{it}\}$ These conditional probabilities indicate the degree to which a specific role (e.g., stable full-time work) within a specific role domain (e.g., employment) is a component of a given role configuration.

Focusing on column 1 of Table 1, the role configuration with the highest prevalence (0.24) is characterized by very high probabilities of being in school (0.88) and living with a parent (0.92), and very low probabilities of stable full-time employment (0.04), having children (0.00), and being married (0.02). Whereas stable full-time employment is not a component of this role configuration, neither is non-employment (0.08). Instead, it is characterized by some attachment to the workforce, with stable other employment and unstable employment (.39 and .50, respectively). This role configuration appears to represent the traditional student role, with limited attachment to the labor market.

The second most prevalent role configuration is nearly as common as the first (compare 0.24 with the 0.22 in row 1, column 2 of Table 1). This configuration is characterized by *not* having student (0.75), parent (1.00), or spousal (1.00) roles, and by likely having stable employment (0.68+0.16=0.84). Thus, this appears as a stably-employed singles role configuration.

Only three percentage points separate the second from the third role configuration (compare 0.22 with the 0.19 in row 1, column 3 of Table 1). The roles in this configuration include some type of work (0.40+0.17+0.25 = 0.82), non-student (0.71), non-married (0.91), and parental (1.00) roles. Thus, the third most common role configuration in the YDS cohort is a working single parent.

The next two role configurations have prevalence levels of 0.17 (col. 4) and 0.10 (col. 5), respectively. Both feature work roles (0.89 and 0.95 respectively) and spousal roles (0.93

and 0.82 respectively). Each also features high conditional probabilities of *not* living with one's parent(s) (0.96 and 0.85 respectively) and *not* being in school (0.81 and 0.68 respectively). What distinguishes these two role configurations is the parental role. With a conditional probability of 1, the parental role is fully a part of the fourth role configuration. With a conditional probability of 0, in contrast, the parental role is not a component of the fifth role configuration. We therefore refer to the fourth role configuration as the married working parent configuration and the fifth as the married working non-parent configuration.

Finally, the last role configuration captures the missing data distributions. While it is necessary for modeling purposes to include missing values where appropriate in the data distribution, because this role configuration is almost entirely a function of the missing data on employment, schooling, and living with a parent, we do not discuss this configuration further.

Role Configurations Embedded in Life Paths

As specified in the latent life path model, the role configurations are the result of mixtures of different life paths, embedding the distinct role configurations in varying degrees.[1] Figure 1 shows these role configurations for each of the five estimated life paths. Graphs in Figure 1 are ordered from most to least prevalent, with values in parentheses giving estimates of the prevalence of each (the $\Pr\{Y\}$). Among these five, no single life path is overwhelmingly dominant in this cohort. The highest prevalence is 0.27 (Life Path I), and the lowest is 0.15 (Life Path V).

The geometric mean of these estimated prevalences, compared to that under equiprobability, provides a useful measure of heterogeneity across these five life paths. With five estimated pathways, the maximum amount of heterogeneity is given by $\sqrt[5]{0.20^5}=0.20$. The geometric mean for the distribution of estimated life path prevalences is $\sqrt[5]{0.27 \times 0.20 \times 0.20 \times 0.17 \times 0.15}=0.1941$, or 97% of the maximum possible. This remarkable degree of heterogeneity indicates that no one pathway dominates the landscape for this cohort. Still, the fact that the transition to adulthood in the YDS can be characterized by just five pathways suggests that cohort members have a limited number of roadmaps to draw on.

The most common life path in the YDS cohort, with estimated prevalence of 0.27, involves a relatively uncomplicated transition from the traditional student role configuration (RC 1) to the stable-employed singles configuration (RC 2). The transition, as indicated by the cross-over in the paths for these two role configurations, occurs between the ages of 20–21. This suggests four-year post-secondary educational attainment, followed by full-time work, without spousal or parent roles.

The next most frequent life path, with estimated prevalence of 0.20, shows no indication of any transition, as the working single-parent role configuration (RC 3) is most prominent throughout the entire age range. Showing the same prevalence (0.20) is the third life path.

[1]The probabilities in Figure 1 and Figure 2 are rescaled to sum to one across the non-missing latent role configurations within each age.

Here, the traditional student role configuration (RC 1) is the most common, up until age 21. From ages 22 to 30, the married working non-parent configuration (RC5) becomes the most prevalent in this life path. For a brief moment, though, around the ages of 23 to 26, the stable-employed singles configuration (RC 2) also obtains modestly high levels of occurrence. As well, throughout the mid twenties to age thirty, the role configuration featuring fully adult roles, the married working parent (RC 4), is gaining steadily within this life path.

The fourth life path, with estimated prevalence of 0.17, features a cross-over similar to that found in the first life path, but occurring two years later. As with the first and third pathways, here the traditional student role configuration (RC 1) is dominant until the early twenties. By age 23, however, the married working parent role configuration (RC 4) becomes nearly fully incorporated in this life path. Thus, the fourth life path is marked by a transition, around the age of 23, from the predominant student role to the bundle of roles marking adulthood.

The fifth estimated life path is characterized by a relatively quick drop in the traditional student role configuration (RC 1). This is overtaken at age 20 by the working single-parent role configuration (RC 3). However, this is short-lived, and the married working parent role configuration (RC 4) becomes nearly fully a part of this life path by age 30.

Roles Embedded in Life Paths

Finally, Figure 2 shows individual roles embedded in each of the five estimated life paths in the YDS cohort from ages 17 to 30. For each graph in Figure 2 we show the probabilities (see Macmillan and Eliason 2003:536) for stable full-time employment, stable other employment (e.g., part-time or part-time/full time combinations), unstable employment, in school, living at home, parent, and married.

As shown in Figure 1, the most common life path in the YDS cohort involves a rather uncomplicated transition from the traditional student role configuration to the stable full-time non-married childless role configuration. Here, in Figure 2, we see this in terms of the roles themselves, where from ages 17 to 22 the dominant roles include being a student (in school) and living with one's parent(s) (at home). As these two roles continue to decline, the dominant role replacing them becomes the stable full-time worker role. In the analysis of subjective assessments (immediately below), we therefore refer to this life path as the traditional school-to-work transition, negligible family formation pathway.

Figure 2 shows that life path II is characterized by a quick exit from the student role and the dominance of the parent role, acquired immediately after high school. Moreover, the parent role maintains its dominance through age 30, suggesting a high degree of role isolation in this life path. Accordingly, we refer to this as the early parent, no partner life path pathway.

Life paths III and IV both feature traditional school-to-work transitions, though the cross-over in the student/full-time worker role probabilities occurs at age 22 in pathway IV and a year or so later by ages 23–24 in pathway III. Also, by comparison, family formation roles of parent and, to a much lesser extent, spouse, are delayed in life path III relative to path IV.

Thus, we refer to life path III as the traditional school-to-work transition, delayed family formation pathway, and life path IV as the traditional school-to-work transition, on-time family formation pathway.

Finally, life path V, by comparison, starts out remarkably similar to path II. Indeed, the parent role dominates this life path from ages 19 through 30, much as it does in path II. However, unlike that trajectory, there is no isolation of the parent role here. Instead, the parent role is nearly matched by the spousal role, and the stable full-time work role also gains a relatively high degree of prevalence by age 25. Thus, we refer to life path V as the early parent, partner, full-time worker pathway.

Life Paths and Subjective Assessments

We now turn to the association between these life pathways and adult identity formation, as well as the subjective evaluation of timing of key markers in becoming an adult. The present task is not to demonstrate the causal power of the life paths, but rather to show their association with various subjective assessments. Given the categorical nature of the variables, to assess these relationships we use RC association models (see, e.g., Clogg 1982 and Goodman 1987, 1996).[2]

Table 2 provides the intrinsic associations and approximate correlations between the five latent life paths and various subjective assessments by YDS respondents at ages 25–26. We use a modal assignment rule to assign respondents to the five latent life paths, which is a reasonable option given the classification error is less than 0.01 (Clogg 1995; Vermunt and Magidson 2005). Intrinsic associations, measuring the departures from independence between the life paths and each subjective assessment on the log-odds scale (Goodman 1987, 1996), are presented for inferential purposes. The approximate correlation is derived from the exponentiated intrinsic associations, and is given by Yule's Y, also known as Yule's coefficient of colligation. For the intrinsic association, Yule's Y behaves similarly to, and can be interpreted in the same manner as, the correlation coefficient (Goodman 1996).

Table 2 shows statistically significant, and in some cases quite substantial, associations between the five life pathways described above and six of the nine subjective assessments. The subjective sense of timing of parenthood exhibits the strongest association with the life paths, with an intrinsic association of $\hat{\varphi} = 9.96$ ($z = 15.27$) and an approximate correlation of $r = 0.99$. Similarly, Table 2 shows substantial and statistically significant associations with the subjective sense of timing for marriage ($\hat{\varphi} = 5.80$, $z = 8.02$, $r = 0.90$), living with a partner or spouse ($\hat{\varphi} = 4.37$, $z = 5.68$, $r = 0.80$), home ownership ($\hat{\varphi} = 3.25$, $z = 5.88$, $r = 0.67$), and financial independence ($\hat{\varphi} = 3.05$, $z = 9.34$, $r = 0.64$). By most any standard, these associations and approximate correlations indicate substantial relationships between the five life paths and the subjective sense of timing of marriage, living with a partner/spouse, home ownership, and financial independence.

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[2]Note that the RC (Row-Column) commonly used in reference to these statistical models is not related to the RC used for role configurations earlier in the paper and in Figure 1.

There is no indication, however, of a statistically significant association between the life pathways and the subjective sense of timing for job, education, and career attainments. Perhaps most interesting about these null findings is that they clearly rest in the domains of labor markets and educational institutions, while the significant associations are bound up with the transition away from the family of origin and toward the family of procreation. We return to this distinction in our conclusions.

Finally, Table 2 also shows that the degree of feeling like an adult by age 25–26 is significantly associated with the life paths ($\hat{\varphi} = 0.77$, $z = 2.07$, $r = 0.19$). While not as strong as the statistically significant associations with the timing variables, this still shows that life pathways in the YDS cohort are empirically linked to the feeling of being an adult.

Table 3 summarizes the patterns of associations for these significant relationships. The results demonstrate a remarkable alignment between subjective assessments of timing and the transitional patterns represented by the five life paths. Though some of the transitions had occurred much earlier, and some had not yet happened by age 25, respondents' subjective assessments of timing match up closely with what one would expect from the objective role-configured pathways.

For example, recall from Table 2 that the life paths show the strongest association with a subjective sense of timing with respect to parenthood (see also Online Appendix C). Table 3 shows that the objective pathways with timing consistent with early parenthood – the early parents, no partners (Table 3, row 2) and the early parents with partners and full time work (row 5) paths – are positively related to a sense of being early to very early on parenthood (column 1). In contrast, those trajectories having timing consistent with late parenthood – traditional school-to-work transition, negligible family formation (row 1) and the traditional school-to-work transition, delayed family formation (row 3) – are positively related to a sense of being late to very late on parenthood.

With marriage (column 2), results indicate that life pathways having timing consistent with low probabilities of marriage throughout – traditional school-to-work transition, negligible family formation (row 1) and early parents, no partners (row 2) – are positively related to a sense of being late or very late on marriage. The early parents with partners and full time work pathway (row 5) is positively related to a sense of being early to very early on marriage. Similarly, the traditional school-to-work transition on-time family formation (row 4) and delayed family formation (row 3) pathways result in a sense of being on-time to early on marriage. (While those we have called "delayed" in family formation consider themselves early to very early on marriage, there is much stronger differentiation between the "on time" and "delayed" school to work pathways on parenthood than on marriage [see Figure 2].)

The subjective timing of living with a spouse or partner (column 3) shows a similar pattern. That is, the traditional school-to-work transition, negligible family formation (row 1) and early parents, no partners (row 2) pathways are positively related to a sense of being very late on living with a spouse/partner. The early parents with partners and full time work pathway (row 5) is positively related to a sense of being very early, the traditional school-to-

work transition delayed family formation pathway (row 3) is positively related to a sense of being on-time to early, and the on-time family formation pathway (row 4) is positively related to a sense of being on-time or very early.

The remaining two subjective timing measures having a significant association with the life paths concern financially-related events, with similar patterns of association. The pathways involving traditional school-to-work transitions with eventual family formation (either on-time [row 4] or delayed [row 3]) are positively related to a sense of being on-time with respect to owning a home and financial independence. The pathways having negligible family formation (row 1) or no partner (row 2) are positively related to a sense of being late or very late with respect to owning a home and financial independence. Finally, the early parent, partner, and full-time worker path (row 5) is positively related to a subjective sense of being very early on these markers.

With respect to the subjective sense of feeling like an adult by ages 25–26, Table 3 shows that those pathways involving the achievement of the full complement of adult work and family roles (full-time employment, marriage, and parenthood [Table 3, rows 4 & 5]) by their mid-twenties are most likely to feel entirely like an adult. In contrast, those pathways involving delayed (row 3) or negligible (row 1) family formation are less secure in their identities as adults. The early parent, no partner pathway is not significantly associated with feeling like an adult, which makes sense in light of their feeling very early to early on parenthood, but late to very late on the other markers. Thus, subjective feelings of adulthood are closely linked to life paths containing full-time work and family formation by the mid-twenties.

Conclusions

This study contributes to important traditions of research in social psychology. The fundamental endeavor of the social structure and personality perspective is to understand how the person's structural location influences personality, including the self and psychological functioning. Understanding the components of structural location and how they impinge on the person are key concerns (House 1977; Kohn and Schooler 1983). Elder's (1975; Elder, Johnson and Crosnoe 2003) development of life course theory extended these insights to place age and aging at center stage. An individual's position in the social structure changes dramatically with age, and age-graded roles and transitions engender distinct proximal experiences. Our study is also compatible with structural interactionist theory (Stryker and Burke 2000), which posits that the self is defined by role identities. As individuals take on age-graded social roles, they come to see themselves accordingly (Wells and Stryker 1988).

Supporting these major social psychological perspectives, our empirical results show that the understanding of the self is significantly tied to life course structures mapping the timing and sequencing of objective roles and role configurations through the transition to adulthood. The findings provide a rich descriptive portrait of life course pathways linked to subjective data. The results are highly consistent with our hypothesis that a cohort's bundle of role-configured life course paths, in conjunction with age-graded social norms, influence

adult identity. We also show that certain subjective indicators of timing are strongly tied to the role-configured structures of life pathways. For example, those trajectories featuring early parenthood are related to a sense of being early on the timing of parenthood.

As mentioned above, perhaps most interesting with respect to the timing measures is the comparison of significant and null results.[3] Null associations rest with measures related to the domains of labor markets and educational institutions. Significant associations, on the other hand, are tied to measures reflecting the transition away from the family of origin and toward the family of procreation. While we can only speculate at this point, this contrast may be partly due to timing rules for labor markets and educational institutions being fashioned *outside* an individual's planning and control (and, in fact, constraining related behavior), relative to those of family and marriage institutions.

This harkens back to a core of Marini's (1984b) argument, where she contrasts age patterns resulting from normative adherence to those produced by the operation of social institutions. However, it may also be the case that at the age of 25–26 it is still unclear whether one has "completed" one's education (given the opportunity to return to school), or established oneself in a career, making estimation of timing uncertain. While more empirical work is necessary to adjudicate these possibilities, our results suggest that the structure of the life course is governed by age-graded norms only insofar as other widespread social institutions – such as educational and labor market institutions – do not in some way externally (relative to the individual) govern age-graded behavior.

Our results also showed that the formation of adult identity is empirically related to role-configured life pathways where the *combination* of fully adult roles has high prevalence by the mid-twenties. This suggests that the formation of an adult identity may be difficult for individuals strongly embedded in life paths lacking that combination. Such problems of adult identity formation may be considered a special case of a more general phenomenon, that of status inconsistency.

Several decades ago, Lenski (1954) recognized that inconsistent status characteristics (education, occupational prestige, income) create difficulties for individuals and ambiguity in social relationships. At about the same time, Goffman (1956) recognized that persons who did not conform to societal expectations regarding their multiple status attributes have difficulties in receiving social validation for their identity claims. Although neither scholar examined adult identity---Lenski focused on political behavior and attitudes, and Goffman highlighted interactional management problems---conforming to a life pathway lacking the conjunction of fully adult roles similarly calls into question claims about adult status, rendering adult identity ambiguous and problematic. Such inconsistency may have important ramifications. For example, Massoglia and Uggen (2010) find a clear link between persistence in deviant behaviors (shoplifting, hitting or threatening to hit someone, driving while intoxicated) and the absence of work and family markers of adulthood.

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[3]Although there are pitfalls in comparing statistically null and significant findings, there is no indication that the null results are due to exceedingly high sampling variability or standard errors, or overly sparse data. Instead, the frequency distributions in these cross-classifications are well behaved and most consistent with the model of independence given a Type I error rate of 0.05.

Our findings have more general implications for the conceptualization of the contemporary transition to adulthood and the manner in which events transpiring during this transition are commonly understood. Despite the formulations of some commentators stressing the "individualization" and disorderliness of role sequences (Buchmann 1989) and the lack of commitment to social roles during an extended period of exploration (Arnett 2004), we find that just five pathways, characterized by clear movements between distinct social role configurations, well represent the passage to adulthood in a cohort experiencing this transition at the turn of the century (Osgood, et al. 2005, in a similar analysis, identified six pathways). However, no one pattern clearly dominates; instead the distribution of the cohort across these pathways is remarkably even.

We find substantial evidence that latent life pathways have distinct meaning to those who follow them; they do not have identical implications for being "on time" or for securing an identity as an adult. Instead, those who acquire the full complement of the traditional markers of adulthood, particularly those related to family formation via both marriage and parenthood by their mid-twenties, are more likely than other youth to feel that they are "on time" and that they are "adults." Despite the many advantages of pursuing extended higher education and delaying family formation, youth who pursue this pattern still feel "late" with respect to all role markers and "not entirely" like an adult. The early parents without partners, though quite different in many other respects, similarly feel "late" on most markers of adulthood with the exception, not surprisingly, of parenthood. Consistent with this mixed pattern, individuals who pursued this pathway showed no significant difference from the marginal response pattern on feeling like an adult. Perhaps in due time, as "non-traditional" patterns become more strongly institutionalized, their adherents will become more likely to interpret their life pathways as "on time" and conferring an adult identity (see Stryker 1994).

These findings may seem to contradict the well-publicized research of Arnett (2000, 2004), who alleges that demographic role markers are no longer relevant criteria for adulthood in recent cohorts of young people coming of age in the United States. According to his analysis, the diverse pathways to adulthood have rendered traditional demographic milestones of adulthood superfluous in gauging adult identity. Instead, individual character traits, such as "taking responsibility for yourself," "making independent decisions," and "becoming financially independent" take precedence over role markers, such as marriage and parenthood, as evidence that a person has become an adult.

It should be noted, however, that Arnett poses this question in terms of *criteria* for adulthood. Respondents are typically asked to "indicate whether you think each of the following must be achieved before a person can be considered an adult" (Arnett 2004: 209; Badger, Nelson, and Barry 2006). Arguably, evaluating criteria for adulthood in the abstract is a quite different cognitive task than judging one's own "timing" of adult markers or achievement of "adulthood."

We do not contest Arnett's conclusion that young people emphasize individual character traits as conditions for adulthood; however, we contend that objective role configurations and pathways have continuing importance for youth's cognitive interpretations of their own progress to adulthood. U.S. studies that similarly utilize youth's assessments of their own

identities conclude that role transitions matter (Shanahan, et al. 2005, using YDS data; Johnson, et al. 2007, using AddHealth data; Benson and Fustenberg 2007, based on the Philadelphia Educational Longitudinal Study). Undoubtedly, objective adult markers and character traits are reciprocally related (one feels more responsible after becoming a parent), and both matter for subjective assessments of adulthood (Shanahan, et al. 2005).

While our results suggest a strong tie between objective role-configured life course structures and the subjective sense of timing and adult identity, this analysis is not without limitations. First, our conclusions are based on a single cohort. The YDS cohort was born in 1973–74; they were members of the 1991 high school graduating class (though not all graduated on time); and they pursued higher education and/or began occupational careers in the relatively prosperous 1990s. The positive economic climate would be conducive to movement out of the parental home, family formation, and career establishment, unlike that experienced by later cohorts moving into adulthood, for example, in the period following the recent "Great Recession." Comparison of adult role acquisition in the YDS cohort with the NLSY97 (initial 12 year old) cohort who turned 26 a decade later (i.e., age 26 in 2010 compared to YDS 26 year olds in 2000), shows delayed entry into adult roles. For example, 32% of the NLSY97 cohort were living with their parents at age 26, compared to 20% of the YDS cohort; only 45% were full-time workers, compared to 69% of the YDS (see online Appendix D for comparisons from age 17 to 26 across all five roles). It is possible that these markers of transition would have quite different meaning for young adults today; for example, as living with parents becomes more common it may not be as closely linked to feeling "late."

The point of this exercise, however, is not to establish the universality of transitional structures, but instead to observe their number and composition at a particular historical time and place and the covariation of the objective and subjective life course. The methods employed here would be particularly useful in comparing life pathways across different macro-historical contexts (e.g., youth moving into adulthood in the 1950's, the 1990's, and the present recessionary period).

Second, our analysis is limited by a relatively small sample size. While it is plausible that the interrelations of life course structures, the sense of timing, and adult identity would vary by gender, our sample size does not permit estimation of latent life pathways by gender. A larger panel would also allow finer distinctions among roles (e.g., separating the non-married single cohabitors, single non-cohabitors,[4] divorced, and separated; part-time and full-time students; and youth living with their parents full-time, part-time, and not at all). Such research could possibly reveal a more differentiated set of role configurations and life

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[4]While we did not distinguish cohabitors in the construction of the pathways due to sample size limitations, we note that this is unlikely to change the results, as the cohabitors are overwhelmingly found in a single category: the early parent, no partner pathway. This group showed a steady increase in cohabiting from 4.2% at age 18 to 33.3% at age 27, before decreasing through age 30 (22.8%). Importantly, this group was associated with feeling "very late" on living with a partner/spouse at age 26 (see Table 3); and the distribution across response categories for this variable was very similar among cohabitors and non-cohabitors in this pathway. The traditional STW, negligible family formation pathway experiences a late uptick in cohabiting starting at age 26 (11.2%), but this group also tended to feel "very late" on living with a partner/spouse. On the other hand, the remaining three groups were very low on cohabitation at all ages (typically lower than 5%), but considered themselves very early to on-time with regards to living with a partner/spouse. Thus, cohabiting does not appear to affect subjective adult status in the same manner as marriage. As cohabitation is now the modal pathway to marriage in the U.S., we encourage its consideration in replications with more recent cohorts.

pathways in which they are embedded. Moreover, the extent to which role configurations and life paths are similarly structured in diverse populations remains to be investigated. Further research is also necessary to determine whether the associations between life pathways and the subjective sense of timing and adult identity vary depending on an individual's gender or race (consistent with Johnson, et al. 2007).

Future investigation might also be directed to the social and cognitive processes that could create a causal connection between life course schema and individual assessments of timing and identity. For example, young adults may form ideas about the timing of their adult role acquisitions through social comparisons (e.g., comparing their own role configurations to same-age peers) and through the reflected appraisals of significant others (Rosenberg 1979). Identifying the precise mechanisms by which different roles, role configurations, and life pathways combine to *create* the subjective sense of being an adult should prove beneficial. It is here that theories of the life course and social psychology may be useful, and could also help to illuminate more general theories of social structure and identity (Stryker 2003).

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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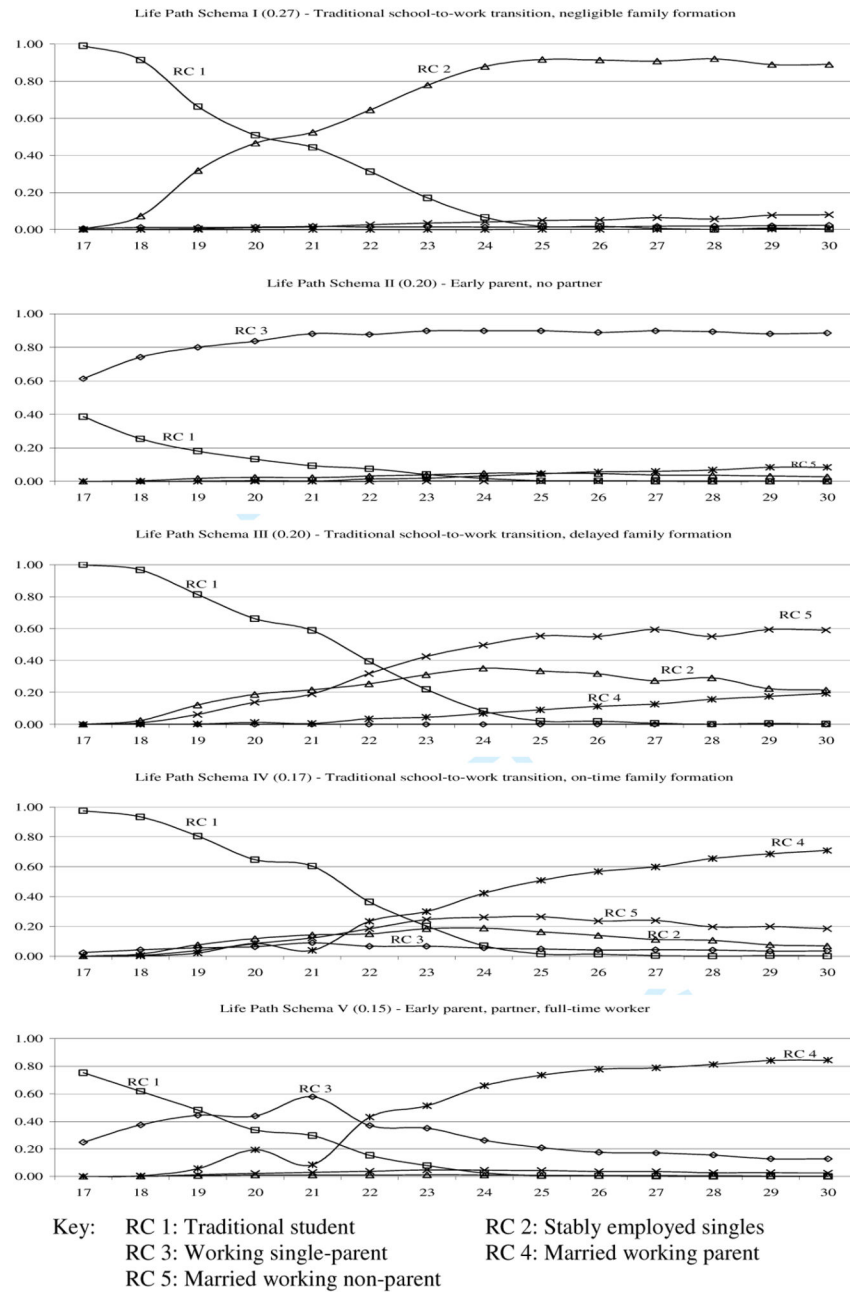Author Manuscript
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Figure 1.

Latent role configurations embedded in each latent life path. Numbers in parentheses give the estimated prevalence for each life path. Vertical axis gives probabilities; horizontal axis gives ages.

Figure 2.
Roles embedded in each latent life path. Numbers in parentheses give the estimated prevalence for each life path. Vertical axis gives probabilities; horizontal axis gives ages. See text for details.
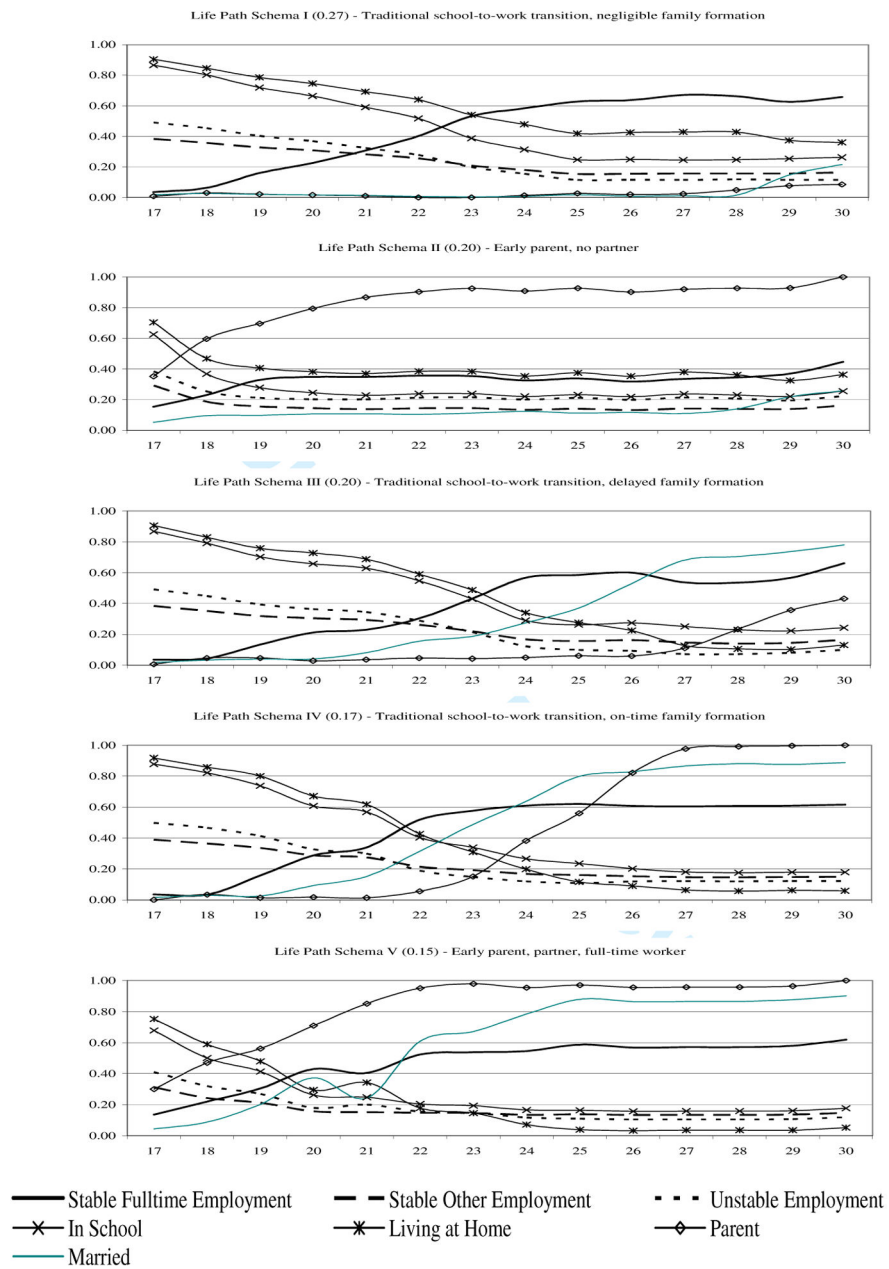
Table 1

Estimated Prevalence and Conditional Probabilities of Observed Roles for the Six Latent Role Configurations

	1: Traditional student	2: Stably employed singles	3: Working single-parent	4: Married working parent	5: Married working non-parent	6: Consistently missing
Estimated probability	0.24	0.22	0.19	0.17	0.10	0.07
Observed Roles						
Employment						
Stable full-time	0.04	0.68	0.40	0.63	0.69	0.00
Stable other	0.39	0.16	0.17	0.15	0.18	0.00
Unstable	0.50	0.11	0.25	0.11	0.08	0.01
None	0.08	0.05	0.17	0.11	0.04	0.02
Missing	0.00	0.01	0.01	0.00	0.01	0.97
Schooling						
Enrolled	0.88	0.24	0.28	0.17	0.31	0.00
Not enrolled	0.12	0.75	0.71	0.81	0.68	0.01
Missing	0.01	0.01	0.01	0.01	0.01	0.99
Living with parent						
Yes	0.92	0.43	0.45	0.04	0.15	0.00
No	0.08	0.55	0.55	0.96	0.85	0.01
Missing	0.00	0.02	0.01	0.00	0.01	0.98
Children						
Yes	0.00	0.00	1.00	1.00	0.00	0.00
No	1.00	1.00	0.00	0.00	1.00	0.47
Missing	0.00	0.00	0.00	0.00	0.00	0.00
Married						
Yes	0.02	0.00	0.09	0.93	0.82	0.21
No	0.98	1.00	0.91	0.07	0.18	0.79

Table 2

Intrinsic Associations and Approximate Correlations Between Latent Life Paths and Subjective Assessments for YDS Respondents Ages 25–26[*]

Subjective Assessment	Intrinsic Association	Std Err	Z-Ratio	Approximate Correlation
Feel Like an Adult by Ages 25–26[1]	0.77	0.37	2.07	0.19
Subjective Sense of Timing at Ages 25–26				
Parenthood[1]	9.96	0.65	15.27	0.99
Marriage[2]	5.80	0.72	8.02	0.90
Living w/Partner/Spouse[2]	4.37	0.77	5.68	0.80
Home Ownership[2]	3.25	0.55	5.88	0.67
Financial Independence[2]	3.05	0.33	9.34	0.64
Job Attainment[3]	0.00	-----	-----	0.00
Educational Attainment[3]	0.00	-----	-----	0.00
Career[3]	0.00	-----	-----	0.00

[*] See text for details on the intrinsic associations and approximate correlations.

[1] RC(1) model is best fitting at the 0.05 level.

[2] RC(2) model is best fitting at the 0.05 level.

[3] Independence model is best fitting at the 0.05 level.

Table 3

Patterns of Associations Between Latent Life Paths and Subjective Assessments for YDS Respondents Ages 25–26

| Life Path Schema | Subjective Sense of Timing by Ages 25–26 | | | | | |
	Parenthood	Marriage	Live w/Other	Own Home	Fin. Indep.	Feel Like an Adult by Ages 25–26
Traditional school-to-work transition, negligible family formation	L–VL[1]	L–VL	VL	L–VL	VL	Not Entirely[2]
Early parent, no partner	E–VE	VL	VL	L	VL	—[3]
Traditional school-to-work transition, delayed family formation	L–VL	OT–E	OT–E	OT	OT	Not Entirely
Traditional school-to-work transition, on-time family formation	—[3]	OT–E	OT, VE	OT	OT	Entirely
Early parent, full-time worker	E–VE	E–VE	VE	VE	VE	Entirely

[1] Significant positive associations between indicated sense of timing and latent life paths are indicated by capital letters. VL refers to very late, L to late, OT to on-time, E to early, and VE to very early. See text for details and Online Appendix C for the full set of interaction coefficients, standard errors, and z ratios.

[2] Significant associations between feeling like an adult most of the time and latent life paths.

[3] No significant difference from the marginal response pattern.