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Trajectories of Union Transition in Emerging Adulthood: Socioeconomic Status and Race/Ethnicity Differences in the National Longitudinal Survey of Youth 1997 Cohort

Objective: *The objective of this study was to describe the patterns of union transition in emerging adulthood for the 1980 to 1984 cohort and examine its associations with socioeconomic status and race/ethnicity.*

Background: *Research on diverging destinies of cohabitation and marriage tends to focus on singular transitions rather than entire individual trajectories composed of dimensions such as timing, order, duration, and number of transitions.*

Method: *Drawing on monthly prospective data from the National Longitudinal Survey of Youth 1997, social sequence analysis was used to classify union transition trajectories from ages 16 to 30. Multinomial logistic regression was used to assess the probability of membership in each cluster.*

Results: *The findings showed the following six key clusters of trajectories: mostly single (37.6%), some cohabiting (13.8%), serial cohabiting (10.6%), early 20s marriage (11.4%), late 20s marriage (22.5%), and turbulent (4.1%). We found that young adults were most likely to be in the "mostly single" cluster, regardless of socioeconomic status and race/ethnicity. Individuals with college degrees tended to marry in their late 20s, whereas individuals without college degrees were more likely to be in "serial cohabiting" and "turbulent" clusters. Individuals who lived with neither of their biological parents were more likely to belong to "early 20s marriage" and "turbulent" clusters when compared with those who lived with at least one of their biological parents. Blacks were more likely to remain single, whereas non-Hispanic Whites were more likely to marry sometime in their 20s.*

Conclusion: *Evidence for diverging trajectories exists in this recent cohort, but we also find that most young adults in fact stay single. We also highlight the benefits of considering multiple aspects of trajectories concurrently, especially as relationship instability and complexity increase.*

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The United States has witnessed remarkable transformation in union formation and dissolution during the past few decades. One of the most noticeable trends is that cohabitation is increasingly common, especially for young adults entering their first union (Manning, Brown, & Payne, 2014; Manning & Stykes, 2015), but the risk of union dissolution has also increased dramatically (Eickmeyer, 2018; Eickmeyer & Manning, 2018). Consequently, young adults today are more likely to cohabit with more than once before marriage (which some scholars call "serial cohabitation") compared to the past (Eickmeyer & Manning, 2018; Lichter & Qian, 2008; Lichter, Turner, & Sassler, 2010). In this study, we describe life course trajectories of union transitions, describing long-term patterns (over 14 years) that occur across emerging adulthood.

Socioeconomic status (SES) and race/ethnicity differences have been a key focus of research on union formation and dissolution (Kamp Dush, Jang, & Snyder, 2018; Kuo & Raley, 2016). Research suggests that Blacks and lower SES groups are less likely to enter unions and less likely to transition from cohabitation into marriage, but are more likely to experience union dissolutions when compared with Whites and higher SES groups (Raley, Sweeney, & Wondra, 2015; Sassler & Miller, 2017). Yet, these studies leave out important nuances in the data because they rely heavily on unidimensional measures (e.g., age at first marriage, probability of transition into marriage, etc.) and fail to account for inherent features of long-term patterns such as the order, duration, and the number of transitions for each individual, each of which may play an important role in understanding trends by race/ethnicity and SES.

Emerging adulthood is a distinctive period from one's late teenage-hood to late 20s, during which most young adults leave the dependency of childhood and adolescence, explore numerous possibilities of multiple domains of life, and encounter decisions that will shape their future (Arnett, 2000). Trajectories of union transitions that occur during this crucial period are likely to have long-term influence on later life outcomes. We use the life course perspective to analyze monthly cohabitation and marital status data from the National Longitudinal Survey of Youth 1997 (NLSY97; https://www.nlsinfo.org/content/cohorts/nlsy97), an understudied cohort born in the 1980s, to address the following two major research questions: What are the typical types of union transition trajectories during emerging adulthood? How do these trajectories vary across SES and race/ethnicity groups? We take advantage of sequence analysis to classify union transition trajectories into six groups, implicitly accounting for multiple union transition characteristics (including the timing, order, duration, and number of transitions) through a variant of the optimal matching procedure. We then conduct multinomial regression analysis to determine whether these typified trajectories diverge by SES and race/ethnicity groups. The study provides new insights into diverging union transition patterns across groups that may eventually translate into subsequent disparities in later life (McLanahan & Jacobsen, 2015).

Background

A Life Course Perspective on Union Transitions During Emerging Adulthood

The life course perspective (Elder, Johnson, & Crosnoe, 2003; Elder & Rockwell, 1979) provides a useful context for why our approach (i.e., examining trajectories rather than single states) toward union transitions, and the novel data used here are important. Three key insights from the life course perspective are pertinent. First, it acknowledges that the antecedents and consequences of life transitions and events vary according to their timing in the life course (the principle of timing). Union transitions affect individuals differently depending on when it happens, both in terms of "absolute" time (e.g., age, year) and "relative" time (e.g., the order of events). Recognizing this, much debate has happened around whether premarital cohabitation is associated with subsequent dissolution of marriages (Manning & Cohen, 2012; Musick & Michelmore, 2018).

Second, the life course perspective recognizes that individual life course experiences are embedded and shaped by historical time and place (the principle of time and space). Trajectories of union transitions vary across birth cohorts due to different opportunities and constraints available in the context. Compared with previous birth cohorts, those born in the 1980s have grown up in a time of rapid demographic change—seeing increases in cohabitation, nonmarital childbearing, and relationship instability.

Existing research on union transitions, however, have revealed relatively little about this recent cohort.

Third, the life course principle of life-span development recognizes the importance of individual life histories over the life course—for instance, late-life adaption to aging is connected to individuals' experiences in formative years of their lives. This means that beyond just the timing and order of their union formation experiences, the duration and number of these experiences can jointly influence one's trajectory. For instance, Lichter and Qian (2008, p. 861) found that those with two or more prior episodes of cohabitation (who they term "serial cohabitors") to marriage were more likely to get divorced when compared with those without cohabitation experience or those with only one prior episode of cohabitation. Sassler, Michelmore, and Qian (2018) showed that taking a longer time in a relationship before cohabitation increased the probability of subsequently transitioning from cohabitation to marriage.

Efforts aimed at studying patterns in union formation have often looked at these factors (timing, duration, order, etc.) in a piecemeal manner, focusing on only one or two of these factors at a time. The life course perspective contends that these factors are inextricably linked to each other—we should thus aim to preserve the integrity of individual trajectories as much as possible while keeping in mind that they are embedded in time, history, and place. Decontextualizing events in the life course by solely focusing on static outcomes risks losing important information inherent in individual's trajectories.

SES Differences in Union Transitions

A growing concern among scholars is the emergence of "diverging destinies" across SES groups, reproduced through disparate patterns of union transitions (Cavanagh & Fomby, 2019; McLanahan & Jacobsen, 2015). In 2004, McLanahan argued that two distinct trajectories exist: one for those of disadvantaged groups and another for more advantaged groups. The former trajectory is associated with a higher probability of union instability as well as nonmarital childbearing. The latter trajectory, in contrast, is associated with a higher probability of stable marriage and marital childbearing. The life course perspective defines these diverging trajectories as being shaped by the available opportunities and constraints that differ by SES. They are then associated with differing outcomes (e.g., economic, social, and child well-being), likely resulting in the reproduction of social inequality.

Much of the research on diverging trajectories of union transitions by SES use measures of individual-level economic status (e.g., educational attainment, employment, and earnings) or family background (such as family structure during adolescence and parent's educational attainment). Studies focused on family background have shown that repeated family structure change is predictive of the timing, type, and stability of young people's first coresidential unions. For instance, individuals are quicker to form first unions and are at higher risk of union dissolution if they have experienced changes in living arrangements or lived with nonmarried or nonbiological parents during their childhood (Amato & Patterson, 2017; Fomby & Bosick, 2013; Ryan, Franzetta, Schelar, & Manlove, 2009; Teachman, 2003). Others showed that children whose mothers or parents did not go to college are more likely to enter cohabitation when compared with those whose mothers or parents had a college degree (Cavanagh, 2011; Sassler et al., 2018).

Family structure during one's childhood or adolescence as well as parents' educational attainment can affect individual's union formation trajectory—by putting one through economic hardship or changing attitudes toward union formation. Children born in unstable family unions have been found to be less planful and place more emphasis on pregnancy and union formation (Fomby & Bosick, 2013). One study found that children from single-parent families are more likely to form casual sexual relationships (Sandberg-Thomas & Kamp Dush, 2014). Once they enter into cohabitation, children from single-parent families are less likely to marry and do so at slower rates when compared with those from two-biological-parent families (Sassler et al., 2018). Economic hardship might incentivize young adults to leave home earlier despite lacking the necessary resources to maintain independent households (Sassler & Miller, 2011). Consequently, they tend to cohabit with partners who also have fewer economic resources and may be less committed to a long-term and stable relationship (Sassler & Miller, 2017; Stanley, Rhoades, & Markman, 2006). In contrast, children from affluent and well-educated families are expected to complete college education and enter full-time employment before the initiation of serious shared-living relationships (Furstenberg, 2008; Sassler & Miller, 2017).

Educational attainment also affects one's cohabitation and marriage trajectories. Young adults with lower educational attainment date for shorter periods before progressing into cohabitation when compared with those with higher educational attainment (Halpern-Meekin & Tach, 2013; Sassler, Michelmore, & Holland, 2016). Upon entering cohabitation, young adults without college degrees generally are less likely to progress into marriage (Ishizuka, 2018) and do so at slower rates than those with college degrees (Sassler et al., 2018). Some have suggested that this is because young adults without college degrees are more quickly exposed to sexual relationships and experience more short-lived cohabitations (Cohen & Manning, 2010; Lichter et al., 2010; Lichter & Qian, 2008). Moreover, they tend to be economically dependent on their partners and often lack the economic resources required to enter into marriage (Ishizuka, 2018; Smock, Manning, & Porter, 2005). Even when they do transition into marriage, they tend to be at higher risk of marital dissolution (Kamp Dush et al., 2018).

Race and Ethnicity Differences in Union Transitions

Cohabitation and marriage trajectories also diverge by race/ethnicity (Kuo & Raley, 2016; Raley et al., 2015). From the life course perspective, these "diverging trajectories" are shaped by available opportunities, constraints, and cultural background for different race/ethnicity groups—which then lead to differing outcomes. Race/ethnicity differences occur across the following three main areas of union formation and dissolution: cohabitation formation, marriage formation, and relationship instability.

First, although cohabitation has increased across all racial/ethnic groups in the United States, Blacks have seen a smaller increase in the proportion of those entering cohabitation than Whites and Hispanics (Manning et al., 2014). For instance, 57% of White women and 65% of U.S.-born Hispanic women had ever entered cohabitation by age 25, only 51% of Black women had done the same (Copen, Mosher, & Daniels, 2013).

Second, the probability of transitioning into marriage differs across race/ethnicity groups. Although the proportion of women who will ever get married is declining across all race/ethnicity groups, these declines have been more pronounced among Blacks (Raley et al., 2015). Blacks are also consistently found to have lower odds of transitioning from cohabitation into marriage (Kuo & Raley, 2016). Kuo and Raley (2016) found no differences in marital intentions by race/ethnicity groups among recent cohorts, suggesting that institutional and material constraints to union formation are probably as important as ideational changes (if not more important) in understanding diverging cohabitation and marriage trajectories by race/ethnicity.

Third, relationship instability is not evenly distributed across race/ethnicity groups. Past studies have found that Blacks have a lower level of marital quality and face higher odds of marital dissolution than their non-Hispanic White and Hispanic peers (Birditt, Brown, Orbuch, & McIlvane, 2010; Raley et al., 2015). Recent studies on relationship instability reveal that the number of transitions (into and out) of cohabitation and marriage are higher among Blacks parents than their non-Hispanic White and Hispanic counterparts (Brown, Stykes, & Manning, 2016).

Past Research Limitations and the Current Study

Although past research argued for the presence of diverging trajectories by SES or race/ethnicity, most studies rely on a single dimension or a disjointed collection of them—such as age of transition, number of transitions, or the probability of transitioning from one status into another (e.g., Lichter, Qian, & Mellott, 2006; Manning et al., 2014; Smock, 2000)—to examine trends in contemporary cohabitation and marriage. Most of these analyses use demographic measures, event-history analysis, or multiple decrement life tables. Although these approaches have previously led to important insights, they may ignore heterogeneity within trajectories and risk conflating different groups of people together, especially given increased relationship instability and family complexity in younger cohorts.

For instance, Kuo and Raley (2016) used discrete-time hazard models to predict probabilities of marriage from first premarital cohabitation. They found that in more recent cohorts, those without college degree were less likely to transition into marriage, resulting in growing educational disparities over time. This cohort difference, however, may have been explained by several features not explicitly explored by the authors—such as the length (or duration) of these cohabitations or the number of cohabitations in between first cohabitation and marriage. Educational disparities may have grown over time because less educated respondents are more likely to have multiple cohabiting experiences before their first marriage, which leads to a lower transition probability from the first cohabitation to marriage. This becomes especially important as cohabitation becomes a more common experience in younger cohorts. To fill this gap, some studies have attempted to look at "serial cohabiting," which they define as having more than one episode of cohabitation (Cohen & Manning, 2010; Lichter et al., 2010; Lichter & Qian, 2008). Assessing serial cohabitation with a simple count, however, ignores the fact that two short episodes of cohabitation (e.g., 2 months each) is probably qualitatively different from two long episodes of cohabitation (e.g., 2 years each). Grouping individuals experiencing the former situation together with the latter risks ignoring the heterogeneity present in relationship stability and conflates two substantively different phenomena. To our knowledge, no study to date has preserved the various dimensions of individual trajectories (e.g., duration, timing, order, and times) to show diverging trends by SES or race/ethnicity groups.

In this study, we advance the literature on union transitions in two main ways. First, we use social sequence analysis to simultaneously account for multiple dimensions of individual trajectories. The key advantage of social sequence analysis here is that it allows us to use entire trajectories composed of qualitatively different statuses as the main unit of analysis, unlike other forms of trajectory modeling. Commonly used strategies such as latent trajectory models are limited to quantitative outcomes (Aisenbrey & Fasang, 2010), whereas latent transition analysis focuses on how individuals change cluster membership over time instead of classifying whole trajectories into clusters. These other approaches to trajectory modeling also become difficult to estimate and often fail to converge with large sample sizes and fine-grained data (e.g., data with many time points; Jung & Wickrama, 2008). Social sequence analysis can be performed more easily in this context since it does not rely on the convergence of maximum likelihood estimation (Cornwell, 2015, p. 130). Applied in this context, social sequence analysis allows us to reconceptualize emerging phenomena such as serial cohabitation based on monthly data, highlighting possible limitations and suggestions if future studies continue to rely on simple and unidimensional summary measures of union transition. This part of this study (i.e., the clustering component) is mainly exploratory. Our general expectation is that we will find at least three distinct groups—those who spend most or all of their emerging adulthood single, those who spend some to most of it cohabiting, and those who end up in marital relationships. However, finer gradations within these three types of trajectories are expected to emerge, providing more nuance to these trajectory types.

Second, we describe the results of social sequence analysis using traditional demographic measures and use multinomial regression to model membership in each of the resultant clusters. This will help us identify nuanced variations inherent in trajectories by SES and race/ethnicity. Generally, we expect that young adults with lower educational attainment or from a lower SES family background are more likely to belong to clusters exhibiting earlier and more episodes of cohabitation or earlier marriage when compared with those from higher SES groups. We also expect that Blacks will be more likely to belong to clusters exhibiting longer periods of singlehood rather than clusters with any or more cohabitation episodes or marital unions.

Data and Method

Data

We draw data from the NLSY97—a nationally representative panel dataset initiated in 1997, with annual interviews from 1997 to 2001 and biennial interviews thereafter. The respondents were born between 1980 and 1984, and thus were aged 30 to 36 at the time of their most recent interview (2015–2016). A total of 8,984 individuals were interviewed at baseline, and nearly 80% (7,103) of these respondents participated in the most recent interview (round

17, fielded in 2015–2016). The NLSY97 offered unique opportunities to address our research questions by providing monthly information on cohabitation and marital histories, from the time respondents turned 14, including rich information on respondents' family background, education, employment, and childbearing on an annual basis.

The NLSY97 cohort covers a total of five birth years (1980–1984), with the youngest respondents only turning 30 in 2015 to 2016. To construct complete (and comparable) records of union transition trajectories, the sample was restricted to ages between 16 and 30 (168 months). We then excluded respondents who were lost to attrition (17.1%) during this period, resulting in 7,518 individuals and 1,263,024 person-months. In social sequence analysis, researchers tend to treat missingness explicitly as a "special" kind of state. We attempted this approach, which resulted in an entire category of respondents with severe missingness being categorized into a single (and separate) category. Classification of the other trajectories outside of this category was consistent with what we reported in this study. Cases with few missing values were distributed into the other six categories identified in this study. Therefore, only results with complete observations are presented. Furthermore, the respondents who reported being mixed race were excluded because the subgroup sample was too small for meaningful analysis (1.0%), resulting in the final analytical sample of 7,446 individuals (1,250,928 person-months).

Measures

Marriage and Cohabitation Trajectories. Monthly data were constructed by the NLSY97 study team through both survey and roster questions. The roster method identifies marriage (cohabitation) based on individuals who report "spouse" ("lover/romantic partner") on the household roster, and the survey method asks about relationships beginning with the following prompt: "The next questions ask about marriages and marriage-like relationships. In this study we define a marriage-like relationship as a sexual relationship in which partners establish one household and live together." More details on the construction of these data can be found in NLSY97 online documentation. From these monthly data, we then constructed sequences that represent each individual's union transition trajectories from age 16 to 30. Each sequence is made up of several successive "states," with each state representing an individual's status at a specific month. We considered seven mutually exclusive states based on marital (never married, married, legally separated, divorced, widowed) and cohabitation statuses (premarital cohabitation, postmarital cohabitation). Premarital cohabitation refers to any cohabitation before one's first marriage, whereas postmarital cohabitation refers to cohabitation that occurs any time after one's first marriage and supersedes any previous marital status (e.g., if a respondent was divorced and cohabiting, we coded that part of his or her sequence as postmarital cohabitation). In sensitivity analysis, we allowed for the presence of more specific states (e.g., divorced and cohabiting, legally separated and cohabiting). The results were consistent but more difficult to interpret because of the low prevalence in certain states but a greater number of overall states. The more parsimonious coding scheme with pre- and postmarital cohabitation was thus chosen for ease of interpretation. Monthly states from the NLSY97 data were derived based on two different types of questions, such as "Respondent's marital status in this month in 1994 (calculated for each month beginning with the month R turned 14)" and "Respondent's cohabitation status in this month in 1994 (calculated for each month beginning with the month R turned 14)." At each time point (i.e., month), individuals may either stay in their state or move to a new state (e.g., from never married to premarital cohabitation, or from married to legally separated).

Race/Ethnicity and SES. Race/ethnicity distinguishes non-Hispanic White (reference group), Blacks, and Hispanic respondents. For all categorical variables, the category with the largest number of cases was selected as the reference group.

We considered individual educational attainment and family background to capture SES in this study. Individual educational attainment was measured by the respondent's highest attained educational qualification (less than high school, high school [reference group], some college, college and above) across the study period (i.e., before age 30). This measure was based on questions in the NLSY97 eliciting "the highest degree received prior to the start of the 2010/2011 (e.g.) academic school year."

Family background was assessed via parents' highest educational attainment and family structure at the time when respondents were aged 18. Both of these measures have been commonly used to assess the relative social and economic position of families in the United States (McLanahan, 2004; Sassler et al., 2018). The measure of parents' highest educational attainment was derived based on the following two items in the survey: (a) "Highest grade completed by respondent's biological mother/father (includes both residential and non-residential mothers/fathers)" and (b) "Highest grade completed by respondent's residential mother/father (includes both biological and non-biological mothers/fathers)." We first calculated the highest education of the respondent's biological mother or father (if either contained a missing value, we used the other as the highest education). If information from both biological parents were missing (9.3%), we imputed parents' highest education using the highest education of the residential mother or father. Educational attainment of residential mothers and fathers was not used as a baseline because a large proportion (15.2%) of respondents lived in a family structure without parents at age 18. Parent's highest educational attainment was coded into four categories: less than high school (below 12th grade), high school (12th grade; reference group), some college (first to third college year), and college and above (above fourth college year).

The NLSY97 also gathered family structure information of respondents from 1997 to 2003. We used family structure at age 18 because this is the earliest time at which we could align the different cohorts in NLSY97. Because the NLSY97 cohort was born between 1980 and 1984, the respondents turned age 18 between 1998 to 2003. The variable on family structure (at age 18) was derived using data collected from 1997 to 2002 asking about the "relationship of the parent figure(s)/guardian(s) in household to [the youth] as of the survey date." Family structure was coded in four categories: both biological parents, two parents (one biological; reference group), single parents (single mother or single father), and others. Coding single-father and single-mother family structures into separate categories produced similar results but with larger standard errors.

Covariates. We included three covariates in our analyses—gender, parenthood status, and mother's age at first birth. Given that women typically form their first union (cohabitation or marriage) earlier than men (Manning et al., 2014), gender is an important confounder to control for in the analysis. The incidence, timing, and type (i.e., outside or within marriage) of childbearing is significantly associated with race/ethnicity and SES and tends to intertwine with union transitions across the life course (Hayford & Guzzo, 2016; Hayford, Guzzo, & Smock, 2014; Isen & Stevenson, 2011; Sweeney & Raley, 2014). We derived parenthood status from two types of information—respondents' birth date and their biological or adopted children's birth dates to estimate respondents' age at first birth. If respondents did not have children prior to age 30, we coded them as having no child. Those who had children were coded into three categories (had first child before age 20, had first child between ages 20–24, and had first child between ages 25–30) according to their age at first birth. We also included mother's age at first birth as a covariate, measured in years, because past research has found this to be related to children's marriage and fertility behaviors (Barber, 2000). Of the sample, 9.8% contained missing values in the measures of mother's age at first birth and parents' highest educational attainment. Multiple imputation for these variables was not used because the NLSY97 collected little information about parents' characteristics; using children's characteristics to impute parents' characteristics reverses the temporal order (and therefore is highly unintuitive). The results from analyses on two different complete-case samples are thus presented for comparison: one with 7,446 cases and the other with 6,713 cases (excluding cases with missing values of mother's age at first birth or parents' highest educational attainment).

Analytic Strategy

To examine union transition trajectories, we used social sequence analysis to reveal clusters of common trajectories. Social sequence analysis operationalizes individual life histories and biographies as a sequence of states (where states may indicate marital status, employment status, etc.), treating events and experiences such as marriage and cohabitation patterns as embedded within the context of trajectories that unfold over time (for a more detailed overview of the method and its strengths and weaknesses, see Abbott & Tsay, 2000; Aisenbrey & Fasang, 2010). Social sequence analysis maintains the integrity (and thus also the idiosyncrasies) of individual trajectories and accounts for the inherent complexity of each trajectory such as the ordering of states, the length of time spent in each episode, the timing of transitions, and the number of transitions. This means that whole trajectories, rather than individual statuses, are treated as the unit of analyses. Furthermore, it accounts for several important features of individual trajectories not easily recovered or modeled in other types of analytical strategies (e.g., event-history analysis, multiple decrement life tables), such as the volatility of the individual experience (i.e., whether one is constantly changing states through time).

Once sequences have been assembled for each individual, they can be compared across individuals to reveal common patterns (or types) of marital and cohabitation trajectories for meaningful comparison. More than just providing an easy way to summarize commonalities and differences, these "types" are consistent with the life course perspective and are of substantive theoretical interest—representing regularities in individual trajectories likely produced by structural factors such as social norms, networks, institutions, scripts, and values (Cornwell, 2015, p. 23). Some of these structural influences can then be assessed in subsequent analysis, such as by examining how sociodemographic characteristics are associated with each type of trajectory.

Social sequence analysis relies on a computation of "distances" between trajectories. We used a variant (i.e., using the Hamming distance) of the optimal matching procedure to determine how much each individual trajectory differs from the others. Given that numerous studies using sequence analysis have already elaborated on this method in detail (see, for instance, Aisenbrey & Fasang, 2010; Van Winkle, 2018), we provide only a brief explanation of the optimal matching procedure that we used here. In essence, the procedure produces a distance matrix based on the Hamming distance (Abbott & Tsay, 2000), representing the minimum costs needed to transform one sequence into another. The Hamming distance considers "substitution" costs (changing one element of a sequence into another), but not "insertion" and "deletion" costs (inserting and removing elements from parts of the sequence) because the use of insertions and deletions have the undesirable effect of warping the timing of events (Lesnard, 2010). In this analysis, substitution costs are based on the observed transition probabilities in the data—the lower the probability of transitioning into another state, the higher the cost will be.

Hierarchical clustering using Ward's linkage is then applied to the distance matrix (from the optimal matching procedure) to reveal clusters of trajectories in the data. Ward's linkage clustering is based on an algorithm that seeks to reduce the residual sum of squares by fusing clusters together. By doing so, it groups together the trajectories that are most alike one another into clusters. The final choice for the number of clusters is based on the "elbow criterion" (where one compares how much more information is summarized by having an additional cluster and chooses the optimal point [i.e., where there is an "elbow" in the plot of residuals against number of clusters]) or by obtaining the solution with the widest average silhouette width (silhouette widths capture how similar each individual trajectory is to its cluster of trajectories). The clustering algorithm revealed that the six-cluster solution was most preferable based on these criteria. As a sensitivity test, we stratified the model by race/ethnicity and SES before the clustering procedure, and these produced similar findings as we see in the pooled model (results are available on request).

Finally, multinomial regression analyses were used to examine how SES and race/ethnicity are associated with membership in each cluster. We used a logistic regression model (using gender and race) to predict nonattrition and multiplied the inverse of the predicted probabilities by NLSY97 baseline weights to create composite weights for the analyses. For ease of interpretation, marginal predicted probabilities of belonging to each cluster (across covariate values) were calculated. All social sequence analyses were performed in R 3.5.1 (R Foundation for Statistical Computing, Vienna, Austria), and multinomial regression analyses were performed in Stata 15 (StataCorp, College Station, TX).

Results

Descriptive Results

Table 1 displays the descriptive characteristics of our sample. A majority of the respondents

Table 1. *Descriptive Statistics of Young Adults Aged 16 to 30 Years (N = 7,446)*

Measures	Mean (*SE*) or %
Highest education degree	
Less than high school	19.45
High school	41.71
Some college	7.85
College and above	30.99
Race/ethnicity	
Non-Hispanic White	72.29
Black	14.62
Hispanic	13.09
Gender	
Male	51.79
Female	48.21
Parenthood status	
No child before age 30	48.40
Had first child before age 20	7.27
Had first child between ages 20–24	19.99
Had first child between ages 25–30	24.33
Family structure at age 18	
Both biological parents	46.61
Two parents, one biological	13.28
Single parent	25.09
Others	15.02
Parents' highest education	
Less than high school	12.64
High school	32.27
Some college	25.75
College degree and above	29.34
Mother's age at first birth, year	23.21 (0.66)

Notes. Parents' highest education and mother's age at first birth is based on 6,713 observations. The results are weighted to adjust for baseline sampling probabilities and attrition during follow-up.

were non-Hispanic White (72.3%) and had at least a high school education (80.6%). The gender distribution was relatively even (51.8% men, 48.2% women). About 48.4% of young adults had no child by age 30. Many respondents came from families with both biological parents present in the household (46.6%), whereas approximately 25.1% of the respondents lived with a single father or single mother when they were 18. Most of the respondents reported that the highest educational attainment among their parents was at least a high school education (87.4%). The average age at which the respondents' mothers gave birth to their first child was 23.2.

Results From Social Sequence Analysis: Classification of Union Transition Trajectories. The clustering process revealed the six-cluster solution to be optimal according to the criteria set out previously. Sequence index plots, focusing on individuals as the unit of analysis and enabling us to examine individual trajectories, are shown in Figure 1. Each horizontal line on the plot represents a single individual's trajectory during the life course, and numbers on the *y* axis thus indicate index numbers for each individual in the sample. Figure 1 contains sequence index plots stratified by the six clusters derived from the analysis. As highlighted throughout the study, important features to consider when distinguishing the clusters include the order, duration of each state, timing, and number of states in the overall trajectory. The clusters should make intuitive and theoretical sense to support the use of six clusters to describe the trajectories (over and above the general statistical "rules of thumb"). The clusters are enumerated in Table 2, where a name is given for each cluster and described briefly based on their distinguishing features. The largest proportion of young adults in the sample belonged to the "mostly single" cluster (37.6%), followed by the "late 20s marriage" cluster (22.5%), the "some cohabiting" cluster (13.8%), the "early 20s marriage" cluster (11.4%), the "serial cohabiting" cluster (10.6%), and finally the "turbulent" cluster (4.1%).

For ease of interpretation, the sequences with the highest neighborhood density (for an explanation of this measure, see Gabadinho & Ritschard, 2013) from each cluster were extracted as representatives of their respective clusters and are displayed in Figure 2.

To facilitate the comparison of our clusters to the results of past research, we present a summary of "traditional" demographic indicators in Table 3. We highlight only the key findings here. Overall, 50.5% of our sample were ever married, and 65.0% had ever cohabited. These numbers are consistent with previous estimates among young adults aged 25 to 29 in 2011 to 2013 (Manning & Stykes, 2015). Separating the indicators by cluster type, we note several distinctive characteristics here. The "mostly single" cluster was characterized by a low percentage of ever married (3.9%), low number of premarital cohabitation experiences (0.6), and shorter premarital cohabitation episodes (13.7 months). Both the "some cohabiting" and

FIGURE 1. SEQUENCE INDEX PLOT BY TYPE OF TRAJECTORY.

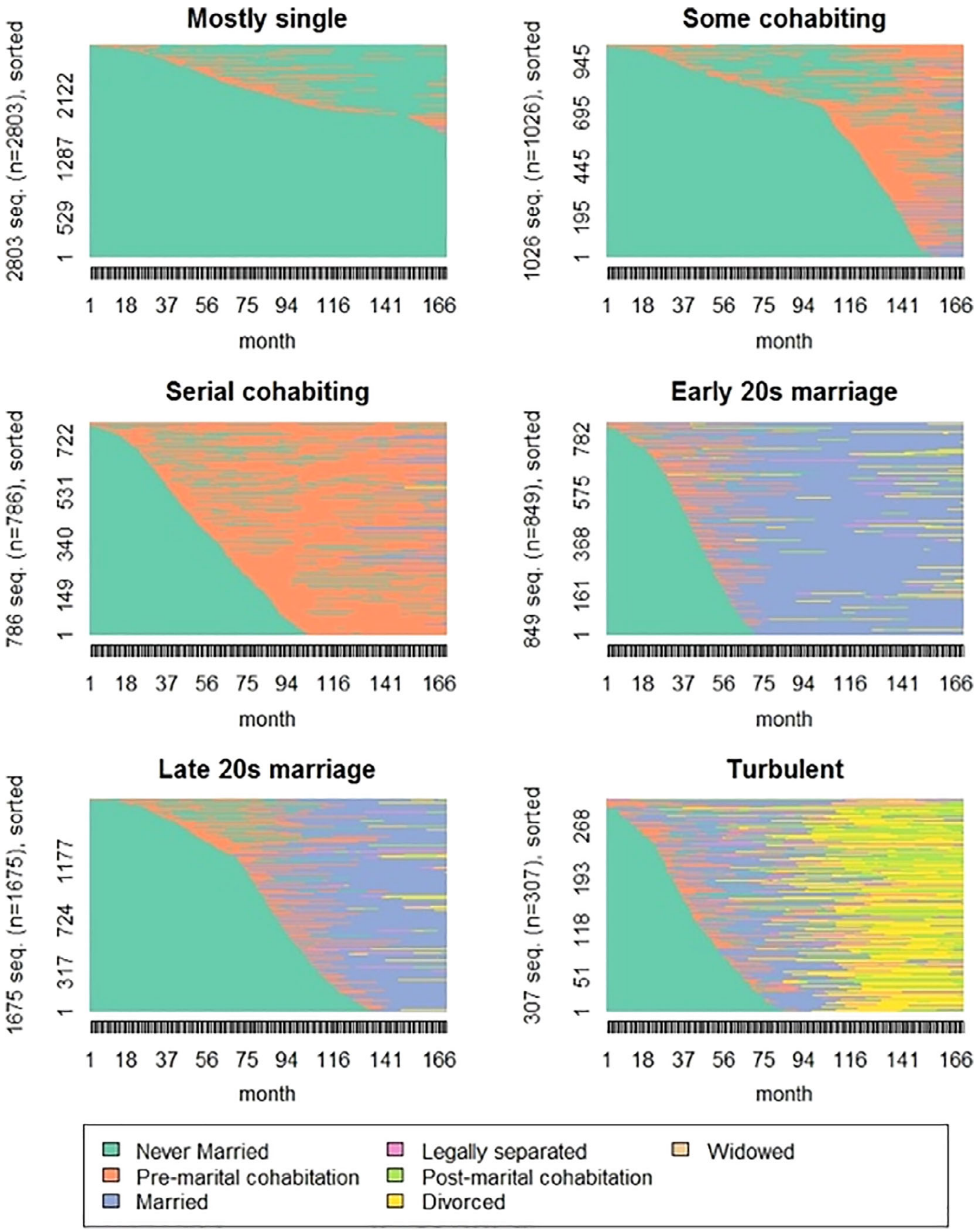
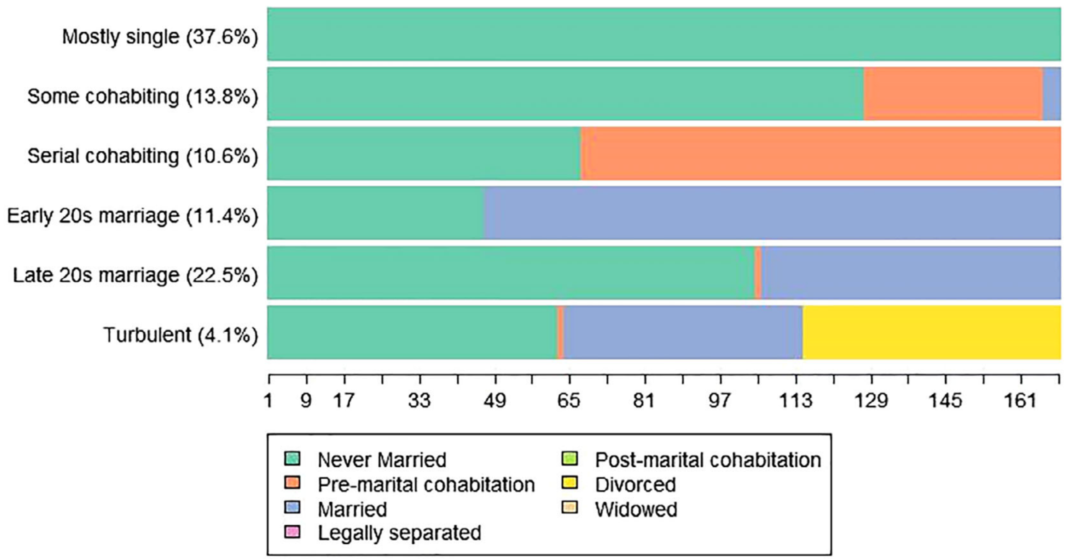


Table 2. *Six Clusters of Union Transition Trajectories Found From Social Sequence Analysis (N = 7,446)*

Name	%	Description
Mostly single	37.64	Remained single for all or almost all of young adulthood, with only sparse and short episodes of cohabitation throughout their entire trajectory
Some cohabiting	13.78	One or more short episodes of cohabitation, but majority of young adulthood still spent single. A minority get married as they approach 30 years of age
Serial cohabiting	10.60	A large proportion of young adulthood spent in multiple cohabiting unions
Early 20s marriage	11.40	Little to no cohabitation followed by a substantial period of marriage from the early 20s
Late 20s marriage	22.50	Similar to those in the "early 20s marriage group," but with a slightly delayed timeline such that marriage occurs around the late 20s
Turbulent	4.12	Moved through many states within young adulthood, from single to cohabiting to married to divorced, with some forming cohabitating unions again after divorce

Figure 2. Representative Sequences From Each Cluster.



"serial cohabiting" clusters had high proportions of individuals experiencing more than one premarital cohabitation, but the average length of each cohabitation episode was much higher in the "serial cohabiting" cluster (53.7 months vs. 27.5 months) and occurred earlier (20.6 years vs. 24.7 years). The "early 20s marriage" cluster and "late 20s marriage" clusters were distinguished primarily by the lower prevalence and shorter duration of premarital cohabitation in the former as well as higher median ages for union formation (both cohabitation and marriage) in the latter. Finally, although the "turbulent" cluster looked like a mix of the "early 20s marriage" and "late 20s marriage" clusters, its distinctive features (e.g., short premarital cohabitations or marriages, high prevalence of divorce, widowhood, or postmarital cohabitation) were likely not well described by the indicators shown here. We noted that the comparisons made here were best seen as a description of trends in emerging adulthood—we made no inferences about the future.

Results From Multinomial Regression Analysis: SES and Race/Ethnicity Differences. Relative risk ratios from multinomial regression analysis using SES and race/ethnicity along with other covariates to predict cluster membership are shown in Table 4. The "mostly single" cluster

Table 3. *Comparison of Demographic Measures by Six Clusters of Union Transition Trajectories (N = 7,446)*

Measures	Overall	Mostly single	Some cohabiting	Serial cohabiting	Early 20s marriage	Late 20s marriage	Turbulent
Median age at first marriage[a]	24.14	29.52	28.81	28.11	20.45	25.02	20.63
Median age at first premarital cohabitation[b]	22.21	23.22	24.70	20.62	18.98	22.34	19.31
Median age at first union	22.35	23.43	25.00	20.62	19.44	22.90	19.53
Ever married, %	50.51	3.85	36.23	22.11	100.00	100.00	100.00
Ever cohabited before the first marriage, %	65.00	40.67	91.53	100.00	58.01	71.68	68.74
Ever cohabited more than once before the first marriage, %	24.47	15.58	36.84	66.35	12.25	20.24	15.15
Number of premarital cohabitations, mean	1.03	0.64	1.53	2.18	0.74	0.98	0.88
Number of postmarital cohabitations, mean	0.11	0.00	0.00	0.01	0.29	0.08	1.15
Number of marriages, mean	0.56	0.04	0.36	0.22	1.23	1.04	1.28
Mean length per premarital cohabitation, months[c]	24.47	13.65	27.51	53.70	14.78	19.95	12.08
N	7,446	2,803	1,026	789	849	1,675	307

Note: The results are weighted to adjust for baseline sampling probabilities and attrition during follow-up.

[a]Median age at first marriage, cohabitation, or union is the median age only among those who entered into their first marriage, cohabitation, or union before age 30. [b]Premarital cohabitation refers to any cohabitation before one's first marriage, whereas postmarital cohabitation here refers to cohabitation that occurs any time after one's first marriage and supersedes any previous marital status. [c]Mean length per cohabitation is estimated based on those who had at least one cohabitation.

was used as the reference group. Due to substantial missing data on parents' highest education and mother's age at first birth ($N = 733$ in total), both unadjusted (Model 1) and adjusted (Model 2) models were estimated to check the robustness of our estimates for race/ethnicity and SES. These coefficients show strong consistency overall (in terms of statistical significance and the direction and magnitude of effect).

To aid the interpretation of SES and race/ethnicity patterns, we plotted marginal predicted probabilities of cluster membership in Figure 3 based on the results from Model 2 of Table 4. Regardless of their socioeconomic status, all individuals had the highest probability of being in the "mostly single" cluster (vs. being in other clusters). We found that those with higher levels of education had a higher probability of being in the "late 20s marriage" cluster. Conversely, those with lower levels of education were more likely to be in the "serial cohabiting" and "turbulent" clusters. Those whose parents' highest degree was a college degree or above had a lower probability of being in the "early 20s marriage" cluster and a higher probability of being in the "late 20s marriage" cluster (vs. being in the "mostly single" cluster) when compared with those whose parents' highest level of education was less than high school. In terms of family structure, those living with single parents or nonbiological parents at age 18 were most likely to be in the "serial cohabiting" cluster (vs. being in the "mostly single" cluster) when compared with those living in a family with both biological parents. Those living without parents when they were age 18 were most likely to be in "serial cohabiting," "early 20s marriages," and "turbulent" clusters (vs. being in the "mostly single" cluster) when compared with those living in a family with both biological parents. For race/ethnicity, Blacks (vs. non-Hispanic White) were most likely to be in the "mostly single" and "some cohabiting" clusters, but were least likely to be in the "serial cohabiting," "early 20s marriage," "late 20s marriage," and "turbulent" clusters. Predicted probabilities for Whites and Hispanics were generally statistically indistinguishable from one another across all clusters except for the "late 20s marriage" and "mostly single" clusters.

In terms of other covariates, the results in Table 4 showed that women were more likely than men to belong to the other clusters (especially the "early 20s marriage") versus the "mostly single" cluster. Parenthood status was a strong predictor of membership in the six clusters. Those who had no children prior to age 30 were most likely to in the "mostly single" cluster, whereas those who had their first child prior to age 20 or between ages 20 to 24 had

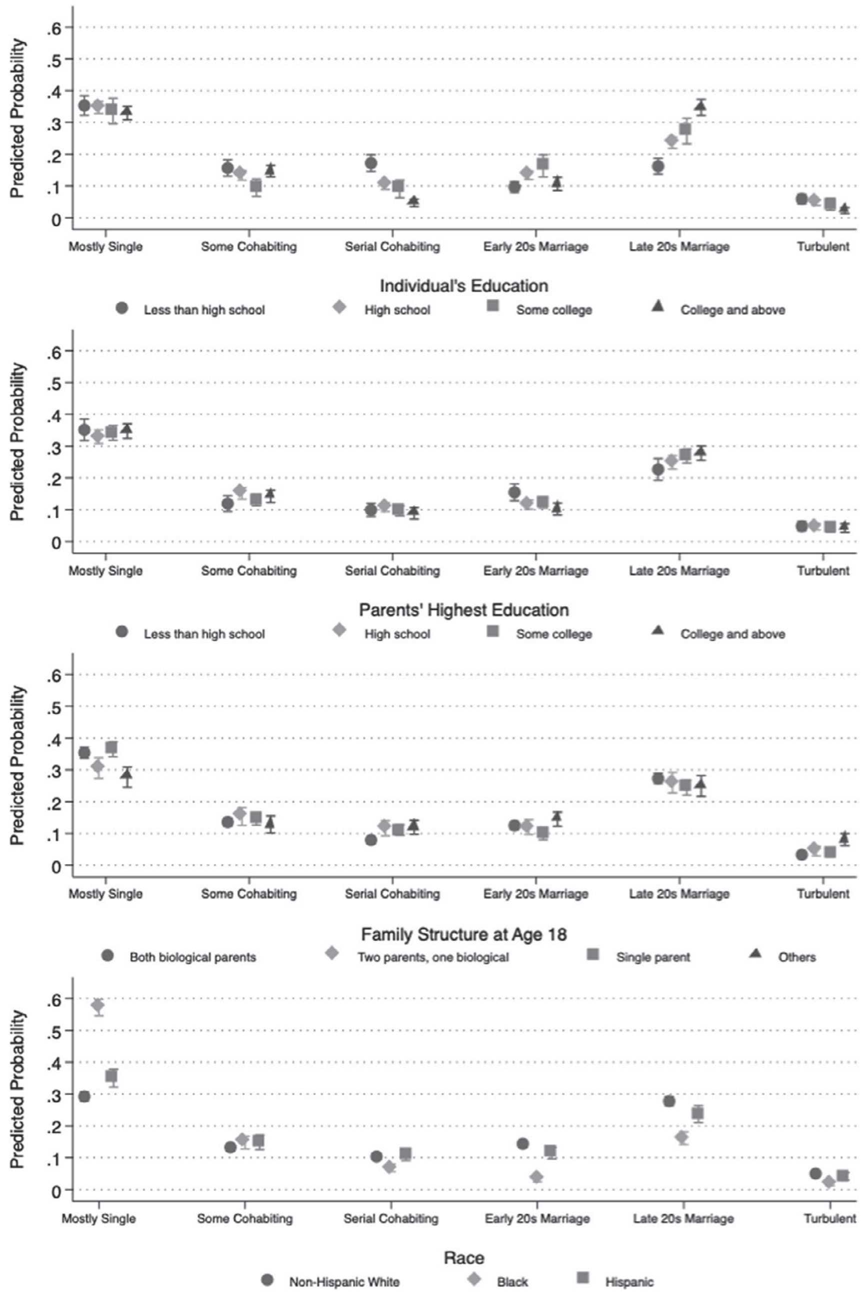
Table 4. *Relative Risk Ratios From Multinomial Logistic Regression Models Predicting Trajectory Cluster Membership (N = 7,446)*

	Type of trajectory (baseline category: mostly single)									
	Some cohabiting		Serial cohabiting		Early 20s marriage		Late 20s marriage		Turbulent	
Measures	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Highest education degree (reference: high school)										
Less than high school	1.07	1.12	1.69^{***}	1.74^{***}	0.75^{*}	0.64^{**}	0.56^{***}	0.60^{***}	1.42^{*}	1.23
Some college	0.74	0.75	1.02	0.89	$1.38^{\dagger}$	$1.42^{\dagger}$	1.24	1.29	0.83	0.99
College and above	1.11	1.18	0.44^{***}	0.37^{***}	0.66^{**}	0.82	1.57^{***}	1.63^{***}	0.27^{***}	0.49^{**}
Race/ethnicity (reference: White)										
Black	0.50^{***}	0.49^{***}	0.23^{***}	0.23^{***}	0.06^{***}	0.06^{***}	0.20^{***}	0.19^{***}	0.12^{***}	0.12^{***}
Hispanic	$0.83^{\dagger}$	0.90	0.85	$0.80^{\dagger}$	0.67^{***}	0.56^{***}	0.64^{***}	0.64^{***}	0.70^{*}	0.61^{*}
Family structure at age 18 (reference: both biological parents)										
Two parents, one biological	1.42^{**}	$1.33^{\dagger}$	1.74^{***}	1.78^{***}	1.18	1.18	1.09	1.13	1.56^{*}	1.63^{*}
Single parent	1.04	1.02	1.34^{*}	1.32^{*}	0.74^{*}	0.70^{*}	0.80^{*}	$0.82^{\dagger}$	1.10	1.07
Others	1.25	1.25	2.09^{***}	2.17^{***}	1.83^{***}	1.80^{***}	1.19	$1.27^{\dagger}$	3.41^{***}	3.60^{***}
Parents' highest education (reference: high school)										
Less than high school		0.74^{*}		0.88		$1.34^{\dagger}$		0.86		1.02
Some college		0.83		0.86		1.03		1.06		0.84
College and above		0.89		$0.75^{\dagger}$		0.80		1.06		0.84
Mother's age at first birth		0.99		0.98		0.96^{**}		0.99		0.99
Gender (reference: male)										
Female	1.15	$1.19^{\dagger}$	2.10^{***}	2.02^{***}	2.35^{***}	2.33^{***}	1.28^{**}	1.34^{***}	1.62^{**}	1.58^{**}
Parenthood status (reference: no child before age 30)										
Had first child before age 20	1.35	1.31	3.04^{***}	2.95^{***}	20.63^{***}	20.72^{***}	3.81^{***}	3.82^{***}	6.83^{***}	5.73^{***}
Had first child between ages 20–24	1.42^{*}	1.49^{**}	4.46^{***}	4.09^{***}	29.24^{***}	32.85^{***}	7.21^{***}	7.07^{***}	8.47^{***}	8.36^{***}
Had first child between ages 25–30	3.47^{***}	3.49^{***}	4.86^{***}	4.83^{***}	15.08^{***}	16.45^{***}	16.19^{***}	16.40^{***}	6.44^{***}	6.04***
N	7,446	6,713	7,446	6,713	7,446	6,713	7, 446	6,713	7,446	6,713

Note: The results in the first column of each type of trajectory are based on the full sample ($N = 7{,}446$), excluding two mother's highest education and mother's age at first birth. The results in the second column are based on the sample including mother's highest education and mother's age at first birth ($N = 6{,}657$). The results are weighted to adjust for baseline sampling probabilities and attrition during follow-up.

$^{\dagger}p < .1.$ $^{*}p < .5.$ $^{**}p < .01.$ $^{***}p < .001.$

Figure 3. Predicted Probability of Six Types of Trajectory by Socioeconomic Status and Race/Ethnicity.



higher probabilities of being in the "early 20s marriage" and "turbulent" clusters. Those who had their first child between ages 24 to 29 had a higher risk of being in the "late 20s marriage" (vs. being in the "mostly single" cluster).

Discussion

Using social sequence analysis with monthly data from the NLSY97 in this study, we provide a rich description of marriage and cohabitation trajectories in emerging adulthood from the life course perspective. The social sequence approach preserves the integrity of union transition trajectories and allows us to uncover patterns between individual trajectories that are not usually accessible by more traditional summary measures of cohabitation and marriage. These provide us a fuller picture of within and between group differences in individual trajectories during emerging adulthood. Another key strength of the study is that data were collected prospectively—respondents were interviewed annually from 1997 to 2011 and biennially thereafter. This reduces recall bias inherent to many retrospective surveys using the life history calendar to elicit such information (and on which most social sequence analyses have been based) usually from decades ago. We used the life course perspective to take a closer look at the six trajectories that we found, addressing race/ethnicity and SES differences within and across each cluster.

Remarkably, the most common trajectory type (accounting for more than 37.6% of the sample) was "mostly single" across all SES and race/ethnicity groups. This is an important finding given that many studies focus on union formation or dissolution as the endpoint and tend to neglect the fact that most individuals in younger cohorts are not in unions for most of the young adult lives. There were no statistically significant differences across SES groups (whether by individual or parents' highest education). Blacks, however, were more likely to remain mostly single until age 30 when compared with non-Hispanic Whites and Hispanics, with around 53.8% of Blacks belonging to this trajectory. Previous studies have consistently showed that although median age at first marriage is being delayed, the median age at first cohabitation tends to remain stable (Manning et al., 2014). This, however, may paint too simplistic a picture of union formation experience because it does not describe what occurs between first cohabitation and first marriage. In this study, we found that a large number of young adults remained mostly in singlehood before reaching age 30—episodes of cohabitations were few and far between, even though the first cohabitation may have occurred early on. This means that an early cohabitation experience does not preclude living most of emerging adulthood single thereafter. Without considering the duration and number of subsequent cohabitation experiences, indicators such as median age at first cohabitation or marriage may not adequately represent life course heterogeneity in younger cohorts.

The two trajectory types that substantially featured both cohabitation and marriage experiences were the "early 20s marriage" (11.4%) and "late 20s marriage" (22.4%) clusters. Cohabitation was less prevalent among those in the former cluster (58.0%) when compared with those in the latter (71.7%). Those in the "early 20s marriage" cluster also tended to have shorter (albeit earlier, if any) cohabitation experiences. These findings reiterate the life course principle of life-span development—trends in marriage and cohabitation are intertwined (or codependent) and should be considered in the context of each individual's life history.

When compared with Blacks, non-Hispanic Whites and Hispanics were more likely to be in the "early 20s marriage" and "late 20s marriage" clusters. These trends reiterate the findings of past research on diverging trajectories, suggesting that Whites are more likely to transition into marriage (Kuo & Raley, 2016). In terms of SES, we found that individuals with a college degree (compared with individuals without a college degree) were more likely to be in the "late 20s marriage" cluster, but less likely to be in the "early 20s marriage" cluster. This finding is also in broad agreement with past findings suggesting that higher SES groups are more likely to delay the formation of cohabitation, but are more likely to transit into marriage once they are cohabiting (Ishizuka, 2018; Sassler et al., 2018).

We provide more nuance to these earlier findings. Among those who married in early adulthood (i.e., comparing the "early 20s marriage" and "late 20s marriage" clusters), those with college degrees were more likely to marry later and experienced longer periods of premarital cohabitation (19.95 months vs. 14.78 months). Specifically, the high SES groups were more likely to marry and did so later, often with a preceding episode of cohabitation. The lower SES groups seemed more likely to cohabit without marriage. However, if they did marry, they tended to do so at earlier ages, often with shorter preceding episodes of cohabitation (vs. "late 20s marriage").

The two trajectory types characterized primarily by cohabitation experiences were the "some cohabiting" (13.8%) and "serial cohabiting" (10.6%) clusters. On average, each cohabitation episode was shorter in the "some cohabiting" cluster (27.5 vs. 53.7 months) and occurred much later (24.7 vs. 20.6 years old). The respondents with higher educational attainment, or from a family structure of two biological parents, were less likely to be in the "serial cohabiting" cluster. We also found that although Blacks were slightly more likely to be a member of the "some cohabitation" cluster when compared with non-Hispanic Whites, they were less likely to be part of the "serial cohabitating" cluster. Manning et al. (2014) previously showed that non-Hispanic Whites and Hispanics have seen a greater increase in the proportion of those entering cohabitation (compared with Blacks), but did not provide more details about these cohabitation experiences (e.g., timing, length, total number of experiences). We build on these findings and suggest that even when Blacks did enter into cohabitation, they might do so at older ages and with fewer experiences by age 30. As cohabitation becomes more common in younger cohorts, it becomes more important to acknowledge heterogeneity in cohabitation experiences. The case of "serial cohabitating" is instructive here.

Our results showed that using previous definitions of serial cohabitation (construed as more than one cohabitation experience), estimated rates in this cohort (24.3% among all respondents before their first marriage, 37.7% among those who had ever cohabited before their first marriage) seemed substantially higher than previously estimated by Lichter and Qian (2008) in an older cohort (15%–20% among cohabiting women in NLSY79). A key observation from our findings was that those who had cohabited more than once throughout their entire trajectory did not necessarily fall into the same cluster—in fact, there was considerable variation in cluster membership. The trajectories of those in the "some cohabiting" cluster were distinguished by shorter, fewer, or later episodes of cohabitation when compared with those in the "serial cohabiting" cluster. Furthermore, a number of individuals in the "early 20s marriage" and "late 20s marriage" clusters also experienced more than one cohabitation (12.25% and 20.24%, respectively) before entering marriage, but their overall trajectories were quite dissimilar from those seen in the "serial cohabiting" cluster. This may indicate that previous attempts to characterize serial cohabitation with a simple count of cohabiting experiences may be overly simplistic because doing so is likely to condense qualitatively different people with vastly different trajectories into a single group. Perhaps a more stringent criteria (e.g., two or more cohabitation experiences with a stipulated minimum duration) to identify gradations of serial cohabitation may be used by future studies to account for the unobserved heterogeneity inherent in cohabitation experiences.

Finally, the least prevalent trajectory type was the "turbulent" (4.1%) cluster, featuring multiple cohabitation episodes and marital transitions by age 30. Young adults with lower educational attainment or who lived without any parents during adolescence were more likely to be in this cluster. These findings are in broad agreement with prior research on the intergenerational transmission of relationship instability and "relationship churnings" (Cavanagh & Fomby, 2019). Whites are more likely (compared with Blacks) to be in this cluster, which seems inconsistent with prior research suggesting more relationship instability among Blacks than their White peers (Brown et al., 2016; Raley & Wildsmith, 2004). This inconsistency is likely due to censoring—given that we only observe union formation trajectories until age 30, we are unable to adequately capture the nature of relationship transitions that occur after age 30. Because Blacks tend to form unions later than Whites, our study is likely to capture instability mostly among Whites only. Nevertheless, the findings remind us that Whites, especially those from the working or lower classes, may be exposed to relationship churning at much earlier ages than Blacks.

We acknowledge some limitations of the present study. First, we only observe respondents' trajectories up to age 30 because the youngest birth cohort in NLSY97 had just reached age 30 in 2016 (up to which time data were available). Our results should be interpreted as a description of trends with this right censoring in mind. Given that early adulthood is a formative period for union formation that is likely to determine outcomes later on in the life course, however, the data provide us with an informative (albeit incomplete) picture of diverging trajectories within and between groups. As it is, we already see quite distinct trajectories in marriage and cohabitation. Second, sexual relationships before coresidence are a crucial part of the relationship progression (Sassler et al., 2016; Sassler & Miller, 2017). However, the NLSY97 lacks the relevant monthly information to assess these relationships. If sexual relationships before coresidence are included in the social sequence analysis, we might find even more heterogeneity in this cohort, especially among those who are "mostly single" by age 30. This is a potentially fruitful area of research, especially when using social sequence analysis. Third, we used the highest level of education attained by age 30 as one measure of SES, but one's education trajectory may be endogenous to one's cohabitation or marriage trajectory. That is, one's union formation trajectory may also affect one's educational attainment. To address this issue, we included as exogenous variables that also measure individual SES such as family structure in earlier life, parents' highest education, and mother's age at first birth. We also provide additional analyses in Figures S1 and S2 in the Appendix. These variables show a highly similar pattern to individual educational attainment. Nevertheless, we encourage readers to interpret findings around individual educational attainment as associational rather than as causal effects and rely on the results from the multiple variables of SES that we have presented here. Fourth, we are unable to directly estimate cohort changes in cohabitation given that the NLSY97 only covers a narrow range of birth years. However, we expect these findings to add to previous literature and inform future studies on how best to approach the study of cohabitation with marriage, and how to address multiple cohabitations. Fifth, we only consider union transition trajectories in this article, but sequence analysis can be extended to incorporate other types of trajectories simultaneously (e.g., fertility, education, employment) pertinent to emerging adulthood. This may provide more insight compared to summary covariates that may be endogenous to the sequence, such as the measure of fertility used in this article. Multichannel sequences, however, become increasingly difficult to estimate and interpret as data become more complex. As with nonparametric models that suffer from the "curse of dimensionality," researchers should consider these tradeoffs when deciding whether to use multichannel sequence analysis. Finally, we acknowledge criticism on the use of sequence analysis (and other similar methods) in revealing "true" underlying trajectory types (Warren, Luo, Halpern-Manners, Raymo, & Palloni, 2015). Warren et al. (2015) found that different methods for modeling age-graded trajectories may yield slightly different results. As highlighted previously, however, some trajectory models may not be easily estimable with high-resolution data. Despite these limitations in the certainty of clustering trajectories, we find that many aspects of our results align with past research, providing some measure of external validity. Our study is best interpreted as a constructive way to better describe idiosyncrasies in individual trajectories not captured by previous studies so as to provide a better way forward in examining cohabitation and marriage trends.

Nonetheless, our study reveals cohesive findings for union transitions that cannot be identified without preserving the integrity of individual union transition trajectories. Timing, duration, order, and number of transitions within the life course become more important as relationship instability and family complexity increase and union trajectories become more varied in recent decades. Divergent trajectories occur across education and race/ethnicity occur in multiple dimensions simultaneously, and this should be accounted for. Our study is a first step towards better understanding these complex patterns. At the same time, we found that most young adults remained "mostly single" up to age 30. More is needed to understand this group, who are often overlooked since they do not experience events of interest to scholars who study union formation or dissolution. As Martin et al. (2014) state, "The singles are coming." In sum, our study beckons researchers to examine between and within group heterogeneity, all while considering multiple dimensions at once.

Note

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Supporting Information

Additional supporting information may be found online in the Supporting Information section at the end of the article.

Figure S1. Predicted Probability of Six Types of Trajectory by Parents' Highest Education

Figure S2. Predicted Probability of Six Types of Trajectory by Net Family Income

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