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Pathways to adulthood and changes in health-promoting behaviors

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Abstract

The transition to adulthood in the US has become increasingly diverse over the last fifty years, leaving young adults without a normative pathway to adulthood. Using Waves I and III of The National Longitudinal Study of Adolescent Health (N=7,803), I draw from a cumulative advantages/ disadvantages (CAD) perspective to examine the relationships between union formation, parenthood, college attendance, full-time employment, home-leaving, and changes in health-promoting behaviors between adolescence and young adulthood. I find that men and women who marry, cohabit, or attend college during the transition from adolescence to young adulthood report fewer losses in healthy behaviors over time. When the sample is divided into mutually exclusive "pathways to adulthood", two higher-risk groups emerge for both men and women: single parents and those transitioning into fulltime work without attending college or forming families. These groups experience greater losses in healthy behaviors over time even after adjusting for family of origin characteristics and may be at long-term risk for persistently low engagement in health-promoting behaviors.

Keywords

young adulthood; health behaviors; family; health

1. Introduction

The life course events that young adults experience have become more diverse over the last fifty years, leaving adolescents without a dominant pathway to adulthood (Amato & Kane, 2011; Oesterle, Hawkins, Hill, & Bailey, 2010). As recently as the 1970s, the transition to adulthood was quite uniform and included the completion of education, followed by marriage, parenthood, and fulltime work or caregiving (Furstenberg, 2010). Yet recent research identifies a great deal of diversity in contemporary pathways to adulthood among US young adults, driven largely by delayed home-leaving and transitions into unions and

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fulltime work, as well as increases in college attendance, cohabitation, and single parenthood (Amato & Kane, 2011; Oesterle et al., 2010; Furstenberg et al. 2005). However, few studies examine the implications of these diverse pathways to adulthood for young adults? well-being (for a notable exception see Amato & Kane, 2011).

This gap in existing research is significant because previous studies have associated many of the life course events that young adults now experience with changes in health-promoting and risky behaviors, including exercise and sleep habits, binge drinking, smoking, and drug use (Umberson, Crosnoe & Reczek, 2010; Harris, Lee, & DeLeone, 2010). Because of this, young adults on different pathways to adulthood are likely to have varying levels of engagement in these behaviors, potentially leading to later-life stratification in the chronic conditions resulting from engagement in poor health behaviors. Yet not all young adults are equally likely to experience life course events that are health-promoting: early advantages and disadvantages associated with socioeconomic standing and family of origin resources place more advantaged adolescents on pathways associated with health-promoting transitions, such as marriage or college completion. This means that early life course transitions may reflect and reinforce socioeconomic and health inequalities across the life course, contributing to the cumulative advantages and disadvantages that young adults face.

This study advances previous research by drawing from the life course concept of cumulative advantages/disadvantages (see O'Rand, 2006 and Dannefer, 2003) to examine the relationships between family of origin resources in adolescence, life course events during the transition to adulthood, and changes in healthy behaviors between adolescence and young adulthood. This study extends recent scholarship identifying distinct contemporary pathways to adulthood among US young adults by examining the implications of these pathways for health-promoting behaviors that delay or prevent chronic disease. In doing this, this study investigates whether the transition from adolescence to young adulthood acts as a point of divergence in healthy behavior engagement, with young adults who were more advantaged as adolescents experiencing early life course events that further promote the maintaining of good health behaviors (such as marriage and college completion). At the same time, it investigates whether the least advantaged adolescents experiencing life course events during the transition to young adulthood that further challenge their ability to maintain good health practices as they age (such as remaining idle following high school completion or becoming a single parent). Moreover, because a gendered life course perspective aims to reveal men's and women's different experiences as they transition from adolescence to adulthood (see Moen, 2001), and because men and women experience very different pathways to adulthood (see for example Amato & Kane, 2011 and Oesterle et al., 2010), this study also tests whether the relationships between health-promoting behaviors and life course events vary according to gender.

The present study evaluates three research questions. First, what are the relationships between young adult life course events and changes in health-promoting behaviors between adolescence and young adulthood among US young adults? Second, do these relationships persist net of family-of-origin characteristics that both influence healthy behaviors and select young people into pathways to adulthood? Third, do these relationships vary according to gender?

2. Background

2.1 The changing transition to adulthood

For young adults in the United States, the transition to adulthood is a critical turning point in the life course. Between the ages of 18–24, young adults may move away from home, form and dissolve romantic unions, become parents, begin working fulltime, attend college, or establish financial independence (Furstenberg, 2010). In the United States, contemporary pathways to adulthood differ significantly from previous cohorts of US young adults. In the US and as of 2010, age at first marriage increased to 26 for women and 27.7 for men (up from 23 for men and 20 for women in 1970), age at first birth increased from 20 in 1970 to 25 in 2010, and age of leaving home to live independently increased from 18–20 to the mid-20s as paths of home-leaving diversified (US Census, 2011; Furstenberg et al., 2005). In addition, recent cohorts of young adults have experienced increases in non-marital births (40% in 2010 compared to 10% in 1970), college enrollment (up from 25.7% of 18–24 year olds in 1970 to 38.8% in 2007), and full-time employment among women (from 43% in 1970 to 59% in 2010) (Martin et al. 2012; Snyder, Dillow, & Hoffman 2009; Terry-Humen, Manlove, and Moore, 2001; U.S. Bureau of Labor Statistics, 2011).

These demographic shifts have opened up a period of uncertainty among US young adults by delaying and diversifying pathways from adolescence into adulthood. Contemporary trends in pathways to adulthood contribute not only to a delay in the adoption of traditional adult roles, but also to a delay in self-identification as an adult among many 18–29 year olds, which may explain why young adults are much more likely to engage in risky behaviors than both their older and younger peers (Harris et al., 2006; Nelson & Barry, 2005; Arnett, 2000). Yet these diverse transitions may signal stratification in young adult health if they exacerbate initial social inequalities related to socioeconomic standing and the ability to maintain good health across life course stages. Increased diversity in young adult roles can contribute to a widening in income and health inequalities over time, as young adults from more advantaged families are more likely to benefit from increases in college enrollment, delayed first marriage, and dual-income households (Furstenberg, 2010, Settersten & Ray, 2010). Advantaged young adults are more likely to achieve higher educational attainment and high-status jobs, marry educationally homogamous spouses, and or report a first birth within marriage (Schwartz & Mare, 2005; White and Rogers, 2004; Upchurch, Lillard, and Panis, 2002; Sweeney, 2002). These same transitions may result in large disparities in healthy behaviors during early adulthood and in chronic illness later in life as income and wealth disparities widen, but the degree of change in these outcomes and the long-term effects of these transitions on overall health and well-being have not been examined. For these reasons, I argue that understanding cumulative advantages and disadvantages during the transition to adulthood in the US informs researchers' understanding of how healthy behaviors are maintained or lost over time, with strong implications for later-life trajectories in chronic disease and disability.

2.2 Healthy behaviors as an indicator of young adult well-being

Healthy behaviors such as adequate sleep and exercise, maintaining a healthy diet and weight, and avoidance of smoking and binge drinking reduce the risk of developing chronic

conditions and disability later in life (Lloyd-Jones et al. 2010; Berkman, Breslow, &Wingard, 1983). Engagement in health-promoting behaviors fluctuates across life course stages, declining significantly between adolescence and young adulthood (Frech, 2012; Harris, Gordon-Larsen, Chantala, & Udry, 2006). However, not all adolescents experience the same degree of decline in healthy behaviors during the transition to adulthood: family of origin characteristics such as parent health behaviors and living with two married parents, along with feeling supported and cared for by parents influences adolescents' healthy behaviors and the rate at which these behaviors change during the transition to adulthood (Frech, 2012; Wickrama et al., 2003). The development of social ties (including union formation or parenthood) and taking on new social roles (as students or employees) is likely to further modify the ways that healthy behaviors change over time, yet little is understood about how healthy behaviors change in response to these events, and the degree to which these events create stratification in healthy behaviors among young adults.

2.3 Cumulative advantages/disadvantages and the transition to adulthood

Previous studies have used a life course perspective to understand individuals' long-term trajectories of well-being. Broadly speaking, the life course perspective contends that individuals engage in a series of constrained choices as they establish independence – including choices about whether to engage in health-promoting behaviors – and that these choices are constrained by personal resources, demographic trends, socioeconomic standing across the life course, and the timing and sequence of life course events (Elder, Johnson, & Crosnoe, 2003). The concept of cumulative advantages and disadvantages (Elder et al. 2003, Dannefer, 2003) further informs this study by drawing attention to the ways that early socioeconomic resources exert an enduring impact on health by influencing young adult life course events and retaining an independent association with healthy behaviors. In other words, decisions about whether to get enough sleep, avoid smoking and binge drinking, eat healthfully, exercise regularly, and maintain a healthy weight are structured by a changing social environment, and are not purely a product of personal choice. When viewed through a life course perspective, healthy behaviors are influenced by one's social ties, time and financial opportunities to improve or maintain good health, and early inputs from the family of origin and peers.

2.4 Life course events, family of origin characteristics, and healthy behavior change

However, what elements of a changing social environment might play a significant role in shaping individuals' likelihood to engage in behaviors that promote health? Life course scholars point to changing social ties and social roles, particularly ones that denote "turning points" in individuals' biographies, including marriage, establishing full-time employment, attending college, and transitioning into parenthood. For example, marriage generates long-lasting changes in smoking and drinking habits, contributing to the lower mortality rate of the married relative to the nonmarried (Liu, 2009; Umberson et al., 2010). Similarly, attending college is associated with short-term increases in risk-taking (Johnston et al., 2008), but over time, a college education is associated with financial stability, better health, and wider networks of social support (Ross & Mirowsky, 1999).

A number of recent studies provide insight into the processes through which contemporary pathways to young adulthood in the US may influence young adults' well-being. Amato & Kane (2011) identified seven distinct pathways to adulthood among US young women, and found that attending college and entering fulltime work by age 24 was associated with higher levels of binge drinking but better self-rated health than peers on other pathways, including pathways that included union formation and parenthood. Harris, Lee, & DeLeone (2010) examined race-ethnic differences in the health benefits of marriage and cohabitation among young adults, and found that cohabitation was associated with higher levels of risky health behaviors, while marriage was associated with an increase in Body Mass Index (BMI) and a decline in drinking and smoking.

The present study advances existing research in three ways. First, a focus on health-promoting behaviors such as adequate sleep and exercise, avoidance of smoking and binge drinking, and healthy eating and weight management complements existing research, which focuses primarily on the prevalence of risk-taking behaviors among adolescents and young adults (e.g. Park et al., 2008; Johnston et al., 2008). Second, this study investigates the role of cumulating advantages and disadvantages in shaping healthy behavior change over time by adjusting for some of the early-life variables that select more advantaged adolescents into life course events that are protective of health behaviors during the transition to young adulthood. Third, this study examines the gendered transition to adulthood by including interactions across gender and early life course transitions.

2.5 Hypotheses

Marriage—Married young adults between ages 18–25 report lower levels of smoking, drug use, and binge drinking than the nonmarried (Harris et al., 2010; Wolfe, 2009), yet early marriages are also associated weight gain and reductions in exercise (Burke, Beilin, Dunbar, & Kevan, 2004; Nomaguchi & Bianchi, 2004). Hypothesis 1 proposes that although healthy behaviors generally decline between adolescence and young adulthood (Frech, 2012; Harris et al., 2006), ever-married young adults will lose fewer healthy behaviors relative to the nonmarried.

Parenthood—Teen and young adult parents are less likely to binge drink and smoke than nonparents (Umberson et al., 2010; Wolfe, 2009), but parents of young children also report less free time to engage in physical activity (Nomaguchi & Bianchi, 2004). Moreover, the health benefits of parenthood are also contingent upon marital status at birth, with single parents experiencing worse health at midlife (Williams, Sassler, Frech, Addo, & Cooksey, 2011). Hypothesis 2a proposes that on average, parents will report fewer healthy behavior losses between adolescence and young adulthood, and Hypothesis 2b proposes that single parents will report greater healthy behavior declines than the modal category of young adults in this study, never-married non-parents who have attended college.

Attending college—Young adults currently enrolled in college report greater alcohol and tobacco use than non-students (Johnston et al., 2008), a higher incidence of sleep problems (Hicks, Fernandez, & Pellegrini, 2001), and are less likely to have transitioned into a role associated with low risk taking, such as marriage or parenthood. Although the relationships

between attending college and engaging in risky behaviors are not likely to persist beyond young adulthood (Umberson et al., 2010), understanding these relationships is essential for evaluating the point at which a health behavior advantage emerges for those who have attended college. Hypothesis 3a proposes that attending college will, on average, be associated with fewer healthy behavior losses between adolescence and young adulthood relative to those who do not attend college. Young adults who have attended college but have not married or become parents will be more likely to engage in risky behaviors and thus will lose more healthy behaviors than peers on other pathways (Hypothesis 3b).

Full-time employment—Young adults often rank employment and financial independence as more important identifiers of adulthood than marrying or leaving home (Arnett, 2000). As such, full time employment may instill a sense of responsibility that motivates young adults to improve their healthy behaviors relative to those who are not employed. On the other hand, young adults who work full-time -- particularly if they have not attended college -- often transition into low-skill, high-stress work characterized by high instability, low job satisfaction, lower levels of physical activity, and a greater incidence of smoking (Barbeau, Krieger, & Soobader, 2004; Wickrama, Conger, Wallace, & Elder, 2003). Thus, Hypothesis 4a proposes that young adults who work full time will report a greater healthy behavior decline between adolescence and young adulthood relative to peers who have not entered full-time work. Because some young adults who work full-time by age 24 may have completed college, Hypothesis 4b specifically examines healthy behavior change among full-time workers who have neither attended college nor formed a family, and proposes that the negative relationship between fulltime work and healthy behavior change will increase in magnitude when considering only those who work fulltime but have not attended college.

3. Method

3.1 Data and sample

In-home interviews Wave I of the National Longitudinal Study of Adolescent Health (Add Health) occurred during 1994–1995, and 2001–2002 for Wave III (73% of Wave I adolescents, N=15,197) (Udry, 2003). When properly weighted to adjust for attrition and the school-based nature of the sample, Add Health is nationally representative of adolescents enrolled in middle or high school in 1994–1995. The present study includes Hispanic, non-Hispanic white, non-Hispanic Asian, and non-Hispanic black respondents who lived with a parent or other guardian at Wave I, and who provided information on their engagement in health behaviors at Waves I and III. After this, the sample is limited to adolescents whose parents interviewed at Wave I in order to control for family of origin socioeconomic resources and parent healthy behaviors. Finally, the sample is limited to respondents with valid sample weights at Wave III. Missing data due to item non-response for explanatory variables was imputed using the *ice* command in Stata 12. The final sample includes 7,803 respondents, who are similar to the full Wave I sample on gender, race-ethnicity, healthy behaviors at Wave I, and parent education, but are more likely to be female, to have lived with two married parents during adolescence, and are less likely to be foreign-born. Respondents are referred to “adolescents” at Wave I, as over 90% are under age 18 and 99%

are under age 19, and "young adults" at Wave III, as over 99% of the Wave III sample is 18–25 years of age.

3.2 Measures

Dependent Variable: Healthy Behaviors—The dependent variable is change in healthy behaviors between Waves I and III, calculated as Wave III healthy behaviors minus Wave I healthy behaviors. The healthy behavior index was derived from individual measures of healthy behaviors self-reported at Waves I and III, and individuals are assigned a score of 0–6 at each wave to indicate the number of health-promoting behaviors engaged in at each wave. Indices make it possible to examine the degree of change in overall healthy behaviors among individuals and across adolescence and young adulthood. Such an approach is consistent with previous studies examining adolescents' change in behaviors across life course stages (Amato & Kane 2011, Frech, 2012) and complements recent studies examining multiple health behaviors at a single point in time (e.g. Park et al., 2008), and studies documenting change in an array of single health outcomes measured over time (e.g. Harris et al., 2006).

For each of the following healthy behaviors, individuals were assigned a score of '1' if they engaged in the behavior, and '0' otherwise: maintaining a healthy weight (age-adjusted BMI of 18–25), not smoking in the last 30 days, adequate sleep (8–10 hours prior to age 20, 6–8 hours after age 20), eating breakfast, adequate physical activity (3+ times/week for a half hour or more), and avoidance of binge drinking (consumes five or more alcoholic beverages once a month or less). A similar index was used in the Alameda County Studies (see Berkman & Breslow, 1983) and in a recent study of health behavior trajectories also using the Add Health data (see Frech, 2012).

Independent variables: Pathways to adulthood—Analyses progressed in two stages. First, life course events experienced by Wave III that are associated with the transition to adulthood were added to models to determine baseline associations with healthy behavior change between adolescence and young adulthood. These events are described in Table 1 and include ever marrying by Wave III (17.6%), living full-time with a biological child (18.2%), attending any college for a year or more (54.2%), employed in non-seasonal, full-time work (1=35 or more hours a week for greater than three months, 43.0%), cohabiting (14.1%), and moving away from home (57.9%). These categories are not mutually exclusive. The second stage of analyses divided individuals into mutually exclusive categories of "pathways to adulthood" informed by previous research describing these pathways. The reference category was the near-majority of young adults in this sample who have attended college for at least a year [or were currently enrolled] but have not married or had children by Wave III (47.7%). Other categories included those who have married but not had children (4.7%), married and had children in any order (8.5%), lived with a biological child but remain never-married (9.5%), transitioned into fulltime work without marrying, having children, or attending college (16.8%), and experiencing no family, work, or schooling transitions by Wave III (12.7%).

Control Variables—All control variables are measured at Wave I, prior to transition to adulthood events measured between Waves I and III. Family of origin controls included family composition during adolescence (single parent, step-family, grandparent plus biological single parent, two married biological parents [reference], or some other composition), parent education (1=any residential parent graduated college), household income-to-needs ratio (logged), and three parent healthy behaviors (1= residential parent or parents are non-smokers, non-binge drinkers, or non-obese). These controls were added in adjusted models. All models controlled for variables measured during adolescence at Wave I that are associated with risky and health-promoting behaviors, including adolescent psychological well-being (9-item CESD scale at Wave I, centered), race-ethnicity (non-Hispanic white [reference], non-Hispanic black, Hispanic, non-Hispanic Asian), gender (1=female), and nativity (1=foreign-born) (Resnick, Bearman, Blum, Bauman et al., 1997).

3.3 Methods and Analytic Plan

The analyses that follow regress change in healthy behaviors [Wave III - Wave I] on life course events and adjust for the complex nature of the Add Health data using the “svy:” commands and the recommended survey weights (Chantala 2006). These models first estimate the average relationships between forming unions, becoming a parent, working full-time, attending college, leaving home, and change in healthy behaviors between adolescence and adulthood. However, because the average associations between these single life course events may mask a great deal of variation among those who experience specific combinations of these events, a second series of models placed young adults in theoretically informed, mutually exclusive and exhaustive categories. Each set of analyses first adjusts for early life course events, then adjusts for the family of origin characteristics that select young adults into these life course events, and finally introduces interactions between gender and each event.

4. Results

4.1 Descriptive statistics

Table 1 includes weighted descriptive statistics of all model variables, demonstrating the considerable variation among US young adults at Wave III and across gender in events experienced during the transition to young adulthood between Wave I and Wave III. Most of the respondents attended college for at least a year between adolescence and young adulthood, with a significantly greater percent of women (58.2%) than men (50.1%) attending college by the Wave III interview. Over half of the sample had also moved away from home by the Wave III, with a significantly greater percent of women (62.7%) than men (53.0%) living somewhere other than with their family of origin. Over one in five women (21.9%) had married by the Wave III interview, compared to only 13.3% of men. Women were also more likely to form cohabiting unions (16.2% compared with 12.1% for men) and to live with a child fulltime (26.7% compared with 9.8% for men). All of these differences were statistically significant, supporting previous studies describing both the diverse transition to adulthood among young people and significant gender differences in the events experienced during the transition to adulthood (Oesterle et al., 2010; Settersten & Ray, 2010).

At Wave I, men and women did not differ significantly. Just over half of the sample lived with two married parents, but women were more likely to live with a biological mother and grandparent than men. The vast majority of respondents at Wave I lived with non-smoking, non-drinking, and non-obese parents, and about one in three lived with a college educated parent. By Wave III, men were slightly but significantly older than women, and had also lost a significantly greater number of healthy behaviors over time (−.965 for men compared to −.615 for women). Table 1 provides initial evidence of gender differences in healthy behavior changes and life course events during the transition to adulthood, and the lack of gender differences in background characteristics suggests that life course events may play some role in these health behavior differences.

Pathways to adulthood and healthy behavior trajectories—Table 2 estimated the average relationships between single life course events and change in healthy behaviors between adolescence and young adulthood. Model 1 estimated the relationships between marrying, cohabiting, becoming a parent, attending college, working fulltime, or moving away from home and change in healthy behaviors. Model 2 adjusted for family of origin characteristics [coefficients not shown], and Model 3 tested for gender differences by adding interactions between gender and each life course event. In the analyses that follow, positive coefficients that are statistically significant indicate a variable that is protective of healthy behavior losses during the transition from adolescence to young adulthood. Negative and statistically significant coefficients denote variables that increase the loss of healthy behaviors over time. Model 1 shows that marriage, cohabitation, and completing a year or more of college were each associated with fewer losses in healthy behaviors over time. Demographic controls show that women, adolescents with higher depressive symptoms, and Hispanic adolescents all reported fewer healthy behavior losses over time, as did respondents who were interviewed at older ages by Wave III. All previously significant coefficients except for becoming a parent remained significant in Model 2, which adjusted for family of origin characteristics. These partially accounted for the unequal selection of less-advantaged adolescents into life course events that may not protect health. Model 3, which tested for gender differences in the relationships between young adult events and healthy behavior change, did not find support for gender differences in these relationships. Overall, the findings in Table 2 supported Hypothesis 1 and Hypothesis 3a, which proposed that marriage and college attendance would be protective of healthy behaviors. Support was not found for hypotheses related to parenthood (2a) or employment (4a), which proposed that parenthood would be protective and that employment would not.

Mutually Exclusive Pathways to Adulthood—Table 3 estimated healthy behavior change across mutually exclusive pathways to adulthood. Model 1 of Table 3 revealed that relative to never-married, non-parent young adults who attended college for at least a year or are current college students (the modal category of the analytic sample), young adults who married, had children, or did not experience any young adult transitions reported similar healthy behavior losses over time. This did not support Hypothesis 3b, which proposed that young adults who were not married or raising children would engage in a higher number of risky behaviors and fewer health-promoting behaviors. There was support for Hypotheses 2b and 4b, which proposed that single parenthood or early entry into work without forming a

family or attending college would be associated with greater healthy behavior losses over time. Never-married parents and full-time workers who neither formed families nor attended college reported greater declines in healthy behaviors than college attending peers who had not married or had children. Accounting for family of origin household characteristics in Model 2 did not mitigate these differences, and adding gender X life course event interactions in Model 3 did not reveal gender differences in the effects of these transitions on healthy behavior change.

DISCUSSION

Despite a wealth of research describing the relationships between life course events and health outcomes – particularly in samples of US adults – few studies address relationships between life course events and health-promoting behaviors during the transition to adulthood in the US. This gap in existing research is significant, as transition to adulthood in the US has changed dramatically over the last fifty years, both lengthening the time it takes for young adults to self-identify as adults (Nelson & Barry, 2005), and leaving young adults without a normative sequence of events signifying adult status (Arnett, 2000). This study examined associations between family of origin characteristics, pathways to adulthood, and changes in health-promoting behaviors between adolescence and young adulthood. Consistent with previous research, health-promoting behaviors declined as adolescents transitioned into young adulthood, and not all adolescents lost healthy behaviors in the same way over time. Gender factored significantly into young adult life course transitions, and men and women experienced very different early life course events despite reporting very similar family of origin characteristics. Yet no differences were found in the relationships between gender and degree of healthy behavior change over time. Across young adults, marrying or attending college during the transition to adulthood was protective of healthy behaviors, whereas parenthood and fulltime work were not. Young adults who worked fulltime without attending college or forming a family experienced greater losses in healthy behaviors over time, as did single parents. Thus, to the degree that changes in health-promoting behaviors influence later-life development of chronic illness, young adult life course events played an important part in structuring risk for early onset of disease, with those who have married or attended college being least at risk, contributing to a cumulative health advantage later in life.

This study also provided evidence that the associations between single life course events and healthy behavior trajectories differed from the relationships between these behaviors and theoretically informed and increasingly common combinations of life course events. For example, the average associations between parenthood, marriage, and healthy behavior change in Table 2 masked the finding in Table 3 that single parents reported greater healthy behavior losses. Given the long-term health strains associated with single parenthood (Williams et al., 2011), these healthy behavior differences may contribute to cumulative inequalities over time, and warrant further study. Additionally, young adults who worked full-time without attending college or forming a family may be particularly vulnerable to low healthy behaviors beyond young adulthood, also consistent with a cumulative disadvantages perspective. Low-skill work is associated with low levels of planning, direction, and control (Link, Lennon, & Dohrenwend, 1993), which may lead to job

dissatisfaction, higher stress, and increases in unhealthy behaviors later in life, especially if these strains are not counterbalanced by the strong social support networks associated with family formation or college attendance (Barbeau et al., 2004; Schnall, Landsbergis, & Baker, 1994; Thoits, 1984).

Young adults who experienced no transitions between adolescence and young adulthood were quite heterogeneous and did not fall into a single age, gender, or race-ethnic category. Many of these respondents were never-married, non-parent cohabitors, part-time employees, and/or those who remained living with parents and were unemployed. Among those who experienced no transitions into marriage, parenthood, college, or fulltime work, their average age was 22, about half had moved away from home, and about a quarter had cohabited. Because these young adults neither worked fulltime nor attended college or had children, this group may be at considerable risk for continued declines in healthy behaviors as they transition into full adulthood. Among this group, an investigation into events that are anticipated by a young adult but fail to occur – such as college enrollment, a transition to marriage or parenthood, or fulltime work– may be warranted, as a mismatch between life expectations and experienced events negatively impacts psychological well-being (Carlson & Williams, 2011).

Although men and women experienced the transition to adulthood very differently, with women far more likely to form unions as young adults and men more likely to transition into early fulltime work, I found no evidence of gender differences in how these events shaped healthy behavior change. Yet significant compositional differences in higher-risk groups, such as single parenthood (far more common among women) and early fulltime work entry without college attendance or family formation (more common among men) warrants further study on the long-term health risks of the gendered transition to adulthood. Men and women may face unique health risks as they age, but future research investigating gender differences in the associations between family of origin characteristics, gendered socialization, and early family transitions would likely inform scholars about gender differences in health across life course stages.

LIMITATIONS AND CONCLUSIONS

There are a number of limitations to this research. The first is related to the healthy behavior index. Although this index extends previous studies by depicting how adolescents and young adults fare across multiple healthy behaviors at several time points, it is limited in that it provides only a 1/0 score for each individual healthy behavior. The benefit of such an approach, however, is that a relatively homogenous group of individuals are assigned a score of ‘1’ for each behavior – for example, all individuals with a score of ‘1’ on smoking behaviors have not smoked any tobacco products at all in the last 30 days, and all individuals with a score of ‘1’ on exercise engage in physical activity at least three days a week.

This study is also limited in that I am not able to include respondents who attrit from the Add Health data after Wave I, and analyses excluded respondents whose parents did not complete a Wave I in-home survey. Men, adolescents from non-intact families, and foreign-

born adolescents were most likely to attrit and less likely to have a parent complete the in-home survey. Had these individuals been included in the study, the results would likely reflect greater healthy behavior losses between adolescence and adulthood.

Selection also remains a concern when examining the relationships between family of origin characteristics, transition to adulthood life course events, and healthy behavior change. While these analyses controlled for family of origin traits, future research should consider formal tests for selection to adjust for the greater likelihood of advantaged adolescents to delay marriage and parenthood, attend college, and secure full-time employment with greater benefits and better pay as young adults. Gender, race-ethnicity, and social class likely play critical roles in these processes and future research should consider the importance of intersectionality for the transition to adulthood and its role in shaping health and well-being.

Despite these limitations, this research remains one of very few studies to use nationally representative, longitudinal US data to document the relationships between contemporary pathways to adulthood and well-being between adolescence and young adulthood. The relationships between pathways to adulthood and healthy behavior trajectories persist after adjustments for race-ethnicity, gender, and family of origin resources, supporting the thesis that pathways to adulthood influence healthy behavior trajectories net of some of the characteristics that select adolescents into these pathways. Given the established relationships between long-term engagement in healthy behaviors and delayed development of chronic conditions later in life, pathways to adulthood are likely to be important for understanding the emergence of health differences across the life course. Because health and well-being are continually shaped by social roles (House, 2002), young adults who adopt roles that compromise healthy behaviors may face the cumulating health risks associated with adolescent socioeconomic disadvantage, job strain and instability, or high levels of stress as they age. As such, young adulthood in the US may be a critical point of change in health trajectories across the life course.

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Table 1

Weighted descriptive statistics for all variables and t-tests and chi-square tests for gender differences (N=7,803 total; 4,190 women and 3,613 men) [a]

	Overall	Women	Men	Gender difference
Life course events – ever experienced				
Marries	17.6%	21.9%	13.3%	***
Cohabits	14.1%	16.2%	12.1%	***
Residential parent	18.2%	26.7%	9.8%	***
Works full-time	43.0%	38.7%	47.3%	***
Has completed a year of college	54.2%	58.2%	50.1%	***
Moves away from home by Wave III	57.9%	62.7%	53.0%	***
Life course pathways – mutually exclusive				
Attends college for a year or more, never-married, non-parent (reference)	47.7%	48.5%	44.4%	
Marries and has children in any order	8.5%	11.8%	5.3%	***
Marries, no children	4.7%	5.9%	3.5%	***
Lives with a biological child, never-married	9.5%	14.7%	4.4%	***
Works full-time, never-married non-parent, no college	16.8%	10.9%	22.6%	***
No marriage, parent, schooling, or work transitions by Wave III	12.7%	8.1%	14.5%	***
Family of origin characteristics (Wave I)	Mean (SD)	Mean (SD)	Mean (SD)	
Family composition during adolescence				
-Two biological married parents (reference)	54.5%	54.5%	54.4%	
-Grandparent and single biological parent	4.0%	4.8%	3.1%	**
-Biological parent and step-parent	8.6%	8.1%	9.2%	
-Single biological parent	23.9%	23.7%	24.2%	
-Other family form	6.2%	6.0%	6.5%	
Household income-to-needs ratio (logged)	.750 (.968)	.76 (1.05)	.75 (.98)	
Residential parent reports BA or higher	33.2%	32.3%	34.0%	
Residential parent(s) non-binge drinkers	85.9%	87.3%	84.4%	
Residential parent(s) non-smokers	69.9%	70.3%	69.4%	
Interviewed parent is not obese	92.0%	92.3%	91.6%	
Demographic characteristics				
Female	52.0%	---	---	---
Depressive symptoms at Wave I	5.72 (4.25)	6.36 (4.58)	5.03 (3.74)	***
Non-Hispanic black	12.9%	13.6%	12.3%	***
Hispanic	11.7%	12.2%	11.3%	
Asian	3.6%	3.8%	3.5%	*
Non-Hispanic white (reference)	65.8%	66.0%	65.5%	
Adolescent is foreign-born	5.8%	5.9%	5.7%	
Age at Wave III	21.35 (1.60)	21.27 (1.59)	21.43 (1.62)	***
Healthy behavior change, Wave III – Wave I	−.790 (1.25)	−.615 (1.39)	−.965 (1.45)	***

[a] *p, <.05, **p, <.01 ***p, <.001, two tailed hypothesis tests

Table 2

Weighted change-score models of healthy behaviors by single life course events (N=7,803 total; 4,190 women and 3,613 men)[a]

	Model 1		Model 2		Model 3	
Life course events – ever experienced	B	*t*	B	*t*	B	*t*
Marries	.174***	*2.97*	.177**	*3.07*	.180	*1.64*
Cohabits	.133*	*2.15*	.134*	*2.10*	.216*	*2.34*
Residential parent	−.117**	*−2.85*	−.109	*−1.69*	−.185	*−1.61*
Works full-time	−.054	*−1.20*	−.051	*−1.14*	−.015	*−.01*
Has completed a year of college	.205***	*4.16*	.196***	*3.71*	.125	*1.83*
Moves away from home by Wave III	−.035	*−.80*	−.033	*−.76*	−.032	*−.52*
Demographic characteristics						
Female	.313***	*6.86*	.313***	*6.83*	.253***	*2.87*
Depressive symptoms at Wave I (centered)	.034***	*7.43*	.034***	*7.57*	.035***	*7.55*
Non-Hispanic black	.082	*1.10*	.098	*1.31*	.093	*1.24*
Hispanic	.149*	*2.53*	.181*	*2.09*	.183*	*2.09*
Asian	.031	*.42*	.042	*.46*	.049	*.53*
Non-Hispanic white [reference]	---	---	---	---	---	---
Adolescent is foreign-born	.056	*.59*	.073	*.76*	.066	*.68*
Age at Wave III (centered at 22)	.169***	*10.69*	.168***	*10.55*	.166***	*10.28*
Interactions						
Marries X Female	---	---	---	---	−.009	*−.06*
Cohabits X Female	---	---	---	---	.009	*.11*
Residential parent X Female	---	---	---	---	.131	*.98*
Works full-time X Female	---	---	---	---	−.069	*−.86*
Has completed a year of college X Female	−--	−--	−--	−--	.152	*1.57*
Moves away from home by Wave III X Female	−--	−--	−--	−--	−.139	*−1.15*
Constant	−.95***	*−15.00*	−1.05***	*−10.20*	−1.03***	*−9.82*
R^2	.0753		.0796		.0782	

[a] *p, <.05 **p, <.01 ***p, <.001, two tailed hypothesis tests. Models 2 and 3 adjust for family of origin characteristics (none achieve statistical significance).

Table 3

Weighted change-score models of healthy behaviors by mutually exclusive pathways to adulthood (N=7,803 total; 4,190 women and 3,613 men) [a]

	Model 1		Model 2		Model 3	
Life course pathways – mutually exclusive	B	*t*	B	*t*	B	*t*
Attends college for a year or more, never- married, non-parent [reference]	---	---	---	---	---	---
Marries and has children in any order	−.112	*−1.36*	−.852	*.81*	−.091	*−.65*
Marries, no children	.074	*.70*	.084	*−1.00*	.236	*1.18*
Lives with a biological child, never-married	−.259***	*−3.78*	−.237**	*−3.27*	−.223	*−1.54*
Works full-time, never-married, non-parent, no college	−.240**	*−3.48*	−.222**	*−3.07*	−.133	*−1.53*
Never-married, non-parent, no college or fulltime work	−.103	*−1.59*	−.084	*−1.21*	−.024	*−.24*
Demographic characteristics						
Female	.327***	*7.10*	.393***	*7.04*	.393***	*6.17*
Depressive symptoms at Wave I (centered)	.033***	*11.19*	.030***	*7.44*	.034***	*7.45*
Non-Hispanic black	.077	*1.00*	.094	*1.28*	.094	*1.26*
Hispanic	.139*	*2.37*	.178*	*2.02*	.177*	*2.02*
Asian	.046	*.49*	.046	*.48*	.045	*.49*
Non-Hispanic white [reference]	---	---	---	---	---	---
Adolescent is foreign-born	.060	*.64*	.079	*.83*	.072	*.75*
Age at Wave III (centered at 22)	.173***	*11.19*	.171***	*11.03*	.173***	*10.97*
Interactions						
Marries & has children X Female	---	---	---	---	−.041	*−.26*
Marries, no children X Female	---	---	---	---	−.011	*−.07*
Lives with a biological child, never-married X Female	---	---	---	---	−.232	*−1.74*
Works full-time, never-married non-parent, no college X Female	---	---	---	---	−.138	*−.83*
Never-married, non-parent, no college or fulltime work X Female	---	---	---	---	−.041	*−.26*
Constant	−.780***	*−15.59*	−.904***	*−8.51*	−.939***	*−8.69*
R^2	.0734		.0763		.0752	

[a] *p, <.05, **p, <.01 ***p, <.001, two tailed hypothesis tests. All models adjust for home-leaving and ever cohabiting. Models 2 and 3 adjust for family of origin characteristics (none achieve statistical significance).