Beyond “Disconnected Youth”: Characterizing Developmental Heterogeneity in School or Work Connections During Emerging Adulthood

Ashley N. Palmer1 · John P. Connolly2

Accepted: 28 September 2022 / Published online: 1 November 2022
© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2022

Abstract
Prior research on disconnected youth has defined connectedness to school or work during emerging adulthood as an either/or outcome, conflicting with research on emerging adulthood, which suggests varied, individualized pathways. This study used a growth mixture model method with data from the Panel Study of Income Dynamics Transition into Adulthood Supplement to elucidate developmental heterogeneity in connectedness to school or work during emerging adulthood (n = 1,977). Results indicated distinct subgroups of connectedness to school or work with additional variation within groups. Racialized group and parenting status differentiated between being fully connected or not but did not explain differences among those with less consistent connectedness. Policy implications include that the timing and duration of policies targeting disconnected youth may be missing a substantial minority of young people. Re-thinking supports for disconnected youth can be further informed by future research focused on examining factors related to individual differences in the timing and nature of connectedness to school or work.

Keywords Transition into adulthood · Disconnected youth · Opportunity youth · Connectedness · Growth mixture model

Individuals may explore and engage in various social roles during the developmental period between adolescence and young adulthood (i.e., emerging adulthood) (Arnett, 2000). Two of those roles—engagement in postsecondary education and employment—have garnered considerable attention (Pollock, 2008). In fact, the terms used to describe emerging adults who are neither enrolled in school nor employed (e.g., disconnected youth, opportunity youth, and neither in education, employment, nor training [NEET]) reflect age-graded societal expectations that young people should be connected to at least one of these institutions in their late teens and early twenties. Evidence suggests that being disconnected from both school and work during this period is related to worse individual and societal outcomes (Belfield et al., 2012; Lewis & Gluskin, 2018). However, most research on disconnected youth assesses this role status at one point in time, which presumes connection to school or work roles are static during emerging adulthood. Yet, at least two decades of research shows that historical, societal, economic, and cultural forces have altered the timing and ordering of traditional roles and markers of adulthood such as finishing school, obtaining full-time employment, and starting a family (Arnett, 2000; Bynner, 2008).

Life course perspective provides a lens to shift the focus from disconnection as an outcome or state to a developmental process that becomes part of a larger life course trajectory. While a few studies have sought to categorize individual heterogeneity in developmental trajectories of connectedness to school and/or work during the transition into adulthood (Kuehn et al., 2011; Macomber et al., 2008; Zaff et al., 2014), the selected analytic methods assumed that differences in such trajectories could be explained solely by between-group variation. No research was identified that explored the possibility of between- and within-group
Life Course Theory and Connectedness to School and/or Work

Life course theory posits that individuals and groups follow social pathways related to school, work, and family and that life transitions (e.g., transition from compulsory schooling during late adolescence) provide meaning to those trajectories (Elder, 1998). Further, while life course perspective acknowledges human agency, or the ability of individuals to make choices that inform their social trajectories, it also recognizes that historical contexts and forces may enable or constrain one’s agency (Elder, 1998). Considering the phenomenon of disconnected youth using a life course perspective, one would expect that the timing and nature of connection to school or work may fluctuate for emerging adults, rather than remain steady across the transition into adulthood. Indeed, studies about emerging adulthood find that young people in the U.S. and other industrialized nations experience instability and change as they explore social roles and commitments (Roberson et al., 2017; Sandefur et al., 2005). Yet, according to how disconnected youth have been defined to date, lacking connection from both school and work during emerging adulthood is an “off-time” event as it relates to the expected age-graded roles and behaviors (Hutchison, 2005).

Disconnection from School and Work Across Emerging Adulthood

Existing research has relied primarily on cross-sectional data to produce estimates and profiles of disconnected youth, mainly within Organisation for Economic Co-operation and Development (OECD) countries. Though longitudinal studies are less common, findings suggest that a substantial minority of emerging adults experience disconnection from school and work during the transition into adulthood. For instance, a couple of studies have utilized individual-level panel retrospective education and labor data from the European Union Statistics on Income and Living Conditions (EU-SILC) to longitudinally explore connectedness to school and/or work. One analysis using the 2008–2010 EU-SILC data explored variations in school and work trajectories for three cohorts of youth ages 16 to 20 in several European countries (Carcillo et al., 2015). Researchers clustered the youth’s experiences into seven pathways and found that around 14% of the sample experienced one of four NEET pathways (Carcillo et al., 2015). Using the same dataset1, Contini et al., (2019) examined persistence of NEET status among Italian YYA using 2008–2011 EU-ILC data. Their sample included 3,048 young people ages 19 to 29 in 2008 who had retrospective employment and student data for 48 months. Results showed that at least 40% of the sample experienced long-term NEET status (Contini et al., 2019).

In the U.S., few longitudinal studies of disconnected youth exist. However, evidence suggests that connectedness to school or work in the U.S. varies across emerging adulthood. For example, one U.S. study applied hazard-based duration analyses with a sample of 6,678 individuals from the National Longitudinal Study of Youth 1997 (NLSY97) to examine the timing and duration of experiencing disconnection spells from age 16 to 23 (MaCurdy et al., 2006). Findings illustrated that, while between one-fifth and one-quarter of participants experienced a first spell of disconnection by their early 20’s, there was considerable variation in experiencing initial spells of disconnection related to racialized group and sex, as well as in the length of disconnection spells and experiencing subsequent spells of disconnection (MaCurdy et al., 2006). Another study by Belfield et al., (2012) estimated that 6.7 million (17.3%) of U.S. YYA were

---

1 While Carcillo et al., (2015) and Contini et al., (2019) used the same dataset, they categorized individual pathways differently. Carcillo et al., (2015) had seven pathways: student, school-to-employment, school-to-unemployment, school-to-inactivity, early employed, early unemployed, and early inactives. Contini et al., (2019) included three pathways: NEET, employed, student. Additionally, Contini et al., (2019) only included Italian individuals in their sample. Thus, the definition and categories of NEET status and the prevalence are different.
Beyond “Disconnected Youth”: Characterizing Developmental Heterogeneity in School or Work Connections…

Disconnected annually, though the degree of disconnection varied. In fact, analysis showed that half of the 6.7 million disconnected YYA had some connection to school or work during the transition into adulthood, with approximately 3.3 million youth (8.4%) being “weakly attached” to formal schooling or employment (Belfield et al., 2012). This longitudinal research suggests that disconnection from school and work during the transition into adulthood is (a) not uncommon and (b) that connectedness pathways and the extent of connectedness to school or work varies.

Exploring Developmental Heterogeneity in Connectedness to School or Work

This existing research evidence coupled with a life course theory lens enables us to conceptualize connectedness as a developmental process that occurs during this transition period rather than an either/or construct. Exploring variations in this developmental process requires advanced longitudinal data analysis techniques. Two U.S. studies have used latent class growth analysis (LCGA), a particular type of growth mixture model, to begin exploring unobserved developmental heterogeneity in connectedness to school or work during the transition into adulthood, recognizing the possibility of multiple subpopulations of disconnected youth (Kuehn et al., 2009, 2011). The authors selected a four-trajectory model to describe subgroups of youth who were (1) consistently-connected, (2) initially-connected, (3) later-connected, or (4) never-connected to school or work, citing that, though formal statistical criteria (i.e., the Bayesian Information Criteria) suggested more trajectory groups may fit better, those patterns were redundant and thus did not aid interpretability or meaningfulness of results (Kuehn et al., 2011). Those findings highlighted that there was developmental heterogeneity in connectedness to school or work during emerging adulthood and that some differences in trajectory membership were related to racialized group, as well as sex and being a teenager parent. However, given the variability of individual pathways during emerging adulthood, there is reason to explore whether the LCGA assumption of homogeneity within groups is realistic since heterogeneity in connectedness could manifest both across and within subgroups. If the nature of connectedness to school or work is best captured by between and within group variation, promoting such connections may require more nuanced policies and programs.

Sociohistorical Factors Associated with Connectedness

In addition to the potential variation in connectedness pathways within and between YYA, life course theory also prompts us to consider historical, social, and economic contexts that are associated with the developmental process of being connected to school and/or work. The racialization of people based upon skin color is an example of a sociopolitical force that constrains or enhances agency and opportunity within the U.S. (Blum, 2010). This force can be seen, for instance, in the disproportionate number of incarcerated Black and Hispanic adults (The Sentencing Project, 2018); higher unemployment rates among Black and Asian YYA, and Hispanic YYA of any racialized group (U.S. Bureau of Labor Statistics [BLS], 2021); and high rates of disconnection from school and work among American Indian/Alaska Native, Black, and Hispanic YYA (Lewis & Burd-Sharps, 2015; Lewis & Washington, 2021). Likewise, in the U.S., parenting or caregiving duties have predominantly been expected of and performed by women. According to 2019 American Community Survey data, 24.0% of disconnected young women ages 16 to 24 were parents compared to 5.7% of connected young women (Lewis, 2021). Yet, the lack of affordable and available quality childcare and early childhood education programs in the United States makes it difficult for caregivers to engage in school, training, or employment (Lewis, 2021; Schochet, 2019).

In addition to racialization and gendered caregiving roles that constrain opportunities for some emerging adults, other social and economic forces have affected the transition into adulthood in the U.S. over the past few decades, including an increase in postsecondary education or training enrollments (Schmidt, 2018) and, with that, increased debt among young people (Johnson Hess, 2020), as well as the occurrence of three economic recessions between 2000 and 2021 (Amadeo, 2021). Globally, rates of YYA disconnection increase during times of economic recession (Fernandes-Alcantara, 2015; OECD, 2016). For example, at the end of the Great Recession in 2010, 19% of Italian YYA were NEET compared to 8.3% YYA in Germany and 4.9% in Norway (eurostat, 2021). As economic recovery ensued, 2019, NEET rates in the European Union (EU) ranged from 4.3% in the Netherlands to 26.0% in Turkey (eurostat, 2021), while in the U.S., around 4.5 million individuals ages 16 to 24 (11.5%) were disconnected (Lewis, 2019). As we have seen most recently with the COVID-19 pandemic, economic recessions heighten existing disparities in connections to school and work among emerging adults belonging to minoritized racial groups (Sick, 2021) and parenting YYA (Lewis, 2021; Sick et al., 2019). Thus, it is crucial to improve our understanding of individual variation
in connectedness as well as sociopolitical factors associated with such variation.

**Current Study**

The purpose of the current study was to expand the research base by characterizing the nature and extent of individual differences in connectedness to school and/or work among emerging adults in the U.S. Guided by life course theory and existing research, we conceived connectedness to school and/or work within the context of emerging adulthood as a developmental process that fits within the larger life course work or career trajectory. We recognized that people’s individualized social pathways might require analytic methods that facilitate comparison of different ways of characterizing heterogeneity. Therefore, we used several methods to ascertain which may more accurately capture the nature of connectedness experiences. Further, we acknowledged that racialized group, sex, parenting status, and one’s age during the height of the Great Recession might all be factors that help explain one’s connectedness to school and/or work during emerging adulthood.

Our first research question was “What is the nature of the developmental heterogeneity in connectedness to school and/or work during emerging adulthood?” Given evidence from studies using LCGA, which found group differences in connectedness to school or work (Kuehn et al., 2009, 2011), we hypothesized that there would be developmental heterogeneity in connectedness among our sample in terms of different subpopulation groups. However, we also believed there might also be within-group variation. Though a couple of studies have described heterogeneity specifically in terms of four subgroups (i.e., Kuehn et al., 2011; Zaff et al., 2014), we treated this as an open empirical question, especially since growth mixture model (GMM) methods allowed for variance and covariance of intercept and growth factors within subgroups in addition to between subgroups.

Our second research question asked, “How are socio-historical factors like racialized group, assigned sex, parenting status, and age during the Great Recession related to developmental heterogeneity in connectedness to school and/or work across emerging adulthood?” Based on prior research (Fernandes-Alcantara, 2015; Lewis, 2019; MaCurdy et al., 2006; Kuehn et al., 2011), we hypothesized that racialized group, which serves to capture the effects of racism on YYA of color, would predict class membership. Specifically, we believed that YYA racialized as Black would experience less connectedness to school and/or work. Findings about the relationships between sex and disconnected status have been mixed; however, we expected that sex may not be a significant predictor with parenting in the model (Fernandes-Alcantara, 2015; Lewis, 2019; OECD, 2016; Tamesberger & Bacher, 2014). We hypothesized that parenting status would be related to connectedness because being a parent or caregiver has also been found to be related to disconnectedness (Lewis, 2019; OECD, 2016; Kuehn et al., 2011). Finally, much has been written about the Great Recession and its impact on employment and education among YYA (Bureau of Labor Statistics [BLS] 2012; OECD, 2016). Because historical context is a key piece of life course theory and human development, we hypothesized that the age of a YYA during the height of the Great Recession might be related to individual differences in connectedness to school and/or work during emerging adulthood.

To our knowledge, this study is the first to consider both within-group and between-group variation in connectedness to school and/or work across this transition into adulthood. Exploring within- and between-group variations in connectedness and examining historical, social, and economic factors related to connectedness will improve our understanding of this developmental process during emerging adulthood and how it fits within the broader life course. This, in turn, may provide critical information for policies and practices to support young people during transition into young adulthood.

**Methods**

**Data**

This study utilized public-use data from the Panel Study of Income Dynamics Transition into Adulthood Supplement (PSID TAS) conducted by the Survey Research Center at the University of Michigan (https://psidonline.isr.umich.edu). The PSID began in 1968 and is the longest running nationally representative panel study in the world. In 1997, the PSID launched the Child Development Supplement (CDS), which was designed to gather data about parent-child interactions, time use, health status, and development. The PSID launched the TAS in 2005 to collect data on the transition into adulthood for original CDS sample members. The TAS gathers information related to key transitions areas such as work, education, marriage, and family formation, and on topics such as psychosocial well-being, health, income, and time use for young people between 18 and 28 (Survey Research Center, n.d.). To be eligible for the original TAS sample, individuals had to have participated in at least one CDS interview, have a family unit that completed the main PSID interview for the given TAS year, be at least 18 years old during that survey period, and have exited high school (Survey Research Center, n.d.).
Table 1  Sample Characteristics at Baseline

|                          | Weighted % |
|--------------------------|------------|
| Male                     | 51.3       |
| Race/Ethnicity           |            |
| White, non-Hispanic      | 64.9       |
| Black, non-Hispanic      | 16.4       |
| Hispanic and/or Other race reported | 18.7 |
| Age                      |            |
| 18–19                    | 72.7       |
| 20–21                    | 24.8       |
| 22–25                    | 2.4        |
| Parenting                | 8.2        |
| Total family income prior year |       |
| Lowest quintile          | 12.2       |
| Second quintile          | 15.3       |
| Third quintile           | 16.7       |
| Fourth quintile          | 22.3       |
| Fifth quintile           | 33.5       |

Notes. All estimates were adjusted for the complex survey design. Panel Study of Income Dynamics Transition into Adulthood Supplement, public use dataset, 2005–2015 and Child Development Supplement, public use dataset, 1997. Baseline indicates the first observation for that participant (i.e., the point at which they entered this study’s sample). A five-category variable was created using the upper limits of the first four quintiles and the lower limit of the top fifth percentile of household income distribution utilized in Census Bureau reports on income and poverty.

Participants

Individuals accrued into this study’s sample from the 1997 PSID CDS. Participants entered this sample over four survey years—2005, 2007, 2009, and 2011—when they were 18 and older and out of high school. A total of 2,155 individuals met these criteria. The sample was further restricted to individuals who participated in at least two surveys (n = 2,025) and had at least two full years of data on connectedness to school or work between the ages of 19 and 25 (n = 1,982). Five eligible sample members had missing data on the race and ethnicity variable and were excluded, resulting in a final sample^3 of 1,977 individuals.

The sample^4 comprised slightly more males (51.3%) and was majority non-Hispanic White (64.9%). Around 16.4% of participants were identified as being non-Hispanic Black or African American, and close to one-fifth (18.7%) of sample members reported belonging to another racial or ethnic group, including Hispanic, any race; Asian or Pacific Islander; American Indian or Alaska Native; or some other race. At baseline, most (97.5%) participants were between ages 18 to 20 and did not have any children (91.8%). Participant characteristics at baseline are presented in Table 1. The prepared analytic file for this study is openly available at the PSID Public Data Extract Repository (https://doi.org/10.3886/E120255V1).

Measures

Participants were asked retrospective questions about the beginning and ending dates of employment for up to five employers within the past two years, as well as the beginning and ending dates of enrollment in up to two colleges or universities since leaving high school. These retrospective employment and college enrollment histories were used to create binary monthly indicators, as detailed in Appendix A. Education indicators with a value of 1 indicated being enrolled in college in each month, and a value of 0 indicated not being enrolled. Likewise, employment indicators with a value of 1 indicated being employed in each month, and a value of 0 indicated not being employed. Some individuals provided partial beginning and ending dates for college enrollment or employment. Partial information was used to construct as many known months as possible. Employment and enrollment indicators were combined into a binary monthly indicator of being connected to either school or work. The binary indicator was used in conjunction with the age variable to create an outcome variable indicating the total number of months someone was connected across the 12-month period for each age (i.e., total number of months out of 12 that someone was connected to school or work at age 19, at age 20, and so on).

^2 The original intent was to use data on school or work from ages 18 to 26. However, fewer individuals had 12 months of data for ages 18 and 26, so a decision was made to focus on connections between ages 19 and 25.

^3 Individuals who participated in less than two TAS surveys (n = 130) were compared with sample members who participated in two or more TAS surveys (n = 2,025) based on sex assigned at birth and racial/ethnic group reported by their primary caregiver in 1997, as well as total family income status, age, and whether they were parenting at the baseline year they entered our sample. Chi-square tests indicated that males were slightly less likely to have participated in two or more surveys. Bivariate tests of association were conducted to compare those who participated in at least two surveys (n = 2,025) but did not have two full years of data between the ages of 19 and 25 (n = 173) and those in the final sample who had at least two full years of data on connectedness to school or work between the ages of 19 and 25 (n = 1,977) using the same sociodemographic variables. No statistically significant differences were found.

^4 Estimates provided were produced using the PSID-provided individual-level weight, which is constructed in a way that accounts for differential probability of being selected for the original sample and sample attrition over time.

^5 After using partial dates to create known connection indicators, missing data for the connected to school or work indicator related to individuals providing partial dates accounted for less than 2% of the total monthly observations. Bivariate tests were conducted to look for associations between having missing data due to partial dates and race and sex, as well as age, and total family income at sample entry. No statistically significant relationships were found.
Covariates

We created and included age during the Great Recession as an indicator of the macroeconomic climate because our data spanned from 2005 to 2015, during which the Great Recession occurred. Racialized group and sex were treated as time-invariant variables, whereas parenting and Great Recession indicators were time-variant.

Racialized Group. Primary caregivers reported on their child’s race/ethnicity in the 1997 CDS. This variable originally had seven categories: 1 = White, non-Hispanic, 2 = Black, non-Hispanic, 3 = Hispanic, 4 = Asian/Pacific Islander, 5 = Native American/Alaskan Native; 7 = Other race. Due to small cell sizes for several categories, a three-category variable was created for use in analyses and coded as 1 = White, non-Hispanic, 2 = Black, non-Hispanic, and 3 = Other races, which included Hispanic (any race), Asian/Pacific Islander, Native American/Alaskan Native, and Other races reported. As noted in the participants section, five participants had missing data for the original variable and were excluded from the final sample.

Sex Assigned at Birth. Sex was a binary, time-invariant variable collected as part of the main PSID survey. The PSID TAS did not collect information on gender identity prior to 2019. In the original PSID variable, males were coded as 1 and females as 2, and there was no missing data for this variable. For this study, the variable was recoded as 0 = female, 1 = male.

Parenting. The TAS collected information on what age someone first became a parent. This information was used to create a binary indicator of whether an individual was a parent at a given age. For example, if someone became a parent at age 21, parent status at ages 19 and 20 would be set to 0, and parent status for ages 21 through 25 would be set to 1, indicating that they were parenting at those ages. Individuals who never reported being a parent were coded as 0 for all ages. No sample members had missing data for the parenting variable.

Great Recession. The Great Recession, which resulted in a drastic rise in national unemployment rates, began in December 2007 and ended in June 2009 (BLS, 2012). A binary indicator was created to reflect the age(s) at which someone experienced the Great Recession to account for potential influence that the Great Recession may have on connectedness to school or work. Thus, if during the Great Recession between 2007 and 2009 a sample member was ages 20 and 21, the Great Recession indicator for age 19 would be 0, ages 20 and 21 would be 1, and ages 22 through 25 would be 0.

Age. Age at survey interview was calculated using participants’ month/year of birth and the month/year of their main interview (i.e., the one in which they provided their responses for the employment status question). For our purposes, age was used to rearrange the original longitudinal structure of the data into one in which each measurement occasion corresponded to the same age for all individuals in the sample.

Analytic Procedure

The objective was to characterize developmental heterogeneity in connectedness to school or work across the transition to adulthood. Because we were analyzing trajectories, we adopted the growth modeling framework, known as GMM (Muthén & Asparouhov, 2008; Muthén, 2004; Muthén & Shedden, 1999), which has been used to model similar processes in other fields, such as multiple pathways of development in studies of adolescent antisocial behavior (Moffitt, 1993) and developmental trajectories (Nagin, 1999).

For our outcome measure of interest, we created a variable that reflected a count of the number of months of being “connected” within each year (i.e., from zero to 12 months) for all individuals who had no missing data in that particular year. Then we reverse-coded the variable so that the direction from low to high counts corresponded to the degree of “disconnectedness.”

Since our dependent variable is a count, we modeled it as following a Poisson distribution but one in which a large number of zeros occur (reflecting the large number of individuals who were fully connected) therefore a Poisson variant known as the Zero-inflated Poisson (ZIP) model (Long, 1997, 243–247). In the ZIP model, the probability of an individual being in the zero-count class (fully connected) is modeled differently than the extent of being disconnected, the latter of which is modeled as the count of the number of months disconnected \( \lambda_i \) within each of the yearly time points, i.e.,

\[
y_{ii} = \begin{cases} 
0 & \text{with probability } \pi_{ti}, \\
\text{Poisson}(\lambda_{ti}) & \text{with probability } 1 - \pi_{ti} 
\end{cases}
\]

The mean yearly count of total months disconnected is then evaluated as:

\[
\lambda_i (1 - \pi)
\]

(1)

A log rate equation is used to model the count of months disconnected, and logistic regression is used to model the probability of being in the zero class. In combining the ZIP model with a GMM, we stress the distinction between the “zero class,” which comes from using the ZIP model, and the latent classes \( c_i \), all of which have different probabilities of being in the zero class. Thus,
Beyond “Disconnected Youth”: Characterizing Developmental Heterogeneity in School or Work Connections…

Results

After models were estimated, the optimal model type and number of classes were determined based mainly on the Bayesian Information Criteria (BIC) statistic and upon examining entropy, usefulness, and interpretability (Muthén & Muthén, 2000). As shown in Table 2, based on BIC, an 8-class GMM ZIP model was the best model compared with 2, 3, 4, 5, 6, 7, and 9 class solutions\(^6\), and a 5-class GMM ZIP model had the highest entropy. The 8-class solution itself had a relatively high entropy compared with the other models and had the best reported BIC. Moreover, when considering interpretability and meaningfulness of results, the 8-class solution illustrated some important differences in the timing and nature of connectedness that are not visible in the 5-class solution. Thus, we focus on the 8-class solution here, based upon the combination of BIC, entropy, and meaningfulness.

In all cases, the variance of the intercept terms in (2) and (3) was non-zero and significant, confirming that there is heterogeneity within each of the latent classes, which violates the LCGA assumption of within-class homogeneity. Further confirmation that the GMM ZIP model is a better fit to the data is that the BIC was noticeably higher for all the n-class LCGA ZIP models compared to their GMM counterparts. A conventional ZIP growth model based solely on continuous random effects for the intercept and growth factors (conceptually a “1-class” model) was also estimated, but this also had noticeably higher BIC and AIC than the GMM multi-class solutions.

The covariance between the intercept terms in (2) and (3) was non-zero and significant, confirming that there is heterogeneity within each of the latent classes, which violates the LCGA assumption of within-class homogeneity. Further confirmation that the GMM ZIP model is a better fit to the data is that the BIC was noticeably higher for all the n-class LCGA ZIP models compared to their GMM counterparts. A conventional ZIP growth model based solely on continuous random effects for the intercept and growth factors (conceptually a “1-class” model) was also estimated, but this also had noticeably higher BIC and AIC than the GMM multi-class solutions.

The covariance between the intercept terms in (2) and (3) was also statistically significant and negative (covariance of -0.218 with \(p = 0.006\) for the 8-class solution). This means that a higher initial count of months disconnected was associated with a lower probability of being in the zero class, as one would expect. For the preferred 8-class solution, the final class counts (i.e., the predicted N per class) and proportions of the latent class based on the estimated posterior probabilities are summarized in Table 3.

As seen in Fig. 1, one dominant subpopulation class (Class 1, 41.2%) was characterized by an extremely high

---

\(^6\) In addition to having the lowest BIC, the 8-class GMM ZIP was superior to an 8-class LCGA ZIP model. Also, although the results presented here are for models that incorporate both time-invariant and time-varying predictors/controls, the 8-class solution for an unconditional model also yielded the lowest BIC versus other unconditional model specifications across different numbers of classes.
of being in the “fully connected” class, and another one-fifth of sample members comprised a “mostly connected” subpopulation class (Class 2, 20.9%). The third-largest subpopulation class (Class 3, 10.2%) was “tenuously connected” (~4.5 months a year) between ages 19 and 25. Three of the remaining subpopulation classes reflected similar “high-dipping connected” patterns; however, the nature and timing of decreases and increases in connectedness varied. For example, individuals in Class 4 (8.4%) experienced high levels of connectedness until age 21, after which they had a dip in connectedness for a few years until they were fully connected again at age 25. On the other hand, Class 5 (6.2%) was characterized by high connectedness at age 19, followed by an early dip in connectedness that lasted through age 22, after which connectedness increased steadily by age 25. Conversely, Class 7 (3.8%) appeared fully connected at age 19 and then experienced an early dip in connectedness during ages 20 and 21. By age 22, this subpopulation was again fully connected and remained so through age 25. Finally, between 3% and 5% of sample members were grouped into Classes 6 and 8, respectively. Opposite patterns characterized these subpopulations. Class 6 was “initially connected” at age 19, with a steady decrease in connectedness through age 25. Class 8 was “initially disconnected” at ages 19 and 20 but experienced a sharp climb toward being fully connected by age 23.

The impact of parenting and age during the Great Recession era, for both the count and logistic regressions per (2) and (3), are summarized in Table 4. The main trend that emerged was that parenting did contribute to the model, but the recession indicator did not. Parenting was negatively related to being fully connected at all ages except 25 and total months disconnected in all but two years.

Last, the impact of the two time-invariant predictors, racialized group and sex, per the multinomial logistic regression (4), are summarized in Table 5. Here the largest class—the class comprising those individuals with the highest probability of being fully connected (Class 1)—was the reference category, so that the effects of racialized group and sex are to be interpreted relative to the fully connected class.

In all cases, the intercept was negative, reflecting the fact that the reference category was the largest grouping. The main trend here was that Black YYA were less likely to be in the reference class (i.e., “fully connected”) than other classes. In almost all cases, the coefficient for Black YYA was positive and statistically significant, indicating that the probability of being in a subgroup other than the fully connected class was greater for Black YYA. The same trend held for individuals identified as part of a racialized group other than non-Hispanic Black or non-Hispanic White, although the effect was statistically zero in some cases. We also tried using classes other than Class 1 (i.e., fully connected) as the reference category. Those analyses did not reveal any predictive distinctions for racialized group or sex (results not shown). In other words, racialized group only distinguished between the fully connected class and all the others. Sex did not predict class membership.

**Discussion**

The commonly used definition of “disconnected youth” is rooted in societal values and expectations of YYA engaging postsecondary schooling and/or work after leaving compulsory education within the U.S. This definition does not align with research on changing roles during emerging adulthood. Life course perspective and related concepts of transitions (i.e., short-term changes in state or trait) and trajectories are central to understanding social pathways during the move from adolescence into young adulthood (Elder & Shanahan, 2007). Research on the transition into adulthood points to increased individualization of pathways from adolescence into young adulthood, with variation and instability in social roles during emerging adulthood (Osgood
et al., 2005; Roberson et al., 2017; Sandefur et al., 2005). Historical, social, and economic factors such as racialized group, assigned sex, and parenting status, along with economic recessions, may enhance or constrain opportunities and human agency and thus influence development (Elder & Shanahan, 2007).

The current study sought to expand existing research and explore the nature of the developmental heterogeneity in connectedness to school or work across the transition into adulthood using several methods. Findings highlight several important considerations related to connectedness during the transition into adulthood. The results here align with findings from Kuehn et al., (2009; 2011) and Zaff et al.’s study (2014), where the authors discussed 4-class models described as consistently connected, never connected, initially connected, and either a later connected or a “wave” subgroup. In combination with our study’s findings, this indicates that when considering connectedness to school or work from a life course perspective, being disconnected from both school and work during this transition into adulthood is not an “off-time” event (Hutchison, 2005). This finding is also consistent with research on NEET situations that highlights such experiences are common in many countries (OECD, 2016). Further, literature on the transition into adulthood suggests varied pathways by which emerging adults assume social roles (Osgood et al., 2005; Roberson et al., 2017).

However, our results suggest that using an LCGA model to explore developmental heterogeneity in connectedness, as has been done in prior studies, may not adequately capture distinct subgroup populations. Rather, a GMM that allowed both within- and between-group variation fit the data better, and such differences in the nature of connectedness may be essential for extending knowledge about how connectedness to school or work during this transition may fit within larger career and family life course trajectories (Elder & Shanahan, 2007). To that end, we chose to describe an 8-class solution because model fit statistics indicated good fit and, because in looking at solutions with fewer classes, meaningful and distinct subpopulations classes were missed.7

In the 8-class solution presented, most young people are mostly or fully connected to school and/or work across the ages of 19 to 25 (Classes 2 and 1, ~62%). However, the other subgroup patterns of connectedness show considerable heterogeneity in connectedness to school or work with critical differences in timing and nature. For instance, about

---

Table 4 Estimates for the Effect of Time-Varying Predictors for the Poisson ZIP Binary and Count Models

| Age | Logistic | Count |
|-----|----------|-------|
|     | Estimate | S.E. | P-Value | Estimate | S.E. | P-Value |
| 19  | Parent   | -2.14 | 0.41   | <0.001  | 0.11  | 0.07  | 0.11   |
|     | Recession| -0.01 | 0.30   | 0.98    | 0.00  | 0.07  | 1.00   |
| 20  | Parent   | -1.81 | 0.30   | <0.001  | 0.16  | 0.05  | <0.001 |
|     | Recession| 0.33  | 0.26   | 0.20    | 0.06  | 0.05  | 0.24   |
| 21  | Parent   | -1.06 | 0.26   | <0.001  | 0.16  | 0.05  | <0.001 |
|     | Recession| 0.43  | 0.21   | 0.05    | 0.00  | 0.05  | 0.98   |
| 22  | Parent   | -0.56 | 0.26   | 0.03    | 0.09  | 0.05  | 0.06   |
|     | Recession| -0.27 | 0.20   | 0.18    | 0.02  | 0.05  | 0.75   |
| 23  | Parent   | -0.52 | 0.25   | 0.04    | 0.12  | 0.05  | 0.01   |
|     | Recession| 0.25  | 0.21   | 0.25    | -0.03 | 0.05  | 0.51   |
| 24  | Parent   | -0.83 | 0.24   | <0.001  | 0.13  | 0.06  | 0.02   |
|     | Recession| -0.30 | 0.25   | 0.23    | 0.00  | 0.06  | 0.99   |
| 25  | Parent   | -0.46 | 0.31   | 0.13    | 0.20  | 0.06  | <0.001 |
|     | Recession| 0.21  | 0.45   | 0.65    | 0.19  | 0.10  | 0.06   |

Note: P-values were rounded to two decimal points unless the value was <0.001. Panel Study of Income Dynamics Transition into Adulthood Supplement, public use dataset, 2005–2015 and Child Development Supplement, public use dataset, 1997

---

7 For instance, in a 5-class GMM model, a tenuously connected class had higher average levels of connectedness (~7 months a year) with a decline in connection beginning at age 23. The initially connected class is not represented within the 5-class GMM either, nor is the early, brief dip in connectedness at age 20 seen. If the BIC had indicated that the data fit best for a 5-class, perhaps this would be more easily overlooked. However, together the patterns and BIC suggest that the 8-class model captures aspects of the nature of connectedness that emerging adult researchers should considered.
Table 5 Estimates for the Impact of Time-Invariant Predictors from Multinomial Logistic Regression

| Class                        | Estimate | S.E. | P-Value |
|------------------------------|----------|------|---------|
| 2 “mostly connected”         | 1.90     | 0.67 | <0.001  |
| Black                        | 1.13     | 0.64 | 0.08    |
| Male                         | -0.44    | 0.68 | 0.52    |
| Intercept                    | -1.42    | 0.80 | 0.08    |
| 3 “tenuously connected”      | 1.71     | 0.48 | <0.001  |
| Black                        | 0.80     | 0.42 | 0.06    |
| Male                         | 0.15     | 0.36 | 0.67    |
| Intercept                    | -2.27    | 0.44 | <0.001  |
| 4 “high-dipping connected”   | 0.91     | 0.47 | 0.05    |
| Black                        | 0.48     | 0.60 | 0.43    |
| Male                         | -0.17    | 0.36 | 0.65    |
| Intercept                    | -1.86    | 0.38 | <0.001  |
| 5 “high-dipping connected”   | 1.36     | 0.55 | 0.01    |
| Black                        | 1.36     | 0.48 | <0.001  |
| Male                         | -0.15    | 0.39 | 0.70    |
| Intercept                    | -2.50    | 0.47 | <0.001  |
| 6 “initially connected”      | 1.48     | 0.70 | 0.04    |
| Black                        | 1.53     | 0.48 | <0.001  |
| Male                         | -0.71    | 0.43 | 0.10    |
| Intercept                    | -2.47    | 0.50 | <0.001  |
| 7 “high-dipping connected”   | 1.77     | 0.56 | <0.001  |
| Black                        | 1.00     | 0.58 | 0.08    |
| Male                         | 0.26     | 0.43 | 0.55    |
| Intercept                    | -3.38    | 0.53 | <0.001  |
| 8 “initially disconnected”   | 1.54     | 0.66 | 0.02    |
| Black                        | 1.03     | 0.75 | 0.17    |
| Male                         | -0.07    | 0.60 | 0.91    |
| Intercept                    | -3.07    | 0.66 | <0.001  |

Note. Reference category was Class #1, i.e., the largest subpopulation class that was also the most connected. P-values were rounded to two decimal points unless the value was <0.001. Panel Study of Income Dynamics Transition into Adulthood Supplement, public use dataset, 2005–2015 and Child Development Supplement, public use dataset, 1997

one-fifth of YYA are highly connected at ages 19 and 25 but have dips in connectedness in between that varied in potentially important ways (i.e., Classes 7, 5, and 4). Class 7 has an early but brief dip in connectedness at age 20 but experiences high connectedness from age 22 and beyond. This pattern is different than that of Class 5, where between ages 21 and 23, this subgroup is tenuously connected to school and/or work and is distinguished from Class 4, where YYA are highly connected until age 21, when the pattern then shifts to more tenuous connectedness until age 25.

Another compelling comparison is that of the initially connected and initially disconnected classes (Classes 6 and 8, respectively), which illustrate opposite connectedness experiences for about 9% of YYA. Though these subgroups comprise a relatively small proportion of sample members, the pattern of being disconnected initially with a steady increase to full connectedness versus initially being connected to school or work and experiencing a steady decrease to disconnectedness have important implications for understanding the uniqueness of experiences during emerging adulthood and how accompanying policies and practices may need to be adjusted to support YYA. Finally, the tenuously connected class (Class 3) follows a pattern indicating consistently precarious connection to school or work across this transition into adulthood. This subgroup trajectory may capture the connectedness experiences of YYA who have been described previously as weakly attached and those who experience chronic disconnection from school and work across this transition (Belfield et al., 2012).

Research Implications

Our findings indicate that it is essential for researchers to consider using data and methods that enable longitudinal exploration of connectedness that more fully capture the heterogeneity in those experiences among emerging adults. More research—quantitative and qualitative—is needed to understand driving factors behind variations in connectedness pathways. Future quantitative research that uses GMM models could consider possible explanations of the developmental heterogeneity found in this study, particularly examining factors related to differences between the classes characterized by experiencing disconnectedness at various points in the transition into adulthood. These analyses might include multi-systemic characteristics and conditions that help explain the variation in connectedness to school or work across this transition to adulthood. Future qualitative research might explore YYA experiences of connectedness, including supports and barriers to connectedness, and how cultural values, beliefs, norms, and traditions influence how we define connectedness to school and work during emerging adulthood. This research is necessary to extend our understanding of connectedness and to inform policies and programs that more comprehensively support healthy development among all YYA.

Policy Implications

In general, this study’s findings related to the timing and duration of connectedness suggest that, within the United States, policies and programs that target connectedness to school or work might need to span to the mid-20’s rather than ending at age 18 or 21. For instance, Transitional Living Programs (TLPs) provide YYA experiencing or at-risk of homelessness with connections to housing while also
linking them to education, employment, mental health care and life skills training; however, TLPs only serve YYA up to age 22 (Family and Youth Services Bureau, 2020). Likewise, the Chafee Foster Care Independence Program (CFCIP) provides a variety of services including housing, education, employment, and financial assistance to YYA up to age 21 who have aged out of foster care (up to age 23 in states that have extended foster care programs for YYA up to age 21) (Fernandes-Alcantara, 2021). According to the U.S. Census Bureau, in 2021 58% of YYA ages 18 to 24 lived with their parents, as did 17% of young adults ages 25 to 34 (U.S. Census Bureau, 2021). Expanding eligibility for TLPs and CFCIP through age 25 would provide marginalized groups of YYA with supports, like secure housing, that enable more consistent connectedness to school or work.

Yet, as we re-imagine how we support marginalized YYA during the transition into adulthood, we must move beyond supports that are tied to current or former system involvement and shift the focus from self-sufficiency to healthy development. Healthy development requires attention to various domains (Scales et al., 2016), including physical and mental well-being, which are related to educational attainment and employment (Hergenrather et al., 2015a, b). Medicaid, which funds health care for approximately 32 million children ages 18 and younger who live in families with incomes below 133 of the federal poverty level (Center on Budget and Policy Priorities [CBPPP], 2020), could be enhanced to provide support for YYA within and outside of public systems. For example, the Affordable Care Act already expanded Medicaid eligibility up to age 26 for YYA who have aged out of foster care (Fernandes-Alcantara, 2021) and Medicaid also provides mandatory coverage for pregnant individuals and those who receive SSI (CBPP, 2020). However, for YYA who do not meet those criteria, states vary widely in their eligibility criteria once YYA turn 19—leaving marginalized YYA such as those with mental health conditions, those living in poverty, and minoritized racialized groups in a coverage gap (Palmer, 2016; Solomon, 2021). At the federal level, expanding Medicaid coverage for all YYA up to age 26 would provide support for physical and mental health care that aids YYA to become and remain connected to school or work. More broadly, universal health care coverage is needed to ensure continued health and well-being beyond age 26.

Correspondingly, our findings suggest that some degree of disconnection from school and work during this transition is common. This should prompt us to re-think how we assess “success” during this transition period. For instance, the Workforce Innovation and Opportunity Act (WIOA) of 2014 authorizes three federally funded youth workforce programs—Youth Activities, Youthbuild, and JobCorps—all which offer services that support participation in educational and/or employment activities and serve out-of-school YYA between ages 16 and 24. Perhaps most importantly, they serve YYA with a variety of barriers to education, training, and employment, meaning that eligibility is not solely tied to current or former public system involvement. Yet, at the current time, program metrics for WIOA-authorized youth programs center on earnings, employment status, and educational credentials (29 U.S.C. § 3141(b)(2)(A)(ii)). Thus, while such programs offer supportive services to enable YYA to participate, they do not have the capacity to provide comprehensive services that support aspects of healthy development such as increased civic engagement, healthy family and social relationships, or improved physical, mental, and emotional well-being (Palmer et al., 2021). By creating performance metrics for YYA programs that evaluate healthy development (which includes but is not limited to educational attainment and employment) and adequately funding such programs, there might be potential to improve health and economic well-being from emerging adulthood into mid- and later life.

Finally, our findings showed that racialized group and parenting status differentiated between the probability of being fully connected or not, supporting findings from other research on disconnected youth in the United States (Fernandes-Alcantara, 2015; Lewis, 2019). These findings hold increased importance given the current and future projected impacts of the COVID-19 pandemic on historically marginalized groups of emerging adults. Within the U.S., Black YYA also experienced higher rates of unemployment during the COVID-19 pandemic and slower recovery in unemployment over the past year (Sick, 2021). Further, the COVID-19 pandemic has disproportionality impacted health and economic stability among American Indians & Alaska Natives, Black, and Hispanic or Latino individuals (Sandoui, 2020), who were disproportionately represented among disconnected youth prior to the pandemic (Lewis, 2019). Importantly, Black, and Hispanic or Latino emerging adults are also disproportionately incarcerated (The Sentencing Project, 2018), and incarcerated individuals are not included in existing estimates of disconnected youth but are, indeed, disconnected from these institutions. Therefore, the relationships between racialized group and connectedness to school or work during emerging adulthood are not adequately captured—within this study or elsewhere. In addition to national datasets that include the experiences and voices of incarcerated individuals, it is necessary to make public investments that reform preK-12 education, juvenile, and adult legal systems to ameliorate historical and generational racialized disadvantage before, during, and after the transition into adulthood (Lewis, 2019).

Finally, the pandemic negatively impacted parents—largely female parents—due to lack of childcare, which
continues to impact those needing childcare today (Bateman & Ross, 2020). The combination of caregiving responsibilities with the disproportionate number of Black and Hispanic women working low-wage jobs will likely exacerbate the impacts of COVID-19 on connectedness to school or work for racialized groups of women (Sick, 2021). There is a need for public investment in comprehensive supports to support parenting YYA—who struggle to maintain connections to school and work (Lewis, 2019; Sick et al., 2019). Universal preschool services would benefit young children, their parents, and society (Rosalsky, 2021). While expensive, the estimated annual cost of around 5 million YYA ages 16 to 24 remaining disconnected from school and work has been estimated to be approximately $26.8 billion (Lewis & Burd-Sharps, 2015). We seemingly cannot afford to continue with the status quo.

**Limitations**

This study utilized a nationally representative longitudinal dataset that collected data during the post-high school transition from late adolescence into young adulthood and allowed for the creation of continuous monthly connectedness histories. Further, we used a statistical framework that allowed us to explore which method may best capture the distinct subgroups of connectedness to school and/or work. Despite these strengths, several limitations should be considered when interpreting the results. First, while retrospective monthly employment and education histories allowed for the construction of a continuous connectedness history, this approach has some limitations. Enrollment in vocational or technical programs was not captured because monthly data on those variables was unavailable in the TAS. While this is not thought to present major limitations, it is noted because connections to career and technical programs may be important avenues for some YYA during this transition (Jimenez, 2020). Future studies may be further improved by incorporating connectedness to these programs during emerging adulthood. Additionally, individuals were allowed five mentions for employers over the past two years, and two mentions for colleges attended over the past two years. If someone had more than five employers or attended more than two colleges during the timeframe, additional dates beyond the five employers and/or two colleges would not be captured. Personal communication with the PSID help desk staff suggested that this would be a slight limitation, as the number of mentions for multiple employers and colleges was small (N. Insolera, personal communication, March 19, 2019) and not thought to have impacted the overall results of this study. Further, partial employment or education dates were provided by some individuals, which could impact results by underestimating connectedness. However, after updating partial dates with known dates provided across surveys, missing data due to partial dates accounted for less than 2% of the total monthly observations. As such, the missing data is not thought to be a substantial limitation.

While nearly one-fifth (18.7%) of our sample identified as Hispanic; Asian or Pacific Islander; American Indian or Alaska Native; or some other race, most of our participants were racialized as Black, non-Hispanic or white, non-Hispanic. This limitation of the dataset inhibited our ability to more clearly understand how belonging to one or more of the other racialized groups effects connectedness to school or work. Additionally, selection bias may be present in the original PSID and TAS, and thus, should be noted as a potential limitation. For example, those who face more significant barriers to connectedness to school and/or work, like parenting or experiencing incarceration or homelessness, may not have participated in two or more TAS surveys and would not be included in our sample. Thus, while parenting status differentiated between being fully connected to school or work, only 8.2% of our sample members were parents between the ages of 19 and 25, which is lower than the estimated 21% of single or married parents under age 25 provided by the 2017 American Community Survey (VanOrman & Jacobsen, 2020). Likewise, significant life events such as experiencing incarceration or homelessness are related to higher disconnection from school and work, and those YYA would not be included in the TAS sample. Despite these sample limitations, our findings add to existing literature that points to a need for policies and practices that support connectedness to school or work, specifically among parenting and Black emerging adults (Sick, 2021; Sick et al., 2019).

**Conclusion**

This study sought to elucidate developmental heterogeneity of connectedness to school or work across the transition into adulthood. Findings indicate that capturing developmental heterogeneity in connectedness may require advanced research methods that account for both within-group and between-group differences. Though many young people were highly and consistently connected to either school or work across the transition into adulthood, findings also showed considerable heterogeneity in the timing and nature of connectedness patterns for about 40% of YYA. Moreover, the heterogeneous nature of connectedness to school or work during emerging adulthood indicates a need to tailor supports that target connectedness to school or work across emerging adulthood, and not only for those who are chronically disconnected from school or work. This might include expanding eligibility for federal programs like Transitional...
Living Programs and the Chafee Foster Care Independence Program through age 25 and expanding Medicaid eligibility for all individuals up to age 26. Likewise, it is necessary to re-think how we evaluate “success” in YYA programs, with a focus on healthy development beyond connection to school or work. Further, we found that Black YYA and parenting YYA were less likely to be fully connected to school or work. These racialized and gendered inequities increased during the COVID-19 pandemic (Garfield et al., 2020; Sick, 2021). Intentional action like universal access to health care and preschool as well as legal system reforms are necessary to correct racialized inequities and to enhance the health and well-being of all emerging adults.

Acknowledgements The collection of data used in this study was supported by the Eunice Kennedy Shriver National Institute of Child Health and Human Development under grant number R01HD087155. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors. We want to acknowledge the contributions of the late Dr. Andrew Zinn who provided invaluable guidance and support pertaining to study conceptualization, design, and initial data preparation.

Statements and Declarations

Ethics & Data availability This study used publicly available data and did not require IRB approval. The prepared analytic file for this study is openly available at the PSID Public Data Extract Repository, https://doi.org/10.3886/E120255V1.

Competing Interests We have no conflicts of interests to disclose.

References

Amadeo, K. (2021). History of recessions in the United States: Causes, length, GDP, and unemployment rates. The Balance. https://www.thebalance.com/the-history-of-recessions-in-the-united-states-3306011

Arnett, J. J. (2000). Emerging adulthood: A theory of development from late teens through the twenties. American Psychologist, 55(5), 469–480. https://doi.org/10.1037//0003-066X.55.5.469

Bateman, N., & Ross, M. (2020, October). Why has COVID-19 been especially harmful for working women? 19A: The Brookings Gender Equality Series. Washington, D.C.: The Brookings Institution. https://www.brookings.edu/essay/why-has-covid-19-been-especially-harmful-for-working-women/

Belfield, C. R., Levin, H. M., & Rosen, R. (2012). The economic value of opportunity youth. Civic Enterprises. https://fileseric.ed.gov/fulltext/ED528650.pdf

Blum, L. (2010). Racialized groups: The sociohistorical consensus. The Monist, 93(2), 298–320. https://www.jstor.org/stable/41418993

Carcillo, S., Rodrigo, F., Konigs, S., & Minea, A. (2015). NEET youth in the aftermath of the crisis: Challenges and policies. OECD Social, Employment and Migrant Workers’ Report, No. 164. OECD Publishing, Paris. https://doi.org/10.1787/5js636350363-en

Center on Budget and Policy Priorities. (2020). Policy basics: Introduction to Medicaid. Washington, DC: Author. https://www.cbpp.org/research/health/introduction-to-medicaid

Contini, D., Filandri, M., & Pacelli, L. (2019). Persistency in the NEET state: A longitudinal analysis. Journal of Youth Studies, 22(7), 959–980. https://doi.org/10.1080/13676261.2018.1562161

Côté, J., & Byrrner, J. M. (2008). Changes in the transition to adulthood in the UK and Canada: The role of structure and agency in emerging adulthood. Journal of Youth Studies, 11(3), 251–268. https://doi.org/10.1080/13676260801946464

Elder, G. H. (1998). The life course as developmental theory. Child Development, 69(1), 1–12. https://doi.org/10.1111/j.1467-8624.1998.tb06128.x

Elder, G. H., & Shanahan, M. J. (2007). The life course and human development. In W. Damon, & R. M. Lerner (Eds.), Handbook of Child Psychology (pp. 668–706). John Wiley & Sons, Inc. https://doi.org/10.1002/9780470147658.chpysy0112

Eurostat (2021). Young people neither in employment nor in education and training by sex, age, and labour status (NEET rates), age class 15 to 24 years, [edat_lfse_20] [Data table]. Retrieved Mar 14, 2021 from https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat_lfse_20&lang=en

Family and Youth Services Bureau, & Washington, D. C. (2020). Office of the Administration of Children &. In U. S. Families (Ed.), Transitional Living Program fact sheet. Department of Health & Human Services. https://www.acf.hhs.gov/fysb/fact-sheet/transitional-living-program-fact-sheet

Fernandes-Alcantara, A. L. (2021, April 19). John H. Chafee Foster Care Program for Successful Transition to Adulthood [IF11070]. In Focus. Washington, DC: Congressional Research Service. https://crsreports.congress.gov/product/pdf/IF/IF11070

Fernandes-Alcantara, A. L. (2015). Disconnected youth: A look at 16 to 24 year olds who are not working or in school [R40535]. Washington, DC: Congressional Research Service. https://fas.org/sgp/crs/misc/R40535.pdf

Garfield, R., Rae, M., Claxton, G., & Orgera, K. (2020). Double jeopardy: Low wage workers at risk for health and financial implications of COVID-19. Kaiser Family Foundation. https://www.kff.org/coronavirus-covid-19/issue-brief/double-jeopardy-low-wage-workers-at-risk-for-health-and-financial-implications-of-covid-19/

Hergenrather, K. C., Zeglin, R. J., McGuire-Kuletz, M., & Rhodes, S. D. (2015a). Employment as a social determinant of health: A review of longitudinal studies exploring the relationship between employment status and mental health. Rehabilitation Research Policy and Education, 29(3), 261

Hergenrather, K. C., Zeglin, R. J., McGuire-Kuletz, M., & Rhodes, S. D. (2015b). Employment as a social determinant of health: a systematic review of longitudinal studies exploring the relationship between employment status and physical health. Rehabilitation Research Policy and Education, 29(1), 2

Hutchison, E. D. (2005). The life course perspective: A promising approach for bridging the micro and macro worlds for social workers. Families in Society, 86(1), 143–152. https://doi.org/10.1606/1044-3894.1886

Institute for Social Research. (n.d.). Panel Study of Income Dynamics Child Development Supplement, 1997, public use data [Data set]. Produced and distributed by the Institute for Social Research, University of Michigan, Ann Arbor, MI. https://simsa.isr.umich.edu/data/data.aspx

Institute for Social Research. (n.d.). Panel Study of Income Dynamics Transition into Adulthood Supplement, 2005–2015, public use data [Data set]. Produced and distributed by the Institute for Social Research, University of Michigan, Ann Arbor, MI. https://simsa.isr.umich.edu/data/data.aspx

Jimenez, L. (2020, May 18). Building a stronger middle class through career pathways programs: Case studies of Germany, Singapore, and Switzerland. Washington, D.C.: Center for American Progress. https://www.americanprogress.
Muthén, B., & Asparouhov, T. (2008). Growth mixture modeling: latent trajectory classes. *Alcoholism Clinical and Experimental Research, 24*(6), 882–891. https://pubmed.ncbi.nlm.nih.gov/10888079/

Muthén, B., & Shedden, K. (1999). Finite mixture modeling with mixture outcomes using the EM algorithm. *Biometrics, 55*, 463–469. https://doi.org/10.1111/j.0006-341X.1999.00463.x

Nagin, D. S. (1999). Analyzing developmental trajectories: A semiparametric, group-based approach. *Psychological Methods, 4*(2), 139–157. https://doi.org/10.1037/1082-989X.4.2.139

Organisation of Economic Co-operation and Development (OECD). (2016). The NEET challenge: What can be done for jobless and disengaged youth? *Society at a Glance, OECD Social Indicators*. Paris, France: OECD Publishing. https://doi.org/10.1787/9789264261488-en

Osgood, D. W., Ruth, G., Eccles, J. S., Jacobs, J. E., & Barber, B. L. (2005). Six paths to adulthood: Fast starters, parents without careers, educated partners, educated singles, working singles, and slow starters. In R. A. Settersten Jr., F. F. Furstenberg Jr., & R. G. Rumbaut (Eds.), *On the frontier of adulthood: Theory, research, and public policy* (pp. 320–355). Chicago, IL: University of Chicago Press

Palmer, A. (2016). Health reform and the ACA triple gap: Failing low-income young adults with mental health needs. *Social Work in Mental Health, 14*(4), 327–341. https://doi.org/10.1080/15332985.2015.1072029

Palmer, A. N., Narendorf, S. C., & Graaf, G. (2021). The Workforce Innovation and Opportunity Act: Supporting “successful” transitions into adulthood. *Journal of Policy Practice and Research, 2*(3), 194–212. https://doi.org/10.1007/s42972-021-00031-4

Pollock, G. (2008). Youth transitions: Debates over the social context of becoming an adult. *Sociology Compass, 2*(2), 467–484. https://doi.org/10.1111/j.1751-9020.2008.00097.x

Roberson, P. N. E., Norona, J. C., Zorotovich, J., & Dinnrberger, Z. (2017). Developmental trajectories and health outcomes among emerging adult women and men. *Emerging Adulthood, 5*(2), 128–142. https://doi.org/10.1177/216769681662118

Rosal-sky, G. (2021, May 18). The case for universal pre-k just got stronger. *Planet Money*, National Public Radio. https://www.npr.org/sections/money/2021/05/18/997501946/the-case-for-universal-pre-k-just-got-stronger

Sandefur, G. D., Eggerling-Beck, J., & Park, H. (2005). Off to a good start? Postsecondary education and early adult life. In D. W. Osgood, E. M. Foster, C. Flanagan, & G. R. Ruth (Eds.), *On your own without a net* (pp. 292–319). The University of Chicago Press

Sando, A. (2020). ‘A no-win situation’— Expert weighs in on COVID-19 racial disparities. *Medical News Today*. https://www.medicalnewstoday.com/articles/a-no-win-situation-expert-weighs-in-on-covid-19-racial-disparities

Scales, P. C., Benson, P. L., Oesterle, S., Hill, K. G., Hawkins, J. D., and Scales, P. C. (2016). The dimensions of successful young adult development: A conceptual and measurement framework. *Applied Developmental Science, 20*(3), 150–174. https://doi.org/10.1080/10888691.2015.1082429

Schmidt, E. P. (2018). Postsecondary enrollment before, during, and since the Great Recession (Report No. P20-580). *Current Population Reports*. U.S. Census Bureau. https://www.census.gov/library/publications/2018/demo/p20-580.pdf

Schochet, L. (2019, Mar 28). The child care crisis is keeping women out of the workforce. Washington, D.C.: Center for American Progress. https://www.americapass.org/article/child-care-crisis-keeping-women-workforce

Sick, N. (2021). Patterns of intermittent and ongoing disconnection among youth of color: Results from an analysis of the 2014 Survey of Income and Program Participation. Washington, DC: Urban Institute. https://www.urban.org/research/publication/patterns-intermittent-and-ongoing-disconnection-among-youth-color

Sick, N., Vilter, C., & Spaulding, S. (2019). Young parents making their way: Combining education and work while parenting.
