

# ASPE RESEARCH BRIEF

OFFICE OF THE ASSISTANT SECRETARY FOR PLANNING AND EVALUATION  
OFFICE OF HUMAN SERVICES POLICY - U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

## Vulnerable Youth and the Transition to Adulthood



### Multiple Pathways Connecting to School and Work

Researchers are increasingly recognizing the transition to adulthood as an important developmental stage between adolescence and adulthood (Arnett 2004). Many important processes occur during this period in a young adult's life, including leaving home and forming a family. One crucial activity during the transition to adulthood is successful connection to the labor market. However, there is no "typical" youth connection to the labor market; there are multiple pathways, each characterized by specific causes, consequences, and policy implications.

This brief explores the multiple pathways of connection to the labor market for youth transitioning to adulthood. Using data from the National Longitudinal Survey of Youth 1997 (NLSY97), we find that while a majority of youth successfully connect to the labor market, many distinct subgroups follow very different, and often less successful, schooling and employment pathways. We identify four distinct categories of youth transitions. Youth either *consistently-connect*, *later-connect*, *initially-connect*, or *never-connect* to work or school between ages 18 and 24. This brief describes the characteristics of each group and possible determinants of group membership. The findings suggest that targeted programs to help youth connect may be important. The brief concludes with a discussion of the multiple pathways of connection to the labor market during the transition to adulthood.

#### BACKGROUND AND METHODS

In recent years, some experts have contended that research and policy addressing the readiness of youth for entering the workforce has deemphasized the importance of multiple pathways to employment in favor of a model that emphasizes a smooth transition from high school to college (Lerman 2007). This "college for all" model is understandable, given the high and increasing wage premium associated with postsecondary education (Goldin and Katz 2008), but it may overlook the experiences and

#### ABOUT THIS BRIEF

*This brief was prepared by Daniel Kuehn, Michael Pergamit, Jennifer Macomber, and Tracy Vericker of the Urban Institute, under contract to ASPE, as part of a series on vulnerable youth and the transition to adulthood. The project examined the role of different aspects of youth vulnerability and risk-taking behaviors on several outcomes for young adults. The data come from the National Longitudinal Survey of Youth, 1997 cohort. This survey, funded by the U.S. Bureau of Labor Statistics, follows a sample of adolescents in 1997 into young adulthood with annual interviews that capture their education, employment, family formation, and other behaviors. The analyses in this series use the subset of youth born in 1980–81, who were 15–17 years old when first interviewed in 1997. Outcomes are obtained by using the annual data through 2005 when these young adults were 23–25 years old.*

*The authors acknowledge the comments of Robert Lerman of the Urban Institute. Additional information regarding this study can be obtained from the Federal Project Officers: Flavio Menasce (202-260-0384, Flavio.Menasce@hhs.gov), Susan Hauan (202-690-8698, Susan.Hauan@hhs.gov), and Annette Rogers (202-690-7882, Annette.Rogers@hhs.gov).*

*This research was conducted with restricted access to Bureau of Labor Statistics (BLS) data. The views expressed here do not necessarily reflect the views of the BLS.*

Office of the Assistant Secretary for Planning and Evaluation

Office of Human Services Policy

US Department of Health and Human Services  
Washington, DC 20201



needs of youth with other employment and school enrollment patterns.

One potential reason for the de-emphasis on multiple pathways of connection to the labor market may be that experts have only a basic understanding of the diverse employment and schooling experiences of youth transitioning into adulthood. National employment and enrollment statistics are often reported by age, race, or industry, but they are rarely presented as a set of cohesive, longitudinal patterns. Some research, such as Klerman and Karoly's (1994) work with the NLSY79, has highlighted the heterogeneity of the transition to stable employment for youth, but even this work does not try to identify or verify any underlying patterns of connectedness.

Recent studies by Macomber and colleagues (2008) and Hynes and Clarkberg (2005) have attempted to fill this knowledge gap by using a relatively new methodology called group-based trajectory analysis to identify underlying employment patterns in longitudinal data. Trajectory analysis was developed by Nagin (1999) and his colleagues to identify subgroup patterns in youth delinquency, as an alternative to the aggregated delinquency statistics that were more routinely available. The application of this method to diverse employment patterns is more recent.

This brief is the first to use trajectory analysis to identify patterns in "connectedness" for a nationally representative sample of youth transitioning into adulthood. A youth is designated as "connected" in a given week if he or she is employed or enrolled in school. Using the NLSY97's job and schooling histories, we are able to construct weekly connectedness indicators for a cohort of youth who were 15 and 16 on December 31, 1996. We identify trajectory groups for this cohort between their 18th and 24th birthdays.

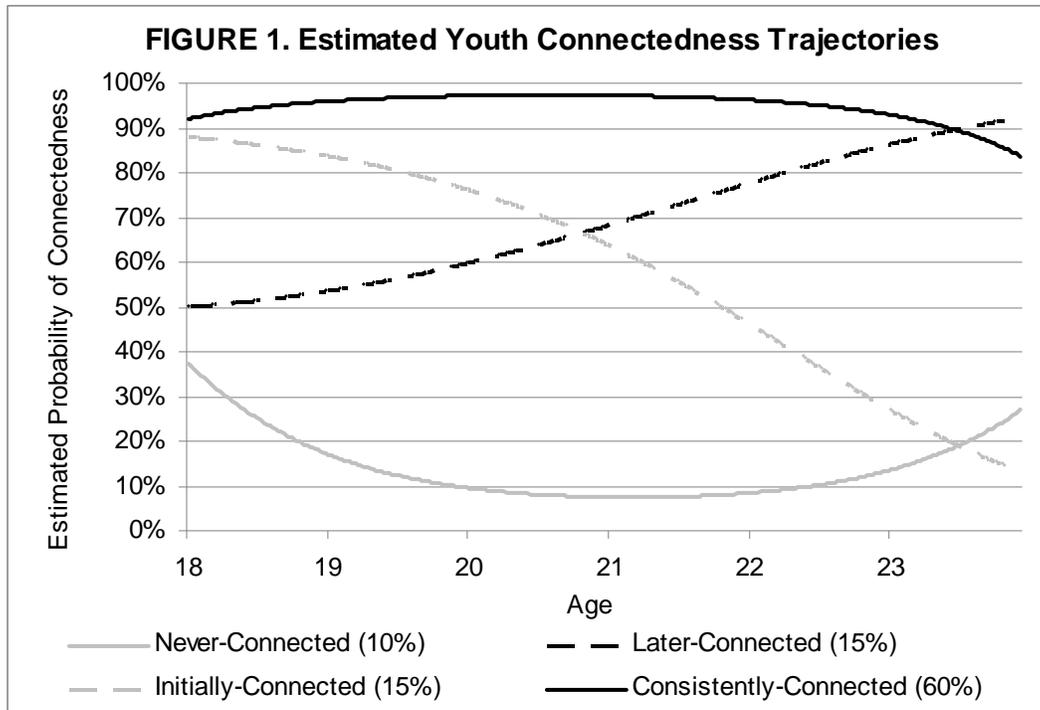
## TRAJECTORY ANALYSIS

The results of the trajectory analysis are presented in Figure 1. The estimated probability of being connected to school or work in a particular week is presented on the vertical axis. Age is presented on the horizontal axis. The shapes of the trajectories were estimated based on the prominence of these patterns in the NLSY97 data, using the PROC TRAJ command in SAS (Jones and Nagin 2007). This procedure uses maximum likelihood estimation to identify the patterns that were most likely to have produced the observed trends. Each youth in the sample is assigned to one of the four groups, depending on which trajectory best approximates his or her connectedness pattern.

The trajectory analysis identified four distinct patterns of connectedness:

- *consistently-connected youth*, who were connected to school or a job over 90 percent of the time for most weeks in the study period (60 percent of the population);
- *later-connected youth*, who were equally likely to be connected or disconnected at age 18, but who increased their rate of connectedness to approximately 90 percent by age 24 (15 percent of the population);
- *initially-connected youth*, who were highly connected at age 18 but became disconnected over the next six years (15 percent of the population); and
- *never-connected youth*, who were persistently disconnected from either school or employment between the ages of 18 and 24 (10 percent of the population).

These four connectedness pathways are strikingly similar to the patterns identified by Macomber and colleagues (2008) in their investigation of the employment patterns of youth emancipated from foster care<sup>1</sup> as well as the "career pathway" typologies developed by Wiesner and colleagues (2003).<sup>2</sup>



**Source:** Urban Institute estimates of the National Longitudinal Survey of Youth 1997.

## THE TRAJECTORY GROUPS

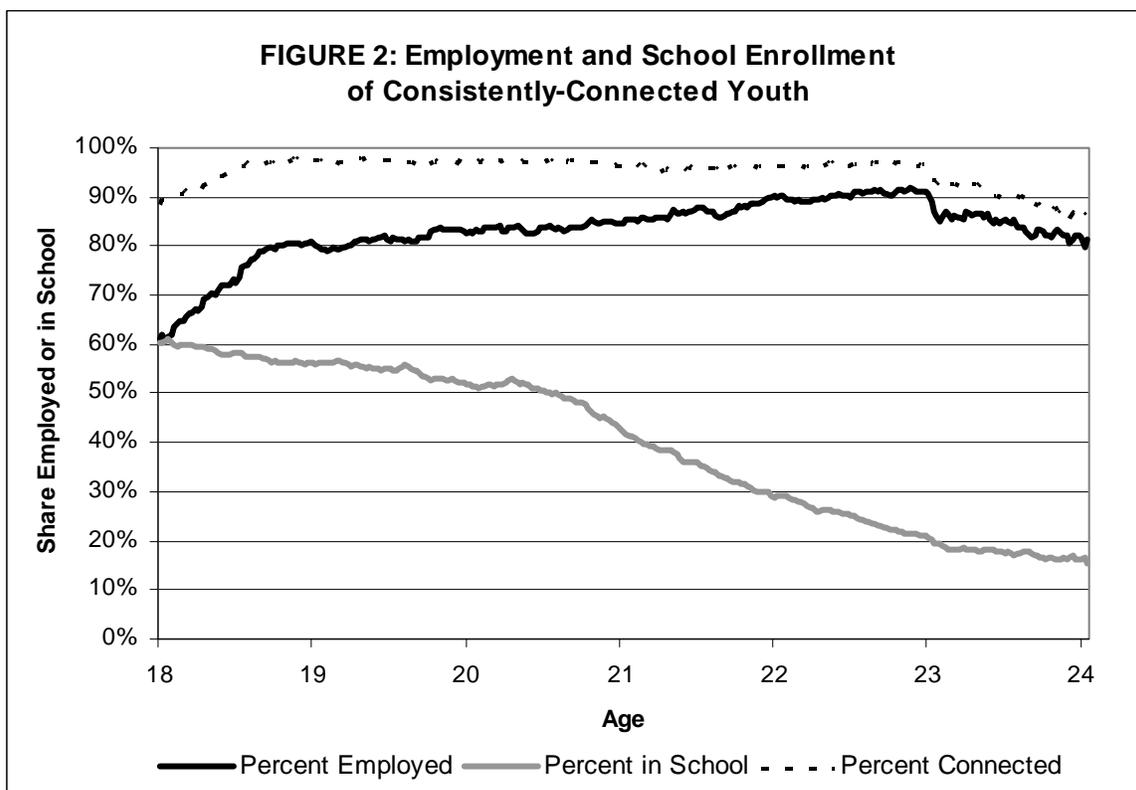
The results of the trajectory analysis suggest that youth follow multiple paths when connecting to the labor market during their transition to adulthood. This result has important policy implications; a youth who is consistently-connected may require little or no additional assistance, while initially-connected and never-connected youth may require more help. Further, initially-connected youth may need different kinds of services than never-connected youth. Each connectedness group is now reviewed in greater detail, using the results of a descriptive analysis of differences in youth characteristics between groups, as well as results from a multinomial logit model predicting group membership.<sup>3</sup> Differences that are significant at the 95 percent confidence level are reported. In particular, this brief focuses on the significance of adolescent risk behaviors and not completing high school for early adult outcomes.

### Consistently-Connected Youth

Consistently-connected youth are employed or enrolled in school almost continuously between the ages of 18 and 24 (see Figure 2). However, the activities of these youth vary over time. At age 18, consistently-connected youth are equally likely to be in school or employed (it is also possible for a youth to be both working and in school in the same week). Roughly 60 percent of these youth are enrolled in school on their 18th birthday, a share that is maintained until around age 21, when school enrollment begins to decline steadily.

These enrollees most likely include students at community colleges and four-year institutions. Although enrollment declines after age 21, a sizeable share of youth (almost one-fifth) is still in, or has returned to, school at age 24. By age 24, most consistently-connected youth who have a degree that is higher than a high school diploma have a four year college degree (38 percent, which is higher than all other connectedness groups). While school enrollment decreases during the transition to adulthood for consistently-connected youth, the employment rate increases rapidly in the first year after a youth's 18th birthday, from 60 to 80 percent. Employment for consistently-connected youth peaks at approximately 90 percent at age 23. In addition to their high employment rates, consistently-connected youth who are employed earn more than all other employed youth in the other connectedness groups.

Youth who are consistently-connected during the transition to adulthood engage in considerably fewer risk behaviors during adolescence than youth in other connectedness groups. This study uses a cumulative risk score created by totaling a series of risk behaviors a youth could have engaged in during adolescence to measure risky behavior.<sup>4</sup> A lower risk score indicates less risk-taking behavior, while a higher risk score indicates greater risk-taking behavior. Consistently-connected youth have lower mean cumulative risk scores than every other connectedness group. Consistently-connected youth are also considerably more likely to complete high school than any other group, an unsurprising characteristic, given their high enrollment rate.

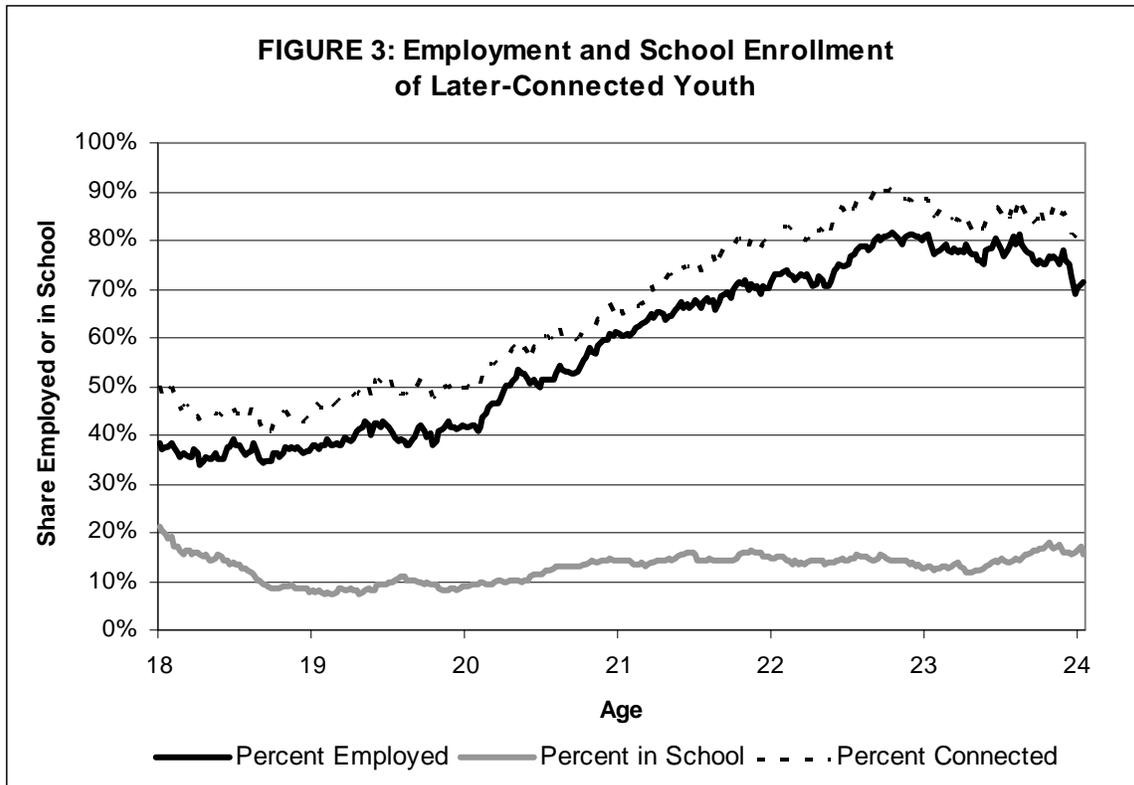


**Source:** Urban Institute estimates of the National Longitudinal Survey of Youth 1997.

A youth's cumulative risk score and completion of high school are also strong predictors of membership in the consistently-connected group, after holding other youth characteristics constant in the multivariate analysis (see Table 2). Multivariate analyses also highlight other predictors of being consistently-connected. Results suggest that growing up in a low-income family decreases the chance of being consistently-connected by about 14 percent. In addition, youth with higher scores on a standardized aptitude test and better mental health are more likely to be consistently-connected.<sup>5</sup>

### Later-Connected Youth

Later-connected youth start out with more modest employment rates at age 18 (around 40 percent), but they come close to achieving the same employment rates as consistently-connected youth at ages 23 and 24 (see Figure 3). These youth take time to find jobs, but they are ultimately successful.



Although later-connected youth seem to connect successfully to jobs by their mid-twenties, they still have relatively low earnings. Median annual earnings for later-connected youth who are employed at age 23 are \$7,300 less than median annual earnings for consistently-connected youth employed at that age. This discrepancy is possibly related to the lower amount of human capital acquired by later-connectors, who have less education and less tenure at their jobs. However, later-connected youth are still more successful than initially-connected youth. Later-connected youth have a 45 percentage point higher employment rate than initially-connected youth, and a 50 percentage point higher employment rate than never-connected youth, on their 23rd birthday. Median annual earnings at age 23 for employed later-connected youth are also about \$7,250 higher than employed initially-connected youth (there is no statistical difference from the median earnings of the few never-connected youth who are employed at age 23).

One notable trend in Figure 3 is the low level of school enrollment for later-connected youth, relative to the enrollment levels exhibited by consistently-connected youth. One reason for this trend is that a much higher proportion of later-connected youth do not complete high school than consistently-connected youth. While 7 percent of consistently-connected youth drop out of high school, 30 percent of later-connected youth drop out. Later-connected youth also have higher mean cumulative risk scores than the consistently-connected group, although their scores are not statistically different from never-connected youth and initially-connected youth.

A higher cumulative risk score and not completing high school also predict membership in the later-connected group after holding other youth characteristics constant. The multivariate analysis further identifies aptitude test score and mental health as predictors of later-connected group membership. Higher aptitude scores and better mental health lower the probability of being in the later-connected group. Race is also a factor; black youth are more likely to be later connected. Youth from single parent families and rural communities are less likely to be later connected.

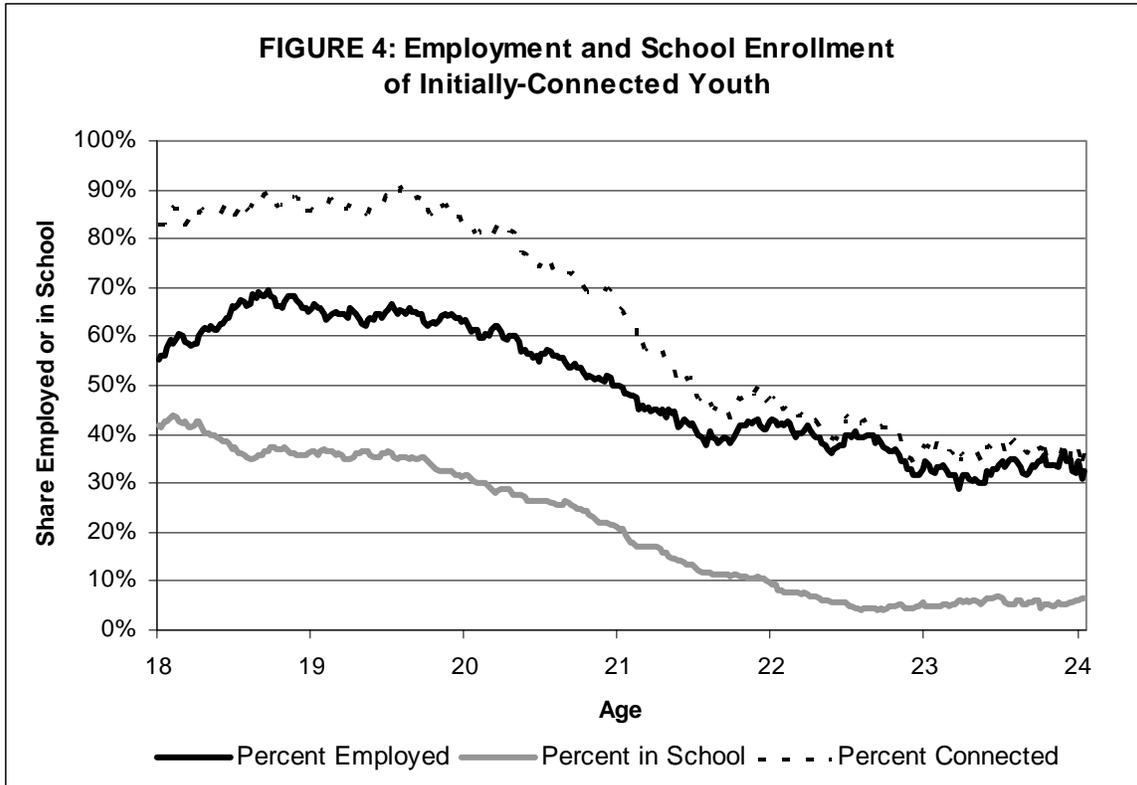
## Initially-Connected Youth

Initially-connected youth show promise at age 18. Although there is no statistically significant difference in the shares of initially-connected youth and later-connected youth that fail to complete high school (24 percent and 30 percent, respectively), the school enrollment rate for initially-connected youth at ages 18 and 19 is double the enrollment rate of later-connected youth. This suggests that initially-connected youth could be returning to school at higher rates than later-connected youth, after dropping out at roughly the same rate. Alternatively, it could indicate that initially-connected youth who do not drop out of school are held back for additional years of schooling before being allowed to graduate. Initially-connected youth who are not dropouts could also be enrolling in college at higher rates than later-connected youth.

Initially-connected youth maintain employment rates of around 60 to 70 percent until age 20 (see Figure 4). This employment rate begins to decline through their early twenties, as these youth disconnect from the labor market. One possible reason for this decline is that initially-connected youth have relatively low earnings, which provide little incentive for remaining in the labor market. However, the evidence runs against this hypothesis. Initially-connected youth who are employed have substantially higher median annual earnings at age 18, before the decline in employment rates, than employed youth in the never-connected group (over \$3,000 higher) and the later-connected group (over \$2,750 higher). The median annual earnings of these youth also do not differ significantly from the median earnings of consistently-connected youth. Initially-connected youth do not seem to be leaving the labor market because of dissatisfaction with their earnings.

Since initially-connected youth do not appear to be at any considerable disadvantage in median annual earnings or school enrollment in their late teens, it is unclear what factors are driving them out of the labor market by their early twenties. One possible explanation is that some milestone event, such as family formation or the birth of a child, may cause youth, particularly women, to leave their jobs. Of young women who have a child by age 22, the share that initially connects to school or the labor market is 13 percentage points higher than the share for young women without children. These differences suggest that something associated with parenthood, such as high child care costs or personal perspectives on parenting, may be related to some females leaving the labor market. This finding is buttressed by the multivariate models in this analysis predicting trajectory group membership that indicate that females have a probability of being initially connected that is 4.75 percentage points higher than the corresponding probability for males.

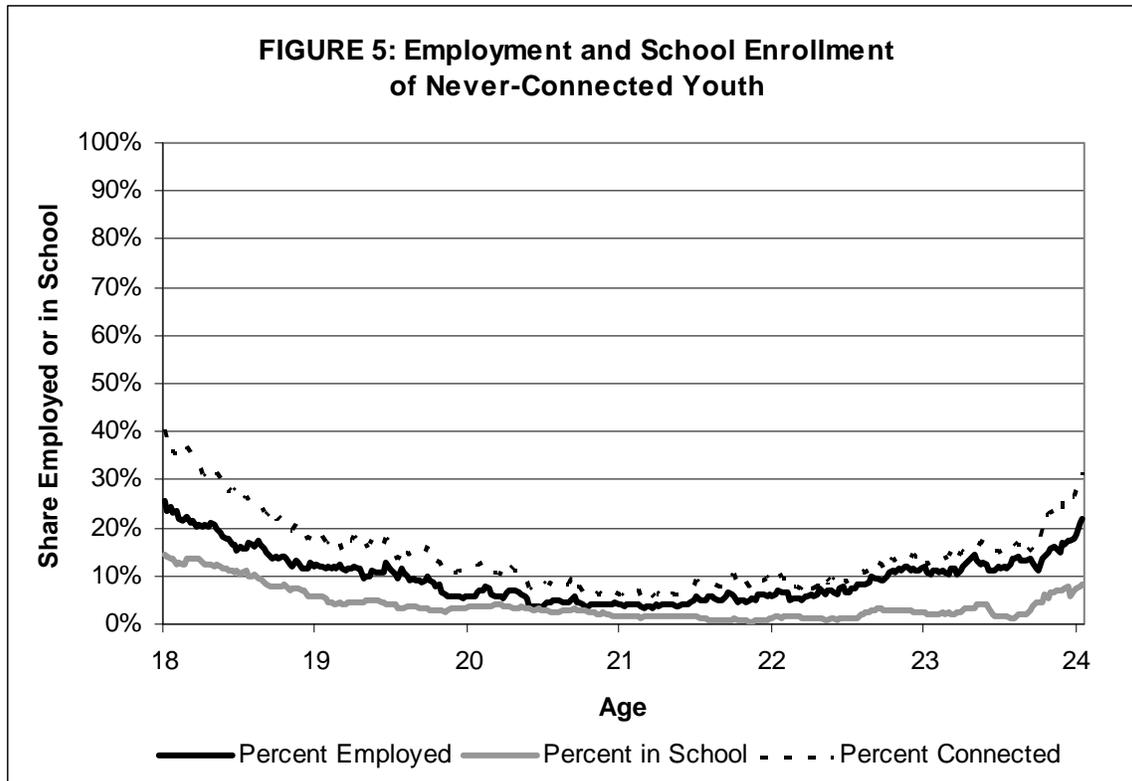
Other events, such as involvement in the criminal justice system, may push many of these youth out of the labor market. The share of initially-connected youth charged with a crime between age 18 and 24 does not differ statistically from that share for later-connected youth, who do not exhibit a decline in labor market participation. However, it is 9 percentage points higher than the share of consistently-connected youth who were charged with a crime between age 18 and 24, suggesting that crime, arrest, and incarceration may play a role in “derailing” these youth from their labor market connections.



The multivariate models predicting youth trajectory group membership find that engaging in adolescent risk behaviors and not completing high school both predispose youth to being initially-connected. The magnitude of these effects is only somewhat larger than the effect of these variables on membership in the later-connected group,<sup>6</sup> suggesting that although these events derail some youth, they do not prevent many other youth from becoming connected by their mid-twenties. Identifying youth who will become disconnected after an initial period of connection to the labor market is important for targeting services to these youth. Unfortunately, this study is unable to identify strong predictors of membership in the initially-connected group that differentiate it from later connectors. While family formation and involvement with the criminal justice system may play a role, further investigation of the initially-connected group is needed.

**Never-Connected Youth**

Never-connected youth experience more challenges during the transition to adulthood than any other connectedness group. Neither employment rates nor school enrollment rates exceed 30 percent for these youth, and for much of the transition these rates are below 10 percent (see Figure 5). The few never-connected youth who find jobs have median annual earnings that are regularly lower than most other youth.<sup>7</sup> This suggests that not only is connectedness very low for this group, but the few in this group who are able to connect to the labor market earn very little.



In addition to disparities in their labor market performance, never-connected youth trail behind other youth on several measures. The high school dropout rate is 35 percentage points higher for never-connected youth than it is for consistently-connected youth, and 12 and 18 percentage points higher than for later- and initially-connected youth, respectively. Never-connected youth also engage in more risk behaviors than consistently- or initially-connected youth. In addition, the share of never-connected youth who are charged with a crime between ages 18 and 24 is 14 percentage points higher than the share of consistently-connected youth charged with a crime.

Dropping out and engagement in risk behaviors are also strong predictors of membership in the never-connected group in our multinomial logit models, after holding other youth characteristics constant. These models also suggest that coming from a low-income family increases the probability of being never-connected by about 10 percent. Lower cognitive ability and living in a single parent family during adolescence also make youth more likely to be never-connected.

## DISCUSSION

This study corroborates the findings of previous research, which suggest that the transition to adulthood is a period of dynamic and diverse patterns of youth engagement with the labor market. This signals that policies and programs designed to support older youth and young adults might acknowledge and support multiple pathways to employment (Brand 2008). State and federal policymakers' goals might reflect pathways other than a smooth transition from high school to college to the labor market. Other approaches might smooth the transition from high school directly to the labor market, from employment to less traditional training opportunities, or to entering college years after initially dropping out, but later graduating from high school.

**TABLE 1. Adolescent and Early Adult Outcomes by Trajectory Group**

	Consistently-connected youth n = 1,114	Later-connected youth n = 347	Initially-connected youth n = 326	Never-connected youth n = 254	All youth n = 2,041
<b>Descriptive analysis results</b>					
Median earnings for employed youth, 18–19	\$11,134 <sup>B,D</sup>	\$7,692 <sup>A,C</sup>	\$10,469 <sup>B,D</sup>	\$7,287 <sup>A,C</sup>	\$10,138
Median annual earnings for employed youth, 23–24	\$25,864 <sup>B,C,D</sup>	\$18,563 <sup>A,C</sup>	\$11,310 <sup>A,B,D</sup>	\$16,330 <sup>A,C</sup>	\$22,411
Employed on 18th birthday	63% <sup>B,D</sup>	40% <sup>A,C</sup>	61% <sup>B,D</sup>	43% <sup>A,C</sup>	57%
Employed on 23rd birthday	91% <sup>B,C,D</sup>	84% <sup>A,C,D</sup>	39% <sup>A,B</sup>	34% <sup>A,B</sup>	77%
Mean cumulative risk score	2.8 <sup>B,C,D</sup>	4.1 <sup>A</sup>	3.6 <sup>A,D</sup>	4.3 <sup>A,C</sup>	3.3
Charged with a crime by age 24	12% <sup>B,C,D</sup>	25% <sup>A</sup>	21% <sup>A</sup>	26% <sup>A</sup>	17%
Highest degree completed by age 23-24					
None	7% <sup>B,C,D</sup>	30% <sup>A,D</sup>	24% <sup>A,D</sup>	42% <sup>A,B,C</sup>	17%
High school diploma	47% <sup>B,D</sup>	62% <sup>A,B</sup>	53%	58% <sup>A</sup>	51%
Associate's degree	9% <sup>C,D</sup>	3% <sup>D</sup>	4% <sup>A,D</sup>	0% <sup>A,B,C</sup>	6%
Four-year college degree or higher	38% <sup>B,C,D</sup>	5% <sup>A,C,D</sup>	20% <sup>A,B,D</sup>	0% <sup>A,B,C</sup>	26%

**Source:** Urban Institute estimates of the National Longitudinal Survey of Youth 1997.

**Notes:** Some youth who did not complete high school may have earned a General Equivalency Diploma. Median earnings exclude youth who did not work and therefore had zero earnings. Cumulative risky behaviors include consuming alcohol before age 13, using marijuana before age 16, using other drugs before age 18, selling illegal drugs before age 18, engaging in sex before age 16, stealing something worth less than \$50 before age 18, stealing something worth more than \$50 before age 18, destroying property before age 18, committing other property crime before age 18, being a member of a gang before age 18, getting into a fight before age 18, carrying a gun before age 18, and running away from home before age 18.

A = significantly different from the consistently-connected estimate at the 95% confidence level or above.

B = significantly different from the later-connected estimate at the 95% confidence level or above.

C = significantly different from the initially-connected estimate at the 95% confidence level or above.

D = significantly different from the never-connected estimate at the 95% confidence level or above.

\* = Significant at the 95% percent confidence level or above.

**TABLE 2. Notable Factors Predicting Membership in the Trajectory Groups**

Consistently-connected youth n = 1,114	Later-connected youth n = 347	Initially-connected youth n = 326	Never-connected youth n = 254
- Cumulative risk behaviors (-)	- Cumulative risk behaviors (+)	- Cumulative risk behaviors (+)	- Cumulative risk behaviors (+)
- High school completion (+)	- High school completion (-)	- High school completion (-)	- High school completion (-)
- Poor or low income family (-)	- Black relative to white (+)	- Female (+)	- Poor or low-income family (+)
- Cognitive ability (+)	- Cognitive ability (-)		- Cognitive ability (-)
- Mental health (+)	- Mental health (-)		- Single parent relative to two bio parents (+)
	- Rural (-)		
	- Single parent relative to two bio-parents (-)		

**Source:** Urban Institute estimates of the National Longitudinal Survey of Youth 1997.

**Notes:** Results are based on a multinomial logit model predicting membership into one the groups. The model included engagement in risk behaviors (early substance abuse and sexual behavior, delinquent and criminal activities, and high school completion); youth characteristics (gender, race, generation, adolescent childbirth, mental health, aptitude, English proficiency, and adolescent employment); family characteristics (parental income, education, employment; family structure; household size; receipt of government benefits; and parenting style); and neighborhood characteristics (living in a distressed neighborhood, percent foreign-born living in the neighborhood, region, and urbanicity). Only notable predictors that are statistically significant at the 95% percent confidence level or above are listed for each group.

Over the years, workforce policies have focused more on dislocated workers and less on youth programs. A renewed focus on youth might help ensure that young workers entering the labor market obtain the necessary skills to connect strongly to their jobs. Improving youth connectedness might obviate the need for serving these youth as dislocated workers later on. In addition, policies might be designed for serving the specific needs of each of the four connectedness patterns presented in this brief.

### **Supporting Never-Connected Youth**

Never-connected youth probably pose the greatest challenges to policymakers and service providers. The first task is to identify who these youth are and why they are disconnected from the labor market. We know that a very high proportion of these youth are dropouts and that they engage in substantial risk behaviors as adolescents and beyond. Many could be homeless and consequently are very hard to contact or provide with services. Others could be incarcerated or currently receiving public assistance and therefore much easier to identify and serve. Since so many of these youth are dropouts, directing resources toward dropout prevention programs may be a promising policy solution.

Family poverty during adolescence is also a strong predictor of being never-connected, despite the fact that it is not statistically linked to later- or initially-connected youth. This suggests that antipoverty programs might also help reduce the number of never-connected youth.

### **Supporting Initially-Connected Youth**

Policy efforts to address the needs of initially-connected youth might focus on trying to address the “derailing event” that causes these youth to leave school and employment in their early twenties.

Evidence presented above suggests that at least some of these youth may be leaving the labor market to care for young children. While some of these new parents may be voluntarily exiting, others may prefer to stay employed but are constrained by high child care costs or the inaccessibility of adequate care. These youth might be supported by policies that address the availability of and the process of applying for and maintaining child care subsidies.

Younger workers without substantial earnings histories also have a much harder time qualifying for unemployment insurance benefits when they lose their jobs. Unemployment insurance eligibility is based partly on earnings received during a base period, usually the earliest four quarters in the five quarters before unemployment (Simms 2008). The American Recovery and Reinvestment Act provides for funding to support states who decide to transition to an alternative base period, which would allow consideration of the most recent quarter of earnings in determining unemployment insurance eligibility. State adoption of this reform might help extend support to younger unemployed workers with shorter job tenures. A similar proposal suggested by Kletzer and Rosen (2006) is to consider time worked rather than earnings when establishing unemployment insurance eligibility.

### **Supporting Later-Connected Youth**

Later-connected youth show resilience and the potential to eventually connect to the labor market, but they take time to connect successfully. Policies to support this group may include dropout prevention programs as well as educational reform that supports the pipeline from high school to the labor market. A recent evaluation of the Career Academy approach to educational reform finds that these smaller, technically based learning communities operating within existing high schools successfully boost wages, hours worked, and job stability (Kemple 2008).

Since later-connected youth also have lower school enrollment rates than initially or consistently-connected youth, policies to improve the transition to postsecondary education could also benefit this population. An assessment of state dual enrollment policies, which allow high school students to enroll in courses providing college credit, concludes that dual enrollment increases high school graduation rates, college enrollment rates, and college achievement. In addition, these effects exist for all students, as well as for a subsample of students who were enrolled in technical and vocational courses (Karp et al. 2007).

Dual enrollment thus may be one way to support multiple pathways of connection with the labor market, both academic and vocational, for students that go on to postsecondary education and those who do not. The diverse state career and technical education programs supported by the Carl D. Perkins Act of 2006 also provide alternative education options to youth who do not fit the “college for all” model of the transition to adulthood. The Perkins Act includes an assessment of these programs, the results of which should be available in 2010.

### Supporting Consistently-Connected Youth

While consistently-connected youth connect successfully to the labor market, policymakers can still support youth on this trajectory. We know that even as late as their early twenties, over half of consistently-connected youth are still enrolled in some sort of education or training. These youth might be supported by Pell grants, the real value of which has been eroding over time as postsecondary education costs grow faster than Pell award levels, according to Spence and Kiel (2003). The American Recovery and Reinvestment Act of 2009 substantially increased Pell grant funding and maximum award levels.<sup>8</sup>

## CONCLUSION

Youth transitioning to adulthood follow multiple pathways to education and employment. Since there is no typical youth experience, a broad policy approach to promote connectedness may be optimal. This brief identified four distinct patterns of connection to education and the labor market between ages 18 and 24: consistently-connected youth, later-connected youth, initially-connected youth, and never-connected youth. The characteristics of these groups, as well as their employment and school enrollment dynamics, have implications for which policy approaches might be most appropriate to addressing their needs. In addition to specific policy solutions, all youth might benefit from a stronger institutional acknowledgement of the transition to adulthood as a dynamic and diverse period in a person’s life.

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<sup>1</sup> A major difference between these findings and the findings of Macomber and colleagues (2008) is the share of youth who fall in the “consistently-connected” group. Since foster care youth face considerably more disadvantages than youth nationally, the share of consistently-connected youth who emancipated from foster care is much lower than the consistently-connected share in this study.

<sup>2</sup> Wiesner and colleagues (2003) identify four patterns of employment for a sample of Oregon youth between the ages of 20 and 23. Their “long-term unemployed” category is analogous to our “never-connected” group, while their “short-term unemployed” category is conceptually similar to a combination of our “initially-connected” and “later-connected” groups. Wiesner and colleagues also identify a “full employment” category and a “college education” category, both of which are conceptually similar to our “consistently-connected” group.

<sup>3</sup> When looking at the determinants of connectedness group membership, we control for engagement in risk behaviors (early substance abuse and sexual behavior, delinquent and criminal activities, and high school completion); youth characteristics (gender, race, generation, adolescent childbirth, mental health, aptitude, English proficiency, and adolescent employment); family characteristics (parental income, education, employment; family structure; household size; receipt of government benefits; and parenting style); and neighborhood characteristics (living in a distressed neighborhood, percent foreign-born living in the neighborhood, region, and urbanicity).

<sup>4</sup> Cumulative risky behaviors include consuming alcohol before age 13, using marijuana before age 16, using other drugs before age 18, selling illegal drugs before age 18, engaging in sex before age 16, stealing something worth less than \$50 before age 18, stealing something worth more than \$50 before age 18, destroying property before age 18, committing other property crime before age 18, being a member of a gang before age 18, getting into a fight before age 18, carrying a gun before age 18, and running away from home before age 18.

<sup>5</sup> An aptitude score increase of 10 percent was associated with a 3.3 percent increase in the probability of being consistently-connected.

<sup>6</sup> The marginal effect of cumulative risk on membership in the later-connected group is 0.009, with a *p*-value of 0.005. The same effect on membership in the initially-connected group is 0.007, with a *p*-value of 0.020. This suggests that engaging in an additional risk behavior makes a youth 0.9 percent more likely to be later-connected and 0.7 percent more likely to be initially-connected. Therefore, neither of these effects are particularly strong for minor variations in risky behavior. The marginal effect of dropping out is stronger; the effect is 0.094 on being later-connected (*p*-value of 0.002), and 0.074 on being initially-connected (*p*-value of 0.012). Dropping out is therefore a meaningful and statistically significant predictor of membership in both groups.

<sup>7</sup> Median annual earnings for employed never-connected youth are \$3,200 lower than employed initially-connected youth (significant at the 95% confidence level), and \$3,800 lower than employed consistently-connected youth at age 18 (99% confidence level). At age 23, never-connected youth who are employed have median earnings that are \$9,500 less than consistently-connected youth (99% confidence level).

<sup>8</sup> See Elaine Maag, “Provide Financial Assistance for Postsecondary Education,” <http://www.urban.org/issues/recovery.cfm#maag>.

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