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Latent classes of older foster youth: Prospective associations with outcomes and exits from the foster care system during the transition to adulthood*

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Abstract

Youth in the foster care system face considerable challenges during the transition to adulthood. However, there is significant variability within this population. This study uses person-oriented methods and a longitudinal dataset of youth aging out of foster care to examine differences in how subgroups of foster youth fare during the transition to adulthood. We identified four distinct latent classes, consistent with prior person-oriented studies of this population, and validated these classes by examining differences on additional relevant factors at age 17. After establishing these classes, we tested their predictive validity by examining differences in outcomes at age 19 in domains relevant to the transition to adulthood, including education and employment, problem behaviors, and mental health problems. Finally, given the importance of extended foster care in promoting better outcomes, we used survival analysis to prospectively examine whether class membership was associated with differences in the rates at which youth left foster care between ages 17 and 19. One large group of youth exhibited moderate behavior problems and left care quickly, while another large group of resilient youth had favorable outcomes and left care relatively slowly. A small group exhibited considerable behavior and mental health problems, but left care more slowly, and a very small group was characterized by a history of pregnancy. Findings suggest considerable variability in service need among older foster youth. Implications for service provision during the transition to adulthood are discussed.

1. Introduction

For youth aging out of the foster care system, the transition to adulthood can be difficult and stressful, as adolescents in foster care abruptly transition from dependency on state-provided care to independence, experiencing a substantial loss of support (Cunningham & Diversi,

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2013; The Pew Charitable Trust, 2007). Close to 21,000 youth age out of the foster care system yearly (U.S. Department of Health & Human Services, 2016), and relative to the general population, youth aging out of foster care have low levels of educational attainment, high unemployment rates and low earnings, poor physical and mental health, high rates of victimization, and high rates of involvement with the criminal justice system (Courtney & Dworsky, 2006; Courtney, Dworsky, Lee, & Raap, 2010; Courtney & Heuring, 2005; McMillen et al., 2005). However, there is considerable heterogeneity within this population and many youth exhibit considerable resilience during the transition to adulthood. Identifying meaningful subgroups of older foster youth and prospectively examining how they fare over time is highly relevant, as these findings can inform efforts to better match practice and policy with the specific needs and challenges of older foster youth (Courtney, Hook, & Lee, 2012; Keller, Cusick, & Courtney, 2007).

Older foster youth have been the target of many policy efforts, as they are widely recognized as vulnerable and not well-prepared to handle the transition to adulthood, often lacking both social and financial resources and relying on fragmented services provided by multiple systems (e.g., child and adult mental health services, housing services, safety net programs) (Courtney, Charles, Okpych, Napolitano, & Halsted, 2014; Courtney & Heuring, 2005; Cunningham & Diversi, 2013; C. Lee & Berrick, 2014). Recent policy efforts (e.g., Fostering Connections to Success and Increasing Adoptions Act of 2008) have focused on extending the length of time that foster youth can remain in care, as remaining in the child welfare system has been shown to promote better educational and employment outcomes and protect against negative outcomes (e.g., arrests, risky sexual behavior, pregnancy, housing instability) during the transition to adulthood (Ahrens, McCarty, Simoni, Dworsky, & Courtney, 2013; Courtney & Dworsky, 2006; Courtney & Hook, 2017; Dworsky & Courtney, 2010; Fowler, Toro, & Miles, 2011; Hook & Courtney, 2011; J. S. Lee, Courtney, & Tajima, 2014; Matta Oshima, Narendorf, & McMillen, 2013; Tyrell & Yates, 2017).

Extended supports are now available in close to half of states (Cooper, Jordan, & McCoy-Roth, 2013; National Conference of State Legislatures, 2015), but even in states where extended care is possible, not all youth choose to remain in care and eligibility requirements often limit the number of youth served (Stott, 2013). In California, the majority of 17 year-old foster youth reported wanting to stay in care to receive additional supports; however, almost one-third reported that they would not want to stay in care after age 18 (Courtney et al., 2014). Unplanned exits, often under negative circumstances, are not uncommon (McCoy, McMillen, & Spitznagel, 2008; McMillen & Tucker, 1999; Rautkis, Kerman, & Phillips, 2013) and re-entry is not always possible (Dworsky & Havlicek, 2009; Goodkind, Schelbe, & Shook, 2011). Youth commonly report desires for greater independence and frustration with the constraints the system places on their choices as reasons for leaving (Courtney et al., 2014; Goodkind et al., 2011; McCoy et al., 2008). Examining whether specific subgroups of foster youth differ in their rates of leaving care can inform policies regarding extended supports and efforts to individualize transition planning.

1.1. Person-oriented approaches to studying older foster youth

Person-oriented approaches are complementary to variable-centered approaches and allow for identification of similar patterns of strengths and challenges through the estimation of distinct, homogenous subgroups derived from individuals' levels on multiple indicators. That is, patterns of indicators emerge and are used to characterize typologies (Courtney et al., 2012). Previous research has utilized person-centered approaches to identify subgroups of older foster youth (Courtney et al., 2012; Keller et al., 2007; Shpiegel & Ocasio, 2015; Yates & Grey, 2012), but the predictive validity of these classes has not been tested. Prospective research is needed to determine whether subgroups differ in outcomes during the transition to adulthood. Similarly, no studies have yet examined whether subgroups of foster youth differ in their rates of leaving care.

In an early example, Keller et al. (2007) used a person-oriented approach to identify four distinct subgroups of foster youth in the Midwest Study at age 17. The largest class (43%), 'Distressed and Disconnected,' was characterized by nonfamily living arrangements (e.g., congregate care), more than five placements, a history of running away from placement, and a high rate of problem behavior. These youth reported high levels of violent victimization and mental health problems; they were the most likely to be receiving services, but had more negative views of the child welfare system. The second largest class (38%), 'Competent and Connected,' had low levels of problem behaviors and grade retention, a high likelihood of employment experience, and were most likely to reside in kinship or traditional foster care, with relatively few placements. These youth reported good social support and more satisfaction with the child welfare system than other classes. The 'Struggling but Staying' class (14%) had high rates of problem behaviors and grade retention and lived primarily in traditional foster care; they reported feeling satisfied with the child welfare system and planning to rely on the system for support. Lastly, the 'Hindered and Homebound' class (5%) had a high rate of parenthood and grade retention, and the lowest likelihood of employment experience. Most lived in kinship care and were in their first placement; they reported high levels of social support (Keller et al., 2007). Other work with the Midwest Study identified four classes of young adults at ages 23 and 24, specifically 'Accelerated Adults' (36%) who appeared to be relatively successful in transitioning to adulthood, 'Struggling Parents' (25%) with low rates of education and employment, 'Emerging Adults' (21%) who appeared to be delaying the transition to adulthood without experiencing hardship, and 'Troubled and Troubling' (18%) with high rates of criminal justice involvement and psychosocial problems (Courtney et al., 2012). However, outcomes for the subgroups identified at age 17 have not yet been linked to later outcomes and it is unclear how these groupings relate to the groups identified in young adulthood.

Yates and Grey (2012) used latent profile analysis of independent raters' evaluations of competence in a convenience sample of youth who had aged out of foster care (ages 17 to 21), finding a four-class solution. 'Resilient' youth (47%) exhibited competence across domains, 'Maladapted' youth (16.5%) struggled across domains and had more internalizing and externalizing problems, 'Internally Resilient' youth (30%) had some difficulties across external domains (e.g., education, work), but good relational competence and self-esteem, and lower depressive symptoms, and 'Externally Resilient' youth (6.7%), exhibited

competence in external domains, but lower relational competence and self-esteem and higher depressive symptoms (Yates & Grey, 2012). Most recently, Shpiegel and Ocasio (2015) used the National Youth in Transition Database to conduct cluster analysis with 17 year-old foster youth using dichotomous indicators (i.e., school enrollment, connection with a supportive adult, history of parenthood, homelessness, referral for substance abuse, incarceration). Youth in the 'Resilient' cluster (39%) were enrolled in school, connected to a supportive adult, and did not have any risk indicators. The 'Multiple Problem' cluster (15%) was characterized by multiple risk indicators, and almost half had a child. The remaining three clusters were characterized by 'Substance Abuse' (19%), 'Incarceration' (14%), and 'Homelessness' (13%) (Shpiegel & Ocasio, 2015).

Person-oriented approaches are subject to dataset specific issues, making replication of subgroups across samples crucial to the validity of conclusions drawn about the prevalence and relevance of identified subgroups. Despite differences in the indicators used in the above studies, all three identified relatively large subgroups of resilient and well-functioning youth, as well as subgroups struggling with multiple problems, and two of the three studies (Keller et al., 2007; Yates & Grey, 2012) identified subgroups with a high rate of parenthood and poor education and employment outcomes, although different in size (5% 'Hindered and Homebound' vs. 30% 'Internally Resilient'). However, none of these studies tested the prospective validity of these subgroups in predicting outcomes (e.g., education, employment, mental health problems) or rates of leaving foster care system during the transition to adulthood. Understanding how distinct subgroups of older foster youth fare during the transition to adulthood will facilitate more individualized and effective services during this vulnerable period.

2. Current study

The first aim of the current study was to test the predictive validity of latent classes of older foster youth by examining associations between class membership and outcomes at age 19. The second aim was to test whether class membership was associated with differences in the rates at which youth left foster care between ages 17 and 19. In order to test these aims, we conducted a latent class analysis to identify distinct subgroups of foster youth at age 17 and then validated these classes by using other baseline data to show that these subgroups were distinct from one another. We chose latent class analysis over cluster analysis because it is a model-based approach that derives subgroups using a probabilistic model rather than an arbitrarily chosen distance measure, as in cluster analysis. After establishing distinct, valid subgroups, we prospectively examined differences between classes in age 19 outcomes and rates of leaving care between 17 and 19.

3. Methods

3.1. Participants

This study utilized archival data from a longitudinal study of youth aging out of the foster care system in which youth were followed from age 17 to 19 (McMillen, 2010). Data were collected between 2001 and 2003. The sample included 226 females (55.9%) and 178 males (44.1%). Most participants self-identified as either Black/African American ($n = 206$, 51%)

or White ($n = 178$, 44%); the remaining participants identified as biracial/multiracial ($n = 14$, 3.5%) or Other ($n = 6$, 1.5%).

3.2. Procedures

Caseworkers screened youth in the legal custody of the Missouri Children's Division at age 17 for inclusion and provided informed consent. Youth provided informed assent for interviews prior to age 18 and informed consent for interviews after age 18. Of the 451 youth invited to participate, 404 (90%) were interviewed at age 17. The university institutional review board approved the study and participants were paid for participation. More details are reported by McMillen (2004).

3.3. Age 17 measures: indicators for latent class analysis

Indicators for the latent class analysis were chosen to replicate as closely as possible those used by Keller et al. (2007). These indicators utilize data commonly available in foster youths' records and focus on domains relevant to the transition to adulthood. A total of eight indicators, 6 dichotomous and 2 categorical, were chosen.

3.3.1. Education and employment—Dichotomous variables were created for grade retention and history of paid employment. Participants reported if they had repeated a grade (starting with 7th grade) and if they had ever been employed.

3.3.2. Problem behaviors—At age 17, youth reported if they had been expelled from school since 7th grade, if they had ever been arrested or incarcerated, if they had ever been pregnant or made a woman pregnant, and if they had ever stayed overnight on the street.

3.3.3. Living situation—Youth reported their current living situation and number of living situations in past year. At age 17, most youth were living with relatives, with a foster family, or in a congregate setting (e.g., residential center, group home), with a small number ($n = 13$) living in other non-family situations (e.g., Job Corps dorm, with friends). Current living situation was coded into three categories: with biological relatives, non-relative foster care, and congregate/non-family care. An ordinal variable with three levels was created for number of past year living situations (1, 2–3, 4 or more living situations).¹

3.4. Age 17 measures: validation of latent classes

Validation variables were also chosen to replicate those used in earlier person-oriented studies (Keller et al., 2007; Shpiegel & Ocasio, 2015; Yates & Grey, 2012) and include demographics, reading level, maltreatment history, mental health problems, and involvement with and attitudes toward the child welfare system.

3.4.1. Demographics and education—Youth provided their gender and race/ethnicity. A dichotomous variable was created to indicate if a participant was in school at 17. Current

¹Other levels, including 1 vs. 2+ and 1 vs. 2 vs. 3+, were tried as well. The best fitting LCA model and the greatest distinction between classes on this item was achieved with levels set at 1 vs. 2–3 vs. 4+.

reading level was assessed with the Word Reading subscale of the WRAT3 (Wilkinson, 1993).

3.4.2. Maltreatment history—Physical abuse, physical neglect, and emotional abuse were assessed at age 17 with the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003). Previous research has demonstrated good construct validity, strong test-retest reliability (ICC = 0.88) and a stable factor structure (Bernstein, 1994; Bernstein et al., 2003); internal consistency in the current sample was good (Cronbach's $\alpha = 0.85\text{--}0.92$). In addition to the total score, cut-points were used to identify those who experienced moderate-severe experiences of physical abuse, physical neglect, and emotional abuse (Bernstein & Fink, 1998; DiLillo et al., 2006). Sexual abuse was assessed at age 17 with three questions adapted from Russell (1986); youth who answered yes to any question were considered to have experienced sexual abuse. Rates of sexual abuse assessed with these questions (Auslander et al., 2002) are comparable to those assessed with a more detailed measure (Miller, Green, Fettes, & Aarons, 2011), suggesting they form a valid measure of sexual abuse.

3.4.3. Lifetime history of mental health problems—Lifetime diagnoses of conduct disorder, major depressive disorder, and posttraumatic stress disorder were assessed at age 17 using the Diagnostic Interview Schedule-Version IV (DIS), a reliable and valid measure of psychiatric diagnoses (Helzer et al., 1985; Robins, Heltzer, Croughan, & Ratcliff, 1981). Lifetime substance use disorders were assessed using questions from the alcohol/drug module of the Comprehensive Addiction Severity Index for Adolescents (CASI-A), which has good convergent validity with other measures of substance use (Meyers, McLellan, Jaeger, & Pettinati, 1995; Meyers et al., 2006). Current depressive symptoms were assessed with the Depression Outcomes Module (Smith, Burnam, Burns, Cleary, & Rost, 1994).

3.4.4. Child welfare involvement and attitudes—Youth reported the age at which they were first placed into foster care. At age 17, youth reported how they believed they would be doing if they had never been taken into the custody of the state on a 5-point scale from “much worse off than you are today” to “much better off than you are today,” and rated the perceived helpfulness of specific people in the child welfare system (e.g., caseworker, foster family, judge) on a 4-point scale. In addition, youth were asked about their attitudes toward mental health services using 9 items adapted from the Attitudes Toward Seeking Professional Psychological Help Scale (Fischer & Turner, 1970); higher scores indicate more positive attitudes toward seeking mental health services. The scale had adequate internal consistency in this sample (McMillen, 2004).

3.5. Age 19 outcome measures and exits from care

3.5.1. Education and employment—Dichotomous variables were created to indicate if a participant was in school at age 19, if they had completed a high school diploma or GED, if they were employed at age 19, and if they were engaged in either work or school (i.e., currently employed, currently attending school, or both).

3.5.2. Problem behaviors—At age 19, youth reported whether they had been arrested/incarcerated since age 17, been pregnant or made a woman pregnant since 17, and given

birth to or fathered a child since 17. Youth who had given birth or fathered a child by age 19 were asked who was raising the child to determine if they were currently parenting.

3.5.3. Mental health problems and revictimization—At age 19, past year diagnoses of antisocial personality disorder, major depressive disorder, and posttraumatic stress disorder were assessed with the DIS (Helzer et al., 1985; Robins et al., 1981) and past year substance use disorders were assessed with the CASI-A (Meyers et al., 2006, 1995). Current depressive symptoms were assessed with the Depression Outcomes Module (Smith et al., 1994). A dichotomous variable was created to reflect whether or not youth experienced any potentially traumatic events (e.g., sexual assault, physical assault) between ages 17 and 19.

3.5.4. Living situations—Youth reported their current living situation at age 19 and the number of living situations in the past year. Current living situation was coded into five categories: with biological relatives, non-relative foster family/adoptive family, independently, transitional living program, and congregate care.

3.5.5. Exits from foster care—Youth reported whether they had left state custody, and if so, the month in which they had left the foster care system.

3.6. Missing data

This study achieved good follow-up rates (80% at age 19). To reduce bias from missing data, missing data from the baseline interview were hotdecked (Andridge & Little, 2010); < 1% of the data for any given variable was imputed with hotdecking (C. McMillen, personal communication, June 5, 2012). For later interviews, missing data was imputed using IVEware, creating five imputed datasets using different random starting seeds. Analyses using age 19 data pooled estimates across the five imputed datasets. More details are available in the user's guide for this database (Larrabee-Warner & McMillen, 2010).

3.7. Analytic plan

3.7.1. Latent class enumeration procedure—We utilized Latent Class Analysis (LCA) in MPlus 7.2 (Muthén & Muthén, 1998–2012) to classify youth into conceptually and empirically well-differentiated classes based upon eight observed indicators at age 17. Indicators were whether or not youth had ever repeated a grade, been employed, expelled, arrested/incarcerated, been/made someone pregnant, and spent a night on the street, as well as a categorical variable for type of current living situation and an ordinal variable for number of past year living situations. LCA estimates two parameters: conditional response probabilities, or the probability that an individual would endorse a particular item, and class membership probabilities, or the prevalence of each class within the population.

Models were estimated in accordance with recommendations from Masyn (2013) and Nylund, Asparouhov, and Muthén (2007). Beginning with a 1-class model, models were tested and absolute and relative fit indices were compared to choose the most parsimonious and conceptually and empirically valid and well-differentiated model. The number of classes increased until model convergence was no longer reached; this was reached after the 6 class solution. The chi-square statistic was used as a determinant of absolute fit (Masyn, 2013); in

addition, relative fit statistics, including the Sample Size Adjusted Bayesian Information Criteria (SABIC), Akaike's Information Criteria (AIC), the Adjusted Lo Mendell Rubin Likelihood Ratio test (Adj. LMR-LRT), the Bootstrap Likelihood ratio test (BLRT), and the Bayes Factor (BF) were compared (for an overview, see Nylund et al., 2007). In general, the lower the information criteria, the better fit of model to data. A significant p -value for the likelihood ratio tests indicates better fit, whereas non-significant values indicate failure to reject the solution with one fewer class. Entropy is reported as a statistic of overall model classification and not enumeration; values above 0.80 are considered high (Muthén, 2004).

3.7.2. Validation of latent classes—To validate the subgroups generated by LCA, categorical and continuous covariates at age 17 were examined in relation to class membership using the 3-step method proposed by Lanza, Coffman, and Xu (2013), implemented with the R3STEP command in Mplus. This method incorporates measurement error (from the most likely latent class membership) in a multinomial regression model of the latent class variable and the covariates. Variables were selected to represent demographic characteristics and domains relevant to the transition to adulthood, including education, maltreatment history, mental health problems, and child welfare involvement and attitudes toward services. To avoid Type I error inflation, a bonferroni correction ($p < 0.004$) was applied to the analyses. Differences between classes on measures not used to generate the classes provide further evidence that the classes generated by LCA are valid and meaningful groups of foster youth.

3.7.3. Aim 1: associations between latent classes and age 19 outcomes—To test the predictive validity of the latent classes, associations between class membership and outcomes of interest at age 19 were tested using the DCAT/DCON option in the AUXILIARY command of Mplus, which utilizes Bayes theorem to estimate the probabilities and means of the covariates on the classes (for more see Asparouhov & Muthén, 2014; Lanza et al., 2013). Outcomes of interest included education and employment, problem behaviors, mental health problems, revictimization, and living situations.

3.7.4. Aim 2: differences between latent classes in time to leaving care—To examine rates of leaving care after age 17, we added a discrete time survival analysis to our latent class model. Survival analysis examines if and when an event occurs and if event occurrence varies by a condition (i.e., by class membership), while taking into account those youth for which the event did not occur during the observation period (Singer & Willett, 1991). Survival analysis provides two functions for examining the data: the hazard and survival functions. The hazard function is the conditional probability that a youth will leave care at a particular time interval, given that the youth has not already left care, whereas the survival function is a transformation of the hazard function and represents the probability that a youth will still be in care at each time and at the end of the observation period. In order to evaluate if the hazard function varied across classes, we fit three models: a class-varying unproportional hazard model, in which the hazard odds could vary across both class and time, a class-varying proportional model, in which the hazard odds could vary across class, but were considered proportional across each time interval, and a class-invariant proportional model. Model fit was evaluated with a likelihood ratio test (LRT; $-2LL$). To

evaluate differences among the classes on the hazard function, we compared hazard probabilities at each time interval among all classes using odds ratio comparisons (Muthén & Masyn, 2005).

4. Results

4.1. Latent class analysis

Descriptive statistics for variables included in the LCA are presented in Table 1. The absolute and relative fit statistics related to each class solution are presented in Table 2. The chi-square statistic consistently indicated close fit of the model to the data. The relative fit indices indicated that the 4- and 5-class models were candidate models and adequate fits to the data. Based upon examination of the class solutions, the 4-class solution was more parsimonious and conceptually compelling; the 5-class solution replicated the four classes from the 4-class solution and added a low-prevalence class that was not distinct on any indicator, except having a high likelihood of being in congregate/non-family care. The 4-class solution was evaluated for classification precision, homogeneity, and separation, and each class was found to be sufficiently homogenous and well-classified according to the average posterior probabilities and odds of correct classification. When the 5-class solution was evaluated, two of the classes were found to be not well-classified, and had low separation (i.e., substantial overlap in item probabilities). Table 3 presents the class-specific item endorsement probabilities (i.e., each class's probability of endorsing each item) and separation (i.e., differences among classes), calculated through odds ratio comparisons. Fig. 1 also depicts class-specific item endorsement probabilities.

4.1.1. Class 1—Class 1 is the largest group, with approximately half of the sample (49.75%). They are more likely to have been arrested/incarcerated, expelled, or to have repeated a grade than Classes 2 and 4, but have a low likelihood of having spent a night on the street or been pregnant. Residential stability and living situation type is varied. This class was labeled 'Moderate Problems.'

4.1.2. Class 2—Class 2 (39.36%) is at low risk for all problem behaviors, including arrest/incarceration, expulsion, spending a night on the street, and pregnancy. They are more likely than those in other classes to have had only one living situation in the past year and very unlikely to have had four or more living situations in the past year. Although placement types are varied, they are less likely than Classes 1 and 3 to be in congregate care. Given the low rates of problem behavior and high residential stability, this class was labeled 'Resilient.'

4.1.3. Class 3—Class 3 (8.66%) has a high likelihood of multiple problem behaviors. They are more likely than Classes 2 and 4 to have been arrested/incarcerated and expelled, and more likely than youth in all other classes to report spending a night on the street. Youth in this class are most likely to be in congregate care and very unlikely to live with relatives. They are more likely than Classes 1 and 2 to have four or more living situations in the past year. This class was labeled 'Multiple Problems/Non-Family Care.'

4.1.4. Class 4—Class 4 (2.22%) is the smallest group. Members of this class are highly likely to have a history of pregnancy, have held a paid job, and have lived in 4 or more living situations in the past year. They are very unlikely to have repeated a grade, been expelled, or been arrested/incarcerated. They are more likely than other classes to be in traditional foster care and less likely to be in congregate/non-family care. As this class was differentiated from the others primarily by pregnancy history and more than four past year living situations, it was labeled ‘Pregnancy History/Multiple Placements.’

4.2. Validation of latent classes: characteristics associated with class membership at age 17

Significant associations between class membership and other measures collected at age 17 are presented in Table 4. Although a bonferroni correction was applied, we also present findings that were significant at a less conservative *p*-value, as they may indicate trends that can be tested through replication with other samples.

4.2.1. Demographics and education—There were no differences between classes in the proportion of the class that was female or youth of color. At age 17, there was a trend indicating that youth in the ‘Pregnancy History/Multiple Placements’ class were less likely to be enrolled in school at age 17 than those in the ‘Resilient’ class. There were no differences in reading ability.

4.2.2. Maltreatment history—Youth in the ‘Resilient’ class were more likely to self-report greater maltreatment than youth in other classes. There was a trend for the ‘Resilient’ class youth to have a greater likelihood of experiencing neglect than youth in the ‘Moderate Problems’ or ‘Multiple Problems/Non-Family Care’ classes. Youth in the ‘Moderate Problems’ class were more likely to report greater maltreatment than those in the ‘Pregnancy History/Multiple Placements’ class, and more likely, at a trend level, than those in the ‘Resilient’ class to report physical abuse. There were no differences between classes in the likelihood of experiencing emotional abuse or sexual abuse or in the total number of maltreatment types experienced.

4.2.3. Lifetime history of mental health problems—When examining mental health problems, the ‘Multiple Problems/Non-Family Care’ class was more likely to meet criteria for a lifetime conduct disorder diagnosis than the ‘Moderate Problems’ or ‘Resilient’ classes, while the ‘Moderate Problems’ class was more likely to meet criteria for a lifetime conduct disorder diagnosis than the ‘Resilient’ class. Some trends were also evident. The ‘Resilient’ class was less likely than the ‘Moderate Problems’ and ‘Multiple Problems/Non-Family Care’ classes to have a lifetime substance use disorder and less likely than the ‘Multiple Problems/Non-Family Care’ class to have a lifetime depressive disorder. Current depressive symptoms and the likelihood of a lifetime PTSD diagnosis did not differ between groups.

4.2.4. Child welfare involvement and attitudes toward services—There were no differences between classes in the age at which they were placed into care. Compared to other classes, there was a trend for youth in the ‘Pregnancy History/Multiple Placements’

class to report more favorable views of their involvement in the system, specifically that they would be worse off if they had never been taken into the custody of the state; however, there were no differences between classes in the perceived helpfulness of individuals in the child welfare system. The 'Moderate Problems' class had slightly less favorable attitudes toward mental health services than the 'Multiple Problems/Non-Family Care' class.

4.3. Aim 1: associations between latent classes and age 19 outcomes

Predictive validity of the classes was tested by considering associations between class membership and outcomes of interest at age 19 (Table 5). Differences between classes in probabilities/means were tested using the chi-square statistic. Results indicated differences among the classes on almost all outcomes. Additionally, we tested if each probability within class was significantly different from 0.50, which indicates the significance of a likelihood of experiencing an outcome versus not experiencing an outcome for that class. A probability not significantly different from 0.50 indicates that the outcome is as likely as not for that class.

4.3.1. Education and employment—The pattern of findings for school and employment outcomes suggests that the 'Resilient' and 'Pregnancy History/Multiple Placements' classes had the best outcomes at 19, while the 'Moderate Problems' class had the poorest outcomes. Compared to the 'Resilient' and 'Pregnancy History/Multiple Placements' classes, the 'Moderate Problems' class was significantly less likely to have completed high school or received a GED, and had a significantly greater likelihood of not being in school at age 19. The 'Multiple Problems/Non-Family Care' class was more likely than the 'Pregnancy History/Multiple Placements' class to not be in school. The 'Resilient' class was the only class significantly more likely than not to be engaged in work or school and was more likely than the 'Moderate Problems' class to be engaged in work or school. Similarly, the 'Pregnancy History/Multiple Placements' class was the only class significantly more likely to be employed than not employed, and was more likely than the 'Moderate Problems' class to be employed.

4.3.2. Problem behaviors—Again, the 'Resilient' and 'Pregnancy History/Multiple Placements' classes had better outcomes at 19. Both the 'Resilient' and 'Pregnancy History/Multiple Placements' classes had low likelihoods of arrest and becoming or making someone pregnant between 17 and 19. Youth in the 'Moderate Problems' and 'Multiple Problems/Non-Family Care' classes were more likely to have been arrested than the 'Resilient' class, and youth in the 'Moderate Problems' class were more likely than youth in all other classes to have been pregnant or made someone pregnant between 17 and 19. Youth in the 'Pregnancy History/Multiple Placements' class, who had a high likelihood of a pregnancy history at age 17, were the least likely to have a child between 17 and 19, although they were more likely than other classes to be parenting a child.

4.3.3. Mental health problems and revictimization—The 'Multiple Problems/Non-Family Care' class was more likely to have a past year substance use disorder than the 'Moderate Problems' class, and both the 'Moderate Problems' and 'Multiple Problems/Non-Family Care' classes were more likely to have a past year substance use disorder than the

‘Resilient’ and ‘Pregnancy History/Multiple Placements’ classes. There were no differences in the likelihood of currently meeting criteria for antisocial personality disorder, which was low across classes. Youth in the ‘Pregnancy History/Multiple Placements’ class were more likely than those in other classes to meet criteria for a past year diagnosis of depression; similarly, youth in this class and those in the ‘Multiple Problems/Non-Family Care’ class had significantly more depressive symptoms at age 19 than youth in the ‘Moderate Problems’ and ‘Resilient’ classes. Although the likelihood of experiencing a traumatic event between 17 and 19 was high across all classes, with no differences between classes, youth in the ‘Multiple Problems/Non-Family Care’ class were more likely than those in the ‘Moderate Problems’ and ‘Pregnancy History/Multiple Placements’ classes to meet criteria for past year PTSD.

4.3.4. Living situations—Youth in the ‘Moderate Problems’ class had a high likelihood of living with biological relatives and were significantly more likely to do so than youth in other classes, all of which had a low likelihood of doing so. Youth in the ‘Moderate Problems’ class were also more likely than youth in other classes to live in congregate settings. The ‘Multiple Problems/Non-Family Care’ class was more likely than the ‘Moderate Problems’ and ‘Resilient’ classes to live independently and had had significantly more past year living situations than all other classes, indicating greater residential instability. The ‘Moderate Problems’ class had significantly more residential instability than the ‘Resilient’ class, who was more likely than other classes to live in a transitional living program.

4.4. Aim 2: differences between latent classes in time to leaving care

We fit three hazard models to the LCA model: a class-varying proportional model, a class-varying unproportional model, and a class-invariant unproportional model. Evaluation of the LRT indicated that the class-varying proportional model was the best fit to the data,² and thus, the hazard function was allowed to vary across class and time. The survival probabilities for each class are plotted in Fig. 2. Although the hazard model was fit based upon 24 time intervals, for parsimony we present differences among survival probabilities at five notable time points in Table 6.

Compared to other classes, the ‘Resilient’ class stayed in care the longest and left care more slowly; approximately 14% of youth in this class were still in care at age 19. A similar proportion of the ‘Multiple Problems/Non-Family Care’ class remained in care at age 19. The ‘Multiple Problems/Non-Family Care’ class was more likely to stay in care than the ‘Pregnancy History/Multiple Placements’ and ‘Moderate Problems’ classes, but showed a steep increase in leaving care between age 18 and 18.5. The ‘Moderate Problems’ class began leaving care the earliest and had the highest likelihood of leaving care at each time point, with more than half of this class leaving by age 18 and only 4.1% remaining at age 19. Youth in the ‘Pregnancy History/Multiple Placements’ class did not begin leaving care until age 17 and 4 months, but then had a high likelihood of leaving care, surpassed only by the

²Class-varying proportional vs. Class-varying unproportional: LRT = 96.38, parameters = 75, $p < 0.05$. Class-varying unproportional vs. Class-invariant unproportional: LRT = 129.56, parameters = 24, $p < 0.01$.

‘Moderate Problems’ class, at all later time points. More than half of this class left care by age 18, with none remaining in care by age 18 and 7 months.

5. Discussion

The results of this study indicate considerable heterogeneity within older foster youth, consistent with prior person-oriented studies of this population (Keller et al., 2007; Shpiegel & Ocasio, 2015; Yates & Grey, 2012). We identified four distinct classes at age 17 and expanded upon past work by examining differences in multiple domains of outcomes at age 19, establishing the predictive validity of these subgroups. In addition, this study is the first to use a person-oriented approach to prospectively examine exits from the foster care system, finding that subgroups differed in the rates at which they left foster care. These findings add considerably to our knowledge of older foster youth and can inform individualized approaches to transition planning that better match the specific needs and challenges of older foster youth.

5.1. Class 1: ‘Moderate Problems’

Class 1, which comprised close to half of the sample, was labeled ‘Moderate Problems,’ a characterization supported by analyses of age 17 covariates. At age 19, youth in the ‘Moderate Problems’ class appeared to be struggling in multiple domains, with poorer educational outcomes than the ‘Resilient’ and ‘Pregnancy History/Multiple Placements’ classes, a greater likelihood of a past year substance use disorder than all but the ‘Multiple Problems/Non-Family Care’ class, a greater likelihood of arrest than the ‘Resilient’ class, and the highest likelihood of being pregnant or making someone pregnant between 17 and 19. Youth in this class left care at a rapid pace during late adolescence, with more than half leaving care before age 18, and had a very low likelihood of remaining in care at age 19. Most of these youth were living with biological relatives at age 19, and they were significantly more likely to do so than youth in other classes. At 17, youth in this class had less positive views of child welfare and mental health services; their living situations at 19 suggest that they maintain connections to their biological families during their time in care.

Family support is an important facilitator of successful transitions to adulthood, as families provide resources that individuals can utilize to enhance their opportunities (e.g., financial support for education, access to potential employers; Furstenberg & Hughes, 1995). However, in this study, the ‘Moderate Problems’ class had a high likelihood of residing with relatives at 19 and poor educational and employment outcomes; these findings are consistent with prior work finding that youth living with relatives after leaving care exhibit less resilience and poorer education and employment outcomes (Fowler et al., 2011; Jones, 2012). Biological relatives may be able to provide housing, an essential need for youth leaving care, but lack the resources to connect these youth to educational or work opportunities that promote independence (Fowler et al., 2011). In addition, foster youths’ histories of poor parent-child interactions and disrupted relationships with families of origin are likely to carry forward into this period, resulting in fewer or less consistent supports during this transition (Jones, 2012; Vaughn, Shook, & McMillen, 2008). Support for kin caregivers may be key to supporting these youth during early adulthood.

Poor outcomes, rapid exits from the foster care system, and reliance on biological relatives suggest current service approaches are not sufficiently meeting the needs of these youth. Given their history of problem behaviors and negative attitudes toward services, it is likely that many of these youth become frustrated with the limits placed on them by the system and choose to leave care earlier than required. Youth in this subgroup may also be more susceptible to impulsive, unplanned exits (McCoy et al., 2008; McMillen & Tucker, 1999), particularly if they believe they can rely on biological relatives to provide housing. Alternatively, service providers may support youth in returning to biological family before age 18 in order to count their case as reunification rather than emancipation. As youth in this group tend to leave care very quickly, they in particular may benefit from flexible policies allowing re-entry. Re-entry into care at a later point is permitted in some, but not all states, and requirements for doing so vary greatly from state-to-state (e.g., youth can simply request to reenter, youth must be enrolled in post-secondary education, youth must reenter within 60 days of discharge; Dworsky & Havlicek, 2009). In addition, efforts to intentionally step-down levels of care and actively involve youth and their families in these efforts may also be useful in preventing abrupt exits (Havlicek, McMillen, Fedoravicius, McNelly, & Robinson, 2012).

5.2. Class 2: 'Resilient'

Class 2, which comprised almost 40% of the sample, was characterized by low risk for problem behaviors and considerable placement stability and can easily be termed a resilient group. This class reported more maltreatment than other classes, consistent with Shpiegel and Ocasio's (2015) finding of higher maltreatment rates for youth in the 'Resilient' cluster, close to three-quarters of whom were removed from parents exclusively due to parent-related difficulties. In our study, these youth continued to do well during the transition to adulthood; at age 19, the 'Resilient' class had low likelihoods of problem behaviors and mental health problems and was the only class significantly more likely than not to be engaged in work or school. The findings for this 'Resilient' class were strikingly similar to other studies' findings of similarly sized groups of youth with low behavior problems and favorable outcomes at age 17 (e.g., Keller et al., 2007; Shpiegel & Ocasio, 2015; Yates & Grey, 2012), as well as Fowler et al.' (2011) identification of a group with stable housing and good employment and education outcomes after their exit from care.

Youth in the 'Resilient' class left care relatively slowly and stayed in care longer than youth in other classes; more than half of this class remained in care after age 18. Examination of living situations suggests that these youth are taking advantage of the supports offered by the system, as they were more likely than the 'Moderate Problems' class to be in a transitional living program. It is important to note, however, that youth in this class reported an average of three living situations in the past year. Although this is significantly less residential instability than those in the 'Moderate Problems' or 'Multiple Problems/Non-Family Care' classes reported, it is still high relative to the general population; approximately two-thirds of young adults (ages 18–24) report no moves in the past year and mobility is even lower among disadvantaged groups (Benetsky, Burd, & Rapino, 2015; Syed & Mitchell, 2013). Although 'Resilient' youth were significantly more likely than other classes to remain in care at age 19, the majority of youth chose to leave care after age 18. Encouragingly, these

youth as a group were functioning well and appeared to be on a positive trajectory toward independence. Research within this subgroup of resilient older foster youth may be helpful in determining what supports are sufficient for this group during their time in foster care and what type of supports (e.g., family support, support from other systems) are helpful in promoting independence and maintaining a positive trajectory after leaving care.

5.3. Class 3: 'Multiple Problems/Non-Family Care'

The 'Multiple Problems/Non-Family Care' class is < 10% of the sample, and is notable not only for high likelihoods of problem behaviors, but also for more residential instability and a greater likelihood of living in congregate care. At age 17, youth in this group were more likely than most to have a history of mental health problems, although they had slightly more favorable attitudes toward mental health services than the 'Moderate Problems' class, perhaps due to more experiences with services because of their behavior problems. At age 19, youth in this class continued to exhibit multiple problems. Although similar to the 'Moderate Problems' class in exhibiting poor employment/education and problem behavior outcomes, they were differentiated from this class by a greater likelihood of a past year substance use disorder and more depressive symptoms at age 19, consistent with their higher likelihood of a history of mental health problems at 17. Identification of this class is consistent with findings from previous studies identifying subgroups with high behavior problems, mental health challenges, and poor education and employment outcomes (Fowler et al., 2011; Keller et al., 2007; Shpiegel & Ocasio, 2015; Yates & Grey, 2012).

This study expands on prior work by also finding that the 'Multiple Problems/Non-Family Care' class stayed in care longer than all but the 'Resilient' class. Although their outcomes are similar to those of the 'Moderate Problems' class at age 19, this class appears to receive more support from the system. Given their more positive views regarding mental health services at age 17, youth in this class may choose to stay in care longer; alternatively, given their history of criminal justice involvement, they may be mandated to remain in care or face consequences for leaving early. At age 19, youth in this class have the highest likelihood of living independently and more residential instability than youth in any other class, suggesting that when these youth do leave care, they struggle to find support elsewhere. For these youth, transition planning may need to focus on facilitating smoother transitions between child and adult systems, as they are likely to continue to need substantial support in coping with mental health problems and achieving independent living goals (e.g., stable housing). Although youth in this class appear to be engaged in the foster care system, there is a steep increase in their rate of leaving care after 18. Substantial gaps in service need and use are typically evident during young adulthood (Havlicek, Garcia, & Smith, 2013; McMillen & Raghavan, 2009; Ringeisen, Casanueva, Urato, & Stambaugh, 2009), and given the high level of need in this group, gaps in services are likely to be particularly problematic. Early transition planning is crucial and transitions into adult service systems may be more successful if they occur early, gradually, and give youth a voice in the process (Riosa, Preyde, & Porto, 2015). Supporting these youth requires greater integration of child and adult systems and developmentally appropriate services that respect young adults' increasing autonomy (Davis, 2003; Munson, Stanhope, Small, & Atterbury, 2017; Southerland, Casanueva, & Ringeisen, 2009).

5.4. Class 4: 'Pregnancy History/Multiple Placements'

The smallest class, 'Pregnancy History/Multiple Placements,' was characterized primarily by a history of pregnancy, > 4 living situations in the past year, and a low risk of problem behaviors. Although similar to the 'Hindered and Homebound' class identified by Keller et al. (2007), which had a high rate of parenthood and poor education and employment outcomes, replication in other datasets would be helpful in validating the existence of this small class. At age 19, youth in the 'Pregnancy History/Multiple Placements' class were similar to those in the 'Resilient' class in that they were functioning well across domains. Youth in this class were the least likely to become/make someone pregnant and give birth/father a child between 17 and 19, which may reflect the fact that youth in this class were more likely than others to already be parenting. However, the majority of youth in this class were not parenting a child at age 19, although this may simply be an artifact of the small size of this group and the overall low rate of parenting at 19 in this sample (15.1%). It is also possible that because of their history of pregnancy, youth in this class received more services targeting risky sexual behaviors and family planning.

Youth in the 'Pregnancy History/Multiple Placements' class left care more quickly than youth in the 'Multiple Problems/Non-Family Care' and 'Resilient' classes, with more than half leaving care before age 18. However, they had significantly more depressive symptoms at age 19 than youth in the 'Moderate Problems' and 'Resilient' classes, suggesting that they may be more vulnerable to internalizing problems during the transition to adulthood, despite achieving success in domains such as employment. In this way, this class is similar to the small group of 'Externally Resilient' youth identified by Yates and Grey (2012), who exhibited good educational and employment outcomes, but lower relational well-being, self-esteem, and more depressive symptoms. Given their low behavior problems and apparent competence in many domains, youth in this class may be overlooked by service providers or encouraged to leave care, as they appear to need few supports. However, internalizing problems may begin to interfere with their functioning later on, especially if they lose access to or choose to discontinue mental health services once they leave care. Greater attention to screening and providing services for internalizing problems is likely to benefit this group, and facilitated transitions to adult services may be needed to address these less evident difficulties. As these youth appear relatively well-functioning and leave care somewhat quickly, transition services for this group are likely to be most effective if they are initiated early on and focus on promoting independence, autonomy, and self-determination (Davis, 2003; Geenen & Powers, 2007; Riosa et al., 2015).

6. Conclusions

This study identified four distinct subgroups of older foster youth and validated these classes using concurrent data on other relevant factors. Although the specific proportion of participants within each class is likely to vary across samples, our findings were quite consistent with findings from previous studies, supporting the prevalence and relevance of the identified subgroups. We extended beyond prior work by prospectively examining outcomes for these subgroups two years later and also examining differences among subgroups of older foster youth in rates of leaving the foster care system during the

transition to adulthood. Our analyses revealed differences between subgroups in rates of leaving care, a finding with important implications for matching services to the specific needs and desires of older foster youth. Youth are likely to differ in their reasons for wanting to leave and in the services they would find most useful, necessitating different approaches to transition planning and identifying appropriate incentives for remaining in care. Improving the transition to adulthood for older foster youth requires providing these youth with a voice in their transition process, as well as individualized and context-specific services that meet their needs, rather than a “one size fits all” approach to services (Abrams, Curry, Lalayants, & Montero, 2017; Mitchell, Jones, & Renema, 2014; Rautkis et al., 2013).

Our findings must be considered with some caution, particularly with regard to the labels affixed to classes, which may not best describe the true nature of the classes. Additionally, the small sizes of some of the classes may have precluded identification of differences among the classes on concurrent risks and outcomes, and results may have been confounded by unequal group size and reduced power. Although the sample was representative of a single state, the results may not generalize to youth aging out of foster care nationwide. In addition, this study makes use of archived data that was collected in the early 2000’s. Policies regarding older foster youth have changed rapidly since the completion of this study, and these policy changes are likely to have impacted outcomes and exits from care for this population (Eastman, Putnam-Hornstein, Magruder, Mitchell, & Courtney, 2017). Despite these limitations, this study informs our understanding the functioning of distinct subgroups of older foster youth during the transition to adulthood. Recognition of the heterogeneity among older foster youth and identification of meaningful differences in outcomes, particularly with regard to the rates at which youth leave care, is essential to providing this vulnerable population with individualized services that meet their needs during this important developmental period.

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Fig. 1. Class-specific item endorsement probabilities. Class 1: 'Moderate Problems,' Class 2: 'Resilient,' Class 3: 'Multiple Problems/Non-Family Care,' Class 4: 'Pregnancy History/Multiple Placements'.

Fig. 2. Survival probabilities of leaving care by age 19. Class 1: 'Moderate Problems,' Class 2: 'Resilient,' Class 3: 'Multiple Problems/Non-Family Care,' Class 4: 'Pregnancy History/Multiple Placements'.

Table 1

Descriptive statistics for age 17 variables included in latent class analysis.

	<i>n</i> (%)
Repeated grade	84 (20.8%)
Ever employed	268 (66.3%)
Ever expelled	67 (16.6%)
Ever arrested/incarcerated	189 (46.8%)
Pregnancy history	55 (13.6%)
Ever spent night on street	65 (16.1%)
Living situation	
Kinship care	107 (26.5%)
Foster care	116 (28.7%)
Congregate/non-family care	181 (44.8%)
Number of past year living situations	
1 living situation	151 (37.4%)
2–3 living situations	166 (41.1%)
4 + living situations	87 (21.5%)

Table 2

Model fit indices for latent class analysis.

No. classes	Entropy	χ^2_{LR} (df), <i>p</i> -value	SABIC	AIC	Adj. LMR-LRT _(K, K-1) <i>p</i> -value	BLRT _(K, K-1)	<i>BF</i> _(K, K-1)
1 class	–	470.56 (563), 0.99	4245.16	4236.88	–	–	–
2 class	0.55	402.54 (554), 0.99	4189.74	4172.34	< 0.001	< 0.000	> 10
3 class	0.59	362.83 (542), > 0.99	4187.95	4161.45	0.29	< 0.000	< 0.01
4 class	0.73	337.19 (532), > 0.99	4186.61	4150.99	0.05	< 0.000	1.06
5 class	0.76	313.66 (521), > 0.99	4194.20	4149.47	0.96	0.286	< 0.01

Table 3

Class-specific item endorsement probabilities and separation.

	$\hat{\omega}_m _k$				Separation
	Class 1 (49.75%) Problems	Moderate	Class 2 (39.36%) Resilient	Class 3 (8.66%) Multiple Problems/Non-Family Care	Class 4 (2.22%) Pregnancy History/Multiple Placements
Repeated grade	0.25		0.16	0.19	0.00
Ever employed	0.68		0.57	0.90	1.00
Ever expelled	0.26		0.01	0.34	0.00
Arrested/incarcerated	0.67		0.13	0.80	0.05
Pregnancy history	0.17		0.09	0.38	1.00
Ever spent night on street	0.11		0.06	1.00	0.22
Living situation					
Kinship care	0.30		0.28	0.00	0.30
Foster care	0.17		0.43	0.28	0.65
Congregate care	0.54		0.29	0.72	0.05
Past year living situations					
1	0.21		0.64	0.32	0.00
2–3	0.52		0.36	0.06	0.00
4 +	0.27		0.00	0.62	1.00

Table 4

Logistic regression coefficients and odds ratios for associations between latent classes and covariates at age 17.

	C1 vs. C2	C1 vs. C3	C1 vs. C4	C2 vs. C3	C2 vs. C4	C3 vs. C4
	Coefficient (SE), OR	Coefficient (SE), OR	Coefficient (SE), OR	Coefficient (SE), OR	Coefficient (SE), OR	Coefficient (SE), OR
In school	–	–	–	–	2.06 (0.86) ^b , 7.85	–
Total maltreatment	–0.04 (0.01) [*] , 0.96	–	0.02 (0.01) [*] , 1.02	0.06 (0.01) [*] , 1.06	0.07 (0.01) [*] , 1.07	–
Physical abuse	1.93 (0.86) ^a , 6.89	–	–	–	–	–
Physical neglect	–2.05 (0.83) ^b , 0.13	–	–	2.66 (1.18) ^a , 14.29	–	–
Conduct disorder	1.72 (0.65) [*] , 5.58	–1.69 (0.52) [*] , 0.18	–	–3.41 (0.73) [*] , 0.03	–	–
Substance use disorder	2.61 (1.16) ^a , 13.60	–	–	–3.86 (1.68) ^a , 0.02	–	–
Depression	–	–	–	–2.28 (1.07) ^a , 10	–	–
Service attitudes	–	–0.77 (0.39) ^a , 0.46	–	–	–	–
Better off if never in care	–	–	0.67 (0.33) ^a , 1.95	–	0.70 (0.33) ^a , 2.01	0.70 (0.35) ^a , 2.01

Note. Significance is based on bonferroni correction of $p < 0.004$.

Positive values indicate that the class listed first has a higher likelihood of endorsing the item, or scoring higher on the item compared to the class listed second; negative values indicate the reverse.

Class 1: 'Moderate Problems,' Class 2: 'Resilient,' Class 3: 'Multiple Problems/Non-Family Care,' Class 4: 'Pregnancy History/Multiple Placements'.

^{*} $p < 0.004$.

^a $p < 0.05$.

^b $p < 0.01$.

Table 5

Differences among classes on probabilities of outcomes at age 19.

	Class 1 (49.7%) Moderate Problems	Class 2 (39.4%) Resilient	Class 3 (8.66%) Multiple Problems/Non-Family Care	Class 4 (2.22%) Pregnancy History/ Multiple Placements	Test of means/probability equivalence with chi-square statistic
	Probabilities (SE)				
Employed at 19	0.382 (0.07)	0.481 (0.10)	0.403 (0.14)	0.735 (0.18) *	C4 > C1
Employed or in school	0.477 (0.06)	0.754 (0.07) **	0.529 (0.11)	0.710 (0.21)	C2 > C1
Has finished HS/GED	0.519 (0.09)	0.966 (0.09) **	0.638 (0.09) *	0.850 (0.20) *	C2, C4 > C1
Not in school	0.305 (0.07) *	0.033 (0.08) ***	0.263 (0.12) *	0.060 (0.01) ***	C1 > C2, C4; C3 > C4
Arrested	0.442 (0.11)	0.114 (0.05) **	0.565 (0.14)	0.154 (0.14) *	C1, C3 > C2
Pregnant	0.427 (0.06)	0.217 (0.06) ***	0.509 (0.19)	0.000 (0.00) ***	C1 > C2, C3 > C4
Has had child	0.219 (0.05) ***	0.076 (0.06) ***	0.273 (0.10) *	0.026 (0.08) ***	C1, C2, C3 > C4
Parenting	0.167 (0.04) ***	0.111 (0.05) ***	0.145 (0.06) **	0.336 (0.16) *	C4 > C1, C2, C3
Substance use disorder	0.149 (0.04) ***	0.048 (0.06) ***	0.285 (0.13) *	0.014 (0.06)	C3 > C1 > C2, C4
Antisocial personality disorder	0.022 (0.08) ***	0.042 (0.03) ***	0.108 (0.11) **	0.229 (0.25) *	No differences
Depression	0.061 (0.03) ***	0.096 (0.04) ***	0.026 (0.04) ***	0.602 (0.29)	C4 > C1, C2, C3
Experienced trauma 17–19	0.815 (0.05) **	0.797 (0.05) **	0.821 (0.08) ***	0.872 (0.13) ***	No differences
PTSD	0.000 (0.00) ***	0.059 (0.04) ***	0.116 (0.04) **	0.000 (0.00)	C3 > C1, C4
Living situation					
With biological relative	0.706 (0.07) *	0.157 (0.07) **	0.216 (0.08) *	0.181 (0.18)	C1 > C2, C3, C4
With foster/adoptive					Could not estimate
Independently	0.296 (0.10) *	0.211 (0.05) ***	0.591 (0.11)	0.351 (0.21)	C3 > C1, C2
Transitional living program	0.091 (0.04) ***	0.254 (0.06) **	0.125 (0.09) **	0.325 (0.30)	C2 > C1
Congregate care	0.176 (0.04) ***	0.013 (0.02) ***	0.000 (0.00) ***	0.000 (0.00) ***	C1 > C2, C3, C4
	M(SE)				
Depressive symptoms	15.39 (0.35)	14.33 (0.39)	18.21 (0.79)	18.20 (1.85)	C3, C4 > C1, C2
Past year living situations	5.18 (0.33)	3.05 (0.20)	8.17 (0.64)	4.37 (0.99)	C3 > C1, C2, C4; C1 > C2

Note. Significance values denote probabilities significantly different from 0.500.

$p > 0.001$
 $***$
 $p < 0.01$
 $**$
 $p < 0.05$
 $*$

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Table 6

Differences among classes on survival probabilities at 6-month intervals.

	Class 1 (49.7%) Problems	Moderate	Class 2 (39.4%) Resilient	Class 3 (8.66%) Problems/Non-Family Care	Multiple Problems/Non-Family Care	Class 4 (2.22%) Pregnancy History/History/Multiple Placements	Comparisons based on odds ratio differences
Survival probabilities							
17 years	0.928		0.975	0.999		0.999	C3, C4 > C1, C2
17 years 6 months	0.683		0.93	0.819		0.714	C2 > C3 > C4 > C1
18 years	0.397		0.723	0.589		0.432	C2 > C3 > C4 > C1
18 years 6 months	0.118		0.441	0.223		0.432	C2 > C4 > C3 > C1
19 years	0.041		0.136	0.131		0.000	C2, C3 > C1 > C4