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Multidimensional resilience among former foster youth in postsecondary education

By

Mayra Kassandra Cazares-Minero

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University of California, Berkeley

Committee in charge:

Professor Jill Duerr Berrick, Chair
Professor Susan Stone
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Abstract

Multidimensional resilience among former foster youth in postsecondary education

by

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Doctor of Philosophy in Social Welfare

University of California, Berkeley

Professor Jill Duerr Berrick, Chair

Research indicates that the majority of youth aging out of foster care, or former foster youth, aspire to earn a college degree, yet various studies demonstrate that only between 9.9 percent and 12 percent do so. In addition, to former foster youth are also significantly less likely to be currently enrolled in higher education compared to young people in the general population. One recent study found that among a sample of former foster youth who were enrolled in higher education, they were significantly less likely to be enrolled as full-time students or to attend a 4-year institution compared to young people in the general population. Recent research also suggests that former foster youth less likely to persist in 2- or 4-year colleges compared to low-income first-generation college students. These findings suggest that many former foster youth will encounter barriers and challenges that go beyond those faced by groups deemed to be at risk of dropping out of college.

A large body of research describes risk factors associated with poor post-secondary education outcomes among youth aging out of care, including histories of child maltreatment and placement, and school instability while in foster care. At the same time, there is a growing body of research on the promotive factors associated with post-secondary educational success among former foster youth, including personal characteristics and assets, interpersonal relationships, and institutional supports designed for current and former foster youth. Pursuing a higher education is one path to break the cycle of poverty among former foster youth. Extensive research points to the positive effects of a college education in the general population and recent research among former foster youth suggests a link between education levels, employment, and yearly earnings.

The growing evidence on factors associated with positive postsecondary outcomes among former foster youth and the benefits of a college education has shifted the common narrative of vulnerability and risk among foster youth to one of strength and resilience. The study of the important construct of resilience among foster youth has grown rapidly in the last two decades, but not without conceptual and measurement challenges. Nonetheless, investigation of within-group differences of resilience among former foster youth in postsecondary education, particularly in the state of California, is warranted and may provide a more nuanced understanding of their strengths and needs in the context of higher education. Importantly, the study of resilience among former foster youth in higher education may shape the growing number of campus-based programs at California colleges and universities specifically designed

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to provide former foster youth with academic support, year-round housing opportunities, priority registration, and scholarship opportunities.

This study conducted primary data analysis with 221 young people who reported being a former foster youth and who reported attending one of the participating University of California (UC) or California State University campuses (CSU) as an undergraduate student between April 2021 and September 2021. This quantitative exploratory study examined multidimensional resilience among former foster youth enrolled at these universities utilizing systems theory and the four main principles of resilience science. A person-centered analysis was conducted to: 1) elucidate distinct profiles of former foster youth in higher education and their resilience; and 2) examine if and how demographic characteristics, early foster care experiences, and emerging adulthood experiences are associated with profile membership among young people.

This study revealed four distinct profiles of resilience among a sample of former foster youth in postsecondary education: Emerging Student profile; Thriving Student profile; Externally Integrated Student profile; and Well-Rounded Student profile. Youth in the Emerging Student profile, which comprised 41.73% of the sample, were low resourced in their postsecondary educational journey and demonstrated the least resilience compared to youth in other profiles. Youth in the Thriving Student profile, which comprised 23.3% of the sample, were highly resourced in their postsecondary educational journey and demonstrated the most resilience compared to youth in other profiles. Youth in the Externally Integrated Student profile, which comprised 19.63% of the sample, were moderately resourced in their postsecondary educational journey and demonstrated characteristically high interpersonal resilience. Youth in the Well-Rounded Student profile, which comprised 15.34% of the sample, were moderately resourced in their postsecondary educational journey, and unique to youth in other profiles, demonstrated uniform resilience across all domains of resilience.

Auxiliary variable analyses revealed that select demographic and emerging adulthood variables were associated with at least one of the four resilience profiles. Youth in the Emerging Student profile were distinct from youth in other profiles based on a number of factors. Compared to youth in other profiles, youth in the Emerging Student profile were more likely to be younger; to be a community college transfer student; to be enrolled in a CSU campus; to report having a disability; and to report having experienced homelessness in the last 6 months. Auxiliary variable analyses revealed that youth in the Thriving Student profile were particularly distinct from youth in the Emerging Student profile. Compared to youth in the Emerging Student profile, youth in the Thriving Student profile were more likely to be older; less likely to have a disability; less likely to report experiencing homelessness in the last 6 months; and they were more likely to be enrolled in a UC campus. Auxiliary variable analyses revealed that youth in the Externally Integrated Student profile were unique from their peers in two other profiles. First, compared to youth in the Well-Rounded Student profile, youth in the Externally Integrated Student profile were more likely to be younger. Second, compared to youth in the Emerging Student profile, youth in the Externally Integrated Student profile were less likely to experience homelessness in the last 6 months; and were more likely to be enrolled in a UC campus. Auxiliary variable analysis revealed that youth in the Well-Rounded Student profile were unique from their peers in all other profiles. First, compared to youth in the Emerging Student profile, youth in the Well-Rounded Student profile were more likely to be older; were less likely to experience

homelessness in the last 6 months; were less likely to be community college transfer students; and were more likely to be enrolled in a CSU campus. Second, compared to youth in the Externally Integrated Student profile, youth in the Well-Rounded Student profile were more likely to be older; and were more likely to be enrolled in a CSU campus. Third, compared to youth in the Thriving Student profile, youth in the Well-Rounded Student profile were less likely to be community college transfer students; and were more likely to be enrolled in a CSU campus.

This investigation builds on previous resilience research that demonstrates heterogeneity among adversity-exposed individuals, and particularly among former foster youth in their transition to adulthood. My investigation adds to the dearth of resilience research on single indicator outcomes and provides valuable insight into the multidimensional functioning among former foster youth participating in higher education. Additionally, profiles generated in this study demonstrated to be distinct from one another based upon select demographic characteristics and emerging adulthood experiences. Early foster care experiences, to the extent that they were measured in this study were not associated with unique student profiles. While recent state-level and federal-level actions have allowed California Community Colleges (CCCs), CSUs, and UCs to redouble their efforts to address educational disparities among former foster youth, as well as tackle the growing issue of homelessness and food scarcity in their entire student population, bridges will need to continue to be built between campus- and community-level resources and programs in efforts to mitigate the postsecondary educational disparities consistently evidenced among former foster youth. Finally, findings from this investigation may offer student support practitioners, particularly those specialized in working with foster youth, recommendations on how to further engage former foster youth in campus student support services and community resources. Altogether, this dissertation points to the undeniable resilience among foster youth in college.

Dedicated to my abuelitos/as, parents, sister, and my sweet, loving husband.

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Introduction

Research indicates that the majority of former foster youth aspire to earn a college degree (Courtney et al., 2001; Iglehart & Becerra, 2002; Jones, 2010; McMillen et al., 2003; Reilly, 2003), yet studies demonstrate that only between 9.9 percent and 12 percent earn a college degree (Villegas et al., 2014; Okpych & Courtney, 2021; Pecora et a., 2006). In addition to low college degree completion rates among former foster youth, they are also significantly less likely to be currently enrolled in higher education compared to young people in the general population (Courtney et al., 2020). Among former foster youth who are enrolled in higher education, they are significantly less likely to be enrolled as full-time students or to attend a 4-year institution compared to young people in the general population (Courtney et al., 2020). Former foster youth are also less likely to persist in 2- or 4-year colleges compared to low-income first-generation college students (Okpych & Courtney, 2021). These findings suggest that many former foster youth will encounter barriers and challenges that go beyond those faced by groups deemed to be at risk of dropping out of college.

There is a large body of research describing risk factors associated with poor post-secondary education outcomes among former foster youth, including histories of child maltreatment (Deutsch et al., 2015; Havlicek, Garcia, & Smith, 2013) and placement and school instability while in foster care (Clemens, Lalonde, & Sheesley, 2016; Courtney et al., 2014; Courtney, Terao, & Bost, 2004; Sullivan, Jones, & Mathiesen, 2010). At the same time, there is growing research on the promotive factors of post-secondary educational success among former foster youth (see review by Gillum et al., 2016), including but not limited to a strong internal locus of control, mentors, and campus-site programs designed for foster youth. Research points to the positive effects of a college education in the general population (Baum et al., 2013; U.S. Bureau of Labor Statistics, 2015) and recent research among former foster youth suggests a link between education levels, employment, and yearly earnings (Okpych & Courtney, 2014). Attending college has been found to help former foster youth expand their social networks through involvement and leadership roles in campus organizations and activities (Skobba, Meyers, & Tiller, 2018), which they may continue to benefit from after they obtain their college degree.

The growing evidence on factors associated with positive postsecondary outcomes among former foster youth and the benefits of a college education has shifted the common narrative of vulnerability and risk among foster youth to one of strength and resilience. The study of the important construct of resilience among foster youth has grown rapidly in the last two decades, but not without conceptual and measurement challenges. The resilience literature with current and former foster youth has largely emphasized behaviorally or externally biased domains of resilience (Olsson et al., 2003), including but not limited to occupational competence and educational competence. Recent resilience science pushes for an increased understanding of resilience as a multidimensional phenomenon, comprised of adversity and resilience-associated factors (Luthar et al., 2000; Ungar, 2008), and not simply the declaration of being "occupationally competent" or "educationally competent." This study offers a basis for continued theoretical conceptualization of resilience among former foster youth, specifically in the context of postsecondary education.

This study adopts a person-centered approach and employs a latent profile analysis (LPA) to identify distinct profiles of resilience among youth in postsecondary education. Both variable-centered and person-centered methodological approaches have been employed in resilience research, though most studies are variable-centered (Jobe-Shields et al., 2015; Laursen & Hoff, 2006; Masten, 2014). Variable-centered analyses are useful for identifying specific predictors of functioning within a given domain (Herbers et al., 2019). In resilience research, however, studying whole group averages can obscure the presence of latent subgroups, as evidenced by extensive research identifying distinct trajectories of resilience following adversity (Bonanno & Diminich, 2013; Masten & Narayan, 2012). Unlike variable-centered analyses, person-centered approaches consider covariance across multiple variables to identify distinct patterns or profiles of risk or functioning within larger groups (Herbers et al., 2019), permitting more holistic models by accounting for ways in which profiles of functioning across domains may characterize relatively homogeneous subgroups within the larger population (Masten, 2001; von Eye, Bergman, & Hsieh, 2015). Moreover, the employment of LPA in this study may elucidate distinct profiles of resilience among former foster youth in postsecondary education; as well as inform current efforts and programs designed to improve college enrollment, persistence, and graduation rates among former foster youth.

Current Study

This person-centered study seeks to examine multidimensional resilience among a sample of former foster youth enrolled in a University of California campus (UC) or California State University campus (CSU) as undergraduate students. Utilizing systems theory and Masten's (2018) four core principles of resilience, this study aims to:

1. Elucidate distinct profiles of former foster youth in postsecondary education who demonstrate particular patterns of resilience.

2. Examine if and which demographic characteristics, early foster care experiences, and emerging adulthood experiences are associated with profile membership.

Study Overview

This study is divided into 6 chapters. Chapter 1 reviews the existing literature, providing an overview of who foster youth aging out of care are, their participation in postsecondary education in California, and factors associated with their postsecondary educational success. Chapter 2 reviews the conceptualization and measurement of resilience in the broader field and in resilience research with foster youth. Chapter 3 describes this dissertation's framework to conceptualize and measure resilience among former foster youth in higher education.

Chapter 4 provides an overview of the methods employed in this study. It begins with describing the participating UC and CSU campuses in this study and the demographics of the sample of former foster youth participating in this study. This chapter then outlines the procedures to recruit young people in this study followed by the measures utilized to examine youths' resilience. Finally, the analytic procedures are described in detail.

Chapter 5 reports the study findings. It examines distinct profiles of former foster youth in postsecondary education who demonstrate particular patterns of resilience. It then explores if and how demographic characteristics, early foster care experiences, and emerging adulthood experiences are associated with profile membership.

Chapter 6 includes a discussion of the findings and their implications followed by the limitations of this study.

1. A review of the literature

Many youth in care are adolescents and are referred to as transition-age youth (TAY) or former foster youth. Transition-age youth are as young as 16 years and are unique to their younger counterparts who are also in foster care based on a number of factors including their reasons for entering foster care; maltreatment allegations and substantiation rates; permanency outcomes; and their outcomes in early adulthood. According to the California Child Welfare Indicators Project (CCWIP, 2021), in October 2021, a quarter of all youth in care were between age 16-21 (25.5%) whereas nearly three quarters of all youth in care were between the age 0-15 years. Among older youth in care between the age 16-21, 16 percent were between age 18-21.

Relative to their younger counterparts, California foster youth age 16-17 are less likely to have their abuse and neglect allegations substantiated and are more likely to have experienced other forms of maltreatment (Children's Data Network, 2015). In 2018, among all California foster youth ages 0-17, TAY ages 16-17 made up only 10 percent of all reports of abuse or neglect compared to nearly three quarters of youth age 3-15 years (74%) (Kids Data, 2018). In terms of substantiations, the proportions are even greater, with 70 percent of youth age 0–15 having a substantiated allegation of neglect compared to 54 percent of TAY. Research also demonstrates differences in maltreatment type between TAY and their younger peers in foster care. In 2013, forty percent of California TAY alleged victims were reported for neglect compared to almost half of youth age 0–15 (Children's Data Network, 2015). Sexual abuse accounted for 16 percent of allegations among TAY compared to 8 percent for younger children. Though not as large in magnitude, TAY are also more likely to have allegations and substantiations of physical abuse and caretaker absence / incapacity than their counterparts age 0-15. According to Child Trends (2017), in 2015, foster care entry reasons for transition-age youth (TAY) in foster care aged 16 to 17 years in CA included neglect (46%), child behavior problem (30%), caretaker inability to cope (32%), parental substance abuse (5%), physical abuse (10%), sexual abuse (5%), inadequate housing (3%), and child substance abuse (1%)[1].

Transition-age youth also have slightly less stable placements compared to their younger peers in foster care and are more likely to have been in care for longer periods of time (Children's Data Network, 2015). In 2013, California TAY age 16-17 are less likely than their younger peers in foster care to be in family-like settings (kin, foster home, or foster family agencies) and are more likely to be placed in congregate care (group/shelter), with guardians, or to have runaway status. Relatedly, TAY are less likely to exit to permanency (i.e., reunification, adoption, kin-gap, and guardianship) compared to their younger peers in foster care (Children's Data Network, 2015). Specifically, in 2013, 66 percent of youth age 0–15 exited to reunification and almost a quarter exited to adoption compared to 61 percent and 3 percent of TAY age 16–17, respectively. Establishing permanency for children who enter foster care when they are older than age 12 is a long-standing issue. Older children in foster care may face a number of age-specific barriers to permanency (Child Welfare Information Gateway, 2013). For example, there may be a shortage

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[1] Totals add up to more than 100% because youth can have more than one entry reason. The following entry reasons are not presented: abandonment, parental incarceration, child disability, parental death, and relinquishment of parental rights. Age at which foster care entry occurred was not reported.

of families who are willing and able to provide permanent homes for older youth. This could be due to a number of factors, but one likely contributor is the higher rate of risky behavior among older youth in foster care. Compared to younger foster youth, older youth transitioning from foster care have relatively higher rates of substance use referrals, incarceration, and giving birth to or fathering a child (see National Youth in Transition Database data briefs).

In light of their unique circumstances, transition-age youth may require more resources than their younger peers in foster care, but there may be a lack of families willing and able to provide them with the support they need. Additionally, older youth might show some resistance to permanency planning. If permanency planning involves the termination of their birth parents' rights, older youth might be hesitant to form ties with new families, as many still have emotional ties to their birth families. These youth also may be unaware of the long-term consequences of not having a family to turn to during their young adult years, which in turn, may make the transition to adulthood especially challenging. While a large number of states demonstrated a reduction in the percentage of children emancipating from foster care who entered foster care at age 12 or younger (84 percent of states) (Child Welfare Outcomes, 2016), there is significant opportunity to improve the permanency outcomes among youth who enter foster care after the age of 12. The TAY population in California foster care will likely continue to grow as more opt to become non-minor dependents in order to take advantage of the housing and tuition assistance offered by AB12, though the proportion of TAY in care at age 16-17 may remain stable or decline (Children's Data Network, 2015). Youth who remain in care at age 17 represent a special population of vulnerable youth for whom all efforts at permanency have likely failed. Older youth in care are likely to have more complex mental health and educational service needs than young people who enter the foster care system prior to age 12; their younger counterparts are more likely to be receptive to services, to utilize services for longer periods of time, and may be more willing to integrate themselves in a healthy family unit.

It's important to underscore that during the transition from adolescence to adulthood, increasing maturity comes with expectations that one will take responsibility for oneself, make independent decisions, and become self-sufficient (Arnett, 2000). The period of emerging adulthood is marked by various opportunities and challenges as well as a time to turn to parents and other important adult figures for financial and socioemotional support, which is not always available to youth with histories in foster care. Individual developmental pathways are shaped by decisions in the areas of education, employment, living arrangements, marriage, and parenthood (Shanahan, 2000; Cohen et al., 2003). Young people aging out of foster care are a population of special interest from a developmental perspective because they have to negotiate the challenges associated with adulthood suddenly and often without guarantees of continuing economic and socioemotional support. For youth in the general population, connections to parent figures and being able to rely upon them in times of adversity promotes positive outcomes in the transition to adulthood (Steinberg, 1990; Allen & Land, 1999). Additionally, young people who leave their parents during the transition to adulthood often have the luxury to return at various time to live in the family home, using it as a safety net or a base for pursuing new goals (White, 1994). For young people with histories in foster care, their likely family instability, separation from parents, residential moves, and family conflict make it uniquely challenging for them to receive the same concrete assistance and socioemotional support, often leading to difficulties in numerous developmental domains (Musick & Bumpass, 1999; Keller et al., 2002; Adam, 2004).

Transition-age youths' experiences with multiple adversities including childhood maltreatment and separation from their parents or primary caregivers (Child Trends, 2011; Hines, Merdinger, & Wyatt, 2005) makes them susceptible to negative outcomes in adulthood. Extensive research supports the long-term, detrimental effects of childhood maltreatment. Child abuse and neglect are risk factors for emotional, behavioral, and academic problems that are predictive of school dropout and unemployment (Jaffee & Maikovich-Fong, 2013; Kokko, Pulkkinen, & Puustinen, 2000). Alternatively, the association between childhood maltreatment and adult education may also be attributed to other co-occurring robust risk factors for poor socio-economic outcomes, namely family- and neighborhood-level poverty (Boden, Horwood, & Fergusson, 2007; Covey, Menard, & Franzese, 2013; Mullen et al., 1996). Other research has shown that experiencing any maltreatment during childhood increases the likelihood of behaviors that lead to juvenile justice system involvement (Jonson-Reid & Barth, 2000). In particular, maltreatment in adolescence, regardless of type, appears to increase the chances of arrest, general and violent offending, and illicit drug use in young adulthood, above and beyond sociodemographic characteristics and prior levels of problem behavior (Smith & Thornberry, 1995; Wall & Kohl, 2007).

Additionally, the more prevalent reasons for entering foster care among TAY, including behavioral problems, caretaker inability to cope, and parental substance abuse, may shape their later life outcomes. The needs of TAY with emotional and behavioral challenges are complex and multidimensional, resulting in high rates of disengagement and social isolation. These difficulties include academic failure; alienation from family; juvenile justice involvement; substance abuse; early parenting; and reliance on public assistance (Bullis & Cheney, 1999; Cullinan & Sabornie, 2004; Lane et al., 2006; Nelson et al., 2004; Sabornie et al., 2005; Wagner et al., 2005). Youth with emotional and behavioral challenges comprise a diverse population that is defined less by diagnoses or disability than by impaired levels of functioning at home, in school, and in the community (Friedman et al., 1996). Youth with emotional and behavioral challenges tend to exhibit a variety of behaviors that cause problems for them in school and other settings, including verbal or physical aggression, depression, irritability, impulsivity, inability to concentrate, low self-esteem, and anxiety (Malloy, 2013). Moreover, a significant majority of youth with emotional and behavioral challenges have experienced at least one traumatic event, and many have experienced multiple traumatic events or complex trauma (National Child Traumatic Stress Network, 2003). There is little research on the impact of biological caretaker characteristics on transition-age youths' outcomes but there is strong evidence demonstrating a correlation between biological parents' inability to care for their children with mental health problem and substance and alcohol abuse (Chernoff et al., 1994). In 2004, the National Center on Addiction and Substance Abuse of Columbia University (2004) stated that 7 out of 10 abused or neglected children had substance addicted parents. The high exposure to maltreatment and neglect, together with other risk factors, puts foster children at an elevated risk for developmental and mental disorders, which may persist after their out-of-home placement.

In addition to childhood maltreatment and caretaker-related reasons for entering foster care, foster care experiences including placement instability and school instability are demonstrated to be detrimental to foster youths' later life outcomes. Time in foster care may result in multiple moves and in adjustments to a variety of family dynamics (Haugaard & Hazan, 2002; O'Neill et al., 2012). This instability can be linked to developmental difficulties; possibly exacerbating already existing behavioral, academic, and interpersonal problems. In addition, these experiences

can have far-reaching effects into adulthood (Havalchak et al., 2009; Pecora et al., 2006a). However, it's important to note the bidirectional relationship between placement instability and school instability and child behavioral problems. While placement instability does increase the risk for children's behavioral, social, and academic problems, negative self-esteem, psychopathology, and increased distrust in guardians and other adults (Becker, Jordan, & Larsen, 2007; Bilaver et al., 1999; Humphreys et al., 2015; Oosterman, Schuengel, Slot, Bullens, & Doreleijers, 2007; Rock et al., 2015; Strijker et al., 2008), the accumulation of these problems negatively impacts the ability for youth to build new secure attachments to new caretakers or foster parents, increasing their behavior problems and the risk for instability in the next placement (Newton, Litrownik, & Landsverk, 2000).

Research on the poor outcomes among TAY and the factors associated with their poor outcomes have informed recent economic and welfare decision-making designed to provide these young people essential supports and financial assistance in their transition to adulthood. Research demonstrates that many TAY will face important challenges as they transition to adulthood, including securing stable housing and employment, and attaining a post-secondary degree. Studies focusing on TAY in California and in three Midwestern states highlight their increased risk for early parenting, homelessness, unemployment, low postsecondary education enrollment and degree attainment, emotional and behavioral issues, and criminal justice system involvement (see CalYOUTH and Midwest Study reports). However, many youth who remain in care after age 18, as made possible by the federal Fostering Connections to Success and Increasing Adoptions Act of 2008, will benefit from a continued safety net of support and will thrive in the transition to adulthood. One study demonstrated that each additional year in extended foster care: increased the probability that youth completed a high school credential; increased their expected probability of enrolling in college; increased the number of quarters that youth were employed between their 18th and 21st birthdays; decreased the odds of experiencing an additional economic hardship between the ages of 17 and 21; decrease the odds of being homeless or couch-surfing between the ages of 17 and 21; decreased the odds that youth became pregnant (females) or impregnated a female (males) between the ages of 17 and 21; and decreased the odds that youth had been arrested between the ages of 17 and 21. However, it's important to note that youth must meet one of 5 requirements to be eligible for extended foster care: 1) working toward completion of high school or equivalent program (e.g. GED); or 2) enrolled in college, community college, or a vocational program; or 3) employed at least 80 hours a month; or 4) participating in a program designed to assist in gaining employment; or 5) unable to do one of the above requirements because of a medical condition. These requirements exclude a vulnerable subpopulation of TAY from accessing continued economic and socioemotional support, compounding the challenges associated with adulthood.

Various person-centered studies highlight the heterogeneity of the functioning of TAY based on various indicators associated with the emerging adulthood life stage (e.g., Courtney et al., 2010; Keller, Cusick, & Courtney, 2007), and point to groups of youth who are faring well in the transition to adulthood as well as groups who are struggling in the transition to adulthood. Courtney et al. (2010) identified distinct subgroups of young adults in the Midwest Study making the transition to adulthood based on their experiences across several key transition domains, including living arrangement, educational attainment, current employment, parenting, and conviction of a crime since leaving care. The largest subgroup of former foster youth (36.3%

of the sample) was referred to as *accelerated adults* and this subgroup was the most likely group to live on their own in a fairly stable situation; almost all had a high school degree or more; over half attended some college; they were the most likely group to have a college degree; and they were the most likely group to be currently employed. A second subgroup of former foster youth (21.1% of the sample) was referred to as *emerging adults* and the vast majority had finished high school; they had the second highest rates of having at least some college and current employment. The size of these groups and their level of success in negotiating the transition to adulthood should eliminate any notion that former foster youth are inevitably going to fail as adults. Nonetheless, some still suffer economically suggesting that they need access to concrete assistance from time to time. In addition, because many young people in these subgroups finished high school and are attending college, many may benefit from support in continuing their education, including comprehensive on-campus support and child care (given how many of them are parenting) (Courtney et al., 2010).

Research on the success of some former foster youth in their transition to adulthood highlights a small subpopulation who are working hard to improve their social standing and to expand their life opportunities. This subpopulation includes current and former foster youth participating in postsecondary education. College-attending former foster youth have gained considerable recognition from clinicians and researchers as "resilient" or "persistent" young adults (Hines, Merdinger, & Wyatt, 2005; Kirk & Day, 2011; Merdinger et al., 2015; Okpych & Courtney, 2017), and, at the same time, very little is known about the within-group diversity of their functioning. Now is an opportune time to examine how California former foster youth participating in postsecondary education are faring for various reasons. First, in October 2021, a quarter of all California youth in care were between the ages of 16 and 21 years (25.5%) (CCWIP, 2021), meaning that significant resources and financial assistance will have to be allocated to these young people in their pursuit of a higher education. Second, AB 12 created California's extended foster care program which allows eligible youth in the child welfare and probation systems to remain in foster care until age 21. AB 12 and other grant programs such as federal Pell Grants, state Cal Grants, Chafee Grants, and the Community College Board of Governor's Fee Waiver Program allow foster youth to attend college or university or receive career training by minimizing cost and loan debt. Despite financial assistance available to California foster youth in their pursuit of a postsecondary education, according to one longitudinal study of California former foster youth, their college enrollment rates, persistence rates, and graduation rates are significantly lower than those of their peers in the general population (see Courtney et al.'s CalYOUTH study). Other research shows that foster youth also lag behind more comparable groups such as low-income first generation college students (Okpych & Courtney, 2021). Third, college-based programs and other institutional resources are widely available to former foster youth in California and are becoming more prevalent to foster youth across the U.S. Just recently, California Governor Newsom released his budget proposal to expand campus support programs for former foster youth and to establish a refundable $1000 state tax credit for former foster youth ages 18 through 25 who were in foster care at age 13 or older. If his budget proposal passes, it could make significant improvements to the current college experiences and outcomes among former foster youth in California. Additionally, two recent federal bills seeking to strengthen higher education access for homeless youth and foster youth were introduced. The Higher Education Access and Success for Homeless and Foster Youth Act (HEASHFY) would improve access to on-campus housing and designate liaisons at

each institution of higher education to assist homeless and foster youth. The Fostering Success in Higher Education Act (FSHE) would invest $150 million a year to establish or expand statewide initiatives to assist foster and homeless youth in enrolling in and graduating from institutions of higher education. Current state and federal momentum in responding to the postsecondary needs, in tandem with housing needs, of former foster youth animates further investigation of their within-group diversity.

Current and former foster youth and post-secondary education in California

The higher education ecosystem in California is complex and includes 116 California Community Colleges (CCs), 23 California State University campuses (CSUs), 10 University of California campuses (UCs), and 85 independent California Colleges and Universities (AICCU). Almost three million students enroll in higher education in California each year in pursuit of a degree, yet some students will face extraordinary barriers to successful entry, transitions, persistence, and attainment (California Governor's Council for Post-Secondary Education, 2021), specifically current and former foster youth. See Table 1 for demographic characteristics of students attending UC, CSU, and CCC schools.

The UC system is a group of highly prestigious public research universities in California and offers 10 campuses, nine of which offer both undergraduate and graduate education.[2] The UC schools are large, typically with 20,000 or more undergrads. However, the individual campuses in the UC system vary significantly in enrollment. For instance, UCLA has the biggest undergrad enrollment of the UC schools at 31,600, while UC Merced has the smallest enrollment at around 8,000. UC schools are highly regarded and top-ranked, and are extremely competitive to get into. Nine of the ten campuses, with the exception of UC San Francisco, offer a specialized campus-support program to current and former foster youth, sometimes called the Guardian or Hope Scholars. These programs offer guidance and counseling, academic advising, housing, financial aid, and other support services to current and former foster youth. According to the University of California Office of the President (UCOP, 2020), since 2012, the number of undergraduates who are current or former foster youth enrolled at the University of California has steadily increased by almost 25 percent (22%) between Fall 2012 and Fall 2019. This may be due to a combination of the increasing number of transition-age youth in California, as well as efforts to reduce barriers to college attendance for former foster youth. UC foster youth undergraduates are more likely to be Hispanic/Latino(a) (38%) and Black/African American (16%) compared to non-foster youth undergraduates (22% and 4% respectively). The top three UC campuses with the largest percent share of foster youth undergraduates in Fall 2020 were Los Angeles, Davis, and Riverside.

The CSU system is the largest public four-year university system in the U.S. Even though the CSU schools are not nearly as competitive as the UC schools, they're a popular school choice given their quality academics at an affordable price for California residents; and their high percentage of non-traditional and commuter students (PrepScholar, 2021). Regarding undergraduate enrollment specifically, CSU is by far the larger of the two systems, both in terms of schools and student enrollment. Like the UC system, the individual campuses in the CSU system vary significantly in enrollment. CSU Fullerton has the largest undergrad enrollment of

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[2] UC San Francisco offers graduate programs only.

the CSU schools at 41,000, while Cal Maritime has the smallest enrollment at just over 900 undergrads. Twenty-one of the 23 CSU campuses offer a specialized campus-support program to current and former foster youth; Cal Maritime and Cal Poly San Luis Obispo do not offer a specialized campus-support program to current and former foster youth but they do have coordinators to provide more generalized support to these students (personal correspondence with coordinators). Data on the demographic characteristics of undergraduates who are current or former foster youth enrolled at the California State University is currently unavailable (personal communication, Assistant Director of California Youth Connections). However, according to the California State University (2021), over 422,000 students enrolled as undergraduates in the Fall 2021 semester, and is nearly double that of UC's Fall 2019 undergraduate student enrollment. The percentage of CSU undergraduate Latino students was over double that of the UC system (47% vs. 22%) and a few percentage points higher than that of the CCC system (47% vs. 45%). The percentage of CSU undergraduate Black students was comparable to that of the UC system which is unexpected given the CSU's reputation for supporting ethnic minority, first-generation college students. However, one recent study found that Black foster youth are overrepresented in out-of-state 4-year colleges (39%) (Okpych, Courtney, & Park, 2022). The latter statistic may be explained, in part, by Black youth choosing to attend Historically Black Colleges and Universities (HBCUs) that were out of the state over a CSU or UC campus.

As the largest system of higher education in the nation, the California Community Colleges (CCCs) are uniquely positioned to help residents of all backgrounds improve their social and economic mobility. CCCs transfer nearly 80,000 students to UC and CSU campuses each year. Although information on the number of current and former foster youth who transfer from a CCC to a UC or CSU is not available, the CCC system is an attractive and affordable starting point in the educational trajectories of current and former foster youth. According to California College Pathways (2015), there were approximately 23,500 foster youth students identified in the California Community College system in the 2015-2016 school year compared to more than 1.8 million students as a whole in the 2016-2017 school year[3] (California Community Colleges, 2018). The Foster Youth Success Initiative (FYSI) was introduced in 2007 by the California Community College Chancellor's Office by establishing FYSI liaisons in each of the 116 California Community Colleges. FYSI liaisons provide support to current or prospective foster youth students. NextUp/CAFYES, which is available on 45 CCCs, provides eligible community college students with resources including books and supplies, transportation, tutoring, food and emergency housing. The Youth Empowerment Strategies for Success (YESS), which is available on 18 CCCs to students age 16 to 21, is a comprehensive program that focuses on life skills training and academic performance with the objective of achieving self-sufficiency, college degree or certificate completion, and employment.

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[3] California Community Colleges (2018) did not disaggregate the number of former foster youth attending California community colleges from the entire community college student population.

Table 1. Demographic characteristics of California foster youth enrolled in undergraduate studies or community college

		Number of youth enrolled [4]	Gender (%)		Racial/Ethnic group affiliation (%)				
			Male	Female	White	Black	Latino	Asian	Other
UC	Foster youth (Fall 2019)	1800	38%	62%	18%	16%	38%	20%	8%
	General population (Fall 2020)	226,449	46%	53%	23%	4%	22%	31%	-
CSU	Foster youth (unavailable)	-	-	-	-	-	-	-	-
	General population (Fall 2021)	422,391	43%	57%	21%	4%	47%	16%	4%
CCC	Foster youth (2015-2016)	23,500	45%	54%	22%	17.8%	45.2%	4.8%	10.2%
	General population (2016-2017)	1.8 million	45.2%	53.6%	25.88%	5.9%	44.54%	14.66%	-

Post-secondary educational outcomes among current and former foster youth

The number of former foster youth enrolled in the higher education ecosystem in California is commendable but many will face formidable challenges in their pursuit of a degree that are unique to those of individuals in the general population. Research demonstrates stark differences between the post-secondary educational outcomes (i.e., enrollment and degree attainment) among former foster youth and non-foster youth. One of the most recent and comprehensive studies of foster youth making the transition from foster care to adulthood in California, known as the CalYOUTH study, followed a sample of youth from ages 17 to 23. These youth's outcomes were compared to non-foster youth using data from the Add Health study (Courtney et al., 2014; Courtney, Okpych et al., 2016; Courtney, et al., 2018; Courtney et al., 2020). Significant differences were present between CalYOUTH participants and Add Health participants in several areas at age 21. Most relevant to this study, the two groups were significantly different in their likelihood of being currently enrolled in higher education at age 21 (42.7% for Add Health vs. 28.9% for CalYOUTH). Among those who were currently enrolled, Add Health participants were more likely than CalYOUTH participants to be enrolled as full-time students (80.8% vs. 52.5%), while CalYOUTH participants were significantly more likely than Add Health participants to be enrolled as part-time students (47.5% vs. 19.2%). In terms of the type of schools youth were enrolled in, among those who were currently enrolled, CalYOUTH respondents were more likely than Add Health respondents to be in 2-year/vocational colleges (69.0% vs. 25.8%), while Add Health respondents were significantly

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[4] Number of youth enrolled includes new and continuing students.

more likely than CalYOUTH respondents to be in 4-year colleges (72.9% vs. 20.9%). There were no notable differences by gender.

At the age of 23, significant differences persisted between CalYOUTH participants and Add Health participants concerning educational outcomes, particularly degree attainment (See Figure 2). About one-third of CalYOUTH participants reported completing at least one year of college (32%), including 3% who had earned a 2-year degree and 3% who had finished a 4-year degree or higher. In comparison, about three-fifths of Add Health participants (61%) had completed at least one year of college, including 9% who had earned a 2-year degree and 24% who had finished a 4-year degree or higher (Courtney et al., 20202).

Figure 1. College outcomes among CalYOUTH and Add Health participants at age 21
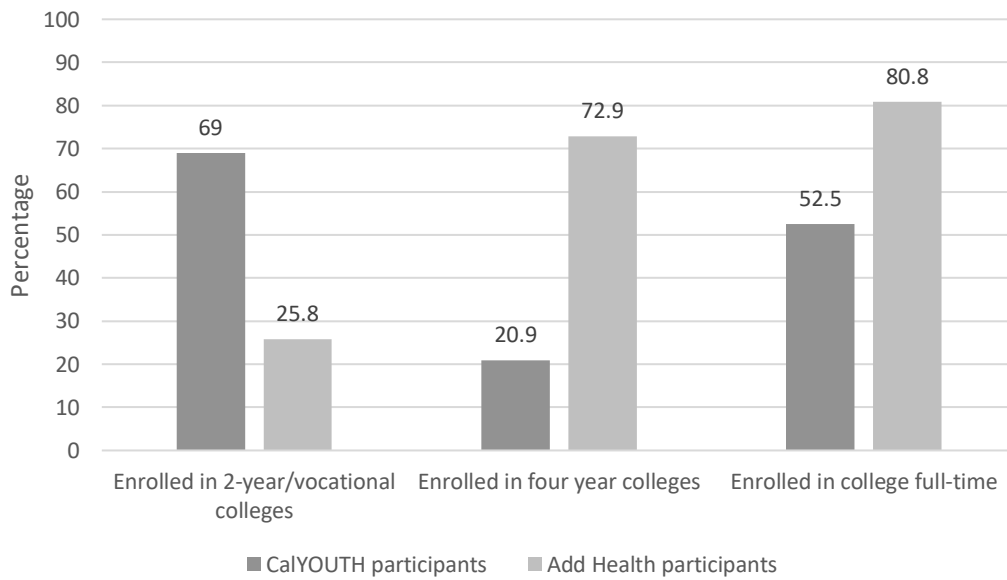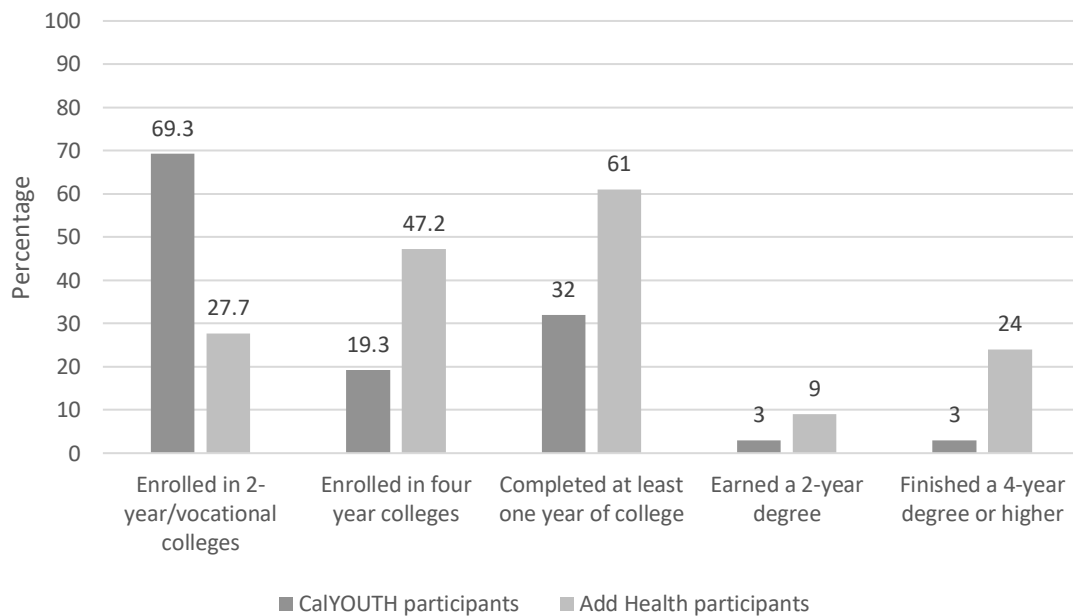
Figure 2. College outcomes among CalYOUTH and Add Health participants at age 23

Other studies corroborate the low rates of post-secondary educational attainment among transition-age youth compared to their non-foster youth peers (e.g., California College Pathways, 2015; Courtney et al., 2007; Villegas et al., 2014). One study reported low college degree attainment among former foster youth with 9.9 percent of their sample of former foster youth having graduated from college (Villegas et al., 2014). However, Villegas and colleagues (2014) caution the reader to recognize that 24% of their study sample were between 20 and 25 years of age at the time of data collection. Hence, 9.9% of former foster youth underestimates the college graduation rate the study participants will eventually obtain.

Despite the CalYOUTH Study's important elucidation of the significant educational disparities between CalYOUTH participants and their non-foster youth peers, it also presents a severe limitation in its lack of a fair comparison group. Transition-age youth are distinct from their peers in the general population given their histories of foster care, childhood maltreatment, family separation, and other significant factors associated with socioeconomic and racial disparities. Cook (1994) interviewed youth between 18 to 24 years of age, 2.5 to 4 years after discharge from care and described youths' post-discharge outcomes. With respect to education, early parenthood, and the use of public assistance, discharged foster youth in this study more closely resembled 18-24-year-olds living below the poverty level than they did compared to 18-24-year-olds in the general population (CPS, 1990). However, this study did not employ propensity score matching or control for pre-placement characteristics to compare foster youth and low-income young people. Another study used existing longitudinal data from 1980 through 1986 to investigate the high school and post high school experiences of a group of foster care youth (Blome, 1997). They were matched with youth living with at least one parent on age, gender, and race; controls were set for scores on standardized verbal and math inventories. Foster

youth in this study had poorer educational experiences compared to the matched group. Foster youth were significantly more likely to drop out of high school and were significantly less likely to have completed a GED; to receive less financial assistance for education from their parents or guardians; and to be in a college preparatory high school track. Foster youth reported more discipline problems in school and experienced more educational disruption due to changing schools.

One study utilized propensity score matching to compare foster youth to youth who share many of their preplacement characteristics but who have not been in care (Berzin, 2008). Bivariate analyses showed that former foster youth were statistically significantly different (p < .05) from non-former foster youth on many variables. Foster youth were more likely to be Black, to have single parents, to live in a family with below-poverty earnings, to have experienced "hard times," to witness shootings, and to experience robberies. Foster youths' birth parents were reported to have lower educational attainment than the parents of non-foster youth. Foster youth reported living in riskier homes and physical environments. However, bivariate analyses that examine group differences on the measured outcomes such as college attendance, public assistance, and homelessness between youth with and without foster care experience demonstrated few group differences for all of the matched samples. This finding differs from the results of previous research, which suggests that many educational and employment outcomes are worse for youth with foster care experience than for other youth (Cook, 1994; Blome, 1997). These findings may suggest that negative outcomes are not predicted by foster care experience but by a set of individual, familial, and community characteristics. Although foster and matched youth fare similarly in the transition to adulthood, those in both groups struggle more than youth in the general population. One cautionary note is that Berzin's (2008) study is dated and included samples of foster youth who were neither touched by later federal policies (i.e., the John H. Chafee Foster Care Independence Act of 1999 and the 2008 Fostering Transitions to Success and Increasing Adoptions Act (Fostering Connections)) that provided additional federal guidance and expanded funding to states that extend foster care past age 18. Foster youth today who utilize services and supports associated with extended foster care may actually fare better than their peers with similar preplacement characteristics, but future research is needed to support that.

A more recent study examined a wide range of precollege entry, post college entry, and college-level factors and their association with college degree completion at age 29 or 30 years among a representative sample of foster youth from three Midwestern states compared to a meaningful comparison group of low-income first generation college students (Okpych & Courtney, 2021). The sample for the latter group came from the Beginning Postsecondary Survey Longitudinal Study (BPS: 04/09), a large, nationally representative study of nearly 16,700 college students who enrolled in college for the first time in the 2003 to 2004 academic year. The BPS sample was restricted to just students who were the first in their families to attend college and who were classified as low income (i.e., received a federal Pell grant or had family income at or below the federal poverty level). The BPS sample provides a meaningful comparison to the Midwest Study youth for two reasons. First, most Midwest Study participants first enrolled in college around the same time BPS students started college, making them a historically similar cohort. Second, since many foster youth come from socioeconomically disadvantaged backgrounds and rates of familial college attendance are low (Barth, Wildfire, & Green, 2010), low-income first-generation students share important meaningful characteristics with foster youth. Although the

types of colleges that these two groups first entered were similar (i.e., 2-year colleges), there were pronounced differences in college outcomes. While nearly three-quarters of low-income first-generation college students made it through their first year in college, less than half of foster youth persisted. Differences in degree completion were even larger. About 28% of low-income first-generation students had finished a college degree (10.3% earned an associate's degree and 17.4% earned a bachelor's degree) compared with under 12% of foster youth (4.6% earned an associate's degree and 7.0% earned a bachelor's degree). Logistic regression results found that life circumstances after youth entered college (i.e., financial hardships, needing to work, and parental responsibilities) and college-level factors (i.e., attending a 4-year institution compared to attending a 2-year college) were the main predictors of college degree completion among foster youth. Findings from this study suggest that many foster youth will encounter barriers that go beyond those faced by groups deemed to be at risk of dropping out of college. In addition to understanding risk factors, future research should investigate factors that promote college success for foster youth.

The benefits associated with a higher education for former foster youth

Research demonstrates the positive effects of educational attainment on employment outcomes for the general U.S. population. A college education in American society is generally linked to higher levels of income, healthier living, increased citizen engagement, and more job opportunities (Baum et al., 2013; U.S. Bureau of Labor Statistics, 2015). In studies that control for factors that may be related to level of education and employment outcomes, the advantages that accompany postsecondary education have been extensively verified (Hout, 2012). Hout (2012) finds that people who pursue and acquire more education make more money, live healthier lives, divorce less often, and contribute more to the functioning and civility of their communities than less educated people. Although research has examined the link between education and outcomes for young adults in the general population, there is a very small body of research examining the relationship between an education and employment and earnings for transition-age youth.

Three recent studies using data from the Midwest Study analyzed predictors of employment following foster care. Naccarato, Brophy, and Courtney (2010) found that at age 21, Midwest Study participants who held a GED, high school diploma, completed some college, or earned an associate's degree were expected to earn significantly more than respondents with some high school but no degree. Hook and Courtney (2011) used multilevel modeling to analyze four waves of data from the Midwest Study to predict earnings and employment outcomes at age 23/24. They found that holding a high school credential (diploma, GED, or certificate) or higher predicted a greater likelihood of working 20 or more hours per week than respondents with less than a high school degree. Okpych and Courtney (2014) examined the relationship between employment and education levels among Midwest study participants. They found that employment rates and yearly earnings vary markedly by level of education. Each step up the ladder of educational attainment confers additional benefits, but not all steps are equally spaced apart. The most pronounced benefits are associated with degree attainment. The gaps between some college and a two- and four-year degree are especially pronounced; each is associated with a 15-plus percentage point jump in rate of employment and a several thousand dollar difference in annual earnings. Importantly, although they found overall education to be correlated with

higher salaries and employment, a gap remained between those with foster care experience and the general population, even when they had the same level of education. Potential reasons for these large gaps in employment outcomes between former foster youth and the general population might include higher rates of mental health issues, past residential and educational instability, grade repetition, history of juvenile justice involvement, and early parenthood.

Although many young people who experienced foster care have aspirations of earning a college degree (Courtney et al., 2001; Iglehart & Becerra, 2002; Jones, 2010; McMillen et al., 2003; Reilly, 2003), only a very small percentage of these young people actualize their dreams. Compared to their peers in the general population, foster youth transitioning to adulthood have lower rates of secondary and postsecondary educational attainment (see, for example, California College Pathways, 2015; Day et al., 2011; Frerer et al., 2013; Unrau et al., 2012). In addition, former foster youth may experience barriers that go beyond those faced by similar groups of young people designated as being at risk of dropping out of college (Day et al., 2011; Frerer et al., 2013; Okpych & Courtney, 2021). Considering that adults who spent time in foster care are disproportionately likely to experience difficult life events such as unemployment or underemployment, economic insecurity, substance abuse, emotional disorders, homelessness, or incarceration in their transition to adulthood (Barth, 1990; Courtney et al., 2011; Pecora et al., 2003; Pecora et al., 2005; Reilly, 2003), a higher level of education can be protective and very advantageous in the long-term.

The extensive research on the benefits of a college degree in the employment and earnings outcomes for the general population, and especially for young people with histories in foster care, has contributed to a growing conversation about the factors associated with academic success among former foster youth. Research has touched on topics including readiness, access, and preparation prior to college; postsecondary programs and support for foster care alumni (see review by Geiger & Beltran, 2017). Other research explores the factors that shape college outcomes for foster youth (Gillum et al., 2016; Okpych & Courtney, 2018; Okpych & Courtney, 2021; Pecora, 2012), including factors that hinder and factors that promote academic success. Understanding promotive factors and processes associated with college success among foster youth can help inform existing interventions, particularly college-based programs, aimed at advancing young people in their education.

Factors associated with college success among former foster youth

Factors associated with positive academic outcomes, specifically college enrollment, college persistence, and college degree attainment, among former foster youth can be understood under three domains: person-level factors, interpersonal-level factors, and institutional -level factors. The literature suggests that foster care histories, childhood maltreatment, and family ruptures negatively impact college outcomes among former foster youth. However, a recent study did not find any significant associations between their sample of foster youths' academic and foster care histories and the odds of degree completion (Okpych & Courtney, 2021).

Factors associated with academic challenges among former foster youth

The barriers to pursue a post-secondary education for former foster youth are alarming and widely discussed in the literature. There is a strong body of evidence demonstrating the long-lasting, negative effects of childhood trauma, family separation, and placement and school instability while in foster care. For instance, there is an enduring negative impact of trauma and child maltreatment, parental substance abuse, and parental mental health issues, many of which are experienced among transition-age youth. Research demonstrates that past maltreatment places foster youth at increased risk of experiencing mental health and substance use problems (Deutsch et al., 2015; Havlicek, Garcia, & Smith, 2013), and multiple placement changes and school transfers while in care can disrupt learning and cause academic setbacks (Clemens, Lalonde, & Sheesley, 2016; Courtney et al., 2014; Courtney, Terao, & Bost, 2004; Sullivan, Jones, & Mathiesen, 2010). Emotional and behavioral challenges are common among transition-age youth and may result in academic challenges and risk-taking behaviors (e.g., Bullis & Cheney, 1999; Cullinan & Sabornie, 2004; Lane et al., 2006; Nelson et al., 2004; Sabornie et al., 2005; Wagner et al., 2005). These emotional and behavioral challenges are often associated with family dysfunction (e.g., parental substance abuse and parental mental health issues), and may manifest itself as verbal or physical aggression, depression, low self-esteem, and anxiety (Malloy, 2013).

Maltreatment, family dysfunction, and ruptured relationships can also negatively impact these youth in less visible ways. For instance, repeated and profound experiences of loss and trauma result in some foster youth adopting a self-protective disposition to relationships (Kools, 1999; Morton, 2018; Samuels & Pryce, 2008), which may severely compromise their ability to develop strong interpersonal relationships and supports while navigating their college education. Okpych and Courtney (2018) investigated avoidant attachment, which is characterized by emotional guardedness and reluctance to rely on others for support, among foster youths in three Midwestern states. They found that higher avoidant attachment decreased odds of both college persistence and degree attainment after controlling for a wide range of potential confounders. Addressing the psychosocial consequences of past maltreatment and relational instability may be an important component of interventions designed to increase college success for foster youth.

Some evidence points to low levels of self-esteem among maltreated children, which may stem from the internalization of abusive or neglectful experiences (Benbenishty & Schiff, 2009; Taussig, 2002). Family dynamics before and after entering foster care, the degree of connectedness maintained with family members, and the experience of spending time in care are thought to have a lasting impact on identity development and, ultimately, identity acquisition (Herrick & Piccus, 2005; Moss, 2009; Rustin, 2006). One of the earliest studies on identity involving teens residing in foster care revealed themes of a "devalued self" and perceived diminished social status from being a foster child (Kools, 1997). A recent study reported that foster care alumnus' unhealthy self-perceptions of themselves due to being a part of the foster care system could prevent them from successfully participating in post-secondary education (Watt et al., 2013). Kinarsky's (2017) study of surveyed former foster youth participating in a campus support program at a selective, public university in California found that participants were hesitant to disclose their foster youth identity to others.

Various other studies demonstrate that some former foster youth face challenges in both exercising personal agency and acquiring an adult identity, both important qualities for a successful transition to higher education. For instance, interviews with young people who aged out of care in the UK revealed feelings of losing control, becoming disillusioned, and developing distrust in people as a result of frequent and unannounced moves in foster care (Gaskell, 2010). Youth described instances when they tried to influence the nature of the care they received by sharing their thoughts and desires with social workers, only to be ignored and unsupported (Gaskell, 2010). Studies of youth aging out of foster care in the U.S. have revealed comparable frustrations at being given little opportunity to exercise agency while in care, yet high expectations about agency and control at the point of exit (Geenen & Powers, 2007; Goodkind, Schelbe, & Shook, 2011). Table 2 summarizes some factors associated with academic challenges experienced among many former foster youth.

Despite the large body of literature describing the ramifications of childhood maltreatment and placement and school instability on the academic achievement of foster youth, one recent study did not find any significant associations between aspects of participants' academic (i.e., reading proficiency, GPA in high school, history of grade repetition, history of special education) and foster care histories (i.e., number of foster care placements, whether or not youth had ever been placed in a congregate care setting) and the odds of college degree completion (Okpych & Courtney, 2021). Moreover, in terms of pre entry and post entry covariates, the only pre entry variable found to be associated with college degree completion was social support (marginal statistically significant). Foster youth with greater amounts of perceived social support before entering college were more likely to finish college than were foster youth with lower amounts of support. There were three post entry factors that decreased the odds of degree completion, including working full-time (vs. not working), being a parent (marginally significant), and encountering a greater number of economic hardships. Supplemental analyses support the interpretation that post entry economic hardships, full-time employment, and parental status each act as a hindrance to degree completion and were not merely desirable alternatives or a consequence of leaving college. Finally, youth attending 4-year colleges, especially selective or highly selective 4-year colleges, were significantly more likely to complete a degree than were youth who attended 2-year colleges.

These findings underscore that events and life circumstances that occurred *after youth enrolled in college* were found to play a more pronounced role in predicting college completion than did covariates measured earlier, specifically foster care histories (Okpych & Courtney, 2021). Policies and programs may help address some of these post entry barriers. For example, since 2002, young people in foster care after the age of 16 years are eligible for federally-funded Educational and Training Vouchers (ETVs), which provide foster youth with up to $5000 per year for a maximum of 5 years to help pay for college expenses. In addition, there is a growing number of campus-based support programs (e.g., Seita Scholars program at Western Michigan University and Guardian Scholars at University of California campuses) which aim to provide a wide range of academic, financial, social or emotional, and logistical supports to promote college persistence. Although campus support programs are a promising model to serve former foster youth in college, further research and evaluation of these programs is needed to determine the effectiveness and areas for development and support of these programs. Moreover, foster youth do not always know about these programs or choose to participate in them. An actionable goal

should be to increase awareness and access to financial aid and other comprehensive resources (Okpych & Courtney, 2021). For instance, Question 53 of the FAFSA asks, "At any time since you turned age 13, were both your parents deceased, were you in foster care or were you a dependent or ward of the court?" Colleges can use this question as an initial screen to identify students with foster care histories. However, this question will not identify foster care alumni who did not complete a FAFSA. Moreover, it is recommended that colleges add two questions to the application packet that asks about a history of foster care involvement and the age the applicant was last in foster care. The first question can identify foster youth who could participate in their campus support program and the latter question can identify young people who qualify for benefits and services with age requirements, such as the education and training voucher (ETV) grant.

Table 2. Factors linked to academic challenges

Factors linked to academic challenges
Child maltreatment
Devalued self
Perceived diminished social status from being a foster child
Placement Changes
Ruptured relationships / relational instability
School Changes
Trauma
Working full-time while in college
Being a parent while in college
Economic hardships while in college

Racial/Ethnic group disparities among former foster youth in higher education

Some research that examines the relationship between racial/ethnic group affiliation and educational outcomes among foster youth is mixed. According to the Midwest study (Dworsky & Courtney, 2010), at age 18, Hispanic foster youth are more likely to complete a high school diploma as compared to a GED than were White and Black youth. Black youth with a high school diploma were more likely to attain some post-secondary education or training than were White and Hispanics. Additionally, the likelihood of one year of college competition was higher for Blacks relative to Hispanic and White youth. However, after controlling for demographics, family background, and placement history, ethnic group differences were not significant. These findings suggest that a combination of multidimensional factors may actually help explain poor educational outcomes, and not racial/ethnic group affiliation alone. Nonetheless, the overrepresentation of Black, Native American, and in some cases Hispanic[5] youth, in the foster care system and their increased likelihoods to experience allegations and substantiations of child

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[5] Evidence among Hispanic youth is mixed. In smaller jurisdictions in California there is over-representation; state-wide, most of the data shows that they are represented at rates fairly commensurate with their representation in the population; nation-wide, most of the data shows that they are under-represented. See Coulton, Korbin, Su, & Chow, 1995; Coulton, Korbin, & Su,1999; Dettlaff & Johnson, 2011.

maltreatment imply that these youth will face unique challenges to attain a post-secondary degree.

For instance, among Casey alumni foster youth, the largest ethnicity-related differences among youth were for college degree completion (bachelor's degree or higher), which was achieved by 12.5% of White, 10% of African American, 8.4% of Hispanic, and 4.4% of Native American/Alaska Native alumni (O'Brien et al., 2010; Pecora et al., 2003). Villegas and colleagues (2014) examined the association of ethnicity to educational outcomes for former foster youth and found that among the three ethnic groups in their sample (Black, White, and Hispanic), Hispanic youth had the lowest rate of college degree attainment (bachelor's degree or higher), which resonates with the national disparity documented in higher education achievement for Hispanics (Fry, 2004; NCES, 2003). White youth were almost twice as likely to earn a college degree (11.4%) as African American (6.7%) and Hispanic youth (6.3%). However, neither the White-Hispanic nor the White-Black differences achieved significance. Okpych and Courtney (2021) examined college degree completion among Midwest Study participants at age 29 or 30. Unlike previous studies, they found no significant associations between racial/ethnic group affiliation and the odds of college degree completion in their sample of youth. Moreover, racial/ethnic group affiliation should instead be used as a marker of risk for poor educational outcomes. Researchers should consider focusing on other meaningful risk factors that interact with racial/ethnic group affiliation (i.e., poverty, childhood maltreatment, placement history, family structure, neighborhood characteristics; K-12 education) which may better elucidate predictors of poor educational outcomes among former foster youth.

Person-level factors and post-secondary educational outcomes among former foster youth

The large body of research demonstrating the enduring effects of child maltreatment and placement and school instability while in foster care is the master narrative of vulnerability among foster youth. However, attention to key characteristics and factors contributing to the educational success of foster youth is growing and providing a counter narrative of the strength and resilience in foster youth. A number of studies indicate the importance of key personal attributes in the educational outcomes of former foster youth. Hines, Merdinger, and Wyatt (2005) conducted in-depth qualitative interviews with 14 former foster youth attending a 4-year university and found that these youth consistently showed clear intellectual ability and some form of internal locus of control coupled with a strong goal orientation. Moreover, Hines and colleagues (2005) emphasized that in addition to these individual-level factors, family and community level-factors were integral to the educational pathways of these youth. Hass and Graydon (2009) also interviewed a sample of former foster care youth with post-secondary educational success and found that planfulness, a sense of purpose, and self-confidence were critical to college enrollment. Morton (2016) found that determination, hope, empowerment through self-advocacy, and school as a vehicle with which they could gain control over their lives, were all internal factors associated with academic success in their sample of former foster youth.

Other foster youth characteristics highlight the capacity to persevere in higher education. One study interviewed former foster youth about turning points in their lives that led them to complete a post-secondary educational program or achieve at least junior standing in a four-year

institution (Haas, Allen, & Amoah, 2014). Similar to Hines and colleagues' (2005) study, results suggested that in addition to a young person's sense of autonomy, social and instrumental support and access to system-level supports (e.g., school and foster care system supports) facilitated turning-point events in their lives to complete a college education. Another study highlighted the importance of successfully managing multiple life tasks. In interviews with emancipated foster youth who were enrolled in a post-secondary program, Batsche et al. (2014) found an association between youths' GPA and the ability to manage multiple dimensions of their lives. Students with higher GPAs had stronger abilities to manage multiple dimensions of their lives; whereas, students with lower GPAs reported more difficulty with managing multiple life tasks, challenges with parenting their children, and stronger negative emotions toward their foster care experiences. In summary, these studies underscore the importance of person-level factors in the educational success of former foster youth (see Table 3).

Table 3. Person-level factors linked to post-secondary educational outcomes

Person-level factors
Ability to multi-task manage multiple dimensions of their lives
Autonomy
Clear intellectual ability
Comfort with identity as a foster youth and emerging adult
Determination
Hope
Internal locus of control
Personal agency
Planfulness
Positive attitude towards help-seeking
Resilience
Self-advocacy
Self-confidence
Self-esteem
Sense of purpose
Strong goal orientation

Interpersonal-level factors and post-secondary educational outcomes among former foster youth

In combination with key person-level factors researchers also recognize the importance of family- and community-level factors, including social and instrumental support in the post-secondary success of former foster youth (Ahrens et al., 2008; Haas, Allen, & Amoah, 2014; Hines, Merdinger, & Wyatt, 2005; Okpych & Courtney, 2017). Okpych and Courtney (2017) investigated social capital factors associated with the likelihood that youth in foster care will enroll in college. *Social capital* refers to the resources embedded in relational ties (Coleman, 1988); several qualitative studies have underscored the importance of having an invested and knowledgeable adult to assist foster youth with accessing college (e.g., Batsche et al., 2014; Salazar, Jones, Emerson, & Mucha, 2016a). Okpych and Courtney (2017) found that the number of institutional agents who participants identified, as well as encouragement from school personnel, significantly increased the likelihood of college enrollment.

One qualitative study examined factors at the individual, family, and community levels associated with academic success among former foster youth attending a 4-year university (Hines, Merdinger, & Wyatt, 2005). Regarding family-level factors, they found that after leaving foster care, only a small minority of respondents had maintained contact with biological family members. This finding suggests that the individual attributes identified in their sample of former foster youth (e.g., assertiveness, independence, goal-oriented/determined) may have partially enabled these young adults to seek out competent, caring adults in their life who were not biologically related to them. This finding is supported by previous research that suggests that the ability to establish a positive relationship with a non-abusive adult is important in promoting resilient outcomes for maltreated children (Egeland, Jacobvitz, & Stroufe, 1988; Lynch & Cicchetti, 1992).

Other studies have found biological relatives or foster parents to be important to the academic success of former foster youth. Like biological parents, foster parents have the potential to impact youths' academic achievement (Casey Family Programs, 2003; Steinberg, 1997). Eleven of the twenty-four former foster youth in Rios's (2008) study credited foster parents, described as authoritative, as the reason for their academic success. When foster parents were strict, provided stability, and were involved in their foster children's education, foster youth progressed academically. In addition, fourteen participants in their study referred to biological relatives as providing support. Biological relatives were mentioned as part of the youth's community, as opposed to their household; they emerged as the primary sources of community-related support.

Morton (2016) interviewed former foster youth and also found foster parents make significant, positive contributions to their academic success. Although the participants in this study had numerous foster care placements over the course of their time in care, each had one solid placement that made a significant difference in their life. It is interesting to note that for the majority of participants, their last placement is where this family was found. Each found academic support, encouragement, and assistance from these foster parents in everything from after-school activities to college applications. Through their stories, it was clear that their definition of family had expanded to include those outside of biological connections. The relationship with foster parent(s) continued even after leaving care; they were included in holiday gatherings, birthday celebrations, random dinners, and considered their foster home as a place to call home. For these 11 participants, a place to consistently look to as "home" afforded them the ability to forge significant relationships in college while also maintaining their own sense of independence and self-reliance. These relationships contributed to a feeling of security.

Morton (2016) also found school and community to positively shape the academic trajectories in their sample of former foster youth. Participants found security within the confines of school walls. The ability to escape traumatic home life and be a "normal" student was found to be stress relieving. The school environment, programs, teachers, and counselors were credited with providing much needed academic and emotional support to foster youth. Additionally, the importance of an attentive caseworker was found to be a support to academic success. Last, mentors from the community played a large role in creating a support network. Individuals outside the foster care system provided an additional perspective and an escape from foster homes that were less than ideal. Mentors helped develop self-reliance in positive ways, reinforced self-worth, and built confidence in young people. In summary, these studies

underscore the importance of positive relationships and interpersonal support, often in combination with internal attributes, in the educational success of former foster youth (see Table 4).

Table 4. Interpersonal-level factors linked to post-secondary educational outcomes

Interpersonal-level factors
Relationships with competent caring adults that provide tangible and intangible supports (e.g., biological family members, foster family members, teachers, counselors, and mentors)
Social capital acquired before and while in college

Institutional-level factors and post-secondary educational outcomes among former foster youth

Person-level and interpersonal-level factors are demonstrated to shape the post-secondary educational trajectories among former foster youth. There is also strong research to suggest that institutional-level factors, particularly policies that expand financial aid, emergency housing, and on-campus programs designed for former foster youth, alleviate the barriers and challenges that transition-age youth experience as they enroll and persist in college (see Table 5). For instance, all but three states have some form of extended foster care, yet only 34 States[6] provide education support programs and/or state tuition waivers for students with histories in foster care. Only 20 States[7] offer at least one 4-year campus based support program for students with histories in foster care, most of which are concentrated in the states of California and Michigan (Fostering Success Michigan, 2021)[8]. Compared to many other states that provide economic assistance to older youth in the foster care system, California has provided large supports to foster youth aging out of the foster care system, particularly in the areas of postsecondary education and housing.

i.   **Financial aid and campus support programs for foster youth**

Following California's implementation of Assembly Bill 12 (2012), a state law implementing the federal Fostering Connections bill that allows youth in foster care at age 18 to continue receiving services and benefits until they turn 21, a number of initiatives have been launched to support older youth in care and their aspirations to attend college. For instance, the federally-funded Education and Training Voucher (ETV) is an important source of aid for California foster youth to pursue postsecondary education. Students may receive up to $5,000 a year based on their cost of attendance. They must enroll before their 21st birthday and may continue to receive support until age 23. Funds may be used for tuition, dorm fees, books, student loan repayments and qualified living expenses (Foster care to Success, 2022). For youth to be eligible for ETV, they must (1) be in foster care, adopted from foster care after age 16, or aged out of foster care; (2)

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[6] Alabama, Alaska, Arizona, California, Connecticut, Florida, Georgia, Illinois, Iowa (covers one-half the average cost of tuition), Kansas, Kentucky, Maine, Maryland, Massachusetts, Michigan, Minnesota, Missouri, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Oklahoma, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Utah, Vermont (for up to $3,000 annually), Virginia, Washington, and West Virginia

[7] Alabama, Arizona, California, Colorado, Florida, Georgia, Idaho, Iowa, Kansas, Massachusetts, Michigan, New Jersey, New Mexico, North Carolina, Ohio, Pennsylvania, Texas, Vermont, Washington, and Wisconsin.

[8] This does not include data on 2 year-campus based support programs.

have a high school diploma or GED; (3) and be accepted into or enrolled in a Title IV, accredited college or vocational/technical program. For most states, youth must be aged 18-20; however the age requirement varies by state. Among CalYOUTH participants with a high school credential, at age 21 nearly 40 percent had received an ETV, 18 percent applied for but did not receive an ETV, 24 percent knew about ETVs but never applied for one, and 18 percent had never heard of the ETV. ETV participants are required to complete a FAFSA and not all foster care alumni complete a FAFSA. Moreover, educators and social service providers must thoroughly inform and encourage former foster youth to complete a FAFSA in order to take advantage of various financial aid opportunities (e.g., CalGrant, Pell Grant) and scholarships. Taking advantage of all financial aid opportunities will mitigate the hindrance of economic hardship experienced by many foster youth in college (Okpych & Courtney, 2021). A recent study with a sample of former foster youth indicated that receiving an educational and training voucher and participating in a campus support program may increase the odds of persisting through the first two semesters in college (Okpych et al., 2020).

Foster youth in California (and in some other states) can take advantage of widely available on-campus programs designed for current and former foster youth, some of which are also open to other vulnerable youth. Each UC campus provides tailored support to former foster youth via the Guardian Scholars Program and the CSU campuses via the Renaissance Scholars, Guardian Scholars, or EOP scholars programs. As part of the Foster Youth Success initiative, every California community college campus has a foster youth liaison designated to help foster youth. Eligibility requirements to participate in on-campus programs designed for current and former foster youth varies between university systems and between campuses within the UC, CSU, and CCC systems. For instance, UC Davis requires that youth have at least one day in care prior to age 18 to participate in their program whereas Santa Barbara has no eligibility requirements for their youth to participate in their program. Some campuses open their foster youth program to other vulnerable youth. CSU Bakersfield allows current and former foster youth and incoming first-year students who faced homelessness during high school between the ages of 17-24 to participate in their Guardian Scholars Program. Cal State Fullerton requires that youth be current or former foster youth who were in care on or after their 13th birthday and be under the age of 26 to participate in their Guardian Scholars Program.

Campus support programs are a promising intervention approach for foster youth, but there is little existing data that describes the extent to which youth participate in such programs. For instance, a 2019 report found that anywhere between 34.2% and 115%[9] of former foster youth participated in a UC campus-based foster youth program (Brown, Lamar, & Duerr Berrick, 2021). Research also suggests that students who attend two-year or four-year colleges may differentially use campus-based support programs. For instance, one study found that a group of former foster youth who completed post-secondary two-year, four-year, or vocational programs used academic supports less often than did their peers who dropped out (Sim et al., 2008), though baseline assessments of student preparedness were not available and may have contributed to the study findings. Nonetheless, research demonstrates a positive, perceived value of campus-based programs among former foster youth who attend community colleges. One study included surveys of students and foster youth community college liaisons, and interviews with select community college liaisons to learn how colleges in California support their students

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[9] Figure includes probation youth, homeless youth, etc.

who come from foster care (Rassen et al., 2010). They reported that the majority of the students described resources such as Chafee grants and financial aid, and independent living programs (ILPs) as the most helpful. Most programs at the community colleges in this study reported providing services such as mentorship, help filling out applications, referrals to support programs and health care providers, and locating housing. Further research is especially needed in 2-year colleges, both because these are the institutions foster youth overwhelmingly attend and because program models identified as efficacious in 4-year institutions may not translate to the campus cultures, demands, and resource constraints of 2-year colleges (Okpych & Courtney, 2021).

Additionally, there is little empirical evidence on if and how campus support programs promote positive college outcomes. Even with these programs in place, research demonstrates that foster youth will face considerable barriers to graduating (Unrau et al., 2017). One study evaluated core components of one college support program at a Midwest university from the perspective of student users who have aged out of foster care and to assess the perception of these supports in the context of the program's college graduation rate (Unrau et al., 2017). Findings highlighted the importance of financial aid, housing, and adult guidance for the population and their college graduation success. While these are important components of a college support program, they are not sufficient to adequately explain the graduation rates of this sample (30%), which exceeded the national average for degree completion among students with histories in foster care. College environments are another critical component of the college experience. Okumu (2014) examined how college environments shape former foster youths' educational experiences. Participants described feelings of isolation and estrangement, which were at times exacerbated by the college environment and programming. Participants reported feeling lost, alone, isolated, left out, and not supported. Despite these negative emotions, the young people in the study interpreted their transition to college as empowering, giving them hope and optimism, and allowing them to conceptualize the future they wanted for themselves (Okumu, 2014).

ii. Disabled Students' Program and foster youth students

There are California state laws and regulations directly impacting foster youth enrolled in CSU, UC, and CCCs campuses focused on providing youth priority registration (California Education Code §66025.9), priority housing (California Education Code §76010, §90001.5 and §92660), and designating foster and homeless youth liaisons (California Education Code §67003.5). However, there are no current state laws and regulations directly supporting foster youth with disabilities who attend California colleges and universities. The federal Individuals with Disabilities Education Act (IDEA) guarantees students with disabilities the right to a "free and appropriate public education" until a student graduates from high school or turns 21, but colleges are not bound by IDEA. They are, however, covered by Section 504 as well as Title II of the Americans with Disabilities Act (ADA)—a civil rights law prohibiting discrimination based on disability status. There are important differences between IDEA and ADA that can make the transition to college especially jarring for former foster youth students with disabilities. First, unlike K-12 schools, colleges are not required to evaluate or diagnose students. In order for any student to receive "reasonable accommodations" to support college success, students must self-identify as individuals with disabilities, meet with the institution's office of disability services, and provide documentation of their diagnoses (Dumond & Goeppner, 2015). Students can receive "reasonable accommodations" to support college success, but academic standards cannot

be modified and colleges may deny accommodations that would result in a fundamental change to those standards (Dumond & Goeppner, 2015). Second, unlike IDEA in grades K-12, the ADA does not provide federal funding to support special education services for college students with disabilities. Consequently, there may be a gap in communication and connection between campus disability services, campus foster youth services, and other student support services, likely preventing many youth from learning about these resources.

While estimates vary, one national study found that over half (53%) of transition-aged foster youth aged 18 or higher have a physical, cognitive, or emotional disability diagnosis compared to 10 percent of youth within the general population (Slayter, 2016). Research supports that experiencing a disability presents barriers and challenges to educational achievement and employment among youth in the general population (Blackorby & Wagner, 1996; Goodman et al., 2011; U.S. Department of Labor, 2011; Wagner et al., 2005). One recent study examined disability diagnosis type as a predictor of education and employment among foster youth transitioning from care, while controlling for other relevant individual- and system-level predictors (Cheatham, Randolph, & Boltz, 2020). Disability was captured through the AFCARS case report data and included the following diagnoses: (1) physical disability diagnoses; (2) sensory disability diagnoses (i.e., visual or hearing disability); (3) mental retardation diagnosis; (4) emotional disability diagnoses (i.e., DSM diagnosis); and (5) "Other Medical" diagnosis[10]. Of the 7,117 youth surveyed at age 21, nearly half (48%) were identified as having at least one disability diagnosis at age 17. One of the most striking findings in this study was the excellent performance of youth with non-emotional disability diagnoses across all transitional outcomes. Youth with physical, sensory, mental, or other medical diagnoses (and no DSM/emotional diagnosis) in this sample completed high school and enrolled in college at rates higher than their peers without disabilities. While youth without disability diagnoses also excelled, youth with emotional disabilities fell behind their peers without disability diagnosis across all transitional outcomes. Moreover, their findings reveal the importance of examining disability as a multifaceted measure, as opposed to a singular class (Cheatham, Randolph, & Boltz, 2020); and the importance to bridge campus programs and Disabled Students' Programs (DSPs) to mitigate the multiple challenges associated with experiencing a disability and being in college.

iii. **Housing and food supports for foster youth students (and other vulnerable students)**

Under the McKinney-Vento Homeless Assistance Act (Title IX, Part A of Every Student Succeds Act), youth are considered homeless if they lack fixed, regular, and adequate housing. This definition includes a range of circumstances including, living in hotels and homeless shelters, couch surfing or doubling-up with other people, and sleeping in cars, parks, or camp grounds (U.S. Government Accountability Office, 2016). It's estimated that among foster youth, between one fifth to one half experience homelessness by the age of 26 years (Fowler et al., 2019). Dworsky and colleagues (2013) examined the incidence of homelessness among Midwest Study participants after the baseline interview at age 17, finding that between 31 percent and 46 percent of study participants had been homeless at least once by age 26 years.

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[10] Cognitive or learning disability was not captured by AFCARS

Extensive research demonstrates that experiencing homelessness or foster care presents significant barriers in the pursuit of a higher education and in the completion of a postsecondary degree. Although a small portion of homeless and foster youth attend college, most who start do not complete their degree (Courtney, Terao, & Bost, 2004; McMillen et al., 2003; National Center for Homeless Education, 2013; Wolanin, 2005). Housing uncertainty among college students has been a growing area of concern. In 2013–14, nearly 57,000 students nationally and 10,000 students in California identified themselves as homeless on their FAFSA application (Crutchfield et al., 2016). However, there is a dearth of research that has systematically tracked housing instability among current and former foster youth in college. One study tracked housing instability in a sample of 60 foster youth participating in a campus support program (i.e., the Guardian Scholars Program) at a selective, public university in California and examined individual and campus-level assets and challenges that support or hinder their academic perseverance (Kinarsky, 2016). Most of their sample did not struggle with housing instability, but six youth reported experiencing homelessness during the 2015-2016 academic year. Four of those six students experienced homelessness more than once and three of the six students reported that it lasted for more than a month. Of the six, only half sought help from someone on campus (i.e., the director of the Guardian Scholars Program). The prevalence of homelessness among foster youth enrolled in four-year institutions is concerning and gives four-year institutions the imperative responsibility to make all students aware of housing services, food resources, and health and wellness resources available to them.

Recent state-level and federal-level actions have allowed CSUs, UCs, and CCCs to redouble their efforts to address the basic needs of young people experiencing homelessness and other low-income students through solutions such as emergency housing programs, food pantries, shower and laundry facilities, and case management (John Burton Advocates for Youth, 2020). In 2019, the California legislature passed a historic investment—$19 million annually across the state's three public higher education systems—for rapid rehousing efforts supporting college students experiencing homelessness and housing insecurity. Governor Gavin Newsom's 2021-22 budget proposal contained several significant investments focused on mitigating the impact of the COVID-19 pandemic on the state's economically vulnerable college students, including $100 million in one-time funding to address food and housing insecurity in the California Community Colleges (Office of the Governor of California, 2021). California Governor Newsom's recently released his 2022-23 budget proposal to expand campus support programs for former foster youth and to establish a refundable $1000 state tax credit for former foster youth ages 18 through 25 who were in foster care at age 13 or older (Office of the Governor of California, 2022). If his budget proposal passes, it could make significant improvements to the current college experiences and outcomes among former foster youth in California. Additionally, two recent federal bills seeking to strengthen higher education access for homeless youth and foster youth were introduced. The Higher Education Access and Success for Homeless and Foster Youth Act (HEASHFY) would improve access to on-campus housing and designate liaisons at each institution of higher education to assist homeless and foster youth. The Fostering Success in Higher Education Act (FSHE) would invest $150 million a year to establish or expand statewide initiatives to assist foster and homeless youth in enrolling in and graduating from institutions of higher education. While recent state-level and federal-level actions signal that the challenges facing young people experiencing homelessness are on the radar of policymakers and system

leaders, strategies must be developed that bridge systems and campus programs to help create pathways to financial security among all students.

In summary, state-level and federal-level actions have taken action to mitigate the educational challenges experienced by foster youth students, as well as by other non-foster youth students. Policies that focus on increasing financial aid, expanding campus-based support programs, providing priority registration and housing, and helping provide other basic needs supports to current and former foster youth are imperative to their success in higher education.

Table 5. Institutional -level factors linked to post-secondary educational outcomes

Institutional -level factors
Campus support programs
Disabled Students' Program
Financial aid and scholarships, including ETV
Preparation, services, or training received to prepare for college or job training goals
Year-round housing; emergency housing; independent living supervised program (ILSPs)

Spearheading resilience to promote positive post-secondary educational outcomes among former foster youth

Growing research suggests that multi-level factors and processes help advance the educational trajectories among former foster youth. These include person-level characteristics (e.g., autonomy, personal agency, planfulness), interpersonal-level factors (e.g., relationships with competent caring adults including foster family members, mentors, etc.), and institutional -level factors (e.g., campus support programs, financial assistance, priority housing, etc.). The developmental phenomenon of *resilience* provides the fields of social work and higher education a strong and relevant framework to study and promote strength-enhancing factors in efforts to close post-secondary educational disparities among former foster youth. However, the current resilience literature provides a narrow and limited understanding of resilience among foster youth, largely focusing on a binary, outcomes-focused definition and measurement of resilience. Nonetheless, at the junction of social work and higher education, the utilization of a multidimensional framework of resilience is critical in current efforts to promote educational success among former foster youth.

2. Resilience among former foster youth in higher education

Although the literature defines the construct of *resilience* in a number of ways it is generally defined as a "pattern of positive adaptation in the context of significant risk or adversity" (Masten & Powell, 2003, p. 4). Resilience reflects a developmental process in which an individual is able to use resources in and outside themselves to negotiate current challenges adaptively, and consequently, to develop a foundation on which to rely when future challenges occur (Egeland, Carlson, & Sroufe, 1993). Research on resilience seeks to explicate the pathways by which individuals experiencing significant adversity nonetheless demonstrate adequate or effective adaptation to the world (Luthar, 2006; Masten, 2001). More specifically, resilience has been defined in two fundamental ways in the literature: first, as a positive end of

adaptation in "at-risk" samples (Rutter, 1987, 1990); second, as a more complex three-level definition (Fraser et al., 1999; Masten, 1994; Masten et al., 1990). The complex definition views resilience as: (1) a good outcome in spite of high risk; (2); sustained competence under stress, and (3) recovery from trauma. The unifying principle in these two definitions of resilience is that there must have been a risk or stressful experience at some point in the individual's life.

Resilience researchers have called attention to a general lack of consensus regarding the definition, conceptualization, operationalization, and measurement of the construct of resilience (Kaufman et al., 1994; Luthar et al., 2000). For instance, in the operationalization of resilience there is considerable variation in terms of the domains of functioning considered, the number of domains of functioning considered, the stringency of criteria for success and adaptation, and the type and length of risk exposure necessary (Kaufman et al., 1994). Inconsistency in resilience research leads to confusion and the inability to compare results across studies. The heterogeneity of outcomes and measures collectively employed to study resilience have led some authors to recommend abandoning the term (e.g., Kaplan, 1999; Tarter et al., 1999), concluding that the term resilience has limited scientific advantage beyond drawing attention to outcomes that are more positive than expected.

Although diverse empirical methods can admittedly lead to varied findings, Luthar (1996) notes that this variability in methods is essential to expand understanding of any scientific construct, including resilience. Moreover, research in the area of resilience appears to be in good standing (Luthar et al., 2000). Early reviews of the resilience literature (see e.g., Cicchetti & Garmezy, 1993; Luthar & Zigler, 1991; Masten et al., 1990; Masten & Coatsworth, 1995, 1998; Rutter, 1990; Werner, 1990, 1995) report similar evidence regarding many correlates of resilience across multiple studies that have used varying measurement strategies. Correlates of resilience that recur across these studies include the importance of close relations with supportive adults, effective schools, and connections with competent, prosocial adults in the wider community. These multiple correlates can be best understood as a process in which promotive and protective factors and processes (PPFPs) found within relational, sociocultural, and ecological systems work together to support individuals to regain, sustain, or improve their wellbeing in the context of adversity (Ungar & Theron, 2020). Protective factors demonstrated to be associated with positive outcomes among foster youth are found within personal, relational, sociocultural, and ecological systems.

Despite the absence of a universally employed operationalization and measurement of resilience, researchers must clearly explicate the approaches they select to define both adversity and competence and provide cogent justification for choices made on both conceptual and empirical grounds (Luthar et al., 2000). Moreover, there is strong merit and opportunity to study the PPFPs associated with resilience among former foster youth in postsecondary education. Many former foster youth experience significant challenges and stressful experiences in their pursuit of higher education, all of which are widely documented in the literature. Much less is known about the PPFPs associated with their resilience or within-group variation of their resilience in the context of postsecondary education. It is imperative that educators and practitioners understand what resilience processes contribute to former foster youths' academic success in efforts to close continual educational disparities. Interventions that enable or sustain the multi-level determinants

of resilience will reduce the social injustices that are frequently associated with poor educational outcomes among former foster youth.

Frameworks in resilience research with foster youth

The history of childhood resilience research dates back to the 1960s and 1970s with studies on children of schizophrenics (see Anthony & Koupernik, 1974; Garmezy, 1974; Rutter 1979). Expanding on this research was Werner and associates' many articles on the birth cohort from 1954 from the Hawaiian island of Kauai (Werner & Smith, 1982, 1992, 2001) where they observed a number of protective factors that distinguished well-functioning at-risk youth from those faring more poorly (e.g., strong supportive ties with family and dispositional attributes such as sociability). It's only been in the last two decades that research with foster youth has emerged, most of which focuses on young people who have aged out of the foster care system (e.g., Carroll, 2020; Cheung et al., 2021; Daining & DePanfilis, 2007; Hass & Graydon, 2009; Hines et al., 2005; Yates & Grey, 2012). Only a few resilience studies focus on former foster youth in higher education (i.e., Cheung et al., 2021; Hines et al., 2005). Seminal works on resilience (see e.g., Luthar et al., 2000; Masten, 1994; McGloin & Widom, 2001) guide how most of these studies define and conceptualize resilience among foster youth. A common strategy employed by resilience researchers is to include several age-salient tasks on which, if successful, the person would be viewed as having met societal expectations associated with that life stage (Cicchetti & Schneider-Rosen, 1986; Havighurst, 1952; Masten & Coatsworth, 1998; Sroufe & Rutter, 1984). Most studies with foster youth focus on the "end" definition of resilience, which includes "positive end of adaptation" and "a good outcome," including outcomes like "educational competence," "social competence," and "occupational competence."

Moreover, two frameworks commonly employed in recent resilience research with former foster youth are the emerging adulthood life stage (Arnett, 2000) and the developmental tasks perspective (Havighurst, 1972; Masten & Coatsworth, 1998). These frameworks make sense given that the outcomes assessed in these studies must include age-appropriate, "good outcomes." The *emerging adulthood life stage* is a distinct developmental period demographically, subjectively, and in terms of identity exploration. It is a period that generally occurs between the ages of 18 and 25 years (even up to 29 years) and is one in which progress towards independence is *made* rather than achieved. It offers a useful broad perspective on the challenges and opportunities facing many of today's young people, particularly in industrialized countries, by emphasizing and normalizing the demographic variability in outcomes for youth in this age period (Cohen et al., 2003).

Although the theory of emerging adulthood is helpful in framing unique early adulthood experiences and outcomes, it has limited our understanding of what PPFPs contribute to the resilience of former foster youth. Most studies label foster youth as "resilient" or "maladapted" based on youths' achievement or non-achievement of positive, independence-related milestones without considering the processes underlying their resilience. These studies also assign values of outcome domains to create a resilience composite score, where youth fall somewhere on a spectrum of resilience (e.g., Daining & DePanfilis, 2007; Jones, 2012; Shpiegel, 2016). This follows Luthar et al.'s (2001) approach to measuring resilience by using composite scores that combine multiple domains of competency or functioning based on the developmental stage of

the persons being studied. The assignation of terms like "resilient," "maladapted," or "high functioning" do very little, if anything at all (Masten et al., 1990; Reynolds, 1998; Tarter et al., 1999), to illuminate and facilitate resilience processes or to guide the design of appropriate interventions with young people aging out of foster care, including the most vulnerable TAY. Research on resilience among current and former foster youth is also largely influenced by the *developmental tasks perspective* (Havighurst, 1952; Masten & Coatsworth, 1998) in which age-graded societal markers of competence such as social competence, school achievement, stable employment, presence of romantic relationships, and parenting are strong foci of investigation (see Burt & Masten, 2010; Masten, 2001). Although these two frameworks support theoretically and empirically justified, positive outcomes, future resilience research should examine the internal and external processes that *drive* young people towards these outcomes.

The operationalization and measurement of resilience among foster youth utilizing the emerging adulthood life stage (Arnett, 2000) and the developmental tasks perspective (Havighurst, 1972; Masten & Coatsworth, 1998) parallel recent attempts to represent resilience as a multidimensional phenomenon. The utilization of these developmental frameworks permit for a multidimensional perspective of resilience including but not limited to internal and external domains like educational competence, occupational competence, and psychological competence. Multidimensional perspectives of resilience are rooted in early studies with high-risk children (e.g., Kaufman et al., 1994; Luthar, 1991; Luthar et al., 1993; O'Dougherty-Wright et al., 1997), where some high-risk children manifest competence in some domains but exhibit problems in other areas (Luthar et al., 2000). A multidimensional perspective permits for a heterogeneous picture of resilience among those who experience adversity.

A multidimensional approach to resilience science

Research has demonstrated at-risk children who are labeled as resilient on the basis of particular competence criteria to evidence significant heterogeneity in functioning across other adjustment domains. For instance, among children with histories of maltreatment, for example, Kaufman et al. (1994) found that almost two thirds were academically resilient, yet only 21% manifested resilience in the domain of social competence. Other studies with adversity-experienced adolescents demonstrated some youth to overtly reflect successful adaptation while struggling with covert psychological difficulties, including depression and posttraumatic stress disorder (see, e.g., Luthar, 1991; Luthar et al., 1993; O'Dougherty-Wright et al., 1997). In studies of resilience, it is believed that there should unquestionably be some uniformity across *theoretically similar* adjustment domains, but not across those that are conceptually distinct (Luthar, 1996, 1998). Unevenness in functioning across domains is a common occurrence (Cicchetti, 1993; Cicchetti & Toth, 1998), such that a range of developmental outcomes is inevitably constructed within normal, abnormal, *and* resilient trajectories (Luthar et al., 2000). The evidence of "uneven" functioning across domains has emphasized specificity in discussing resilience outcomes among foster youth (e.g., Yates & Grey, 2012). This has contributed to an increasing use in circumscribed terms such as "educational resilience," "emotional resilience," and "social resilience," thereby bringing greater precision to terminology commonly used in the literature. However, even with this precision in terminology, researchers have not yet described the factors and processes underlying "educational resilience" or "emotional resilience." The dearth of

resilience science focusing on the processes underlying important outcomes is rooted in the historical process-outcome tension to define and measure resilience.

The process-outcome debate in resilience research dates back to key researchers (i.e., Garmezy, 1971; Rutter & Madge, 1976; Werner & Smith, 1982) whom realized that while many people have negative outcomes in response to vulnerability, not all do. Researchers were thus confronted by "exceptional" outcomes and needed to generate an empirical and theoretical account for this (Van Breda, 2018). Later researchers referred to those with exceptional outcomes as 'invincible' (Dahlin et al., 1990; Werner & Smith, 1982) or 'invulnerable' (Anthony, 1987). This body of research led to one of the dominating definitions of resilience, i.e., resilience as an outcome. Outcome definitions include "A stable trajectory of healthy functioning after a highly adverse event" (Bonanno, as cited in Southwick et al., 2014:1) and "Individuals who adapt to extraordinary circumstances, achieving positive and unexpected outcomes in the face of adversity" (Fraser et al., 1999:136).

With the understanding that the relationship between vulnerability and negative outcomes was not true for all individuals facing similar adversities, researchers began asking the 'why' question to understand what distinguished those with better outcomes from those with poorer outcomes (Van Breda, 2018). For instance, "Why, when people are exposed to the same stress which causes some to become ill, do some remain healthy?" (Van Breda, 2001, pg. 14) By asking such a question, researchers recognize that there are other processes that mediate (i.e. that fall between) adversity and negative outcomes. This way of thinking about resilience is based on a different component of resilience, i.e., factors and process of resilience.

Leveraging the "process" component in resilience science

Process definitions of resilience include "The capacity to rebound from adversity strengthened and more resourceful" (Walsh, 2006, pg. 4); "The potential or manifested capacity of a dynamic system to adapt successfully to disturbances that threaten the function, survival, or development of the system" (Masten, 2015b, pg. 187); and "The process of adjusting well to significant adversity" (Theron, 2016, pg. 636). In the process definition of resilience, mediating factors or processes that result in positive outcomes in the face of adversity are at the center. Although the process-outcome debate in resilience theory is valid, it creates an unnatural split between process and outcome (Van Breda, 2018). For instance, the resilience literature among foster youth is overwhelmingly outcome-focused. However, resilience research should involve three connected components: adversity, outcomes, and mediating factors (Van Breda, 2018). It is not possible to think about resilience research without considering all three components. The issue with the outcome definition of resilience is that it merely declares the observation of positive outcomes in the face of adversity, but it does not explain them. The mere declaration of "educationally competent" or "educationally incompetent" foster youth for instance does not reveal what factors and processes mediated such differential outcomes. For Van Breda (2018) resilience is a process that leads to an outcome, and thus, the central focus of resilience research should also focus on mediating processes (see Figure 3). Research on resilience among foster youth is reviewed in the next section.

Figure 3. Resilience as Process and Outcome (Van Breda, 2018)
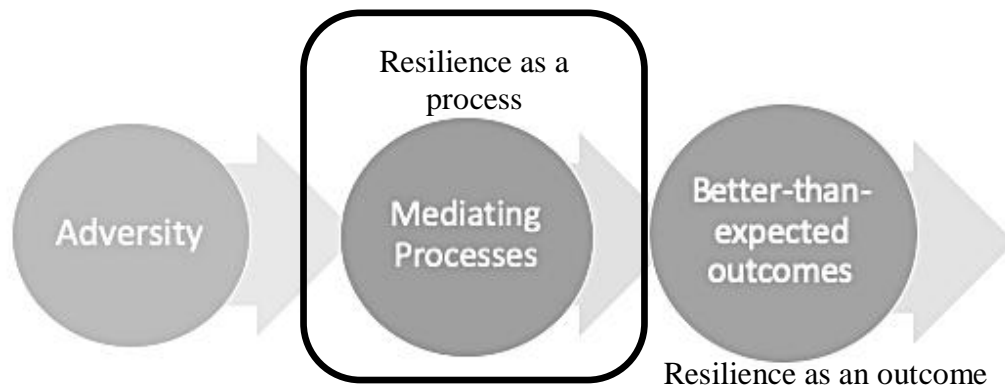
A review of resilience research in the population of foster youth

Research examining factors associated with the post-secondary educational success of former foster youth (e.g., Geiger & Beltran, 2017; Gillum et al., 2016; Kinarsky, 2017; Kirk & Day, 2011; Salazar, 2012; Salazar et al., 2016a, 2016b; Unrau, Font, & Rawls, 2012; Villegas et al., 2014) has contributed to researchers' interest in their resilience. The study of resilience among current and former foster youth has grown in the last two decades (e.g., Burt & Paysnick, 2012; Carroll, 2020; Cheung et al., 2021; Daining & DePanfilis, 2007; Drapeau et al., 2007; Hass & Graydon, 2009; Hines et al., 2005; Kothari et al., 2020; Strolin-Goltzman et al., 2016; Yates & Grey, 2012), but not without conceptual and measurement challenges. The vast majority of resilience studies in the population of foster youth focus on the outcome definition of resilience, that is, the manifestation of positive outcomes, e.g., college attendance, employment, and the absence of negative outcomes, including early parenting. Several studies in the last two decades have examined resilience as outcomes among current and former foster youth; see Table 6 for a comprehensive review of resilience studies among foster youth.

i.   Resilience as a composite of outcome domains

Jones (2012) examined the post-discharge adjustment of 129 former residents of a residential education facility. He examined their post-foster care life trajectories in regards to resilience and identified predictors that might increase the likelihood of resilient outcomes. Youth demonstrated resilience six months after discharge if they: maintained connection to the adult world through employment and/or education; had stable housing; avoided substance abuse and contact with the criminal justice system; demonstrated optimism about the future; and perceived they were prepared for independent living. Findings revealed that positively associated with resilience were: the availability of social support, having independent living skills competence, being older at discharge, and maintaining contact with former foster parents. Negatively associated with resilience was living with family after discharge and exhibiting behavioral problems. In addition to identifying psychosocial factors associated with resilience, this study developed a measure for resiliency. However, their resilience measure demonstrated marginal reliability.

Shpiegel (2016) examined the impact of risk and protective factors on the resilience of 351 foster youth approaching the age of emancipation. Similar to Jones (2012), this study measured resilience as a composite score combining six domains: educational attainment, and avoidance of teen pregnancy, homelessness, mental illness, substance use and criminal involvement. Findings demonstrated that a history of physical abuse, a history of sexual abuse, placement instability and a history of mental illness and history of criminal involvement in youths' original families were associated with lower resilience. Interestingly, none of the protective factors examined in this study (i.e., positive outlook, religiosity, school factors, reading level, helpfulness of their current caseworker and the people they currently lived with) contributed significantly to resilience.

Daining and DePanfilis (2007) examined the impact of personal and interpersonal factors on the resilience of 189 young adults who left foster care during a one-year period. This study measured resilience as a composite score of six outcome domains: education participation, employment history, and avoidance of early parenthood, homelessness, drug use, and criminal activity. The independent variables of the study were support and stress (i.e., perceived levels of familial, peer, and spiritual support; global life stress). Overall, the majority of youth in their sample demonstrated resilience across multiple domains of functioning. They found that youth who were female, youth who exited care at an older age, and youth who perceived less global stress demonstrated higher resilience. Moreover, youth who reported higher levels of social support from friends and family demonstrated higher resilience, as did youth who reported greater spiritual support.

One recent mixed-methods study investigated internal and interpersonal resilience and betrayal trauma in a sample of 20 young adults between the ages of 18 and 24 who had been in formal out-of-home care of any type (Carroll, 2020). To measure resilience, the Child and Youth Resiliency Measure-28 (CYRM-28; Ungar et al., 2008) was employed. This measure was developed to (a) study resilience cross-culturally and (b) discover the internal and external assets that most influence positive developmental outcomes. Statistical analyses found that participants with higher resilience scored lower on measurements of perceived stress and post-traumatic stress and scored higher on the measurement of betrayal trauma. Those with greater betrayal trauma scored higher on measurements of perceived stress and post-traumatic stress and scored lower on the measurement of emotion regulation. Finally, participants with greater perceived stress scored higher on measurements of betrayal trauma and post-traumatic stress. A limitation of this study is the sample, specifically its small size and its disproportionate number of female participants. Although recruitment of this population is challenging, future research on former foster youth should strive to be conducted with larger, more representative samples.

Most resilience research with foster youth is informed by Luthar et al.'s (2000) and McGloin and Widom's (2001) approach to measure resilience, comprised of multiple domains and assigned values to create a resilience composite score. Moreover, there are very few existing studies on resilience among foster youth that examine both external and internal indicators of resilience (e.g., Jones, 2012; Shpiegel, 2016; Yates & Grey, 2012). To advance the field's understanding of resilience among foster youth, the inclusion of both internal and external outcomes of resilience is strongly warranted; earlier resilience research provides evidence of significant heterogeneity in functioning across adjustment domains (e.g., Luthar, 1991; Luthar et al., 1993; O'Dougherty-Wright et al., 1997).

Table 6. Resilience studies in the population of foster youth

Study	Methodology	Sample characteristics	Conceptual framework of resilience	Measurement of resilience	Coding of resilience
Carroll (2020)	Mixed methods	*n* = 20	Youth between 18 and 24 years of age and had exited care at least 1 year before the time of the interview.	Guided by psychological definitions of resilience (Bonanno, 2005; Easterbrooks et al., 2013; Goldstein et al., 2013; Hass et al., 2014; Jones, 2012; Merdinger et al., 2002; Windle et al., 2011) but utilizes the framework presented by Ungar (2006).	Resilience is operationalized as (a) an individual's ability to tap into life- and health-sustaining resources available to them and (b) the provision of necessary resources by that individual's social and environmental context. This study employed the Child and Youth Resiliency Measure-28 (CYRM-28; Ungar et al., 2008).	The CYRM-28 (Ungar et al., 2008) is a 28-item questionnaire that explores resilience by asking participants to what extent each item describes them on a Likert-type scale from 1 (not at all) to 5 (a lot). The CYRM-28 groups items into three themes: individual, caregiver/familial, and contextual.
Cheung et al. (2021)	Qualitative	*n* = 18	Students who had a foster care background (*n* = 13) and students with no foster care background	Referenced conceptualization of resilience described by Fraser et al. (1999) and Wolin and Wolin (1993).	Strengths most often noted by participants included: social support; insight; initiative; self-efficacy; boundary setting; appraisal;	They utilized the template method (Brooks et al., 2015) to identify internal and external strengths discussed by participants.

			(n = 5) between 18 and 21 years of age at a large university in the southwest who had successfully completed their first year.		creativity/flexibility; commitment; communication; morality/spirituality; humor.	
Daining & DePanfilis (2007)	Quantitative	n = 100	Youth aged 18 years or older who left foster care or kinship care between October 1, 1999 and September 30, 2000, and who did not reenter the child welfare system.	Guided by the approach described by McGloin & Widom (2001) to measure multiple domains of favorable outcomes.	Outcomes of resilience included: educational achievement; employment history; parenthood; homelessness; health risk behaviors; and criminal activity.	Each outcome was coded on a scale from 0 to 2 with higher scores indicating more favorable outcomes for each of the domains.

Drapeau et al. (2007)	Qualitative	*n* = 12	Youth between 14 and 17 years of age who were in foster care under the Youth Protection Act in Québec City.	Took a takes a constructivist approach, focusing on the definition that the young people themselves gave to resilience. Competency domains, along with an initial list of possible indicators, were drawn from the literature (Luthar, 1997; Masten et al., 1999).	An identification grid was developed with these practitioners to operationally determine the definition criteria of resilience. The grid has five competency domains: (1) scholastic participation or employability; (2) relationships with peers; (3) relationships with adults; (4) personal characteristics; (5) behavior.	The caseworker assessed the adolescent on a 5-point Likert scale. To be qualified as resilient, the teenager had to be considered competent in three of the five domains.
Edmond et al. (2009)	Quantitative	*n* = 99	Sexually abused girls aged 15-18 years in foster care or in out-of-home placements.	A conceptual framework for resilience that emphasizes three interactive factors: characteristics of the child, their family, and their social environment (Luthar et al., 2000).	Utilized the Youth Self-Report (YSR) version of the Child Behavior Checklist (CBCL; Achenbach, 1991) to assess the mental health and behavioral problems of the participants.	Participants were categorized as having a resilient trajectory if they had a normal cutoff score on the YSR scale. Participants having a borderline or clinical cut off score on the YSR scale

						were categorized as currently symptomatic.
Hass & Graydon (2009)	Mixed methods	*n* = 144	Young adults identified by the Orangewood Foundation as academically successful who were removed from their biological parents as children.	Suggests that resilience is, in part, a function of innate cognitive abilities, but is also dependent on exposure to models of problem solving through instruction and modeling from external supports.	Utilized the California Healthy Kids Survey Resilience Module (CHKS; Constantine & Benard, 2001) which is a youth self-report data collection system that provides health risk assessment and resilience information. The cluster areas measured by the CHKS are caring relationships, meaningful participation, high expectations, social competence, autonomy and sense of self, and sense of meaning and purpose.	Participants' responses to the questions from the CHKS were analyzed for themes using the guidelines for qualitative research proposed by Strauss and Corbin (1990) and Seidel's (1998) qualitative data analysis model.

Hines et al. (2005)	Mixed methods	*n* = 14	Former foster youth currently attending a 4-year university.	Combined literature on maltreatment, young adult development, and resilience and used a multifactorial approach to resilience. They constructed a dynamic process model to serve as a framework for examining the mechanisms that underlie resilience.	Two critical conditions in their study of resilience are: (1) the exposure to significant threat or severe adversity (i.e., childhood maltreatment); and (2) the achievement of positive adaptation despite adversity (i.e., educational achievement).	In-depth interviews were used to inductively discover new factors and correlates related to resilience.
Jones (2012)	Quantitative	*n* = 129	Youth who were former residents of residential education facility and were at least 17 years old.	Guided by the approach described by Daining & Panfilis, 2007; Luthar et al., 2000; McGloin & Widom, 2001	Domains of resilience included: maintaining connection to the adult world through employment and/or education; having stable housing, avoiding substance abuse, and not having contact with the criminal justice system.	Each domain was coded on a scale of 0–2 with 2 being the most desired outcome, and 0 being the most negative outcome.
Shpiegel (2016)	Quantitative	*n* = 351	Adolescents in the custody	Guided by the approach	Indicators of resilience included:	Each indicator was coded on a

			of the Missouri Children's Division and who were approximately 17 years old.	described by Daining & DePanfilis, 2007; Luthar et al., 2000; and McGloin & Widom, 2001	educational attainment; and avoidance of teen pregnancy, homelessness, mental illness, substance use and criminal involvement.	scale of 0 to 2, with higher scores representing higher resilience.
Strolin-Goltzman et al. (2016)	Mixed methods	$n = 102$	Foster youth in one small northeastern state between the ages of 15-21.	Informed by the definition of educational resilience (Benzies & Myusiuk, 2009; Bryan, 2005; Schroeter et al., 2015; Solberg et al., 2007).	Educational resilience was operationalized for this study as college entry or intent to attend college (for those still in high school).	Educational resilience was treated as a dichotomous dependent variable.
Yates & Grey (2012)	Mixed methods	$n = 164$	Youth who emancipated from the California foster care system and were between the ages of 17 and 21 years at the time of assessment.	Employed both external and internal measures of adjustment as identified by developmental task theory (Havighurst, 1972) and informed by a systems perspective.	Age-salient dimensions of adaptive functioning included: educational competence; occupational competence; civic engagement; relational competence; self-esteem; and depressive symptoms	Independent raters evaluated each youth's adjustment in the domains of education, employment, civic engagement, and relational well-being using 7-point rating scales. Self-esteem was

					measured utilizing the Rosenberg Self-Esteem Scale (Rosenberg, 1965, 1989 and depressive symptoms was measured utilizing the Depression subscale of the Brief Symptom Inventory (BSI; Derogatis, 1993).

### ii.	Resilience as a multidimensional phenomenon

The vast majority of studies examining resilience among foster youth largely focus on their manifest or external outcomes and pay little attention to their internal functioning. In response to the dearth of research on multilevel resilience, Yates and Grey (2012) employed a latent profile analysis to identify distinct patterns of multiform competence among 164 emancipated foster youth. In contexts of prior or current adversity, resilience reflects multiform competence characterized by both the absence of psychopathology and the presence of adaptive capacities to negotiate age-salient issues effectively (Garmezy & Masten, 1986; Luthar, Cicchetti, & Becker, 2000; Masten, 2001). Age-salient dimensions of adaptive functioning were assessed via semi-structured interviews and questionnaires across both internal and external domains, which included education, employment, civic engagement (i.e., the degree to which each participant engaged with her/his community), relational well-being, self-esteem, and depressive symptoms. The largest group of emancipated foster youth exhibited a *resilient* profile in which they were faring reasonably well in all domains despite marked adversity (47%). Their findings highlight the need for multidimensional models of risk and resilience and illustrate the importance of heterogeneity in the adaptive outcomes of emancipated foster youth. About 16 percent of youth evidenced notable difficulties across all measures of adaptation in this study, and the remaining 36.7% exhibited either *internal* (30%) or *external* (6.7%) resilience.

Although these data confirm that youth can be resilient in one domain but not in others (Garmezy, 1993), the profiles that Yates and Grey (2012) generated do not elucidate the factors and processes by which young people arrived at heterogeneous outcomes. For instance, it is unclear what factors and processes helped explain why some youth evidenced external resilience but not internal resilience. Additionally, although Yates and Grey (2012) provided strong theoretical justification for a multidimensional study on resilience, they provided little theoretical justification for the outcome domains they assessed and the relative importance of each for the sample of youth in their study. It's unclear for example, why they included domains like self-esteem and depressive symptoms over other similar domains like self-worth and symptoms of anxiety. Other early studies on resilience among foster youth also neglected to elaborate on why they chose the outcome domains that they did and often referenced other earlier studies to justify their theoretical positioning (e.g., Daining & DePanfilis, 2007; Drapeau et al., 2014). As Luthar et al. (2000) emphasized, for the study of resilience to progress, researchers must provide theoretical justification on both empirical and conceptual grounds for the selection of their resilience outcomes.

### iii.	The representation of resilience as single indicator outcomes

Several scholars have represented resilience based on a single indicator only, including postsecondary educational attainment or psychological health (e.g., Cheung et al., 2021; Edmond et al., 2006; Hass & Graydon, 2009; Strolin-Goltzman et al., 2016). Edmond et al. (2006) examined psychological resilience among a sample of 99 sexually abused girls, aged 15 to 18 years in foster care or other out-of-home placements. Girls in this study without mental health and behavioral problems were categorized as having resilient trajectories, specifically, having a normal cutoff score on the Youth Self-Report (YSR) of the Child Behavior Checklist (CBCL;

Achenbach, 1991). Conversely, girls identified as having a borderline or clinical cut off score on the YSR scale were categorized as *currently symptomatic*. Differences were examined between girls identified as having resilient trajectories with girls who are experiencing clinically significant mental health and behavioral problems. Edmond and colleagues (2006) employed a logistic regression with resilience trajectory status as the outcome, and four predictor variables: future orientation, positive peer behavior, negative peer behavior, and certainty of high school plans. Findings demonstrated that the predictors were able to distinguish between the girls with resilient trajectories and the girls who were currently symptomatic. Specifically, girls with the resilient trajectories have a positive view of their future, which engenders a sense of hopefulness, and they are doing well in school, which increases their likelihood of experiencing multiple positive outcomes in their lives. Moreover, this single-indicator study suggests that every effort should be made to provide the necessary multidimensional supports to facilitate the continued success of sexually abused girls in foster care.

Strolin-Goltzman and colleagues (2016) focused on the educational well-being and resilience among a purposive sample of 102 foster youth, ages 15-21, who completed the local Youth Development Program (YDP) survey in one small northeastern state. YDP is a voluntary program that assists youth in foster care ages 14–22 while they transition out of care into adulthood. Educational resilience was defined in this study as college entry or intent to attend college (for those still in high school). Logistic regression analysis was used to explore the factors associated with educational resilience, which included gender, age, number of home placements, and student engagement (i.e., teacher-student relationships, peer supports, and future goals and expectations). Findings demonstrated that when controlling for number of school placements, race, kinship placements, age, and gender, as the participant's rating of student engagement increased by one unit, the likelihood of educational resilience increased by approximately, five times. In summary, findings from this study suggest that positive relationships with adult mentors and positive peer influences can ease transitions related to placement change, and reinforce emotional connections which may reduce the impact of trauma while facilitating educational success and post-secondary attendance.

A qualitative study examined the strengths (or resilience) among a sample of 13 foster youth who had a foster care background and 5 young people who were Pell-eligible but did not have any foster care experience during their transition to their first year in college (Cheung et al., 2021). Cheung and colleagues (2021) utilized the template method (Brooks et al., 2015) to identify internal and external strengths discussed by participants. Findings suggest that both samples experienced a high level of stress during their first year transition to college. However, unlike the comparison group, the sample with foster care experience reported challenges associated with complicated familial relationships. Both groups identified a set of protective factors that helped them to navigate their transition; the strengths of boundary setting and self-efficacy were particularly important for the sample with foster care experience. Findings should be interpreted with caution considering its small sample size and the composite of the comparison group. Nonetheless, this study suggests that understanding the external and internal strengths that can be activated in the process of resilience for students at increased risk of poor outcomes is helpful for colleges and universities as they develop programs to support these students. For instance, developing a vibrant array of services to meet the diverse needs of students (Tinto, 2010; Kuh, 2009; Fowler & Boylan, 2010), fostering a sense of belonging

through community building on campus (Taub, 1998), and developing a growth mind-set (Dweck, 2006), and recognizing the value of microinteractions with advisors, professors, and other staff (Engstrom & Tinto, 2008; Schreiner et al., 2011) are all important to the resilience among foster youth and other marginalized students in college.

The single resilience-outcome approach among these studies has been criticized for being narrow such that successful functioning in one domain may come at the expense of vulnerability in other areas (Shpiegel, 2016; Merdinger et al., 2005; Yates & Grey, 2012). However, existing studies on single resilience-outcomes have identified empirically relevant PPFPs of specific, single resilience-outcomes and have provided concrete suggestions to reduce disparities in those outcomes as informed by those PPFPs (i.e., Edmond et al., 2006; Strolin-Goltzman et al., 2016). Previous studies that assess multi-outcome domains of resilience among foster youth found small effects of protective factors in the variance of youths' resilience (e.g., Daining & DePanfilis, 2007; Shpiegel, 2016). If research continues to examine the contribution of protective factors on more than one domain of resilience at a time, we may underestimate their effects on specific domains of resilience. It appears that the field may actually benefit from further single resilience-outcome studies to continue to inform current policies, practices, and interventions designed to improve specific outcomes.

iv.   Summary of research with foster youth

Despite the conceptual and measurement challenges in the study of resilience among foster youth, good progress has been made. Although the extant literature on resilience as a whole has relied heavily and narrowly on behaviorally biased domains of resilience (Olsson et al., 2003), more recent studies have intentionally and successfully explored patterns of internal and external resilience (or multiform competence) among foster youth, as informed by emerging adulthood stage (Arnett, 2000) and the developmental tasks perspective (Havighurst, 1972; Masten & Coatsworth, 1998). It is often challenging to look at patterns of internal resilience among adversity exposed youth, particularly older youth, given limitations often presented by available data. For instance, Shpiegel and colleagues (2021) were unable to examine internal resilience in their sample of transition-age youth because there were no internal indicators of functioning to select from the NYTD. It has been easier and more feasible for qualitative studies to identify internal strengths in their samples of foster youth (e.g., Cheung et al., 2021; Drapeau et al., 2007; Hines et al., 2005). Researchers should aim to highlight the importance of capturing internal processes among foster youth and their outcomes to promote data richness.

Existing studies on resilience among foster youth present little consistency regarding specific correlates, or risk and protective factors, of resilience. Some studies focused on individual factors, including self-esteem and emotion regulation (Carroll, 2020); future orientation and religion (Edmond et al., 2009); gratitude and sense of coherence (Hass & Graydon, 2009); maintaining good mental health (Jones, 2012); and a positive outlook (Shpiegel, 2016). Other recent studies focused on child welfare factors, such as child maltreatment (Shpiegel, 2016; Yates & Grey, 2012) and placement characteristics (Shpiegel, 2016; Shpiegel et al., 2021). Studies also focused on environmental factors, including perceived social support (Daining & DePanfilis, 2007; Edmond et al., 2009; Jones, 2012; Shpiegel, 2016; Strolin-Goltzman et al., 2016), religious or spiritual support (Daining & DePanfilis, 2007; Edmond et al., 2009; Shpiegel,

2016) and social service utilization (Jones, 2012). Although specific findings vary, risk factors have emerged as consistently associated with lower resilience. Findings on the impact of protective factors, after controlling for demographic factors and risk factors, also vary across studies and demonstrate small to no effects on the variance of youths' resilience as a whole. Despite the challenges in examining the correlates of resilience among foster youth, those examined in recent studies are empirically relevant and have been consistently associated with positive or negative outcomes during the transition to adulthood.

Importantly, there are few studies that examine resilience as single-indicator outcomes. Despite the criticism directed at these studies, particularly from researchers who ascribe to a multidimensional approach of resilience, these studies have brought unique insight to the PPFPs of specific resilience outcomes, including psychological resilience (Edmond et al., 2009) and educational resilience (Cheung et al., 2021; Strolin-Goltzman et al., 2016). The population of transition-age youth is not a homogeneous one, and not all young people will benefit from services and interventions concerning all domains in the transition to adulthood. Moreover, focusing on single-indicator outcomes may reveal heterogeneous functioning for specific domains among young people in and aging out of care. For instance, a person-centered analysis may reveal subgroups of young people and their unique combinations of PPFPs for a specific outcome, which may in turn, shape current practices and intervention efforts for that outcome.

Lastly, the field may benefit from a multidimensional resilience scale designed for older, former foster youth where individual, interpersonal, and ecological factors are captured at once. Only one recent study has utilized an existing scale of resilience (i.e., the CYRM-28; Carroll, 2020) and another early study created a measure of resilience for former foster youth with marginal reliability (Jones, 2012). Ungar et al.'s (2008) Child and Youth Resiliency Measure-28 (CYRM-28) has become increasingly widely used among resilience researchers. The CYRM-28 is a 28-item measure whose development was prompted by the need for a more inclusive understanding of resilience across cultures and contexts (Seccombe, 2002; Ungar, 2005). The CYRM was initially developed using a mixed-methods (qualitative and quantitative) design in 11 countries with 1,451 youth aged 13–23. In a validation study of the CYRM-28 among Canadian youth, Liebenberg and colleagues (2012) identified three subscales reflecting the major categories of resilience. The first subscale reflects an individual factor that includes personal skills, peer support, and social skills (4 items). The second subscale deals with caregiving, as reflected in physical caregiving as well as psychological caregiving. The third subscale comprises contextual components that facilitate a sense of belonging in youth, components related to spirituality, culture, and education.

The structure of the CRYM-28 allows for an understanding of not only the dynamics and presence of three subscales at play in the lives of youth, but also has the potential to provide a more detailed understanding of the subtle characteristics of these processes (Liebenberg et al., 2012). Liebenberg and colleagues (2012) found resilience to be a hierarchical construct with different interrelated components. That is, while all subscales of resilience are correlated they tend to be more strongly correlated within factors than across factors. Presenting a measure that identifies resilience processes in this detailed manner facilitates the abilities of clinicians and researchers to examine the processes at play in the lives of youth exposed to adversity, and importantly, explain how these processes operate in different contexts. A resilience measure can

serve as a structured and standardized clinical interview protocol that may help advance clinicians' capacity to assess risk exposure and contextually and culturally meaningful promotive and protective factors and processes (Ungar & Theron, 2020).

While the findings support the CYRM-28 as a valid measure of resilience, Liebenberg and colleagues (2012) note two limitations. Although they include cross-ethnic analysis, the validation study is based only on a Canadian sample of youth. Future studies need to replicate the study samples of youth internationally in order to maintain the instrument's distinction as a cross culturally relevant measure of resilience. Second, although the sample size is large, participants were not randomly selected. Discriminant validity would need to be established using alternative samples of youth. Nevertheless, as statistical evidence around the CYRM-28 grows (see Jefferies et al., 2019; Gatt et al., 2020), the utilization of the measure as a global scale of resilience, or, the use of its subscales to measure specific processes associated with resilience also grows.

Despite the robustness of the CRYM-28 measure (Ungar, 2008), it does not appear to be useful or suitable to this study's examination of resilience among foster youth in postsecondary education. The first subscale measuring personal skills, peer support, and social skills has been widely examined in the current literature of educational success among former foster youth. The second subscale concerns caregiving and many, if not most, former foster youth have severed ties with their biological caregivers and may not have adults in their lives who are providing them consistent caregiving and guidance in their educational journey. The third subscale examines various contextual factors (i.e., a sense of belonging, spirituality, culture, and education), but this dissertation is examining resilience in the context of higher education. Moreover, the CRYM-28 (Ungar, 2008) has only been tested with young people under the age of 25 (to my knowledge) and survey items may be developmentally unsuitable for many former foster youth who are in college.

There is no gold standard measure of resilience; however, current resilience researchers push for an increased understanding of resilience as a multidimensional phenomenon, comprised of adversity, resilience-associated factors, and the interaction of resilience-associated factors (Luthar et al., 2000; Ungar, 2008). This research is especially relevant and warranted among former foster youth who are participating in higher education, many of whom will experience significant challenges to earn a college degree. Inconsistencies in the literature on how resilience is defined and measured (Masten & Cicchetti, 2016) has been further complicated by the emerging consensus that resilience is a systems concept.

3. Resilience in a developmental systems framework

As described in the previous chapter, the focus of research on resilience was initially concerned with the negative consequences of adversity and was conceptualized primarily in terms of risks for psychopathology, maladaptation, and other problematic outcomes. However, variations in the impact of similar adversities on individuals and families were recognized (Gottesman, 1974; Henry et al., 2015; Masten & Cicchetti, 2016) and pioneering scholars of resilience in child and family studies soon realized the importance of understanding factors and processes that promoted positive adaptation or resilience. Moreover, research on resilience required operational

definitions and measures but this endeavor has been plagued with challenges (Hawley, 2013; Luthar, 2006; Masten, 2014; Masten & Cicchetti, 2016). Resilience as a concept has been viewed and defined as a trait, a process, an outcome or pattern of the life course, or a broad conceptual domain that encompasses all these ideas (Luthar, 2006; Masten, Best, & Garmezy, 1990; Boss et al., 2017; DeHaan et al., 2013; Masten, 1999; Masten & Cicchetti, 2016; Panter-Brick & Leckman, 2013; Patterson, 2002). Because of these conceptual differences, investigators have selected a variety of measures aligned with their conceptual definitions of resilience (Masten, 2018) and examined a wide variety of challenges. Positive adaptation has been measured in terms of the competence of the family or individual in meeting normative expectations of family or child functioning. Often, competence was defined by multidimensional criteria, because it was well recognized that families and individual children were expected to be competent in multiple ways. Investigators studying individual resilience often focused on "developmental task" expectations, or criteria for positive behavioral development that change over the life course (Masten, Coatsworth, & Douglas, 1998; Wright et al., 2013), which is largely seen in studies of resilience among foster youth.

Both individual- and family-centered concepts of resilience have roots in systems theory as well as in models of stress and coping (Hawley & DeHaan, 1996; Henry et al., 2015; Masten & Monn, 2015; Walsh, 2016). Over the past decade, systems theory (von Bertalanffy, 1968) has permeated many fields of study, including social work, offering a unifying framework for integrated resilience science (Masten, 2015, 2016). Global challenges involving multiple systems, such as climate change, natural disaster, war and terror, and pandemics, may have sparked this rapid transformation (Boss et al., 2017; Masten, 2014a). Systems theory is a general science of wholeness and proposes that a system is a complex of interacting elements and that they are open to, and interact with their environments. Definitions and models of resilience have changed in combination with this broad shift to systems thinking. In the sciences focused on human development, the prevailing integrative model is described as a "relational developmental systems" framework (Overton, 2013; Lerner et al., 2013; Zelazo, 2013). This framework drew on ideas from multiple disciplines and theories, including ecological theory (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006), developmental systems theory (Gottlieb, 2007; Lerner, 2006; Sameroff, 2010), family systems theory and therapy (Cox & Paley, 1997; Goldenberg & Goldenberg, 2013; Hawley & DeHaan, 1996; Walsh, 2016), models of family stress (Hill, 1949, 1958; Boss, 2002; Boss et al., 2017; Conger & Elder, 1994), developmental psychopathology (Cicchetti, 2006, 2010, 2013; Egeland, Carlson, & Sroufe, 1993; Gottesman, 1974; Masten & Kalstabakken, 2018; Sroufe, Egeland, Carlson, & Collins, 2005), and resilience theory (Masten, 2001, 2014; Rutter, 1987, 2012).

Masten and Cicchetti (2016) summarized salient themes of a systems framework into eight principles. At the heart of these principles are four core attributes of complex adaptive systems which have profound implications for individual and family resilience (Masten, 2018). First, many interacting systems at multiple levels shape the function and development of living systems. Second, the capacity for adaptation of a system and its development are dynamic (i.e., always changing). Third, because of interconnections and interactions inherent to living systems, change can spread across domains and levels of function. Fourth, systems are interdependent. Masten and Cicchetti (2016) claim that these attributes of complex adaptive systems have profound implications for individual and family resilience. Individuals are embedded in families

and other systems (e.g., peer groups, schools), and families in turn are embedded in other systems (e.g., cultures, communities). Interactions of individuals, families, and larger contexts affect all of the interacting systems, although some systems may have greater directional influence (Masten, 2018). From a systems perspective, resilience of a system at one level will depend on the resilience of connected systems. A prominent implication of this systems framework is that resilience should not be construed as a singular or stable trait, as it arises from dynamic interactions involving many processes across and between systems. The resilience of a child or a family is distributed across levels and interacting systems, including relationships (Masten, 2015; Masten & Monn, 2015). Dynamic, interactional systems models also suggest that there will be cascading changes over time across systems and system levels of function (Cox, Mills-Koonce, Propper, & Gariépy, 2010; Masten & Cicchetti, 2010, 2016; Patterson, Reid, & Dishion, 1992).

Current scholarship on resilience among current and former foster youth largely adopts a developmental tasks perspective and has made recent efforts to take a multidimensional perspective to measure resilience. However, the literature is still in its infancy and warrants a framework that represents resilience as multidimensional, interactive and dynamic. For instance, the original Multi-System Model of Resilience (MSMR; see Figure 4) by Liu, Reed, and Girard (2017) represents resilience as a tiered system, akin to systems theory (von Bertalanffy, 1968) and its influence in resilience science. The MSMR is hypothesized to be comprised of three systems that carry sources of resilience. According to Liu and associates (2017), *core resilience*, the innermost system, is comprised of intra-individual factors, or trait-like characteristics within an individual such as physiology or stress-reactive systems that respond to trauma and adversity; health behaviors, and other key biological indicators also make up core resilience. *Internal resilience*, the second system, highlights inter-individual and inter-personal differences and personality characteristics developed or acquired over time, but Liu and colleagues (2017) suspect that some of these factors are also innate. Liu and colleagues (2017) posit that psychosocial constructs acting as measures of resilience can be incorporated based on their scientific merits including autonomy (Masten & Garmezy, 1985), self-control and regulation (Blair, Granger, & Razza; 2005), hardiness (Kobasa, Maddi, Puccetti & Zola, 1985), psychological toughness (Gucciardi, Gordon, & Dimmock, 2009), coping style and appraisal (Chen, Langer, Raphaelson, & Matthews, 2004; Obradovic, 2012), past experiences with adversity (Seery et al., 2010), interpersonal skills such as resourcefulness (MacKinnon & Derickson, 2012), social competence (Griffin, Botvin, Scheier, Epstein, & Doyle, 2002), and grit (Duckworth & Quinn, 2009). *External resilience*, the outermost system, contextualizes each individual's unique circumstances from a larger socio-ecological milieu. The socio-ecological context includes larger socio-environmental institutions, both informal and formal, such as socioeconomic status, income, or geographical location. Elements within this system can include access to healthcare, social services, social supports, religious social supports, and other external resources that interact with an individual. These three systems of resilience can interact with one another to determine functioning and outcome (Liu et al., 2017).

Figure 4. The original multi-system model of resilience (Liu et al., 2017)
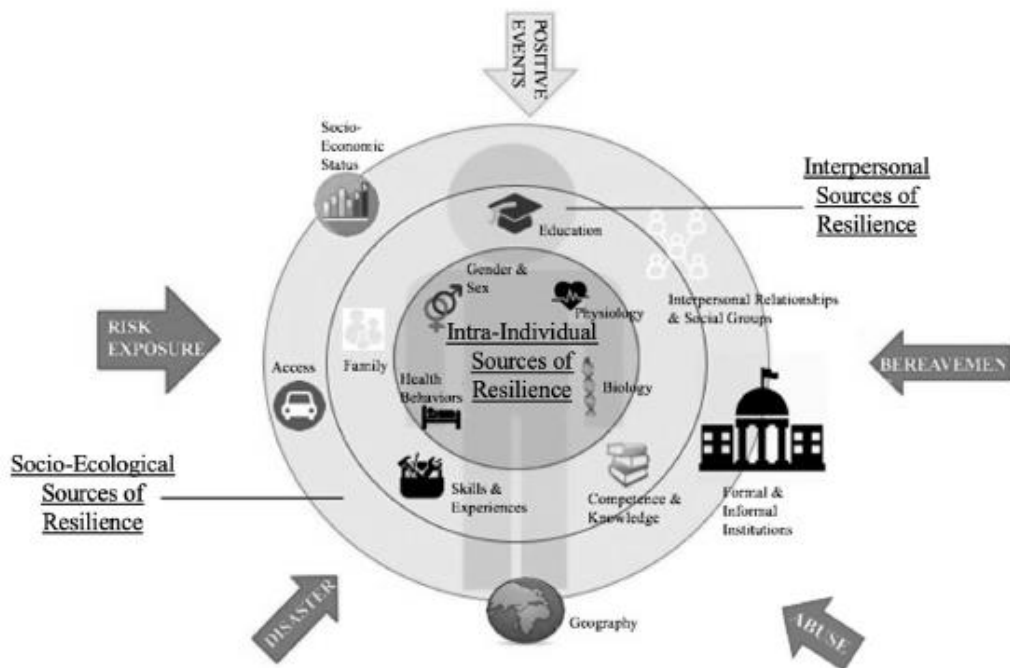
Despite the multi-layered and dynamic nature of the original MSMR (Liu et al., 2017), there are a few notable flaws in this framework. First, the model is not risk-driven or predicated on the experience of trauma, which does not align with how Masten (2018) and other prominent resilience scholars commonly define resilience: "The capacity of a system to adapt successfully to significant challenges that threaten its function, viability, or development." Current and former foster youth are a specific group of young people who encountered and will likely continue to encounter significant challenges in their future, particularly in the domain of higher education. It is fundamentally important in resilience science to understand factors and processes that promote positive adaptation or mitigate the effects of risk or adversity (Masten, 2018). Adversity, processes, and outcomes are all necessary components in resilience science (Van Breda, 2018). Second, the first system of Liu and colleagues' (2017) MSMR, core resilience, is operationalized as physiological indicators (i.e., stress-reactive systems and epigenetics) and behavioral indicators (i.e., health behaviors). One could argue that these are two distinct categories of resilience and that coupling these two categories into one system may obscure their unique contributions to resilience. Moreover, they posit that core resilience embodies the "trait" characteristics of resilience, insinuating that physiological/epigenetic and behavioral indicators are relatively stable throughout one's life. Ascribing "trait" to these characteristics is unfitting given that epigenetics is the study of how behaviors and environment can cause changes that affect the way genes work (CFDC, 2020). Both biological and behavioral systems are dynamic and malleable to change throughout one's life. Third, though Liu and colleagues (2017) claim that the MSMR is not trauma-contingent, for their second system of resilience, internal resilience, they only recommend factors that correlate positively with adaptive outcomes to adversity (resilience). It is imperative for resilience researchers to only consider factors that

correlate with a positive adaptation to adversity, and that those factors conceptually and empirically correlate with those positive outcomes. Last, the outermost system of Liu and colleagues' (2017) MSMR, external resilience, is quite broad, ranging from personal elements (e.g., perceived social status; cultural ideology; access to healthcare and social services) to geo-political elements (community outreach programs, socio-geographical identity; spiritual or religious community) of resilience. Though all these external elements are important, researchers should clearly explicate the external elements they select to measure positive outcomes.

Recent advancements by Liu, Reed, and Fung (2020) have been made to the MSMR. Core resilience was renamed to internal resilience and is conceptualized as the innermost system. This system includes health and health-related sources that are trait-like in nature and serve as a relatively stable foundation of resilience throughout life. External resilience is conceptualized as the outermost system and includes structural determinants of resilience, including access to services, healthcare, and community-level infrastructures that individuals are nested within. In between the internal and external systems is a system that reflects on an individual's orientation and response towards life and their external environment and circumstances, termed "Coping and Pursuits."[11] In summary, the MSMR model provides some insights into how all three systems may work together to facilitate various trajectories in response to adversity. However, a persistent challenge to construct a quantitative tool which taps into models of multidimensional resilience and to appropriately represent distinct systems remains (Liu, Reed, & Fung, 2020) and is likely to persist in the continual evolution of multidimensional resilience models. Other researchers have encountered difficulties to adapt existing resilience scales to be inclusive and representative for research examining socio-cultural resilience in the community (Mendenhall & Kim, 2019).

Despite the absence of a resilience model that can be adapted to be culturally and developmentally representative, advancements are continuing to be made to the MSMR (Liu et al., 2017; 2020) as well as the development of a quantitative tool which taps into the MSMR (Liu et al., 2020). Though not perfect, the MSMR (Liu et al., 2017; 2020) generally follows Masten's (2018) four core principles of a systems framework in resilience science: many interacting systems at multiple levels shape the function and development of living systems; the capacity for adaptation of a system and its development are dynamic; because of interconnections and interactions inherent to living systems, change can spread across domains and levels of function; systems are interdependent. This dissertation mirrored the three-level systems design of the original MSMR (Liu et al., 2017) to develop a framework relevant to resilience among former foster youth in higher education, titled the Multidimensional Model of Educational Resilience (MDM-ER). The selection of resilience indicators categorized under the MDM-ER were empirically and conceptually motivated by the literature on the protective and promotive factors associated with positive educational outcomes among former foster youth. A disclaimer is that this dissertation did not examine all possible sources of educational resilience, as there are many, but selected those that were: 1) most relevant to the literature on the educational success of former foster youth; 2) most malleable, and; 3) most informational to social service providers, educators, and other staff who directly serve current and former foster youth in higher education. The next section will describe the MDM-ER and how it borrows from the original MSMR (Liu et al., 2017).

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[11] No further information on resources or factors that comprise "Coping & Pursuits" was provided by authors.

The Multidimensional Model of Educational Resilience (MDM-ER)

i.   **Foundational resilience**

In this dissertation, the original MSMR's (Liu et al., 2017) system of core resilience is conceptualized as *foundational resilience* and is measured in terms of frequency of self-care practices (see Figure 5). The MSMR (Liu et al., 2017) includes biological and physiological indicators under its core resilience system that are relevant to resilience processes. The MDM-ER will examine self-care practices—one of various health behaviors—which is foundational to healthy physical and cognitive functioning among young people who are attending college. Self-care behaviors have been demonstrated to be especially important during the college years, which can be a time of heightened distress (Bewick et al., 2010). Self-care practices are self-initiated activities that maintain and promote physical and emotional health (Myers et al., 2012) and include healthy eating, sleeping, and exercising.

Figure 5. Core resilience (Liu et al., 2017) and Foundational resilience (Cazares-Minero, 2022)

Original MSMR: Core resilience (Liu et al., 2017)

Physiological or stress-reactive systems

Health behaviors

Biological indicators like gender and racial/ethnic group affiliation

MDM-ER: Foundational resilience

Self-care practices including healthy eating, drinking water, sleeping, and de-stressing activities
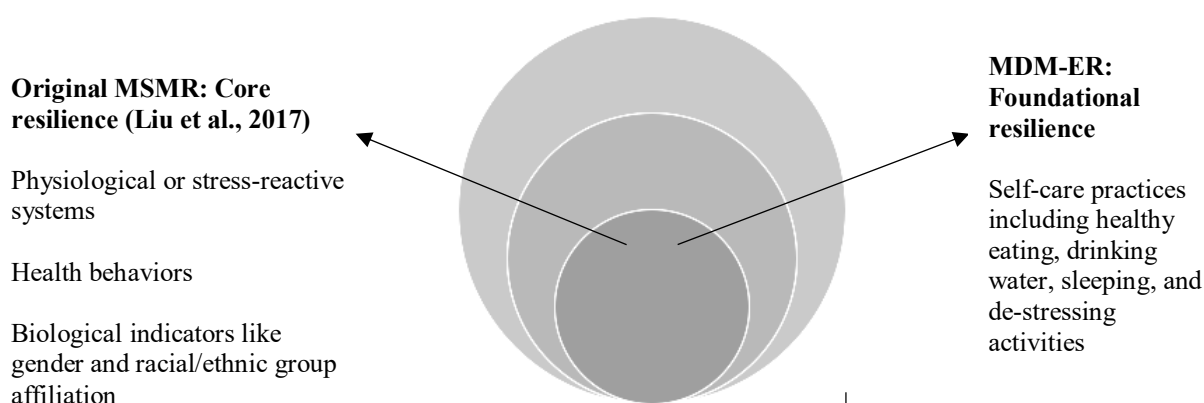
ii.   **Internal resilience**

In this dissertation, the original MSMR's (Liu et al., 2017) system of internal resilience is also conceptualized as *internal resilience* and is measured in terms of self-esteem, specifically self-liking and self-competence (See Figure 6). Liu and colleagues (2017) noted various psychosocial constructs that could act as measures of resilience under the system of internal resilience including autonomy (Masten & Garmezy, 1985), and self-control and regulation (Blair, Granger, & Razza; 2005). This dissertation selected self-liking and self-competence as measures of internal resilience given their salience in the transition out of care among foster youth. Both these constructs are rooted in evaluative experiences of oneself and past research demonstrating that current and former foster youth may struggle to acquire a positive self-image due to ruptured family ties and placement instability while in foster care (Herrick & Piccus, 2005; Kools, 1997; Moss, 2009; Rustin, 2006). Many theorists, such as Freud, Rogers, and Maslow, have stressed the critical role of self-esteem in the development of healthy functioning, whereas others, such as Mischel, have suggested a link between social functioning and the development of self-esteem

(Marshall, Anderson, & Champagne, 1997). Moreover, developing positive evaluative experiences of oneself is critical in the transition to adulthood and may promote more positive college experiences among former foster youth.

Figure 6. Internal resilience (Liu et al., 2017) and Internal resilience (Cazares-Minero, 2022)

Original MSMR: Internal resilience (Liu et al., 2017)

Inter-individual and inter-personal differences and personality characteristics developed or acquired over time

MDM-ER: Internal resilience

Self-esteem (i.e., self-liking and self-competence)
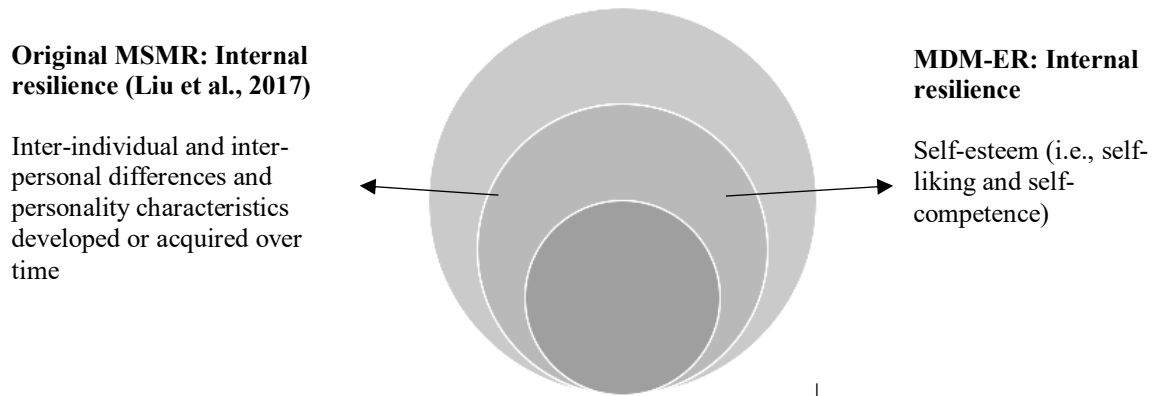
iii.　　Interpersonal resilience

In this dissertation, the original MSMR's (Liu et al., 2017) system of external resilience is conceptualized as *interpersonal resilience* and is measured in terms of perceived family support, institutional support at their university, and peer support (See Figure 7). Though the original MSMR (Liu et al., 2017) posits that various socio-environmental factors, localized within the individual (e.g., socioeconomic status, income), within a geographic location (e.g., spiritual or religious community, community outreach programs), or within larger institutions (e.g. schools, healthcare system) comprise external resilience, research among current and former foster youth demonstrates that social networks as resources for sustainability become an important form of social capital. A small body of literature underscores the importance biological relatives and foster parents (Casey Family Programs, 2003; Morton, 2016; Rios, 2008; Steinberg, 1997), mentors, and other stable adult figures in the educational success of former foster youth (Ahrens et al., 2008; Haas, Allen, & Amoah, 2014; Hines, Merdinger, & Wyatt, 2005; Okpych & Courtney, 2017). Additionally, research indicates that college environments shape former foster youths' educational experiences (Okuma, 2014) and that participating in a campus support program may promote positive college outcomes among former foster youth (Okpych et al., 2020). Although there is no research examining the role of peers on the educational outcomes among former foster youth, other research suggest that peer networks are important resources for survival among adversity-exposed youth (Garrett et al., 2008; Toro et al., 2006).

Figure 7. External resilience (Liu et al., 2017) and Interpersonal resilience (Cazares-Minero, 2022)

Original MSMR: External resilience (Liu et al., 2017)

Larger socio-environmental institutions, both informal and formal, such as socioeconomic status, income, or geographical location.

MDM-ER: Interpersonal resilience

Perceived family support, institutional support, peer support
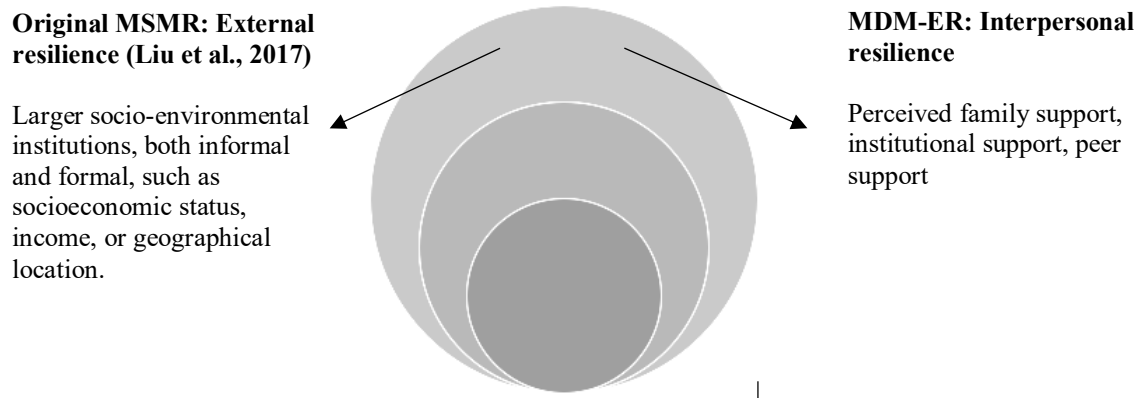
In summary, this dissertation's conceptualization of the multidimensional model of educational resilience (MDM-ER; see Figure 8) among former foster youth participating in postsecondary education is rooted in systems theory and borrows from the conceptual structure of the MSMR (Liu et al., 2017), though it more precisely operationalizes each domain of resilience as it pertains to postsecondary education. The innermost system of the MDM-ER, foundational resilience, is conceptualized as self-care practices. This system is hypothesized to contribute to positive and healthy, physiological and psychological functioning among young people in higher education. The outermost system of the MDM-ER, interpersonal resilience, is conceptualized as perceived family support, institutional support, and peer support. This system is hypothesized to enhance the college experience among former foster youth via informal and formal supports. The middle system of the MDM-ER, internal resilience, is conceptualized as self-esteem, specifically self-liking and self-competence. This system is hypothesized to contribute to the healthy psychological and interpersonal functioning among former foster youth in college.

Figure 8. Multidimensional Model of Educational Resilience (MDM-ER) among former foster youth in postsecondary education
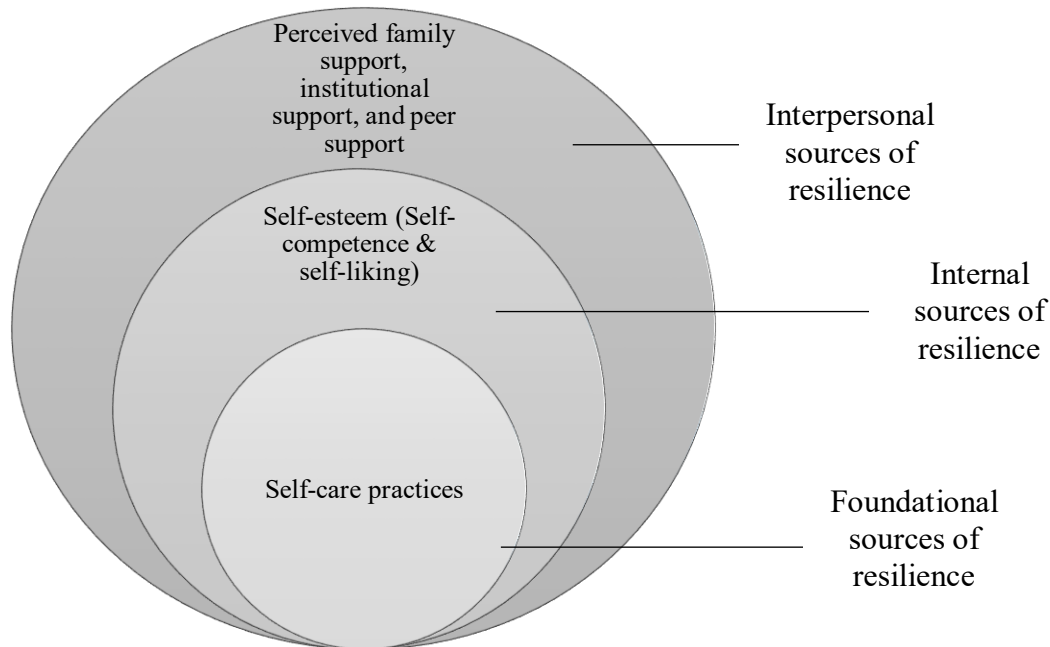
Study Purpose

Investigation of within-group differences of educational resilience would provide a more nuanced understanding of the multidimensional resources possessed among former foster youth and offer a basis for continued theoretical conceptualization of this construct. Recognizing and responding competently to heterogeneity in educational resilience among former foster youth in higher education is essential in our current efforts to promote college enrollment, persistence, and graduation in this population. To this author's knowledge mixture models have not been applied to explore educational resilience for this population. Moreover, it is unknown whether latent profile membership would be practically meaningful, for instance, by exhibiting theoretically meaningful associations with demographic or early foster care experiences. Knowledge of variation concerning educational resilience, as informed by a multidimensional framework, may elucidate factors that help explain the postsecondary educational success observed in a small subpopulation of former foster youth. Such knowledge about their educational resilience could also inform current intervention efforts to be even more nuanced, subtle, and meaningful in terms of differential responsiveness to their needs (Nylund-Gibson & Hart, 2014). The purpose of this dissertation is to attain a more sophisticated understanding of postsecondary educational resilience among former foster youth; and to conduct auxiliary analyses to examine the association between covariates and profile membership. Specifically, this dissertation addresses the following research questions:

1. Are there distinct profiles of former foster youth who demonstrate particular patterns of educational resilience?

2. Are demographic characteristics, early foster care experiences, and emerging adulthood experiences associated with profile membership?

4. Methods

Participants

Program coordinators overseeing campus-based programs designed for current and former foster youth across all 9 UC campuses and 23 CSU campuses were contacted and invited by the investigator to participate in this study. Five UC campuses agreed to allow their current and former foster youth to voluntarily participate in this study (i.e., Berkeley; Los Angeles; Merced; San Diego; and Santa Barbara) and 15 CSU campuses agreed to allow their current and former foster youth to voluntarily participate in this study (i.e., Chico; Dominguez Hills; Fresno; Humboldt; Long Beach; Los Angeles; Monterey Bay; Northridge; Pomona; Sacramento; San Bernardino; San Diego; San Jose; San Luis Obispo; Sonoma). Each participating campus invited their students a total of three time to voluntarily participate in this study.

Primary data analysis was conducted with 221 youth (72% female) who reported being a former foster youth and who were attending one of the participating UC or CSU campuses. Sample demographic statistics are shown in Table 7, and some descriptive information is reported here. The sample of young people was 42.5% Latino/a, 15.5% Black/African American, 22.2% White, 8.2% Asian/Pacific Islander, 9.1% Multiracial/Other, and 2.7% declined to state. The majority of participants were between the ages of 18 to 23 years (60.2%) and approximately 39.9% were at least 24 years of age. Almost three quarters of all participants attended a CSU (71.5%) and over a quarter of all participants attended a UC (28.5%). This trend is similar to that reported by PrepScholar (2021) with approximately 63 percent of young people attending a CSU campus compared to 37 percent of young people attending a UC campus.

Over half of participants attended a CSU or UC in the northern region of California (61%), followed by the central region of California (26%), and southern region of California (13%). Among CSU attendees, over half were between the ages of 18 and 23 years (51.2%), slightly over a quarter were between the ages of 24 and 29 years (25.9%), and just under a quarter were at least 30 years of age (22.7%). Among UC attendees, the overwhelming majority were between the ages of 18 and 23 years of age (82.5%); only 17 percent of UC attendees were at least 24 years of age.

Over half of all participants were in their 1st or 2nd year at their university (55.2%), under a quarter of all participants were in their 3rd year at their university (21.7%), and almost 16% of all participants were in their 4th year at their university. Among CSU attendees, over three quarters were in their 1st, 2nd, or 3rd year (78.4%), followed by young people in their 4th or 5th+ year (21.5%). Among UC attendees, over half were in their 1st or 2nd year (53.9%), followed by young people in their 3rd or 4th year (36.5%), and young people in their 5th+ year (9.5%).

Table 7. Sample demographic characteristics (*n = 221*)

Variable	Categories	*n*	(%)
Age	18-20 years old	76	34.4%
	21-23 years old	57	25.8%
	24-26 years old	26	11.8%
	27-29 years old	22	10.0%
	30+ years old	40	18.1%
Gender	Male	55	24.9%
	Female	159	71.9%
	Transgender male	2	0.9%
	Gender variant	1	0.5%
	Non-conforming	2	0.9%
	Non-binary	2	0.9%
Racial/ethnic group affiliation	African American/Black	34	15.4%
	Latino/a	94	42.5%
	American Indian/Alaska Native	2	0.9%
	Asian/Pacific Islander	18	8.2%
	White	49	22.2%
	Multiracial	13	5.9%
	Other	5	2.3%
	Decline to state	6	2.7%
University of attendance	CSU	158	71.5%
	UC	63	28.5%
Year at university	1st year	61	27.6%
	2nd year	61	27.6%
	3rd year	48	21.7%
	4th year	35	15.8%
	5th + year	16	7.2%

Procedures

After IRB approval (ID 2021-01-1393), young people were invited to participate in the study via the program coordinators of campus-based support programs designed for foster youth at their university. The investigator invited program coordinators to share a recruitment email to their former foster youth students. Prospective participants were eligible to participate in the study if: they were at least 18 years of age; were in foster care for at least 6 months; did not enter foster care because of juvenile delinquency in isolation from other factors; and were enrolled at least part time for undergraduate studies at a University of California (UC) campus or California State University (CSU) campus. Individuals enrolled at UC San Francisco were not eligible to participate in the study.[12] The recruitment email text included background and purpose of the study; information on eligibility criteria; time commitment; and benefits to society. The recruitment email text also included a Qualtrics link which provides potential participants access to the study consent form. Qualtrics is an online survey software suite used for collecting identifying information and survey data. For those who agreed to participate by clicking "Yes"

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[12] UC San Francisco does not offer an undergraduate program.

(consent), they were taken to the screening questionnaire; and for those who met eligibility requirements, they continued to the study questionnaire.

Completion of both the screening and main study questionnaires took approximately 11-15 minutes. For the main study questionnaire, participants first answered demographic questions and questions about their university of attendance. Participants then responded to measures concerning their resilience followed by questions concerning their early foster care experiences, and current life experiences. Participants who completed both the screening and main study surveys received a $25 Amazon e-gift card[13]. Coordinators who agreed to have their students participate in the study were asked twice more to re-distribute the recruitment email text to their students. This ensured that potential respondents who missed the first recruitment email were to see the invitation the second or third time.

Measures

This dissertation assessed a multidimensional model of educational resilience (MDM-ER) among former foster youth: foundational resilience; internal resilience; and interpersonal resilience.

Foundational resilience was measured as the frequency of self-care practices. Self-care behaviors are especially important during the college years, which can be a time of heightened distress (Bewick et al., 2010), with mental health problems disproportionately common in college populations (Stallman, 2010). Self-care practices are self-initiated activities that maintain and promote physical and emotional health (Myers et al., 2012) and include healthy eating, sleeping, exercising, and socializing behaviors. Self-care practices accentuate the positive aspects of health and well-being. Because college students are susceptible to experiencing psychological distress, self-care and other health behaviors tend to be practiced less often (Weidner et al., 1996). The college years are also a period by which young people are gaining autonomy from adult caregivers and are becoming increasingly responsible for their own health and well-being (Sechrist et al., 1987). Moreover, young people must participate in behaviors that protect and enhance their health, not only in the short term but also for longer term benefits (Viner & Barker, 2005). However, for many young people with histories in foster care, the stressful experience of college and all its associated responsibilities may be exacerbated by their limited social supports, as well as other personal challenges. Most young people in the general population have parents or adult figures in their life they can rely on for socioemotional and physical support whereas many young people with histories in foster care have very few stable adult figures to depend on when they do need such supports. Moreover, self-care may be much more challenging a feat for college students with histories in foster care.

Although there is no current research on self-care among former foster youth in college, there is some research on self-care practices adopted by the general population of young adults in college. Descriptive studies repeatedly demonstrate the difficulties that students have in establishing and maintaining health-promoting behaviors, including physical activity (e.g., Irwin, 2004), healthy eating (Wardle et al., 1997), and sleep hygiene (Forquer et al., 2008). Another study examined the role of six self-care practices in the well-being of undergraduate college students (Moses et al., 2016). Findings indicated that social support, sleep hygiene, and healthy

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[13] Funding generously provided by UC Berkeley's Greater Good Science Center.

food habits were significantly related to higher levels of well-being. Former foster youth in college may benefit from the support of their caregivers, peers, mentors, or institutional agents to identify health self-care practices and to practice them consistently while in college.

This dissertation utilized and modified some items of the *Mindful Self-Care Scale* (MSCS; Cook-Cottone & Guyker, 2018) to assess frequency of self-care behaviors. The MSCS is intended to help individuals identify areas of strength and weakness in mindful self-care behavior as well as assess interventions that serve to improve self-care. Mindful self-care addresses self-care and adds the component of mindful awareness. The scale addresses 6 domains of self-care: mindful relaxation, physical care, self-compassion and purpose, supportive relationships, supportive structure, and mindful awareness. Only the domain of *physical care* was utilized in this dissertation. Item response options included: never (0 days) = 1; rarely (1 day) = 2; sometimes (2-3 days) = 3; often (4-5 days) = 4; regularly (6 to 7 days) = 5. Examples include, "I drank at least 6 to 8 cups of water a day"; "I ate a variety of nutritious foods"; and "I exercised at least 30 to 60 minutes a day." Cronbach's coefficient alphas were 0.89 for the total 33-item MSCS and .69 for Physical Care.

Internal resilience was measured as self-esteem, specifically self-liking and self-competence. *Self-competence* is the valuative experience of oneself as a causal agent, an intentional being that can bring about desired outcomes through exercising its will (Taforodi & Swann, 2001). As a generalized trait, it refers to the overall positive or negative orientation toward oneself as a source of power and efficacy. Self-competence is closely related but not equivalent to Bandura's (1989, 1992), *self-efficacy*, which is defined as "people's beliefs about their capabilities to exercise control over events that control their lives" (Bandura, 1989, p. 1175). Research with former foster youth suggest that many may experience poor self-competence as they transition out of care and begin to make choices to advance themselves in life (Gaskell, 2010; Geenen & Powers, 2007; Goodkind et al., 2011). However, former foster youth in college may actually increase their self-competence in their educational journey (e.g., via courses, extracurricular activities, campus organizations), as they further develop their skills to self-advocate and to view themselves as the most important causal agent in their lives. Some research suggests that college students' social and personal competence is largely shaped by their out-of-class activities (Pascarella & Terenzini, 2005) and through their sense of support at an institution (Belcheir, 2001; Filkins & Doyle, 2002; Zhao & Kuh, 2004).

Self-liking is the valuative experience of oneself as a social object, a good or bad person (Taforodi & Swann, 2001). As a generalized trait, it is one's overall sense of worth as an individual with social significance. Mature self-liking rests primarily on the social values that we ascribe to ourselves. As the judgement of personal worth becomes internalized, the power of others to sway our self-liking is reduced (Hart & Damon, 1988; Rosenberg, 1986). Taforodi and Swann (2001) describe self-competence and self-liking as co-equal dimensions of global self-esteem, but they claim that self-liking *is* self-esteem. Tafarodi and Milne (2002) demonstrated that the Rosenberg (1965) self-esteem scale (RSES) parallels this dichotomy, in that the (RSES) splits equally into items that assess the self (self-confidence) and those that are based on self-acceptance (self-liking). There is very limited research on the role of self-esteem, or self-liking, on the educational outcomes among young adults in the general population. One study suggested that the relation between ADHD and college adjustment is partially mediated by self-reported

levels of self-esteem (Shaw-Zirt et al., 2005). Nonetheless, theorists, such as Freud, Rogers, and Maslow, have stressed the critical role of self-esteem in the development of healthy functioning. Research examining self-esteem and self-concept among former foster youth suggest that many of these youth will have a poor self-concept which is often linked to childhood maltreatment histories and severed ties with biological parents (Kools, 1999; Morton, 2018; Okpych & Courtney, 2018). Nonetheless, research also demonstrates that young people with histories of childhood maltreatment may actively seek out stable adults to receive positive affirmations, unconditional acceptance, and love (Egeland et al., 1988; Lynch & Cicchetti, 1992; Hines, Merdinger, & Wyatt, 2005), something foster youth may not have received from their biological families. Theorists such as Mischel have suggested a link between social functioning and the development of self-esteem (Marshall et al., 1997). Receiving unconditional acceptance from stable adults may increase young peoples' self-competence and self-liking, which in turn, may help them thrive in college.

This dissertation utilized the revised version of the *Self-Liking/Self-Competence Scale* (Taforodi & Swann, 2001) which is a 20-item self-report instrument designed to measure two global self-esteem dimensions: a sense of social worth, or self-liking, and a sense of personal efficacy, or self-competence. This scale used a 5-point Likert-type structure, anchored at the bottom with "strongly disagree" (1) and at the top with "strongly agree" (5). Examples include "I am highly effective at the things I do"; "I am secure in my sense of self-worth"; "I never doubt my personal worth"; and "I am very talented." The internal consistency of both SLCS subscales was high: Cronbach's coefficient alphas were .92 for the self-liking items and .89 for the self-competence items.

Interpersonal resilience was measured as youths' perceived support from family, the institution and peers. Several qualitative studies have underscored the importance of having an invested and knowledgeable adult to assist foster youth with accessing college (e.g., Batsche et al., 2014; Salazar et al., 2016a). Research demonstrates that social supports including caregivers, foster parents, mentors, and other stable adult figures promote educational success of former foster youth (Ahrens et al., 2008; Haas et al., 2014; Hines et al., 2005; Morton, 2016; Okpych & Courtney, 2017). Institutional climate and support also likely shape the educational trajectories of former foster youth. Okuma (2014) recommended that college support programs focus on fostering relationships to counter feelings of isolation and alienation among former foster youth. Some research suggests that college students' social and personal competence is largely shaped by their sense of support at an institution (Belcheir, 2001; Filkins & Doyle, 2002; Zhao & Kuh, 2004). Research on the role of peers on the educational outcomes among former foster youth has not been examined, but other research suggest that peer networks are important resources for survival among adversity-exposed youth (Garrett et al., 2008; Toro et al., 2006). For instance, peer relationships provide important social capital and are key to survival among youth leaving care as many move between homelessness and housed peers (Garrett et al., 2008) often staying with peers experiencing difficult circumstances themselves (Ammerman et al., 2004; Novello, 2004). In summary, youths' perceptions of familial, institutional, and peer support are important to their resilience in the context of higher education. Ensuring that foster youth have sufficient and reliable social supports before they enter college, and while they are in college, may be imperative to their educational success.

This dissertation utilized the "belief-in-others" subscale of the Social Emotional Health Survey-Higher Education (SEHS-HE; Furlong et al., 2017) to assess perceived family support, institutional support, and peer support. Prior to developing the SEHS-HE (Furlong et al., 2017), Furlong and colleagues developed a version for adolescents. The development of the SEHS-Secondary (SEHS-S; Furlong et al., 2014) was based on the supposition that as youth develop they address fundamental developmental tasks that have implications for their well-being. As this developmental process unfolds, a youth builds basic self-other cognitive dispositions (Crisp & Turner, 2014), and these dispositions help him or her to foster positive development and protect against psychological distress. In addition, the SEHS-S (Furlong et al., 2014) model hypothesizes that these dispositions work to foster higher levels of well-being (Jones et al. 2013). These suppositions are translated into the development of SEHS-HE (Furlong et al., 2017), but with a focus on the developmental processes associated with emerging adulthood. Item response options included: very much unlike me = 1; unlike me = 2; somewhat like me = 3; like me = 4; and very much like me = 5. Examples include "My family works together as a team when making decisions"; "Outside of my friends, there are people on campus who care about my well-being"; and "I have a friend at college who cares about me." Reported internal consistency reliabilities for the "belief-in-others" subscale have been consistent and favorable across previous studies (.81-.87).

Analytic Plan

Latent profile analysis (LPA) is an extension of latent class analysis wherein continuous, ordinal, and/or categorical indicators are presumed to occur in meaningful constellations that can be explained by an unspecified number of mutually exclusive response profiles (Hagenaars & McCutcheon, 2002) thereby allowing the estimation of profile-specific means, variances, and covariances—and facilitates a more granular examination of heterogeneity within and between latent-level groupings (Masyn, 2013). LPA is a statistical method for identifying unobserved heterogeneity in a population and offers a flexible approach to parameterizing individual differences as they exist in multidimensional psychological phenomena. LPA is a type of mixture model wherein a given population is premised to be qualitatively heterogeneous with respect to the associations among a set of variables (Masyn, 2013; McLachlan & Peel, 2000). LPA is considered a person-centered empirically derived classification scheme, contrasting the dominant variable-centered approaches (e.g., factor analysis) that often assume a linear, normally distributed continuum on which cases are distributed, which would require a determination of arbitrary cutoffs if classifying or differentiating among scores or individual cases is desired (Nylund et al., 2007).

Mixture models have been applied to examine qualitative within-group diversity across numerous topics relevant to applied and multicultural psychologists including acculturation (Jang et al., 2017); observance of cultural values and social norms (Wong et al., 2012a; Wong, Owen, & Shea, 2012b); as well as individual differences in ability (Quirk, Nylund-Gibson, & Furlong, 2013) and personality (Merz & Roesch, 2011). A few studies that evaluate foster youths' functional outcomes have also employed mixture models to identify homogeneous subgroups based on specific outcome indicators (Shpiegel et al., 2020, 2015; Courtney et al., 2012; Keller, Cusick, & Courtney, 2007; Miller et al., 2017; Yates & Grey, 2012). Mixture models can also be estimated with "auxiliary" variables, such as covariates (e.g., socioeconomic status, gender) and

"distal outcomes" (e.g., mental health) of latent group membership (Asparouhov & Muthén, 2014). Such analyses can help to advance a deeper understanding of people who comprise the latent groupings as well as the antecedents and consequences of group membership (Choi et al., 2019).

Using Mplus 8.7 (Muthén & Muthén, 1998–2017), I conducted a series of LPAs with six continuous indicators—mean scores computed for each of the three latent factors representing the three dimensions of educational resilience. I used subscale scores, rather than individual scale items, because the items within each subscale were highly intercorrelated, which is a common assumption when items are factor analyzed. Methodological recommendations suggest that redundant indicators (e.g., scale items) be reduced when small sample sizes are used (as was the case here), where using all of the scale items would not provide additional information to help define the latent profiles (Morovati, 2014). Furthermore, because LPA is a parameter-intensive model that estimates profile-specific means and variances for each indicator included, the choice to use the subscale mean scores (rather than items within each subscale) reduced the number of parameters estimated.

Enumeration

I followed profile enumeration procedures described in Masyn (2013), which began with analyzing a simple within-profile structure and then testing an alternative model structure allowing for variance of the indicator means to vary across the profiles. The basic finite mixture model can be represented using the following equation:

$$f(y_i \mid \theta) = \sum_{k=1}^{K} \pi_k f_k(y_i \mid \theta)$$

When more than one continuous cluster indicator is used in LPA, the multivariate distribution of the r cluster indicators, contained in vector y_i, for person i, is conceived of as a weighted mixture of K different distributions, typically assumed to be multivariate normal. In LPA, classes differ with respect to the following parameters: means, μ_k; variances of the observed variables; and covariances between the observed variables, Σ_k. The choice made about f_k and the within-class variance/covariance structure, Σ_k, will influence the number and nature of latent classes in the final model selection. Different forms for Σ_k during the model building process must be considered (Nylund-Gibson, 2020).

I first used the class-invariant, diagonal variance–covariance matrix model (which I will refer to as the default LPA model). This model assumes conditional independence, meaning that latent class membership explains all the observed covariation. Item variances are freely estimated, but constrained to be equal across class, meaning there is no within class item covariance. (see Figure 9).

Figure 9. Σ_k diagonal and class-invariant matrix model (default model)
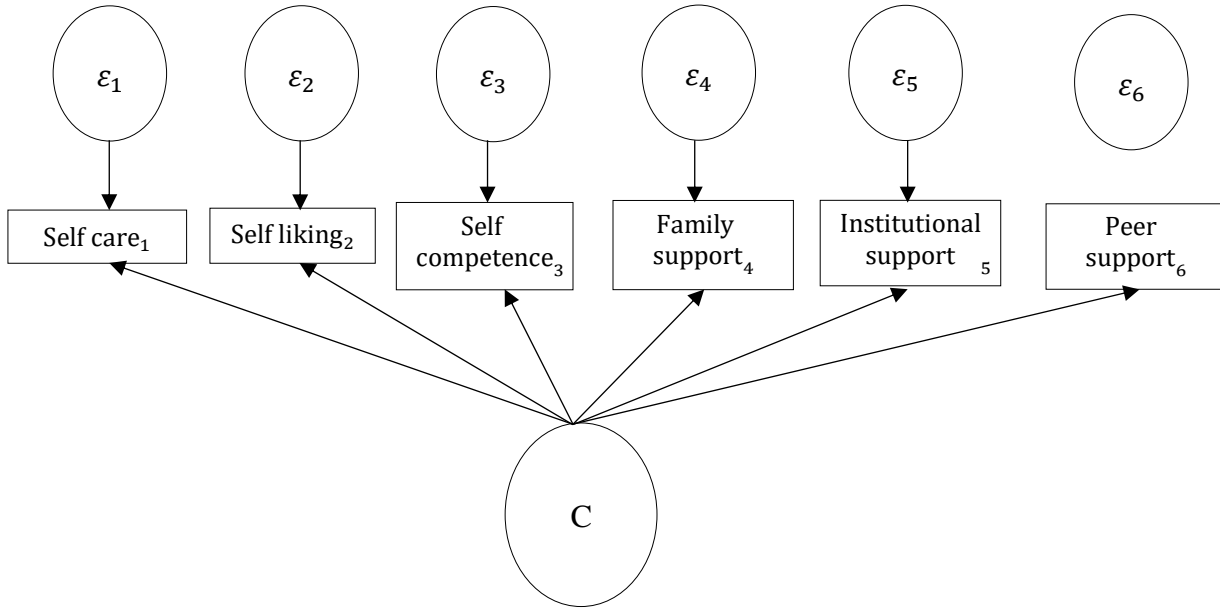
I also used the class-varying, diagonal variance-covariance matrix model (which I will refer to as the alternative LPA model). This model also assumes no item correlation but item variances are not held equal across classes (see Figure 10).

Figure 10. Σ_k diagonal and class-varying matrix model (alternative model)
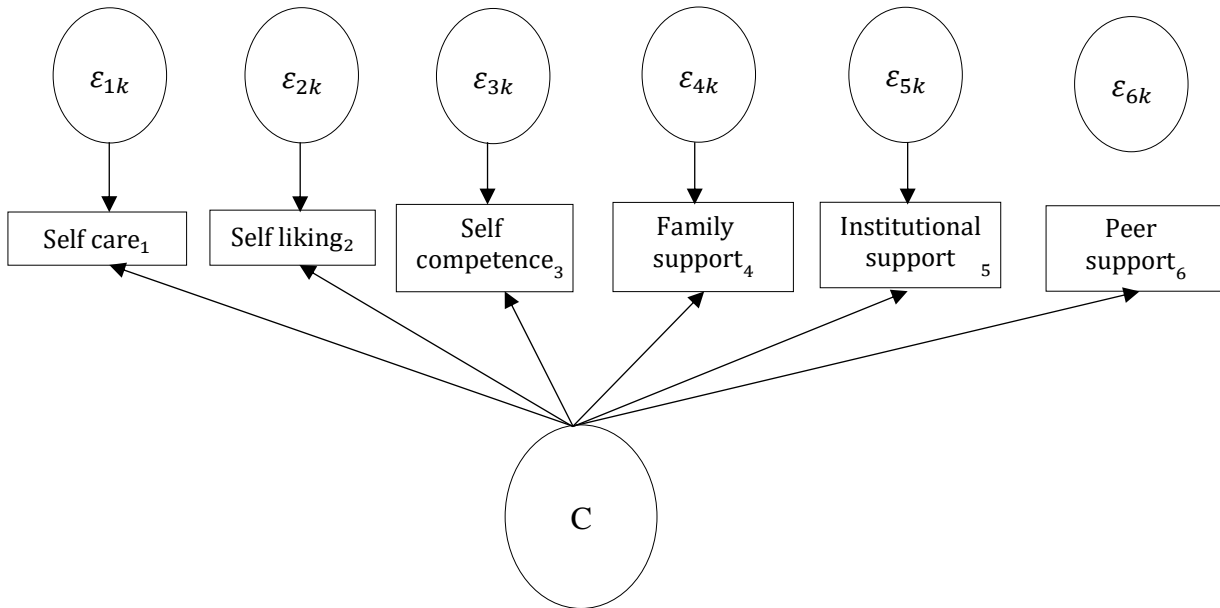
Each structure of Σ_k provides alternative representations of the population heterogeneity with respect to the latent class continuous indicators and they lead to different substantive

interpretations (Masyn, 2013). Comparisons of fit between the two models can be made to determine whether one is more consistent with the observed data, but if both provide adequate fit and/or are comparable in fit to each other, then one must rely on theoretical and practical considerations to choose one representation over the other (Masyn, 2013). The "true" within-class-variance-covariance structure is never known just as the "correct" number of latent classes is never known. Given that the specification of Σ_k could influence the formation of the latent classes, the LPA model-building process must compare models, statistically and substantively, across a full range of Σ_k specifications.

For each model, I fit a one-profile model and then progressively increased the number of profiles by one and evaluated whether adding each additional profile resulted in conceptually and statistically superior solutions. I estimated models using FIML with robust standard errors, and a large number of random starts to establish global maxima and avoid convergence on local solutions (McLachlan & Peel, 2000). To determine the optimal number of profiles, I relied on a holistic evaluation of multiple fit statistics (Masyn, 2013). I examined approximate fit criteria— including the log likelihood (LL), Bayesian information criterion (BIC), sample size-adjusted Bayesian information criterion (aBIC), consistent Akaike information criterion (CAIC), and approximate weight of evidence criterion (AWE)—where lower values indicate superior fit. I used two likelihood tests—the Vuong–Lo–Mendell–Rubin adjusted likelihood ratio test (VLMR-LRT) and the bootstrapped likelihood ratio test (BLRT)—which provide p values assessing whether extracting additional profiles improves model fit. I examined the Bayes factor (BF), a relative comparison of fit between two adjacent models (where 1 < BF < 3 suggests "weak" support for the model with less classes, 3 < BF < 10 suggests "moderate" support, and BF > 10 suggests "strong" support), and correct model probability (cmP), a probability estimate of each model being "correct" out of all models considered, where the model with the highest probability of being correct is selected (Masyn, 2013). Finally, as incongruence among fit statistics is common (Masyn, 2013), and because current methodological findings are limited and often conflicting regarding the performance of fit indices for LPAs and similar mixture models in a variety of study conditions (e.g., Nylund et al., 2007; Peugh & Fan, 2013; Tein et al., 2013; Tofighi & Enders, 2008), I prioritized the substantive meaningfulness and solution parsimony in our evaluation of each model, in part through visually inspecting the conditional item response means (Muthén, 2003).

Classification

After I chose the final LPA model, I reviewed a range of classification diagnostics to evaluate separation among the profiles (Masyn, 2013). I first examined entropy (Celeux & Soromenho, 1996), an omnibus index where values > .80 indicate "good" classification in the overall model (Clark & Muthén, 2009), and average posterior probabilities (AvePP), a profile-specific classification index where values > .70 indicate distinct and well-separated profiles (Nagin, 2005). I considered odds of correct classification (OCC), which is another profile-specific index where OCC > 5 indicates "good" profile assignment accuracy. Finally, within each profile, I evaluated classification error by comparing the modal class assignment proportion (mcaP)—an index of classification certainty—to the bias-corrected bootstrapped 90% confidence interval (CI) corresponding to the model-estimated class proportion ($\hat{\pi}$). Here, I examined whether the mcaP was within range of the 90% CI of the $\hat{\pi}$ for each profile.

Auxiliary Variables

With the selected LPA solution, I estimated auxiliary variable associations with the latent profile variable by constructing backward stepwise multivariate models using multivariate logistic regression. I used binary logistic regression for all multivariate analyses. I considered all variables that were associated with latent profiles at $\alpha < .05$ in the bivariate models. I included demographic characteristics, early foster care experiences, and early adulthood experiences[14]. I started the model with all covariates of interest and then eliminated covariates that were not statistically significant at each step. Covariates remained in the models if they were significantly associated with one or more latent profiles after adjusting for all other covariates in the model at that step.

I used the R3STEP procedure in Mplus 8.7 (Muthén & Muthén, 1998–2017) to model demographic characteristics, early foster care experiences, and emerging adulthood experiences as predictors of profile membership (see Figure 11). R3STEP regresses the categorical latent profiles on variables of interest in an automatic 3-step process in which (a) an LPA solution is estimated, (b) posterior probabilities of profile membership are saved, and (c) multinomial logistic regression is conducted (Asparouhov & Muthén, 2013). This strategy separates profile enumeration and estimation from the estimation of structural relations in the modeling process to prevent auxiliary variables from unintentionally biasing the formation of the emergent latent profile variable (Nylund-Gibson & Masyn, 2016). Several methods exist for modeling auxiliary variables in the LPA framework, and suggestions for the selection of such methods are still being developed as this is an ongoing area of statistical research (Hilley, Lindstrom Johnson, & Cheng, 2019).

Demographic variables included age (0 = 18-23 years of age; 1 = 24 + years of age); gender (0 = male; 1 = female)[15]; racial/ethnic group affiliation (0 = white; 1 = non-white); disability status (0 = not disabled; 1 = disabled); community college transfer status (0 = non-transfer student; 1 = transfer student); four-year university type enrolled at (0 = CSU; 1 = UC); and year enrolled at four-year university (0 = 1st year student; 1 = non-1st year student). Few resilience studies with foster youth have examined the effects of demographic characteristics on resilience outcomes. A couple of studies found that females were more likely to have higher resilience than males (Daining & DePanfilis, 2007; Shpiegel et al., 2021) whereas other studies found gender to only have a marginal significance in its association with resilience (Jones, 2012) and no significance in its association with resilience (Shpiegel, 2016). A few studies found that older age is positively associated with resilience among youth (Daining & DePanfilis, 2007; Jones, 2012) and one study did not find age to differ across their unique subgroups of youth (Yates, 2012). Regarding racial/ethnic group affiliation, African American (Jones, 2012) and non-White (Shpiegel, 2016) are positively associated with resilience among foster youth. A longitudinal study on resilience found that Native American/Alaska Native youth had the lowest rates of

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[14] Listwise deletion is applied to the auxiliary variables in the analysis, meaning that any observation with a missing value on one or more of the covariates will not be used in the multinomial logistic regression. Individuals who preferred not to disclose their gender or race/ethnic group affiliation were excluded from the multinomial logistic regression.

[15] Only individuals who identified as male or female were included in the multinomial logistic regression.

sustained resilient outcomes and the highest rates of sustained non-resilience of all racial and ethnic groups (Shpiegel et al., 2021). Postsecondary outcome differences between foster youth who first enroll in community colleges and youth who first enroll in four-year institutions have been well established (Andrews, Li, & Lovenheim, 2014; Bowen, Chingos, & McPherson, 2009; Long & Kurlaender, 2009). Moreover, their relationship to educational resilience will be assessed.

Early foster care variables included age at first entry into foster care (0 = 0-10 years of age; 1 = 11-17 years of age); total length of time ever in foster care (0 = 5 or more years total; 1 = 4 or less years total); total number of placement changes experienced while in foster care (0 = 0 - 2 total placements; 1 = 3 or more total placements); and total number of school changes experienced while in foster care (0 = 0 - 2 total school changes; 1 = 3 or more total school changes). Only a couple of resilience studies with foster youth have examined the effects of early foster care experiences on resilience outcomes. One study found a negative association between number of foster care placements and resilience among foster youth (Shpiegel, 2016). Another study found that their unique subgroups of youth were largely comparable in terms of number of placements and other features of their care experience (Yates, 2012). Extensive research demonstrates the negative consequences of including placement instability and placement type on the later life outcomes of foster youth (Clemens, Lalonde, & Sheesley, 2016; Courtney et al., 2014; Herrick & Piccus, 2005; Shpiegel, 2016); it would be important to assess their relationship to resilience. Alternatively, some research suggests that entering foster care prior to adolescence is protective against negative later life outcomes (Font et al., 2019; King, 2017; Putnam-Hornstein & King, 2014) and staying in foster care for a longer period of time may be beneficial to youth (Courtney, Okpych, & Park, 2018; Lee et al., 2014; Okpych & Courtney, 2020).

Emerging adulthood variables included homelessness in the last six months (e.g., 0 = no; 1 = yes); current college enrollment status (0 = part-time; 1 = full-time); campus support program involvement (0 = no; 1 = yes); romantic relationship status (0 = no; 1 = yes); parenting status (0 = no; 1 = yes); employed 10+ hours/week (0 = no; 1 = yes); and participation in extended foster care (0 = no; 1 = yes). There is a dearth of resilience studies that examine the effects of early adulthood experiences on resilience outcomes among foster youth. One reason for this is nearly all resilience studies with foster youth define and measure resilience as developmental milestones, or emerging adulthood experiences. For instance, one study found a decreased likelihood of sustained resilience across ages 19 and 21 for foster youth who had had mental health challenges at age 17 and gave birth or fathered a child by age 19 (Shpiegel et al., 2021). Nonetheless, early adulthood experiences including parenting, homelessness, romantic relationships, and employment may impact resilience among former foster youth in higher education. Research demonstrates that housing instability (Courtney et al., 2011), unemployment (Pike et al., 2009), being a young parent (Courtney et al., 2012), and aging out of foster care (Courtney et al., 2011) contribute to lower rates of post-secondary education among youth aging out of care. Other research demonstrates that remaining in foster care after the age of 18 (Courtney et al., 2011) and receiving institutional supports (Okumu, 2014; Rassen et al., 2010) contribute to positive postsecondary educational outcomes. Although dating and exploring romantic relationships are common features of early adulthood (Arnett, 2000; Montgomery, 2005), research has yet to examine its relationship to postsecondary educational outcomes among foster youth. Courtney and colleagues (2020) demonstrated that more than half of youth in the

CalYOUTH study reported being currently involved in a dating or romantic relationship, and almost 90 percent of these respondents reported being involved with their partner on a steady basis.

Figure 11. Path diagram of the educational resilience latent profile analysis model with covariates
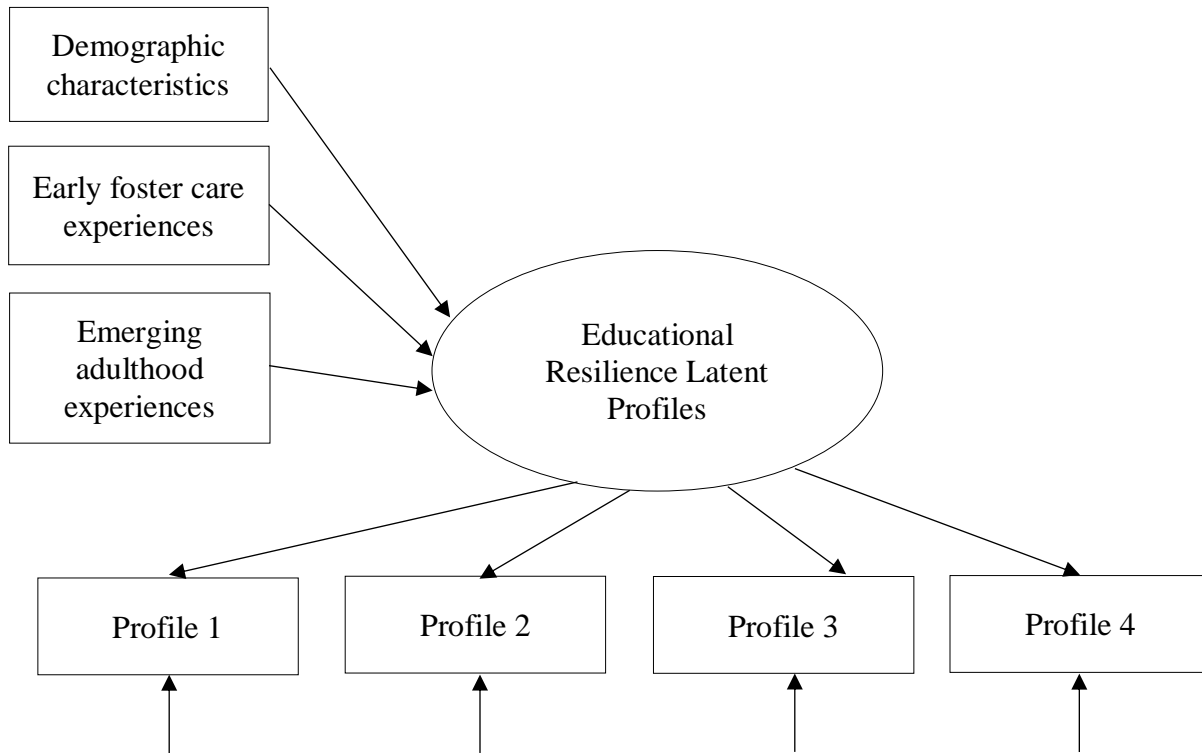
5. Findings

Research Question 1: Profiles of educational resilience among former foster youth

The first research question conducted a latent profile analysis to elucidate distinct profiles of former foster youth who demonstrate particular patterns of educational resilience. Fit statistics are shown in Table 8. For the default model (class-invariant, diagonal), the information criteria (IC), VLMR, and cmPk suggested a 3-profile solution. The BIC, aBIC, CAIC, AWE, BLRT, and BF suggested a 4-profile solution. For the alternative model (class-variant, diagonal), the IC also suggested a three- or four-profile solution. The CAIC, AWE, VLMR, and cmPk suggested a three-profile solution and the BIC, aBIC, BLRT, and BF suggested a four-profile solution. The IC were plotted for the default and alternative model and both revealed an elbow indicating "diminishing returns" in model fit with each additional profile after the four-profile solution (Fig. 12). The three- and four-profile solutions under the default and the alternative model were candidate models.

Figure 12. Educational resilience latent profile analysis models
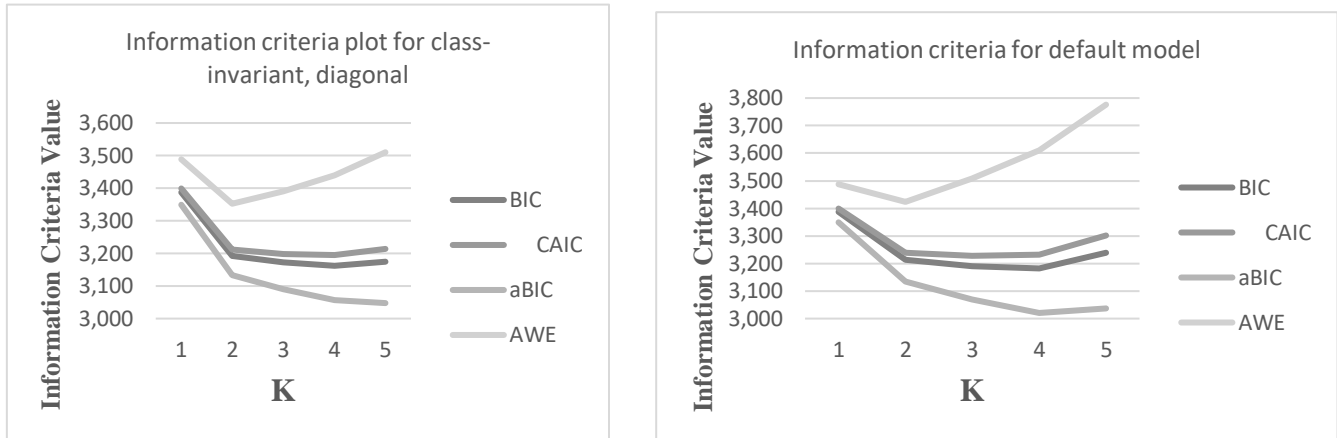
K = number of profiles; *BIC* = Bayesian information; *CAIC* = consistent Akaike information criterion; *aBIC* = sample size-adjusted BIC; AWE = approximate weight of evidence criterion

To decide on the final model, I jointly considered the information from the fit indices (see Table 8), model parsimony, and substantive interpretability, which led me to select the alternative, four-profile model for the following reasons. For the default model, the three-profile solution appeared to be conceptually novel though Class 1 had a low prevalence of 5.8 percent (e.g., about 13 people). Low profile prevalences are deemed unreliable given that prior simulations have revealed low rates of proportions (Depaoli, 2013; Tueller & Lubke, 2010) and may be problematic to predict class membership using covariates (Muthén, 2009). The four-profile solution under the default model was not conceptually novel and represented minor variation in the emergent profiles in degree rather than type (e.g., having higher or lower profile-specific means on some indicators but not varying in the patterns of joint distribution among all indicators). For the alternative model, the three-profile solution was conceptually novel, though the four-profile solution demonstrated greater variation in the emergent profiles in type. Additionally, unlike the three-profile solution, the four-profile model solution had profile prevalences greater than 5% (See Figure 13).

Following the principle of parsimony and theoretical considerations, I believed that there was sufficient evidence that the alternative, four-profile model was the most stable solution. All classification diagnostics for my chosen solution indicated high differentiation and distinctiveness among the profiles (Table 9). My entropy, AvePP and OCC values definitively exceeded the cutoff heuristics and indicated excellent classification (of individual cases) among the profiles. All mcaP values were within range of their respective bias-corrected bootstrapped 90% CIs for $\hat{\pi}$, suggesting low classification error among the profiles.

Table 8. Model Fit Summary Statistics for default model and alternative model

Model Fit Summary Table[1]

Classes	Par	LL	BIC	aBIC	CAIC	AWE	BLRT	VLMR	BF	cmPk
Class-invariant, diagonal										
1	12	−1,661.24	3,387.26	3,349.24	3,399.26	3,488.04	–	–	0.0	<.001
2	19	−1,545.15	3,192.87	3,132.65	3,211.87	3,352.43	<.001	<.001	0.0	<.001
3	26	−1,516.30	3,172.96	3,090.56	3,198.96	3,391.31	<.001	0.06	0.0	0.00
4	33	−1,491.92	3,161.99	3,057.41	3,194.99	3,439.13	<.001	0.64	>100	0.99
5	40	−1,479.20	3,174.34	3,047.57	3,214.33	3,510.26	0.01	0.19	–	0.00
Class-variant, diagonal										
1	12	−1,661.24	3,387.26	3,349.24	3,399.26	3,488.04	–	–	0.0	<.001
2	25	−1,539.28	3,213.52	3,134.29	3,238.52	3,423.47	<.001	0.00	0.0	<.001
3	38	−1,492.32	3,189.76	3,069.34	3,227.76	3,508.89	<.001	0.03	0.0	0.02
4	51	−1,453.36	3,182.03	3,020.41	3,233.03	3,610.34	<.001	0.11	>100	0.98
5	64	−1,446.61	3,238.71	3,035.89	3,302.71	3,776.19	1.00	0.64	–	<.001

[1] *Note.* Par = Parameters; *LL* = model log likelihood; BIC = Bayesian information criterion; aBIC = sample size adjusted BIC; CAIC = consistent Akaike information criterion; AWE = approximate weight of evidence criterion; BLRT = bootstrapped likelihood ratio test p-value; VLMR = Vuong-Lo-Mendell-Rubin adjusted likelihood ratio test p-value; cmPk = approximate correct model probability.

Table 9. Classification diagnostics: alternative model 4-profile solution for educational resilience

Class-variant, diagonal 4-Profile (entropy = .870)	$\hat{\pi}$ [90% CI]	mcaP	AvePP	OCC
1	.417 [.361, .474]	.412	.964	37.452
2	.153 [.115, .200]	.158	.874	38.326
3	.196 [.152, .244]	.199	.894	34.566
4	.233 [.185, .282]	.231	.936	48.109

$\hat{\pi}$ = model-estimated class proportion; *CI* = bias-corrected bootstrapped confidence interval; *mcaP* = modal class assignment proportion; *AvePP* = average posterior probability; *OCC* = odds of correct classification

Figure 13 presents the plot of conditional item response means for the alternative, four-profile model, which I used to evaluate its substantive meaningfulness and solution parsimony and to label the emergent profiles. Table 10 reports the item means and variances for the alternative model, 4-profile solution for educational resilience.

Labels given to the four profiles in this study are shaped by the literature that describes three related, but distinct uses of the term resilience: recovery, resistance, and reconfiguration (Lepore & Revenson, 2006). This study's generated profiles most strongly aligns with the resilience terms resistance and reconfiguration. The analogy of a tree blowing in the wind is used. *Resistance* is a form of resilience evident when a tree stands still, undisturbed, in the face of a howling wind. Bonanno (2004) captures this dimension of resilience in his conceptualization, which maintains that people who exhibit normal functioning before, during, and after a stressor—even long after a stressor—are exhibiting resilience. Because this type of human response to stressors does not square with prevailing psychological theories or cultural expectations, it provokes suspicion. As a result, there is a tendency to "pathologize" this type of response to stressors, although it may be normal and healthy (Bonnano, 2004; Wortman & Silver, 1989). *Reconfiguration* is a form of resilience evident when the wind blows, and the tree does not simply make a temporary accommodation and then resume its original shape; instead it changes its shape. The reconfigured tree can accommodate prevailing winds, but it also may make the tree resistant to breaking in future wind storms. This conceptualization mirrors Walsh's description of resilience as the "capacity to rebound from adversity strengthened and more resourceful" (Walsh, 1998).

I labeled the largest profile "Emerging Student" (41.73% of the sample), given low response means across all indicators of educational resilience. Youth in the Emerging Student profile demonstrated medium response means for frequency of self-care practices, low response means for self-liking and self-competence, low response means for perceived family support, and low-medium response means for perceived campus and peer support. This group of young people had a characteristically poor sense of self, and perceived very little support from their family. Youth in the Emerging Student profile demonstrated *resistance* as a form of resilience in the sense that despite their limited resources, they evidenced a minimum level of resilience in the face of current challenges in the context of postsecondary education. The term "emerging" means to "come out, appear." I chose this term because I believe it is important to acknowledge that these youth overcame various obstacles to attend a four-year institution, largely to improve their life circumstances and to increase their life opportunities; and, that there is ample opportunity to

increase their resilience which may partially depend on youth accessing and utilizing campus support. It would be harmful to give a label that pathologizes this group of young people for not being as strongly resourced as youth in other profiles. This study attempts to adopt a strengths-based approach to understand and describe resilience among foster youth, and shifts away from earlier resilience studies that label current and former foster youth as "maladapted," "low functioning," or "troubled/troubling."

I labeled the second largest profile "Thriving Student" (23.3% of the sample), given moderate to high response means across all indicators of educational resilience. They demonstrated medium response means for frequency of self-care practices, upper-medium response means for self-liking and self-competence, medium response means for family support, and upper-medium response means for perceived campus and peer support. This group of young people had a characteristically positive sense of self and a moderately high sense of perceived support from family, the institution, and peers. Youth in the Thriving Student profile demonstrated *reconfiguration* as a form of resilience in the sense that youth were likely able to reconfigure their cognitions, beliefs, and behaviors in a manner that allowed them to adapt to prior challenges as well as current challenges in the context of postsecondary education. The term "thriving" means to "prosper, flourish" and speaks to how their ample resources allowed them to overcome current challenges in the context of postsecondary education.

I labeled the third largest profile "Externally Integrated Student" (19.63%), given their characteristically large response means for perceived campus and peer support, though they also had low-moderate response means for perceived family support. This group of young people also demonstrated medium response means for frequency of self-care practices and medium response means for self-liking and self-competence. Like youth in the Thriving Student profile, youth in the Externally-Integrated Student profile likely demonstrated *reconfiguration* as a form of resilience, especially in their ability to reconfigure their cognitions, beliefs, and behaviors in their interpersonal relationships, which, in turn, allowed them to adapt to current challenges in the context of postsecondary education. The phrase "externally integrated" refers to how youth are strongly connected or integrated in their campus and with their peers, which may have uniquely positioned them to overcome current challenges in the context of postsecondary education.

I labeled the smallest profile "Well-Rounded Student" (15.34% of the sample), given their medium response means across all indicators of educational resilience. This group of young people demonstrated medium response means for frequency of self-care practices, medium response means for self-liking and self-competence, and medium response means for perceived support from family, the institution, and peers. Youth in the Well-Rounded Student profile are similar to youth in the Emerging Student profile but evidence stronger and more uniform educational resilience across all indicators. Youth in the Well-Rounded Student profile also demonstrated *resistance* as a form of resilience in the sense that they evidenced a stable pool of resilience resources in the face of current challenges in the context of postsecondary education; they may also benefit from further campus support to further increase their educational resilience.

Figure 13. Plot of conditional item response means: alternative model 4- profile solution for educational resilience. Percentages indicate profile proportions based on the four-profile latent profile analysis model.
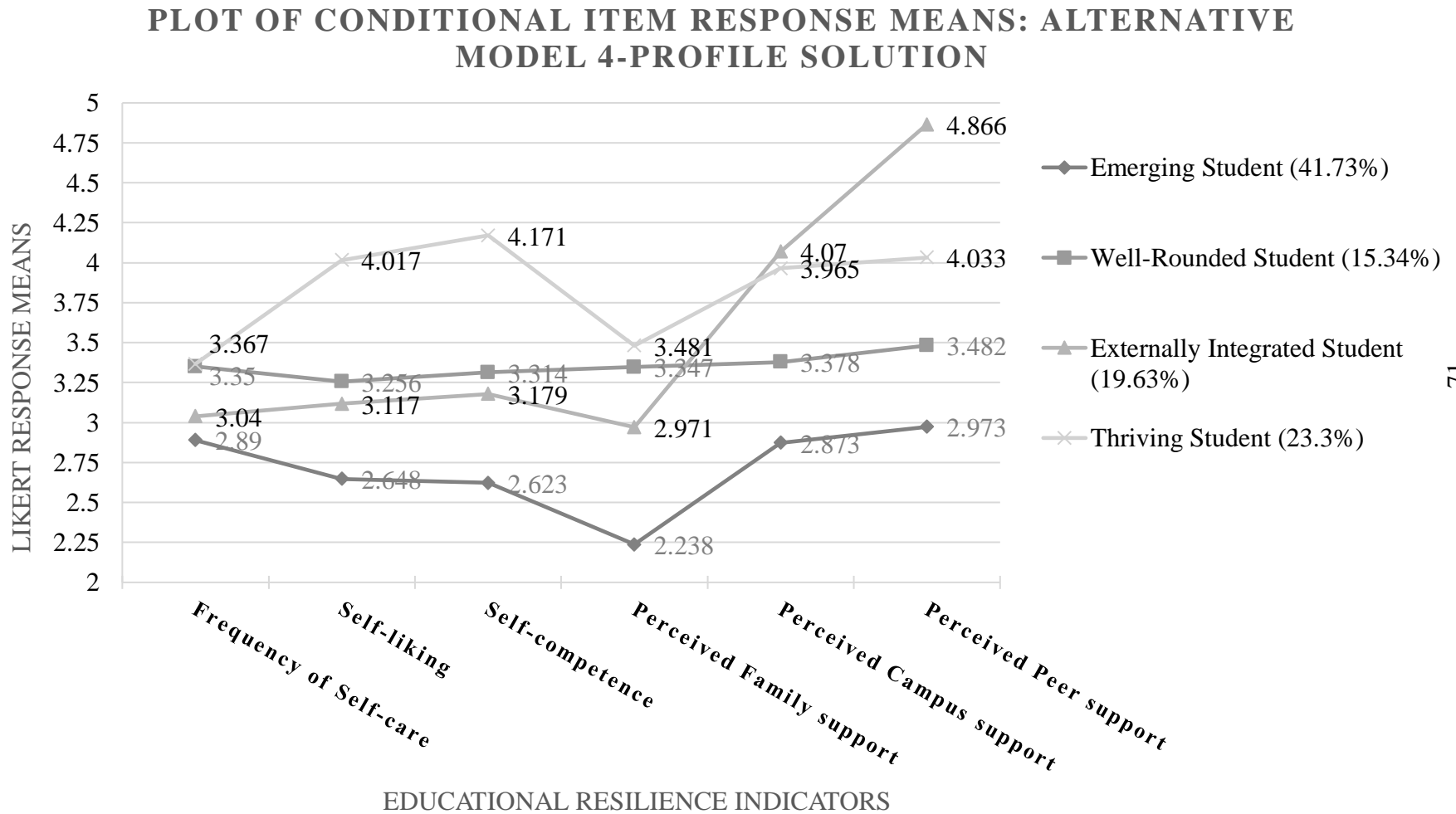

PLOT OF CONDITIONAL ITEM RESPONSE MEANS: ALTERNATIVE MODEL 4-PROFILE SOLUTION

Table 10. Item means and variances: alternative model 4- profile solution for educational resilience

	Emerging Students (41.73%)	Well-Rounded Students (15.34%)	Externally-Integrated Students (19.63%)	Thriving Students (23.3%)
Class-varying , diagonal				
Means				
Self-care	2.89	3.35	3.04	3.37
Self-liking	2.65	3.26	3.11	4.02
Self-competence	2.62	3.31	3.18	4.17
Family support	2.24	3.35	2.97	3.48
Institutional support	2.87	3.38	4.07	3.97
Peer Support	2.97	3.48	4.87	4.03
Variances				
Self-care	0.35	0.47	0.38	0.25
Self-liking	0.27	0.04	0.23	0.12
Self-competence	0.31	0.20	0.19	0.15
Family support	0.81	0.22	1.56	1.53
Institutional support	0.62	0.16	0.54	0.38
Peer Support	0.99	0.34	0.04	0.99

Research Question 2: Auxiliary variable associations with latent profile variables

The second research question examined if and which demographic characteristics, early foster care experiences, and emerging adulthood experiences were associated with profile membership. Table 11 reports the early foster care experiences and emerging adulthood experiences among youth in this study, and some descriptive information is reported here. Nearly half of youth first entered foster care between the ages of 13-17 years (46.2%) and about 45 percent entered foster care between the ages of 2-10 years. Nearly half of all youth spent at least 5 total years in foster care (49.3%) and almost 40 percent spent between 1-4 total years in foster care (38.9%). Almost a quarter of youth never moved from one placement to another while in foster care (22.2%) while over half of youth moved from one placement to another between 1-5 total times (56.6%). Just over 20 percent of youth moved from one placement to another at least 6 total times while in foster care (21.3%). About 32 percent of youth never changed schools while in foster care and nearly 60 percent of youth changed schools between 1-5 total times while in care (57%). These statistics are in line with previous research demonstrating that many transition-age youth enter foster care during adolescence; stay in care for longer periods of time; and experience high placement and school instability while in care.

The majority of youth were enrolled at their university full-time (91.4%). Over half of all youth were community college transfer students (51.5%), and among all community college transfer students, over half took between 3-4 years to earn their AA (56.2%); almost a quarter at

least 5 years to earn their AA degree (22.3%). Over half of all CSU attendees were community college transfer students (59.4%) compared to over a quarter of all UC attendees (30.1%). Nearly thirteen percent of all youth experienced homelessness in the last 6 months (12.7%), and among youth who experienced homelessness in the last 6 months, nearly 30 percent were homeless between 2-3 times and 7 percent were homeless at least 4 times. Among all youth who experienced homelessness, 67 percent were enrolled in a CSU campus compared to 32 percent who were enrolled in a UC campus. Among youth who were employed, over 80 percent of youth worked at least 10 hours per week. Three quarters of youth who worked at least 10 hours per week were enrolled in a CSU campus compared to just under a quarter of youth who were enrolled in a CSU campus. Half of all youth reported being in a romantic relationship (50.7%). Among all youth who reported being in a romantic relationship, three quarters were enrolled in a CSU campus (75.8%) compared to almost a quarter who were enrolled in a UC campus (24.1%). About 15 percent of youth were parents. Among all youth who were parents, the majority were enrolled in a CSU campus compared to those enrolled in a UC campus (91.4% and 8.5%, respectively).

Nearly a quarter of youth reported having a disability (22.2%). Among all youth who reported having a disability, 65 percent were enrolled in a CSU campus compared to nearly 35 percent who were enrolled in a UC campus. The majority of youth were involved in their foster youth campus-based support program (91.4%). Among youth who were enrolled in a CSU campus, 90 percent were involved in their foster youth campus-based support program. Among youth who were enrolled in a UC campus, nearly 94 percent were involved in their foster youth campus-based support program. Nearly 35 percent of youth participated in extended foster care at any given time (34.4%) and nearly 60 percent of youth did not participate in extended foster care at any given time (58.8%). Among youth who were enrolled in a CSU campus, 38 percent reported that they had participated in extended foster care at one point in their lives. Among youth who were enrolled in a UC campus, under a quarter reported that they had participated in extended foster care at one point in their lives (23.8%).

Table 11. Early foster care experiences and emerging adulthood experiences among youth

Variable	Categories	*n*	(%)	Variable	Categories	*n*	(%)
Youth's age at first entry into foster care	0-1 year	19	8.6%	Youth is a parent	No	183	82.8%
	2-5 years	35	15.8%		Yes	35	15.8%
	6-8 years	39	17.6%		Prefer not to answer	3	1.4%
	9-10 years	26	11.8%				
	11-12 years	0	0%	Youth is employed 10+ hours per week[17]	No	24	18.3%
	13-14 years	68	30.8%		Yes	107	81.7%
	15-17 years	34	15.4%				
Total years youth spent in foster care	Less than 1 year total	26	11.8%	College enrollment status	Full-time	202	91.4%
	1-2 years total	42	19%		Part-time	18	8.1%
	3-4 years total	44	19.9%				
	5-8 years total	58	26.2%	Youth is involved in their foster youth campus support program	No	7	3.2%
	9 or more years total	51	23.1%		Yes	202	91.4%
Total times youth moved from one placement to another while in foster care	None	49	22.2%		My campus offers a program but I am not involved	10	4.5%
	1-2 total times	66	29.9%				
	3-5 total times	59	26.7%				
	6-8 total times	30	13.6%		I'm not sure if my campus offers a program	2	<1%
	9 or more total times	17	7.7%				
Total times youth changed schools while in foster care	None	71	32.1%				
	1-2 total times	63	28.5%	Youth participated in extended foster care at a given time	No	130	58.8%
	3-5 total times	63	28.5%		Yes	76	34.4%
	6 or more total times	24	10.9%		I wanted to participate but I did not qualify	15	6.8%
Youth experienced homelessness in the last 6 months	No	193	87.3%				
	Yes	28	12.7%	Youth has a disability	No	152	68.8%
					Yes	49	22.2%
					Declined to state	14	6.3%
Number of times youth experienced homelessness in the last 6 months[16]	1 time	18	64.3%		Other	6	2.7%
	2-3 times	8	28.6%	Youth is a community college (CC) transfer student	Yes	113	51.1%
	4+ times	2	7.1%		No	108	48.9%
Youth is in a romantic relationship	No	96	43.4%	Years to complete AA degree among CC transfer students	1-2 years	24	21.4%
	Yes	112	50.7%		3-4 years	63	56.2%
	Prefer not to disclose	13	5.9%		5-6 years	15	13.4%
					7+ years	10	8.9%

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[16] Among youth who reported experiencing homelessness in the last six months.
[17] Among youth who were employed.

Table 12 reports the logits and odds ratios (OR) of the covariate analysis using each of the latent profiles as reference profiles which included demographic characteristics, early foster care experiences, and early adulthood experiences. Covariates that were significantly associated with 1 or more latent profiles after adjusting for all other covariates in the model at that step included age, disability, community college transfer status, and university type enrollment. A few demographic characteristics (i.e., gender; racial/ethnic group affiliation; year enrolled at four-year university), all early foster care experiences, and various emerging adulthood experiences (i.e., current college enrollment status; campus support program involvement; romantic relationship status; parenting status; employed 10+ hours/week; and participation in extended foster care) were not significantly associated with 1 or more latent profiles at the $\alpha < .05$ level after adjusting for all other covariates, and thus, were removed from the final model.

First, youth who were at least 24 years old were more likely than youth who were between the ages of 18-23 years to have a Well-Rounded Student profile (OR = 17.00, $p < .001$) and a Thriving Student profile (OR = 3.93, $p = .029$) compared to an Emerging Student profile; and to have a Well-Rounded Student profile compared to an Externally-Integrated Student profile (OR = 17.25, $p = .006$). Youth who were at least 24 years old were more likely than youth who were between the ages of 18-23 years to have a Well-Rounded Student profile compared to a Thriving Student profile but this approached significance (OR = 4.32, $p = .081$).

Second, youth who reported having a disability were more likely than youth who did not report having a disability to have an Emerging Student profile compared to a Thriving Student profile (OR = 3.23, $p = .029$). Third, youth who reported experiencing homelessness in the last 6 months were more likely than youth who did not report experiencing homelessness in the last 6 months to have an Emerging Student profile compared to an Externally-Integrated Student profile (OR = 4.03, $p = .049$) or a Thriving Student profile (OR = 15.93, $p = .011$).

Fourth, youth who were community college transfer students were more likely than students who were not community college transfer students to have an Emerging Student profile (OR = 8.78, $p < .001$) or a Thriving Student profile (OR = 6.03, $p = .021$) compared to a Well-Rounded Student profile. Youth who were community college transfer students were more likely than students who were not community college transfer students to have an Externally-Integrated Student profile compared to a Well-Rounded Student profile but this approached significance (OR = 4.84, $p = .077$).

Finally, youth who reported attending a UC were more likely than youth who reported attending a CSU to have an Externally-Integrated Student profile compared to an Emerging Student profile (OR = 2.647, $p = .032$) or a Well-Rounded Student profile (OR = 4.708, $p = .01$); and to have a Thriving Student profile compared to a Well-Rounded Student profile (OR = 3.90, $p = .016$). Youth who reported attending a UC were more likely than youth who reported attending a CSU to have a Thriving Student profile compared to an Emerging Student profile but this approached significance (OR = 2.193 $p = .059$).

Table 12. Covariate logits and odds ratios: alternative model 4- profile solution for educational resilience

		Reference profile							
		Emerging Students (41.73%)		Well-Rounded Students (15.34%)		Externally-Integrated Students (19.63%)		Thriving Students (23.3%)	
Profile	**Covariate**	Logit	OR	Logit	OR	Logit	OR	Logit	OR
Emerging Students (41.73%)	Age			-2.833***	0.059	0.015	1.015	-1.370*	0.254
	Disability status			0.577	1.780	0.101	1.106	1.174*	3.236
	Homelessness			1.554	4.733	1.394*	4.032	2.769*	15.939
	Community college transfer			2.173***	8.784	0.596	1.815	0.376	1.456
	CSU vs UC			0.576	1.779	-0.973*	0.378	-0.785	0.456
Well-Rounded Students (15.34%)	Age	2.833***	17.000			2.848**	17.255	1.464	4.321
	Disability status	-0.577	0.562			-0.476	0.621	0.598	1.818
	Homelessness	-1.554	0.211			-0.160	0.852	1.214	3.368
	Community college transfer	-2.173***	0.114			-1.577	0.207	-1.797*	0.166
	CSU vs UC	-0.576	0.562			-1.549**	0.212	-1.361*	0.256
Externally-Integrated Students (19.63%)	Age	-0.015	0.985	-2.848**	0.058			-1.385	0.250
	Disability status	-0.101	0.904	0.476	1.609			1.074	2.926
	Homelessness	-1.394*	.248	0.160	1.174			1.375	3.953
	Community college transfer	-0.596	0.551	1.577	4.840			-0.220	0.802
	CSU vs. UC	.973*	2.647	1.549**	4.708			0.188	1.207
Thriving Students (23.3%)	Age	1.370*	3.934	-1.464	0.231	1.385	3.993		
	Disability status	-1.174*	0.309	-0.598	0.550	-1.074	0.342		

Profile	Covariate	Reference profile							
		Emerging Students (41.73%)		Well-Rounded Students (15.34%)		Externally-Integrated Students (19.63%)		Thriving Students (23.3%)	
		Logit	OR	Logit	OR	Logit	OR	Logit	OR
	Homelessness	-2.769*	0.063	-1.214	0.297	-1.375	0.253		
	Community college transfer	-0.376	0.687	1.797*	6.033	0.220	1.247		
	CSU vs. UC	0.785	2.193	1.361*	3.900	-0.188	0.828		

OR = odds ratio; *p<.05; **p<.01; ***p<.001

6. Discussion and Implications

The purpose of this study was to examine categorical within-group differences in educational resilience and their auxiliary associations with demographic characteristics, early foster care experiences, and emerging adulthood experiences, and relevant best practices to conduct an LPA (Masyn, 2013). My analysis and consideration of statistical fit, substantive interpretability, classification diagnostics, and model parsimony yielded a four-profile model. This study offered a preliminary taxonomy of educational resilience among former foster youth. My findings indicated that it is reasonable to model educational resilience as having a typological internal structure, and that this construct consists of four subtypes that are associated with select auxiliary variables.

Research Question 1: Profiles of educational resilience among former foster youth

The first research question conducted a latent profile analysis to elucidate distinct profiles of former foster youth who demonstrate particular patterns of educational resilience. This study revealed four distinct profiles of educational resilience among a sample of former foster youth: Emerging Student profile, Thriving Student profile, Externally Integrated Student profile, and Well-Rounded Student profile. These findings are in line with previous person-centered research that demonstrate unique subgroups of youth with unique combinations of functioning in developmentally relevant domains (e.g., Courtney, Hook, & Lee, 2017; Keller, Cusick, & Courtney, 2007; Yates & Grey, 2012) and with previous variable-centered research examining resilient outcomes among current and former foster youth (e.g., Shpiegel, 2016; Shpiegel et al., 2021). My findings add to the dearth of resilience research on single indicator outcomes (e.g., Cheung et al., 2021; Edmond et al., 2006; Hass & Graydon, 2009; Strolin-Goltzman et al., 2016), yet, unlike this small body of research, my study examines multidimensional factors and processes associated with the single indicator outcome of educational resilience. My research also responds to the need for resilience researchers to examine the multidimensional factors and processes associated with resilience among adversity-exposed individuals (Luthar et al., 2000; Ungar, 2008) using systems theory (von Bertalanffy, 1968) and following the four principles of resilience research (Masten, 2018).

Emerging Student Profile

Youth in the largest group, Emerging Student profile (41.73%), demonstrated the least educational resilience compared to youth in other profiles and were low-resourced across all indicators of educational resilience. Youth in the Emerging Student profile demonstrated occasional self-care, low self-esteem, and they perceived very little support from their family, the institution, and their peers. Compared to youth in other profiles, they demonstrated the lowest frequency of self-care, the lowest self-esteem, and perceived the least support from their family, their campus, and their peers. The size of this group and its level of need to navigate their postsecondary institutions does not indicate they will not succeed in college or not earn a college degree. Instead, it is likely that this large group of former foster youth were enduring significant challenges to balance the responsibilities of adulthood and college, which in turn, negatively impacted heir educational resilience.

Auxiliary variable analyses revealed that youth in the Emerging Student profile were different from youth in other profiles. Compared to youth in other classes, youth in the Emerging Student profile were more likely to be younger; were more likely to be former community college students; were more likely to be enrolled in a CSU campus; were more likely to have a disability; and were more likely to have experienced homelessness in the last 6 months. These auxiliary variable findings corroborate the low educational resilience evidenced among youth in the Emerging Student Profile. Further explanation of these auxiliary variable findings will be discussed in the next section. Note that these auxiliary factors help explain youths' membership in the Emerging Student profile, and are not associated with their mean scores across indicators of educational resilience.

Thriving Student Profile

Youth in the second largest group I identified, Thriving Student profile (23.3%), demonstrated high educational resilience compared to youth in other profiles. The size of this group indicates that about 1 in 4 former foster youth are highly resourced in their postsecondary educational journey and corroborates previous research pointing to low college persistence and degree completion rates among former foster youth (e.g. see Okpych & Courtney, 2018; Okpych & Courtney, 2021; Okpych et al., 2020). Youth in the Thriving Student profile demonstrated occasional self-care, high self-esteem, perceived moderate family support, and perceived moderate to high support from their institution and their peers. Compared to youth in other profiles, they demonstrated the highest self-esteem and perceived the most support from their families. Conditional on the latent variable of educational resilience, it may be that self-esteem and perceived family support are intercorrelated.[18] Theorists including Mischel suggest a link between social functioning and the development of self-esteem (Marshall, Anderson, & Champagne, 1997). One recent study found that higher avoidant attachment decreased the odds of both college persistence and degree attainment among a sample of foster youth (Okpych & Courtney, 2018). Moreover, in efforts to increase the size of this group, further research is needed to understand how youth in the Thriving Student profile differ from their peers in other profiles.

Auxiliary variable analyses revealed that youth in the Thriving Student profile are distinct from youth in the Emerging Student profile. Compared to youth in the Emerging Student profile, youth in the Thriving Student profile were more likely to be older; were less likely to have a disability; were less likely to have experienced homelessness in the last 6 months; and were more likely to be enrolled in a UC campus. However, like youth in the Emerging Student profile (but to a lesser degree), youth in the Thriving Student profile were more likely to be former community college students compared to youth in the Well-Rounded Student profile. These findings corroborate the high educational resilience evidenced among youth in the Thriving Student Profile.

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[18] Within each profile the items are independent (this is referred to as the conditional independence assumption). The latent variable explains the dependence among the items (Muthén & Asparouhov, 2006).

Externally Integrated Student Profile

Youth in the third largest profile I identified, Externally Integrated Student profile (19.63%), were moderately resourced in their postsecondary education and demonstrated characteristically high interpersonal educational resilience. Their foundational and internal resilience were similar to that of youth in the Well-Rounded Student profile, though to a lesser degree. The medium size of this group suggests that some former foster youth participating in postsecondary education navigate their college experience with robust interpersonal resilience despite having moderate internal resilience. Unlike youth in other profiles, youth in the Externally Integrated Student profile demonstrate heterogeneity in their educational resilience. Specifically, while these youth demonstrated occasional self-care (i.e., foundational resilience) and possessed moderate self-esteem (i.e., internal resilience), they perceived notably high support from their institution and their peers (i.e., interpersonal resilience). These findings support earlier research that suggest there are meaningful subtypes of resilience among adversity-exposed youth who evidence competence in one or more, but not necessarily all, adaptive domains (e.g., Garmezy, 1993; Luthar et al., 1993; Yates & Grey, 2012). For instance, Yates and Grey (2012) elucidated heterogeneity in the adaptive outcomes in a sample of emancipated foster youth, where youth exhibited either internal (30%) or external (6.7%) resilience. Additionally, compared to youth in other profiles, youth in the Externally Integrated Student profile demonstrated the most notable heterogeneity within the interpersonal domain of educational resilience. They perceived 1.6 times as much peer support as they did family support, and nearly 1.4 times as much campus support as they did family support. These findings are corroborated by previous studies suggesting that few former foster youth participating in postsecondary education receive any support from their biological families (Hines, Merdinger, & Wyatt, 2005; Morton, 2016; Rios, 2008).

Auxiliary variable analyses further revealed that youth in the Externally Integrated Student profile were unique from their peers in two other profiles. First, compared to youth in the Well-Rounded Student Profile, youth in the Externally Integrated Student profile were more likely to be younger. Second, compared to youth in the Emerging Student Profile, youth in the Externally Integrated Student profile were less likely to have experienced homelessness in the last 6 months; and were more likely to attend a UC campus. Further explanation of why youth in the Externally Integrated Student profile were younger; less likely to experience homelessness; and more likely to attend a UC campus compared to their peers will be later discussed.

Well-Rounded Student profile

Youth in the last profile and smallest profile I identified, Well-Rounded Student profile (15.34%), appeared to be well resourced across all indicators of educational resilience. Unique to youth in other profiles, they demonstrated uniform and moderate resilience across all domains of educational resilience. In other words, they demonstrated occasional self-care, medium self-esteem, and perceive moderate family, institutional, and peer support. Unlike youth in other profiles, youth in the Well-Rounded Student profile perceived medium family support in addition to perceiving medium campus support and peer support. Additionally, compared to youth in other profiles, they demonstrated the least heterogeneity within the interpersonal domain of educational resilience. These findings support previous multidimensional resilience

research that suggests youth can demonstrate "even functioning" across internal and external domains of resilience (e.g., Yates & Grey, 2012). The small size of this group suggests that not many former foster youth possess a holistic and robust set of multidimensional resources during their postsecondary educational journeys. Nonetheless, the uniform resilience of this group also suggests that with the right supports and with further college experience, these youth may be able to increase their educational resilience across all domains.

Auxiliary variable analyses further revealed that youth in the Well-Rounded Student profile were unique from their peers in all other profiles. First, compared to youth in the Emerging Student profile, youth in the Well-Rounded Student profile were more likely to be older; less likely to have experienced homelessness in the last 6 months; less likely to be former community college students; and more likely to be enrolled in a CSU campus. Second, compared to youth in the Externally Integrated Student profile, youth in the Well-Rounded Student profile were more likely to be older and to be enrolled in a CSU campus. Third, compared to youth in the Thriving Student profile, youth in the Well-Rounded Student profile were less likely to be former community college students and more likely to be enrolled in a CSU campus. Further discussion of these findings will be later discussed.

Summary of educational resilience profiles

In summary, a latent profile analysis elucidated four distinct profiles of educational resilience among a sample of former foster youth enrolled in a CSU campus or a UC campus for undergraduate studies. There were three overarching findings concerning the four profiles of educational resilience. First, all profiles but one, i.e., the Well-Rounded Student profile, demonstrated heterogeneity within the interpersonal domain of educational resilience. Heterogeneity within the interpersonal domain of educational resilience was especially pronounced among youth in the Externally Integrated Student profile. Specifically, youth evidenced lower perceived family support relative to perceived institution or campus support. The finding of heterogeneity within the interpersonal domain of educational resilience supports previous research demonstrating that many former foster youth have severed and limited ties to their biological families and that social supports outside of the family, including foster parents, mentors, case workers, and educators are crucial to their postsecondary educational persistence and degree completion (Hines, Merdinger, & Wyatt, 2005; Morton, 2016; Okpych & Courtney, 2017;). Second, item mean scores for self-competence and self-liking, which represented the domain of internal resilience, were similar to one another across classes. This suggests that self-competence and self-liking are intercorrelated; there is little research on self-esteem or other self-valuation constructs among current and former foster youth but this study clearly demonstrates that self-esteem (i.e., self-competence and self-liking) is an important component of educational resilience. Last, there was little observed difference in the mean scores of frequency of self-care practices (i.e., foundational resilience) between classes. The little heterogeneity observed in the frequency of self-care between classes may indicate that individual self-care items may be more informative to understanding educational resilience compared to an overall mean score of self-care. For instance, self-care items examined in this study pertained to sleep, healthy eating, water consumption, and relaxation practices. To avoid masking the effects of self-care practices on educational resilience among former foster youth, it would be important to examine individual self-care item effects on educational resilience in future research. Additionally, youth across all

profiles demonstrated low to moderate frequency in self-care practices, suggesting that they may benefit from help in regards to self-care practices, including but not limited to sleep and healthy eating.

Practice and research implications of educational resilience profiles

Characteristics of the distinct educational resilience profiles observed in this study's sample of former foster youth indicate the need for more targeted practice directed towards former foster youth who are participating in postsecondary education. Youth in the largest profile I identified, the Emerging Student profile, demonstrated the least educational resilience compared to youth in other profiles and were low-resourced across all indicators of educational resilience. The size of this profile suggests that many former foster youth participating in postsecondary education will need access to resources pertaining to their self-care, self-esteem, and their social support networks during their college education, particularly those with disabilities and with previous experiences of homelessness. The state of California provides their foster youth various holistic supports, including education support programs; state tuition waivers; housing resources; and mental health and well-being supports. Additionally, the expansion of campus-based programs for foster youth at California colleges and universities may be an invaluable resource to youth and may function as a bridge to other campus resources that support student success and mitigate student hardships.

Despite increasing holistic supports for California foster youth, not all states provide their foster youth education support programs, which may negatively impact their overall resilience and college persistence and graduation rates. About 34 states provide education support programs and/or state tuition waivers for students with histories in foster care. Of those states, only 20 provide at least one 4-year, campus-based support program for students with histories in foster care, many of which are concentrated in the states of California and Michigan (Fostering Success Michigan, 2021). Nonetheless, two recent federal bills have been introduced and seek to strengthen higher education access for homeless youth and foster youth (i.e., HEASHFY and FSHE). With the understanding that far too few foster youth enroll in college, and that among those who do enroll, many will demonstrate low educational resilience, states should aim to increase their educational support programs and financial assistance to their foster youth students, while also ensuring they receive basic needs supports (i.e., year-round housing, food resources, health and well-being resources, social supports). At the program-level, universities that do offer comprehensive resources to their foster youth students should increase their student outreach and engagement efforts; for instance, it is currently unclear the extent to which California foster youth students are informed of the campus-based support programs available to them, and this is often contingent on their disclosure as a current former foster youth. Moreover, despite the dearth of research on the efficacy of campus-based support programs on the educational success of former foster youth in college, some research highlights youths' appreciation and enthusiastic utilization of these programs (e.g. Rassen et al., 2010; Unrau et al., 2017; Okumu, 2014).

Almost a quarter of all youth in this study are abundantly resourced across all domains of educational resilience, i.e., youth in the Thriving Student profile. This profile of youth corroborates previous research elucidating small subgroups of foster youth that excel in the

transition to adulthood (e.g., Courtney et al., 2012; Keller, Cusick, & Courtney, 2007). A small group of youth in this study demonstrate characteristically high interpersonal educational resilience, i.e., youth in the Externally Integrated Student profile. This profile of youth suggests that exceptional interpersonal resilience can coincide with moderate self-esteem and occasional self-care. Unlike youth in other profiles, youth in the Externally Integrated Student profile perceived characteristically high institutional and peer support. Previous research demonstrates the importance of college climate, college belonging, and participating in extracurricular activities on the educational success of former foster youth (Garrett et al., 2008; Okuma, 2014; Toro et al., 2006). Another small group of youth appear to be uniformly resourced across all indicators of educational resilience, i.e., youth in the Well-Rounded Student profile. Though they demonstrate moderate resilience across all indicators of educational resilience, they are not as strongly resourced as youth in the Thriving Student profile.

Moreover, youth in the Thriving Student profile, Externally Integrated Student profile, and Well-Rounded Student profile suggest that many California foster youth participating in postsecondary education are benefitting from the various policies[19] designed to help support foster youth to achieve their educational goals. However, the distinct combinations of educational resilience evidenced among these three profiles suggest differential access to and utilization of campus-based programs and resources, as well as unique student characteristics. Though students with lived experience in foster care are tremendously resourceful, they are still underserved by numerous systems (Font & Gershoff, 2020), and these systems are not always in sync with campus systems of support. Nonetheless, existing policies demonstrate increased intentionality in creating broad levels of support that encourage students' postsecondary education achievement (JBAY, 2022a). Future policy efforts should continue to build on these positive initiatives by utilizing approaches that are asset-based, holistic, and integrated (JBAY, 2022a). For instance, the processes of developing, implementing and evaluating policies and programs should center students' voices; policies should continue to address the broad needs of students and multiple support gaps and should include some measure of accountability to ensure optimal impact; and, policies should be created with an interdisciplinary approach—taking into account complementary initiatives and collaborating across sectors (JBAY, 2022a). Moreover, campus administrators, educators, and staff should take advantage of available state and federal funding aimed at promoting foster youth students' postsecondary education success. This would require that administrators, educators, and staff be knowledgeable about available community- and campus-based resources available to youth and that youth are effectively contacted and engaged in such resources.

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[19] See John Burton Advocates for Youth's (2022) publication, *Building Bridges: How State Policies Can Support Postsecondary Education Success for Students with Experience in Foster Care* to read on various California State Policies.

Research Question 2: Auxiliary variable associations with latent profile variables

The second research question examined if and which demographic characteristics, early foster care experiences, and emerging adulthood experiences were associated with profile membership. Previous variable-oriented research has examined resilient outcomes among current and former foster youth and the impact of risk and protective factors on those resilient outcomes (e.g., Shpiegel, 2016; Shpiegel et al., 2021). This is the first to combine person-centered and variable-oriented statistical procedures to examine if and how meaningful covariates predict profile membership with each latent profile as a reference profile. Findings revealed meaningful associations between select demographic characteristics and emerging adulthood experiences, including age, disability status, homelessness, community college transfer history, and campus type. Although structural relations between these independent variables and educational resilience indicators (i.e., self-care; self-esteem; perceived social support) cannot be assumed in this study, their general implications will be discussed.

Select demographic characteristics did not predict profile membership in this study. Female youth were not more or less likely to evidence stronger educational resilience compared to their male peers. Three quarters of youth in this study, however, identified as female. This finding corroborates mixed findings in earlier research examining the effects of gender on resilience among foster youth (Daining & DePanfilis, 2007; Jones, 2012; Shpiegel, 2016; Shpiegel et al., 2021). Though previous studies demonstrate that non-White racial/ethnic group affiliation is positively associated with resilience among foster youth, this study did not demonstrate that non-White youth were more likely to evidence stronger educational resilience compared to their White peers. It may be that both non-White and White youth attending CSU and UC campuses are more comparable in their educational resilience than they are to youth not attending these elite four-year institutions.

No early foster care experiences as measured in this study significantly predicted profile membership. Over half of youth in this sample first entered foster care between the ages of 0-11 years (53.8%) and 46 percent of youth first entered foster care between 12-17 years of age. Research generally indicates that youth who enter foster care at an earlier age fare more positively in later life compared to youth who enter foster care during adolescence. Nonetheless, this study did not demonstrate youth who entered foster care prior to adolescence to be more resilient than their peers who entered foster care during adolescence. Nearly half of all youth spent at least 5 total years in foster care (49.3%). Research generally indicates that youth who spend more time in care fare more positively in later life compared to youth who spend less time in care, but this largely applies to youth who enter foster care during childhood. Youth who spent the most time in foster care in this study likely entered foster care during childhood, yet they did not evidence greater resilience than their peers who spent the least amount of time in foster care or who entered foster care during adolescence. Placement instability and school instability were slightly less prevalent in this study's sample of foster youth. Less than half of youth in this study experienced 3 or more total placement changes while in foster care (47.9%) and 40 percent of youth in this study experienced 3 or more total school changes while in foster care. Placement instability and school instability are linked to poor later life outcomes among foster youth, yet youth who experienced at least 3 placement changes or 3 school changes did not evidence less educational resilience than youth who experienced fewer placement or school changes.

Moreover, the absence of structural relations between early foster care experiences as examined in this study and educational resilience profiles suggest that more current covariates impact youths' overall resilience, including age, disability status, homelessness, community college transfer history, and campus type. Previous research similarly demonstrates that life events and life circumstances that occurred after foster youth enrolled in college were found to play a more pronounced role in predicting college competition than did covariates measured earlier (Okpych & Courtney, 2021).

Contrary to what was expected, a number of emerging adulthood experiences did not significantly predict educational resilience profiles. Current college enrollment status (i.e., full-time vs. part-time) did not significantly predict profile membership, though the vast majority of youth were enrolled full-time (91.4%). Youths' participation in their campus-based foster youth program did not significantly predict educational resilience, though the vast majority were involved in their campus-based program (91.4%). Half of all youth in this study reported being in some form of a romantic relationship, though it did not predict profile membership. It was expected that youth in a romantic relationship would evidence stronger educational resilience than youth not in a romantic relationship given the additional support likely afforded by a partner. It may be that romantic relationship type is more important to youths' educational resilience. For instance, almost 30 percent of youth in this study were not in a serious romantic relationship (i.e., only have sex; dating once in a while; dating frequently, but not exclusively); almost 30 percent were dating exclusively; 18 percent were living with their partner; and only about 4 percent were married.

Parenting youth in this study did not evidence less educational resilience than youth who were not parenting; prior studies largely demonstrate that parenting foster youth fare worse than their non-parenting counterparts. The majority of parenting youth in this study were enrolled in a CSU campus (91.4%); nearly a quarter of all undergraduate students enrolled in a CSU campus are parents (22%; U.S. Department of Education, 2022). To help student-parents succeed in college and at home, many CSU campuses provide resources that help ensure students get all the classes they need to graduate, receive necessary financial aid and can access services needed to care for their children while they are in class or studying. Twenty of the 23 CSU campuses house on site-child development or daycare centers. It's positive news that parenting youth in this study did not demonstrate less educational resilience than their non-parenting peers; this may suggest that parenting youth are utilizing financial aid and campus resources to help them balance their roles as parent and student.

Youth who were employed 10+ hours per week did not evidence less educational resilience than their peers who were not working 10+ hours per week. The majority of youth reported working 10+ hours per week (81.7%); working may actually be a positive experience for many youth in college as it requires time management and helps expand their social networks. One study examined the impact of time spent studying and time spent working on the academic performance in a sample of undergraduate students attending a medium-sized public university in the mid-south United States (Nonis & Hudson, 2006). Contrary to popular belief, the amount of time spent at work had no direct influence on academic performance. Finally, participating in extended foster care did not predict educational resilience profiles; however, only 34.4 percent of youth in this sample reported ever participating in extended foster care. This is a smaller

proportion of youth than expected given that previous research with transition-age youth demonstrates a positive correlation between extended foster care and postsecondary education enrollment. The small proportion of youth who ever participated in extended foster care is also surprising given that they are all enrolled in a prestigious four-year institution. Nonetheless, over a quarter of youth (28.1%) in this study would have been ineligible for extended foster care given that they had turned 18 after the implementation of extended foster care in California in 2012.

Age and educational resilience

Young people in the Emerging Student profile were more likely to be younger (between ages 18-23 years) compared to youth in the Well-Rounded Student profile or youth in the Thriving Student profile. Sixty percent of this sample were between the ages of 18-23 years, 22 percent were between the ages of 24-26 years, and 18 percent were at least 30 years of age. These findings suggest that age is positively associated with educational resilience among former foster youth participating in postsecondary education. Only a couple of resilience studies with foster youth demonstrate a positive association between age and resilience outcomes (Daining & DePanfilis, 2007; Jones, 2012). Possible explanations for the positive association between age and educational resilience among former foster youth are greater maturity; more opportunities to develop their professional and personal goals; wider social networks (in and outside of the university); and more time to introspect about who they are and what they want in their life. Possible-selves theory describes the importance and dynamics of self-relevant, future-oriented self-concepts, and how these self-views relate to motivation for present and future action (Markus & Nurius, 1986, p. 954); possible selves may reflect an individual's expectations, including hopes, aspirations, fears, and threats that they anticipate in the near or distant future. The formation of various possible selves is influenced by an individual's current (and past) specific social, cultural, and environmental experiences. For young people with histories in foster care, aging may be an essential ingredient to imagine possible selves and to seek out environments (e.g., college) and individuals that help bring their possible selves to existence. To increase the educational resilience among younger former foster youth in postsecondary education, involving youth in campus resources including programs designed for former foster youth; seminars on independent living skills and self-care; mentorship of older peers; and campus events that foster community and friendship building such as concerts, career fairs, and cultural events, can all help enhance the college experience among younger foster youth as well as increase their confidence.

Disability and educational resilience

Young people in the Emerging Student profile were more likely to have a disability compared to youth in the Thriving Student profile. In other words, educational resilience is negatively associated with having a disability. Almost a quarter of this sample reported having any kind of disability (22.2%) and among all youth who reported having a disability, 65 percent were enrolled in a CSU campus and nearly 35 percent were enrolled in a UC campus. These figures resemble a recent national estimate of disability among former foster youth at 53 percent (see Slayter, 2016). This study's findings also corroborate previous research demonstrating that experiencing a disability presents barriers and challenges to educational achievement among

foster youth (e.g., Cheatham, Randolph, & Boltz, 2020; Slayter, 2016; Villegas et al., 2014). It's important to note that youth with disabilities in this study did not indicate whether or not they receive DSP accommodations at their campus; further research is needed to assess the extent to which foster youth with disabilities enrolled in CSU and UC campuses request and receive academic accommodations on the basis of disability.

This study demonstrated that students with disabilities need increased multidimensional support to thrive in college, including support with their self-care, self-esteem, and their connectedness to the institution and their peers. There is very little research on self-care practices among college students with disabilities, yet there is growing research on self-care problem identification among children with disabilities in the general population (e.g., Le & Baik, 2019; Zarchi et al., 2018). Nonetheless, individuals in the disabled community and their caregivers stress the importance that people with disabilities and their families focus on self-care, including eating healthy, getting enough rest, and loving each other (Disability Voices United, 2022). There is also evidence that group identity is associated with higher self-esteem for specific disability subgroups (Bat-Chava, 1994; but see Finlay & Lyons, 1998). In the context of social identity theory (Hogg & Abrams, 1988; Turner et al., 1987)[20], people who are highly identified as members of their group report higher commitment to that group and see themselves as more similar to other members, compared to those who are not highly group identified (Ellemers et al., 1997). Nario-Redmond and colleagues (2013) conducted two surveys of persons experiencing both visible and less apparent disabilities, one using standard survey/interview methods and one using a web-based questionnaire. They found that identifying as a member of the disability community was positively predictive of both collective and personal self-esteem. That is, the more identified participants were as members of the disability community the more positive they reported feeling about themselves as individuals and as members of this group.

Related to the benefits of group identification among individuals with disabilities is community building among disabled students on college campuses. For instance, one qualitative study examined common themes among foster youth with disabilities who succeeded in college (Lovitt & Emerson, 2009). They found that although students took advantage of a fair number of support services their colleges offered, especially financial aid, residence and academic advising, health services, student counseling, and sports and recreational activities, services they would have liked to use but were not available included ways to connect with foster youth in college and interactions with foster youth who had graduated and could act as mentors. College students' sense of belonging is crucial to their overall success. One recent national study examined belongingness among first-year U.S. college students and found that at four-year institutions, belonging predicted better persistence, engagement, and mental health even after controlling for individual characteristics (Gopalan & Brady, 2020). Moreover, foster youth program staff are strongly encouraged to offer their students with disabilities various opportunities to gather together and to experience life and college with one another.

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[20] Social identity theory (Hogg & Abrams, 1988; Turner et al., 1987) indicates that for members of stigmatized or low-status groups, collective strategies become available to the degree that people identify themselves strongly and positively with the stigmatized group (e.g., Lindly, Nario-Redmond, & Noel, 2011; Outten, Schmitt, Garcia, & Branscombe, 2009).

In efforts to promote greater educational resilience among former foster youth with disabilities, concerning self-care practices, self-esteem, and interpersonal support, I recommend continued advocacy, collaboration, and coordination among child welfare, mental health, and educational institutions. For example, a Disability Child Welfare Collaborative was established in Minnesota in 2011 to bring together practitioners and researchers in the areas of child welfare, disability and education. Working to raise awareness of the needs of children with disabilities in each system, this group acted as a central resource to all three types of providers, and fostered opportunities for dialogue among providers around how to promote positive outcomes for youth with disabilities (Center for the Advanced Study of Child Welfare, 2016). A similar initiative with respect to improving postsecondary educational outcomes among foster youth with disabilities may be needed, where information and training between systems to build disability competence, to increase accessibility and awareness of campus-based supports among foster youth with disabilities, and where the voices of students with disabilities are centered is made possible. For instance, in partnership with colleagues from the Associated Students of the University of California (ASUC), Graduate Assembly, and Student Advocate's Office, Disability Cultural Center, two UC Berkeley MSW students proposed Disability Beyond Compliance (DBC). DBC is a student-led initiative to improve the campus climate and culture to shift from surviving to thriving at UC Berkeley. DBC leverages the lived experiences of disabled, chronically ill, and neurodiverse students to fill in a significant gap in service to student development centers, campus departments, student housing, and other core services on the intersection of disability in higher education. The program launches Fall 2022.

Campus-based programs designed for foster youth should also establish a personalized connection with the colleges' offices of Disabled Student Programs and Services (DSPS). All program staff should receive training on disability, be familiar with available services at DSPS, and know DSPS staff. Foster youth program staff would be better equipped to support youth who want to self-identify as individuals with disabilities (or who are contemplating it) and to help youth connect with DSPS. Without violating student confidentiality, quarter or semester meetings between DSPS staff and program staff could be organized to discuss any concerns, common themes concerning student needs, as well as what is helping students with disabilities succeed. Reaching out to DSPS alone can be daunting for many youth due to previous stigmatization based on their disabilities. Moreover, conversations between former foster youth staff and students about DSPS may decrease previous stigmatization and increase students' familiarity with DSPS services. Finally, I recommend that campus-based programs designed for foster youth offer youth with disabilities various opportunities to gather exclusively with one other and to establish friendships and community among themselves.

Homelessness and educational resilience.

Young people in the Emerging Student profile were more likely to have experienced homelessness in the last 6 months compared to youth in the Externally Integrated Student profile or to youth in the Thriving Student profile. This finding suggests that homelessness is negatively associated with educational resilience among foster youth, and corroborates earlier research on the negative consequences of homelessness among youth in the general population and among youth with histories in foster care. In this study, nearly 13 percent ($n = 28$) of the sample experienced homelessness in the last 6 months since the study survey – this is nearly 1 out of 8

youth. Among these youth, nearly 36 percent experienced homelessness between 2-3 total times or 4 or more total times. Additionally, among youth who experienced homelessness, 67 percent were enrolled in a CSU campus and 32 percent were enrolled in a UC campus.

Nurturing the educational resilience among former foster youth is not possible without first guaranteeing that they have adequate, safe, and stable housing, as well as their other basic needs met. Experiences of homelessness likely interferes with self-care practices, negatively impacts youths' self-esteem, and ruptures their interpersonal relationships. Often coupled with experiences of homelessness among foster youth are mental health problems (Brown & Wilderson, 2010; Dworsky, Napolitano, & Courtney, 2013; White et al., 2011), alcohol, drug, and substance abuse (Braciszewski & Stout, 2012; Vaughn et al., 2007), social isolation (Lubben et al., 2018; Stewart et al., 2010; Yoshioka-Maxwell, 2020), and food insecurity (Kushel et al., 2006). According to Maslow's Hierarchy of Needs (1942), physiological needs (i.e., food, water) and security and safety needs (i.e., financial security, health and wellness, housing) must be met prior to social needs and esteem needs. It would be important to combine community resources with those available on campus to students, and, this would require commitment and buy-in from campus administrators (JBAY, 2022b). One of JBAY's (2022b) campus practice recommendations to eliminate homelessness among the student body is for campuses to gain an understanding of one's local homelessness response systems. Campus staff should understand how coordinated entry systems work in their community, including eligibility criteria, how to make referrals, and whether there are specialized entry points for youth. The 2022 Budget Act provides funding across all three systems of postsecondary education to hire and train basic needs coordinators. Colleges and universities should take full advantage of this dedicated funding to address staffing capacity at their basic needs centers. The University of California's (2020) report on basic needs presented actionable solutions to reducing basic needs insecurity, including housing instability. For instance, student service practitioners should continue to share promising practices related to basic needs and to coordinate strategies across campuses and intersegmental partners. Those working directly with current and former foster youth students should inform them about the available campus basic needs resources, including food resources (e.g., food pantries, CalFresh, nutrition counseling), health and wellness resources (e.g., holistic healing services, mental health counseling), housing services (e.g., emergency housing, housing search resources, summer housing), financial services (e.g., emergency financial awards; financial aid counseling), and life education resources (e.g., life skills seminars; personal food security and wellness) available to them.

Moreover, educating youth on the potential impacts of homelessness and its effects on their self-care practices, their mental health, and their social networks can empower youth to better discern when they need help and to effectively advocate for themselves (White et al., 2011). Empowered youth may be stirred to participate in campus basic needs committees to represent the student voice in these spaces. For instance, JBAY (2022b) suggests that in order for homeless response systems to view the college student population as a group that must be incorporated into existing services models, Continuum of Care (CoC) Programs must have a better understanding of the needs of this population. Legislation could be enacted that requires local homelessness response coordinating bodies to include post-secondary representation on their governing boards as well as to include students who've experienced homelessness to serve as representatives of the homeless student body. Although direct actions to alleviate housing insecurity and homelessness

are critical to serving today's college students, scholars, practitioners, and policymakers must also consider the systemic or root causes of this problem, including college unaffordability (Broton, 2020). The ETV is an important source of aid for foster youth to pursue postsecondary education yet one California study found that only 40 percent had received an ETV; 18 percent applied for but did not receive an ETV; 24 percent knew about ETVs but never applied for one; and 18 percent had never heard of the ETV (Courtney et at., 2018). Nonetheless, in terms of the total amount of student debt that foster youth had, 73 percent reported that they did not have any student debt; 15 percent owed between $1 and $5,000; and 12 percent owed more than $5,000 (mean = $1,833, SD = $5,260, median = $0). Practitioners and staff should continue to inform youth of all available state and federal aid and scholarships available to foster youth to prevent as much student debt as possible for these youth.

Community college transfer students and educational resilience

Young people in the Emerging Student profile and young people in the Thriving Student profile are more likely to be community college transfer students compared to youth in the Well-Rounded Students. My findings suggest that among foster youth who evidence high educational resilience as well as low educational resilience, they are more likely to be community college transfer students. It's important to note that youth did not report when they transferred from their community college to their current four-year institution. This makes it difficult to determine if and how immediately transferring from their community college or delaying their bachelor's degree impacts youths' educational resilience at their current four-year institution. Nonetheless, this study demonstrates that there is a proportion of community college transfer students who have low educational resilience, which could negatively impact their college outcomes (i.e., persistence and degree attainment). It is important to add that youth in the Emerging Student profile are also more likely to have a disability and to have experienced homelessness in the last 6 months compared to youth in the Thriving Student profile. Moreover, these factors, in addition to being a community college transfer student, all help explain their low educational resilience.

Studies on foster youth who first enroll in community colleges demonstrate that they often continue to endure traumatic experiences related to housing instability, social network disruption, and abuse (Hallett, Westland, & Mo, 2018). Many former foster youth endure significant personal and family challenges in high school that may also impede their academic engagement and performance in college. This makes it unrealistic for many youth to complete community college requirements within two years and then transfer to a four-year institution. Over three quarters of community college transfer students in my study took between 3 and 7+ years to complete their associate's degree (78.5%) compared to under a quarter who took between 1-2 years to complete their associate's degree (21.4%). Hallett and colleagues (2018) found that their sample of foster youth remained at the community college for a least 4 years. Moreover, recent research demonstrates that foster youth students who first enroll at community colleges fare much worse in terms of college outcomes (i.e., retention, number of completed semesters) compared to foster youth students who first enroll at four-year institutions (see Day et al., 2021; Okpych & Courtney, 2021).

This study's finding that youth in the Emerging Student profile and youth in the Thriving Student profile are both more likely to be community college transfer students point to important

trends among foster youth students who first enroll at community colleges. California College Pathways (2015) reported that fewer than one-fifth of their foster youth community college students participated in federally- and state-funded student support programs including, Extended Opportunity Programs and Services (EOPS), Cooperative Agencies Resources for Education (CARE), Disabled Student Programs and Services (DSPS), TRIO, or California Work Opportunity and Responsibility to Kids (CalWorks). These support programs have been demonstrated to be crucial for student success, including higher retention rates and completing a degree (EOPS, 2012). It may be that even after they transfer to a four-year institution, they are still less likely to engage in student support programs or will continue to be unaware of such programs. California College Pathways (2015) also reported that only about 1 in 3 foster youth attended a community college full-time, compared with 1 in 2 non-foster youth. Research demonstrates that college students enrolled full-time are generally more likely to complete a degree or certificate in six years compared with those enrolled part time or those with mixed enrollment (part time and full time at different periods; Shapiro et al., 2012). Over 90 percent of this sample were enrolled full-time at their four-year institution. Transitioning to a full-time and rigorous course load may be overwhelming and challenging for former community college students, which in turn, could negatively impact their educational resilience.

The low enrollment of foster youth in state and federally funded student support programs at community colleges warrants further investigation of eligibility and awareness challenges among foster youth. For instance, it would be important for CSU and UC campuses to assess the percentage of foster youth eligible for state and federal support programs and the percentage of eligible foster youth who apply. It would also be important to compare the college persistence and completion rates of foster youth participating in state and federal support programs to those of foster youth not receiving these supports. Finally, it would be important to directly ask eligible foster youth students about the barriers that prevent them from participating in these programs. To inform current practices aimed at increasing the educational resilience among former community college students, we must first understand the barriers and challenges they encounter in their transition to a four-year institution and in the participation in student support programs. Despite the dearth of research on student program participation among foster youth students, campus support program practitioners at CSU and UC campuses can still make intentional efforts to connect with transfer students and ease their transition to the four-year institution. For instance, a summer bridge program or an orientation can be organized for foster youth transfer students where they are mentally prepared for changes in the rigor of their course load and are also introduced to the various student support services, cultural centers, and student organizations that they can become involved in.

CSU campus vs UC campus enrollment and educational resilience

Young people in the Externally Integrated Student profile and youth in the Thriving Student profile were more likely to be enrolled in a UC campus compared to youth in the Emerging Student profile or youth in the Well-Rounded Student profile. These findings suggest a positive association between attending a UC campus and youths' educational resilience. It is important to note that the UC system is a group of highly prestigious public research universities in California and are extremely competitive to get into. Moreover, it is not surprising that youth enrolled in a UC campus were more likely to evidence high educational resilience compared to youth enrolled

in a CSU campus. Although the CSU system is the largest public four-year university system in the U.S., it is not nearly as competitive as the UC system. Nonetheless, they are a popular school choice, given their quality academics at an affordable price for California residents; and their high percentage of non-traditional and commuter students (PrepScholar, 2021). A recent memo by Okpych and colleagues (2022) found that about five times as many youth in their sample attended a CSU campus (8.2%) than a UC campus (1.5%). In this sample of youth, two and a half times as many youth attended a CSU campus (71.5%) than a UC campus (28.5%).

For youth in the Externally Integrated Student profile and youth in the Thriving Student profile, their greater likelihood to be enrolled in a UC campus suggests that they are also more likely to live in university housing or to live close to the university and consequently, may be more likely to participate in social, educational, and recreational opportunities, as well as take advantage of student support programs. Close proximity to campus, in part, may contribute to the overall educational resilience among these foster youth. It is important to note that youth in the Thriving Student profile were more likely to be older; less likely to have a disability; less likely to experience homelessness in the last 6 months; and less likely to be community college students compared to youth in the Emerging Student profile. These factors, in part, help explain their greater likelihood to be enrolled in a UC campus than to be enrolled in a CSU campus. Academic capital (St. John, 2012) is one lens for understanding how students from underrepresented social and cultural groups access higher education and successfully transition into college life (Whitman, 2018). Academic capital is comprised of six core constructs focused on access to college education: easing concerns about costs, supportive networks in schools and communities, navigation of systems, trustworthy information, college knowledge, and family uplift (St. John, Hu, & Fisher, 2011). Utilizing academic capital (St. John, 2012) as a lens, future research should more closely examine the ways in which UC campuses and CSU campuses provide academic capital to their foster youth students.

The growing number of campus-based support programs at CSU and UC campuses (e.g., Guardian Scholars; Hope Scholars; Renaissance Scholars), which aim to provide a wide range of academic, financial, social or emotional, and logistical supports to promote college persistence among foster youth students, likely provide important academic capital to their students. Although campus support programs are a promising model to serve former foster youth in college, further research and evaluation of these programs is needed to determine the effectiveness and areas for development and support of these programs. For instance, Community College Pathways (CCP; 2015) reported that in the 2013-14 school year, only 38 percent of foster youth at CCP CSU institutions participated in EOP, a program aimed to improve access and retention of low-income and educationally disadvantaged students. Importantly, foster youth do not always know about these programs or choose to participate in them. An actionable goal should be to increase awareness and access to these comprehensive programs and services (Okpych & Courtney, 2021). For instance, Question 53 of the FAFSA asks, "At any time since you turned age 13, were both your parents deceased, were you in foster care or were you a dependent or ward of the court?" Colleges can use this question as an initial screen to identify students with foster care histories. However, this question will not identify foster care alumni who did not complete a FAFSA. Moreover, it is recommended that colleges add two questions to the application packet that asks about a history of foster care involvement and the age the applicant was last in foster care (Okpych & Courtney, 2021). The first question

can identify foster youth who could participate in their campus support program and the latter question can identify young people who qualify for benefits and services with age requirements, such as the education and training voucher (ETV) grant.

Both the CSU and UC systems have developed a variety of initiatives designed to increase equity in education and ensure timely degree completion system-wide and in particular among previously underserved groups, including first-generation college students, economically and educationally disadvantaged students, and current and former foster youth students. Current state laws and regulation directly impacting foster youth on CSU and UC campuses include priority registration (California Education Code §66025.9), priority housing (California Education Code §76010, §90001.5 and §92660), designating foster and homeless youth liaisons (California Education Code §67003.5), granting resident status to foster youth under the age of 19 who were residing out of state as a dependent or ward under California's child welfare system. (California Education Code §68085), and providing technical assistance to campuses on ways in which to improve the delivery of services to emancipated foster youth and track retention rates of foster youth (California Education Code §89340 – 89347). Despite these shared laws and regulations, each university system adopts a unique approach to developing their students. For instance, the UC system is known for its approach to develop students that have strengths in research and theory, while the CSU system is known for its approach to develop practice-oriented and non-research oriented career candidates. In light of each system's unique approach and rigor in student learning, high school and community college staff should help their foster youth students assess which university system is the best match for them. Increasing attention has been given to "undermatching," which occurs when a student enrolls in a college for which they are overqualified, based on their academic credentials (Ovink et al., 2018). Low-income students and students who are first in their families to enroll in college have less access to individuals with college knowledge and resources. As a result, these students are more likely to be undermatched (Roderick et al., 2011). An earlier CalYOUTH memo estimated that about one in six participants who enrolled in college by their early 20s were undermatched, based on their reading proficiency scores at age 17 and the college they attended (Torres-Garcia et al., 2019). The most common scenario was youth who enrolled in a 2-year college when they could have likely been admitted to a 4-year college. Another study of foster care alumni in three Midwestern states estimated that nearly one in three youth who enrolled in college were undermatched (Okpych, 2021).

All in all, findings from this study may suggest programmatic differences between CSU and UC campuses in their service array and service provision to foster youth but further research is needed to assess if there are programmatic differences and why there might be programmatic differences. For instance, these campuses heavily rely on external funding largely in the form of donations. UC campuses may be more successful than CSU campuses in garnering donations given their prestige and greater resources and personnel. For instance, in 2021, UCLA received a gift of $1 million from Jill and Timothy Harmon to create an endowment for the Bruin Guardian Scholars Program (UCLA, University News, 2021). Differences in funding allocated to universities may inadvertently widen educational disparities among foster youth based upon the university they attend. Moreover, growth of campus-based support programs at CSU and UC campuses warrants further investigation about: 1) student knowledge of these programs; 2) student participation in these programs; 3) eligibility requirements to participate in these programs; 4) program design and implementation; and 4) university system differences in

program size, design, and implementation (e.g., see Brown, Lamar, & Duerr Berrick, 2021) report on the UC's campus support programs for foster youth). It is also imperative for future research to center the voices of foster youth enrolled in these universities and to understand how they believe their campus program supports their educational resilience. Finally, CSU and UC administrators, program staff, and faculty should also be interviewed about the challenges they encounter in their efforts to support the educational resilience of their foster youth students.

Limitations

First, while the measures I used to identify the latent profiles are empirically and conceptually relevant to postsecondary educational success among former foster youth, they are not the only indicators I could have used. Latent profile analysis is sensitive to the indicators used to identify underlying patterns within a population. Second, it's important to note that while my covariate analysis elucidates if and which demographic characteristics, early foster care experiences, and emerging adulthood experiences predict profile membership, the covariates do not have any structural relations to indicators of educational resilience. The covariate analysis conducted in this study separates profile enumeration and estimation from the estimation of structural relations in the modeling process to prevent auxiliary variables from unintentionally biasing the formation of the emergent latent profile variable (Nylund-Gibson & Masyn, 2016). Moreover, only structural relations between covariates and latent profiles can be made.

Third, my analysis is based on the experiences of a small sample of former foster youth attending a CSU or UC campus for undergraduate studies, potentially calling into question the relevance of our findings to former foster youth attending a post-secondary institution outside of the UC or CSU systems and outside the state of California. Nonetheless, I collected multidimensional data from former foster youth attending a CSU or UC campus for undergraduate studies to provide the first comprehensive look at how they are faring at these competitive and elite 4-year institutions. Just recently, California Governor Newsom released his budget proposal to expand campus support programs for former foster youth in CSUs, UCs, and CCCs. Given the rise and salience of campus support programs for foster youth in California, it is important to understand how former foster youth are faring at these institutions and how college campuses can better respond to the multidimensional resilience of their former foster youth students. Fourth, data were collected in the middle of the COVID-19 pandemic, between April of 2021 through September 2021. Youths' responses to measures of educational resilience may have been negatively impacted by pandemic-induced stress such as a reduced sense of belonging at their campus, weakened connections to vital social supports, and financial strains. Finally, these findings reflect profiles or groupings of youth and their educational resilience that may or may not generalize over time. Resilience is multidimensional and dynamic; it emerges over time and is shaped under extraordinary conditions (Masten, 2001). The generated profiles reflect stops or chapters in their educational journey, shaped by various age-salient challenges.

Conclusion

This investigation builds on previous resilience research that demonstrates heterogeneity among adversity-exposed individuals, and particularly among former foster youth in their transition to adulthood. My investigation adds to the dearth of resilience research on single indicator

outcomes and provides valuable insight into the multidimensional functioning among former foster youth participating in higher education. Importantly, my investigation developed an educational resilience framework informed by systems theory (von Bertalanffy, 1968); resilience theory built upon by prominent researchers including Masten, Luther, Cicchetti, and Ungar; and the literature on the factors associated with postsecondary educational success among foster youth. The examination of multidimensional factors associated with educational resilience demonstrates that foster youth embody "heterogeneous adaptive constellations" of resilience (Yates & Grey, 2012). Conceptually unique profiles of foster youth enrolled in four-year institutions for undergraduate studies emerged in my study including Emerging Student, Thriving Student, Externally Integrated Student, and Well-Rounded Student. Each of these profiles share a unique experience or narrative of former foster youth participating in higher education and informs current efforts to reduce postsecondary educational disparities continually evidenced among this population.

Additionally, profile membership was associated with select demographic characteristics and emerging adulthood experiences, but not early foster care experiences. Specifically, age, disability, homelessness, being a transfer student, and four-year campus type predicted profile membership. These relations suggest that life events and life circumstances that occurred in the transition to adulthood and in the transition to college play a more pronounced role in educational resilience than do covariates measuring earlier life events. Moreover, the intersectional needs of former foster youth in postsecondary education, especially as it pertains to having a disability, year-round housing, food security, mental health and well-being, and being a former community college student all shape the educational resilience among current and former foster youth. It is imperative that campus staff and administration to be aware of programs and resources available to foster youth not only on campus, but also in the community; and to understand how coordinated entry systems work in their community. The voices of foster students enrolled in UC and CSU campuses need to be centered in these efforts. In an April letter sent to the Office of the President and Board of Regents, the UC foster care students demanded dedicated community spaces on all nine undergraduate campuses; uninterrupted year-round housing; mental health care resources; training for faculty and staff on serving this student group; additional funding for campus programs serving current and former foster youth; and data collection on foster students' experiences and outcomes.

It is important to note that though state and federal policies are becoming increasingly intentional to mitigate the socioeconomic and postsecondary educational challenges among foster youth, these same policies often extend to other marginalized and vulnerable youth with intersecting identities, including first-generation college students, low socio-economic students, homeless students, student parents, and formerly incarcerated individuals (see the 2021-22 California Spending Plan for Higher Education). Though foster youth are often the foci of these policies, it is just as important that colleges and universities take full advantage of available funding to help foster and sustain the educational resilience of other marginalized and non-traditional groups of students without histories in foster care.

In summary, the vast majority of current and former foster youth aspire to attend college yet a very small percentage will enroll in college, and an even smaller percentage will earn a postsecondary degree. This is a significant social justice issue (Whitman, 2018) and only

highlights one of the many outcomes disparities among current and former foster youth. Nonetheless, this investigation highlighted unique subgroups of youth demonstrating sufficient or ample educational resilience; even among youth evidencing low educational resilience, their presence and participation in a four-year institution is praiseworthy and presses campus and community programs and resources to continue their efforts to intentionally and strategically engage and serve these youth. Importantly, evaluation of existing programs and services and service delivery; and oversight of the equitable allocation of funds that support current and former foster youth enrolled in California colleges and universities is strongly warranted.

The implications of this study's findings extends to other states in the process of expanding or negotiating the expansion of postsecondary educational supports to their youth in and aging out of foster care and to other vulnerable young people. Approximately 34 States provide their own State-funded financial assistance to current and former foster youth, and only about 20 offer at least one campus-based support program to current and former foster youth (Fostering Success Michigan, 2021). The States of California and Michigan are exemplary in the amount of support they provide current and former foster youth in the transition to adulthood and in their pursuit of a postsecondary education; and much may be learned from these states on how to serve youth in other states. The allocation of funds, the training of staff, and the development of programs aimed at promoting positive postsecondary educational outcomes among current and former foster youth can be partially influenced by California and Michigan State approaches, via communication and collaboration across key stakeholders, including campus program coordinators and basic needs staff, administrators, and foster youth themselves. Ultimately, the picture of resilience among foster youth participating in higher education is encouraging and their resilience may continue to be supported by holistic campus- and community-level supports.

Finally, there is a dearth of research on the postsecondary outcomes (i.e., persistence, withdrawal, college transfers, graduation) among former foster youth and on the factors that help promote positive college outcomes. Though this study elucidated unique profiles of former foster youth in college and factors associated with profile membership, it would valuable for future research to assess: 1) how profile membership is associated with educational outcomes; and 2) how youth can move from one educational resilience profile to another over time. A longitudinal analysis of youths' educational resilience would provide campus staff and social service providers a better understanding of whether or not youth can increase their educational resilience over time, and if and how current life experiences and campus service utilization shape their resilience. Given the dearth of research on the educational outcomes among former foster youth, it would be imperative to link their outcomes to their educational resilience and to current life experiences.

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