



Social and Emotional Supports During College Years: Associations with Post-college Outcomes Among Alumni of Foster Care

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Abstract

Data from a sample of alumni of foster care college graduates ($N = 241$) are examined to explore the role that social and emotional supports formed during college play in their post-college experiences, including achieving successful outcomes in employment, income, and perceptions of happiness. Social and emotional supports included having supportive relationships and social activities in college. The findings reveal that the odds of perceiving themselves as happy were greater for respondents who had higher levels of social support while they were in college, and the odds of receiving public assistance were lower for individuals who frequently socialized with other students. These findings suggest that social and emotional supports formed during college may contribute to achieving positive outcomes post-college, as it relates to both financial and emotional well-being.

Keywords Alumni of foster care · Post-college · Social supports · Emotional supports

Youth in foster care have educational aspirations to attend college, but may need further support to help them achieve their goals (Okpych et al., 2019; Salazar, 2013). While youth in foster care have similar aspirations to youth not in care, with 70–80% expressing a desire to attend college (Courtney et al., 2004; McMillan et al., 2003), research shows that only between 21 and 52% of youth who have been in foster care have enrolled in community college or a four-year institution by age 21. Furthermore, only about 8% of youth who have been in care have attained a degree by age 25, a rate about six times lower than for the general population of young adults (Courtney et al., 2011). Estimates of those completing a four-year college degree are even lower, as at age 26, just 3.8% of former youth in foster care had a four-year college degree, as compared to 36.3% of all other young adults (Courtney et al., 2011).

Because such a small share of alumni of foster care attain a college degree, not enough is known about their achievements and experiences after they graduate from college,

although Salazar (2013) and Okpych and Courtney (2014) have done some notable work in this area. Some alumni of foster care who graduated from college obtained stable jobs that paid a living wage, and maintained safe and secure housing (Courtney et al., 2010). Although the value of a higher education for the general population has been documented, including higher earnings, greater tax payments, and lower unemployment rates (Ma et al., 2019), it is not clear if the same benefits associated with earning a college degree accrue to alumni of foster care. More needs to be understood about the outcomes of alumni of foster care college graduates, especially the role played by social and emotional supports during their college years in their post-college success.

Ongoing Social and Emotional Needs of Alumni of Foster Care

Many youth who have been in foster care have experienced emotional and psychological trauma, as well as struggles with mental health and behavioral issues, along with the absence of supportive, long-term relationships (Geiger & Beltran, 2017). A review by Johnson (2021) found that many youth in foster care did not receive the social and emotional supports that other youth received from their biological families. Similarly,

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Munson and McMillen (2009) found that just 34% of youth reported having a long-term significant relationship or mentor after they left care, while Zinn (2017) reported that youth in foster care had fewer social connections as adults than those who had not been in foster care. Furthermore, Blakeslee and Keller (2018) found that only about 40% of the network ties of youth in foster care were stable over time, as significant adults tended to enter and exit their lives rather than remain more permanently. Yet, as noted by Greeson et al. (2015), youth who have been in foster care express an overriding desire to have permanent relationships with caring adults, “characterized by love, affection, and safety” (p. 143).

Studies have shown a connection between the lack of long term, supportive relationships with a caring adult, as well as the absence of a reliable support network, and barriers to educational success (Day et al., 2012; Rios & Rocco, 2014). Miller et al. (2019) noted that a lack of social support was a precipitating factor in some youth dropping out of college. The lack of social supports, combined with mental and behavioral health challenges, may increase college achievement gaps between youth who have been in foster care and other youth (Gray et al., 2018), although an array of other factors, such as being in economically precarious situations and being more likely to have children, could also be at play. To overcome these deficits, youth in foster care could benefit from a range of social and emotional support services while they are in college, such as one-on-one mentoring and academic coaching (Smith, 2018).

Social and emotional supports can come from a variety of sources, including social workers, families, mentors, teachers, and coaches (Day et al., 2012; Jones, 2014; Salazar, et al., 2016a, 2016b). Thompson et al. (2016), for example, found a positive relationship between mentoring and improvements in the psychosocial, behavioral and academic outcomes of transition age youth in foster care. Social supports can also serve as a protective factor for the youth against the risks that they face (Katz & Courtney, 2015). Day et al. (2012) found that youth needed relationships with adults to help them find and leverage resources, provide unconditional encouragement, and believe in them. Caring and supportive adults could also assist youth in developing their sense of empowerment and self-worth (Rios & Rocco, 2014). Additionally, youth who had adults providing them encouragement to achieve their academic goals, including from secondary school professionals, had higher odds of entering college and improved academic performance (Pecora, 2012; Rios & Rocco, 2014).

Contribution of Social and Emotional Supports to College Success

The importance of social and emotional support and its impact on the college success of youth in care has been explored in a growing body of literature. Salazar (2012), for example, found social support to be a significant forecaster of college retention. The present study builds on the work of Salazar (2012) and Salazar et al., (2016a, 2016b), which used data from the same sample of alumni of foster care college graduates.

Strolin-Goltzman et al. (2016) conducted interviews with youth in foster care who were enrolled in college and found that having positive peer influences, as well as positive relationships with adult mentors, were instrumental in their college success. The emotional support they received reinforced their academic success, while also strengthening their resiliency, and helping them to cope, adapt and move forward. Moreover, supports, such as faculty and community mentors, can help compensate for the youth not having sufficient parental or other adult support and increase their likelihood of remaining in college and eventually earning a college degree (Unrau et al., 2017).

Salazar et al., (2016a, 2016b) used qualitative survey data from alumni of foster care who had graduated from college to identify the strengths, challenges, and supports these individuals had experienced while in college that impacted upon their success. One critical element they stressed was having strong, positive interpersonal relationships. Tobolowsky et al. (2019) echoed this sentiment in interviews with youth in foster care enrolled in college, who acknowledged that support from others helped them achieve success in college. Among the helpful on-campus relationships were with teachers and dorm mates, as well as having a positive peer group and participating in clubs and extracurricular activities (Salazar et al., 2016a, 2016b). Katz and Geiger (2019) also affirmed the role that friends and peers played as a source of support to youth while they pursued higher education, noting that these relationships displayed qualities of being trusting, unconditional, and flexible. Moreover, relationships with peers “instilled hope, provided encouragement, and reassured the youth of their worth” (p. 160).

Similarly, Johnson (2021) found that a majority of studies included in a literature review emphasized the role and importance of supportive relationships with faculty, academic advisors, and volunteer coordinators in contributing to the college success of youth in foster care. In addition, Neal (2017) concurred that youth in foster care relied on “a network of caring adults to create positive environments in which [they]... could excel” (p. 244) by providing emotional support, stability and guidance in the form of “trust, attention, empathy, availability, and affirmation” (p. 246).

Strolin-Goltzman et al. (2016) found that connectedness (termed as “resilience connections capability”) was an important protective factor in various areas of academic life. In a number of studies (Dworsky & Perez, 2010; Salazar et al., 2016a, 2016b; Unrau et al., 2017) students identified having someone to turn to for help or support as the most critical in pursuing their college degree. Being in foster care, and the disruptions that it implies, may cause the youth to miss out on having consistent adults care for them and support them as they enter emerging adulthood. Unrau et al. (2017) explains that these experiences in foster care lead the students to place such a high value on adult guidance when they are in college.

Post-college Experiences of Alumni of Foster Care

There is not a great deal of literature on the outcomes of alumni of foster care after they receive their college degree. Some studies have looked at educational predictors of employment for this population but have not focused exclusively on college graduates. Naccarato et al. (2010), for instance, found that compared to youth without a high school degree, those with a GED, high school diploma, some college, or an associate’s degree had significantly higher earnings expectations at age 21. Similarly, another study (Hook & Courtney, 2011) predicted youth outcomes at age 23 or 24 and revealed that those with a high school credential or higher were inclined to work more hours per week than those with less than a high school degree, while having some college did not predict greater earnings.

Okpych and Courtney (2014) examined data from the Midwest study of youth in foster care to report on outcomes at age 26. Their findings showed clear differences in employment status and annual earnings by educational attainment. They also found that although the rates of employment and earnings were lower for youth who had been in foster care, compared to a nationally representative population of their peers, the gap narrowed with increasing levels of education. Moreover, having a higher education produced more pronounced effects on earnings and employment status for alumni of foster care than the general population.

Salazar (2013) conducted one of the few studies that focused exclusively on the outcomes of alumni of foster care who had attained a bachelor’s degree. Domains such as employment, income, housing, receipt of public assistance, and mental health were compared between alumni of foster care who were college graduates and the general population of young adult college graduates. Although the general population group had a slightly higher annual income range than the foster care group, the difference was not statistically significant. Employment rates were also comparable between

the two groups, but alumni of foster care were more likely to receive public assistance than the general population. With respect to mental health, however, clear differences between the two groups emerged, with alumni of foster care reporting more days of poor mental health.

A few qualitative studies have also been conducted on alumni of foster care college graduates and addressed their social supports. Lovitt and Emerson (2009) discovered that alumni of foster care valued whatever family they had, even if there was no biological connection. Having at least one or two adults that they could consistently rely on for support was essential, as these adults encouraged them to do well in school at a critical juncture in their lives, which ultimately contributed to their persisting in school and graduating. Fitch (2019), moreover, uncovered a common theme among alumni of foster care college graduates: the presence of authentically caring adults, who may have been mentors, support staff, or faculty, was “paramount” to their college success, as was having holistic support services available. These caring adults encouraged them to go further and pursue graduate education, or otherwise progress with their careers and futures, while the support services (either community-based or campus-based), helped them deal with setbacks or unexpected problems.

Given that only a small portion of alumni of foster care attain a college degree, more needs to be done to help individuals achieve success, both in college and in their post-college careers. Given the trauma that many individuals encounter as a result of their experiences in the child welfare system, they have considerable unmet social and emotional needs. More empirical evidence needs to be gathered about what types of social and emotional supports are most effective for college success, and particularly if they persist in making a difference in post-college outcomes.

Theoretical Framework on Social and Emotional Needs Alumni of Foster Care

Two theoretical frameworks that can help provide a better understanding of the social and emotional needs of those who have been in foster care, particularly within the college context, as well as the challenges to building supportive relationships, are resiliency theory and attachment theory.

Resilience may be defined as “the ability to overcome adversity and be successful in spite of exposure to high risk” and “the ability to sustain competence under pressure and the capacity to recover from trauma” (Greene et al., 2003, p. 77). Broadly speaking, it is about coping, overcoming odds, and recovery. For someone who has been in foster care, resilience could manifest itself as being able to graduate from college and start on a successful career path despite a history of neglect, abuse, and abandonment.

The resilience framework also moves beyond the individual to include the systemic factors, including the social environment, that can both create and ameliorate problems (Corcoran & Nichols-Casebolt, 2004). According to Greeson (2013), resilience research indicates the importance of asset development, which may include factors within the individual youth, such as coping skills, as well as social relationships, such as connections to caring, non-parental adults, and organizations, such as schools. As noted by Atwool (2006), resilience can be best fostered through supportive relationships, whether with foster parents, residential staff, or school personnel, thus supporting the role of attachment in resilience.

Day et al. (2012) suggest that positive peer influences, adult mentors, and college-based support programs can improve educational resilience, and result in those who have been in foster care having better perceptions of their educational outcomes. Katz and Geiger (2019) also affirm that self-reliance and resilience among youth who have been in foster care can be a source of self-protection and pride. Fergus and Zimmerman (2013) reiterate the role that adult mentors can play in building promotive factors for at-risk youth, as well as involvement in extra-curricular and community activities. Moscardino et al. (2014) further suggest that connectedness to school can help young people adapt to traumatic events, thereby promoting their resilience. Connectedness to family, peers, and school can all contribute to the promotion of resilience in young people (Sharp et al., 2015), with this relationship being termed “resilience connections capability.”

Attachment theory provides a good basis for understanding the social and emotional needs, as well as the relationships of alumni of foster care. Miranda (2015) notes that children often enter foster care with feelings of insecurity and a lack of control, which can negatively impact their ability to bond with future caregivers. Given that many youth in foster care have endured maltreatment and placement instability, they tend to have a lowered capacity to develop meaningful relationships with adults (Morton, 2018; Seita et al., 2016). Furthermore, Miranda et al. (2019) point out that these children are not only likely to exhibit difficulties in their interpersonal relationships after entering foster care, but the quality of their attachment can help predict their mental health, emotional stability, and physical health outcomes throughout their life.

Youth in foster care may have repeated experiences of loss and trauma (Morton, 2018), and can develop a “survivalist self-reliance” which can impact upon their ability to create and sustain supportive relationships (Samuels & Pryce, 2008). Mikulincer and Shaver (2003) characterize a pattern among youth in foster care of avoiding intimacy and emotional closeness, minimizing dependency on others and becoming overly self-reliant, and denying their own

faults and shortcomings as avoidant attachment. Okpych and Courtney (2018) found that youth characterized as having avoidant attachment styles had lower odds of persisting in college and completing a degree, in part because they had fewer people to turn to for support and were less likely to seek out support when confronted with difficult challenges. This lack of a social support network can make it difficult for alumni of foster care to succeed, whether in college or beyond.

Both resiliency theory and attachment theory reinforce the need for supportive relationships, albeit they may be difficult for alumni of foster care to attain and sustain. Resiliency is associated with a secure attachment with at least one unconditionally supportive adult (Stein, 2006), a point echoed by Goldsmith et al. (2004), who note that the most significant protective factor may be a secure attachment to a stable, sensitive, and supportive caregiver. Having reliable social supports, particularly as manifested through caring relationships that the young person may have learned to cultivate during the college years, can thus bolster protective factors and enhance the chances of success, both in college as well as throughout life.

Purpose of the Present Study

Although the need for social and emotional supports may be particularly acute during the college years when the youth are in the process of transitioning to adulthood, it is unlikely that the need for this form of support will end once alumni of foster care receive their college diploma. A key question to contemplate, therefore, is: What role do social and emotional supports play in post-college success for alumni of foster care? Do social and emotional supports that may have been built in college continue to play a role after they attain their bachelor’s degree? More specifically, do these supports contribute to positive post-college outcomes in areas such as employment, income, receiving public assistance, and happiness?

The primary focus of this study is to better understand the post-college experiences of alumni of foster care and to explore one of the elements that may contribute to successful outcomes among this group, namely social and emotional supports. Because such a small percentage of those who have been in the foster care system hold a bachelor’s degree, they are an understudied population. Therefore, more needs to be known about what happens after they earn their college diploma, and the factors, such as social and emotional supports, that may play a role in their ongoing success.

There are many indications of success after college graduation, which can be unique to the individual, this study nevertheless focuses on a few specific measures. Post-college success can be defined as acquiring a full-time job that pays

a living wage and being generally satisfied with one's life. It should be acknowledged, however, that although post-college success in this instance is being operationalized by full-time employment, alumni of care may define and experience success in a variety of ways. Social and emotional supports can be defined as connections to family and friends, resilience connections capability, and rapport with the college community, which are related to resiliency theory, particularly as it concerns asset development to increase resources to provide positive development (Greeson, 2013). Social and emotional supports can furthermore be defined as a sense of feeling loved and appreciated, having supportive relationships with a caring adult and/or mentor, and maintaining contacts with professors or other students, which correspond to attachment theory, especially as it relates to the capacity of alumni of foster care to develop meaningful interpersonal relationships with adults (Morton, 2018; Seita et al., 2016). For the purposes of this study, social and emotional supports are comprised of three elements that form the variables to be analyzed: social support, relationships, and social involvement.

This study aims to examine whether social and emotional supports of alumni of foster care present in college (e.g., having supportive family and friends; relationships with caring adults, rapport with the college community, resilience connections capability; and greater social involvement) are associated with their post-college outcomes, including full-time employment status, income, receipt of public assistance, and general perceptions of happiness.

Based on the theoretical framework and findings in the literature, we hypothesize that

social and emotional supports present during college are associated with alumni of foster care college graduates:

1. having a full-time job;
2. having an individual income above the poverty threshold;
3. not receiving public assistance; and
4. having general perceptions of being happy.

Method

A secondary data analysis from the "Foster Youth and College" online survey is conducted for this study, which recorded data from recipients of the Casey Family Scholarship Program or the Orphan Foundation of America's (OFA) Foster Care to Success scholarship. Data collection for the survey took place from July to September 2010. Participants in the study were derived from a convenience sample of alumni of foster care who had received one of these scholarships between the years of 2001 and 2009. To be eligible for the scholarship, youth must: (1) have been in foster care at

least one year as of their 18th birthday or been adopted after their 16th birthday; (2) have been enrolled in an accredited post-secondary undergraduate program; (3) be under age 25; and (4) have been in foster care in the United States, although not necessarily a U.S. citizen (Orphan Foundation of America, 2010). The recipients had to receive good grades in order to qualify for the scholarship, and they maintained a mentoring relationship with the OFA staff throughout their college experience. Scholarship award amounts varied by student, but typically ranged from \$2,500 to \$6,000 per year.

The present study examines various forms of social and emotional supports that were present during the college years, including social support, relationships, and social involvement, and their associations with post-college outcomes, such as income and employment. Included in this study are the post-college experiences of 241 respondents who attained a Bachelor's degree or higher. The highest level of education among most respondents in the sample was a Bachelor's degree (81.3%), while 17.4% had acquired a Master's degree and 1.2% had a JD/MD/Doctorate degree.

Measures

The "Foster Youth and College" survey covered a wide range of domains, including demographics; social support; supportive relationships with caring adults and mentors; college extracurriculars; social connectedness and resiliency; strengths, supports, and barriers to staying in and graduating from college; and post-college experiences in a range of areas, such as employment and income. The post-college experiences referred to the respondents' situation at the time when the survey was conducted (2010), at which point some respondents had also received advanced degrees.

The dependent measures in this study correspond to the post-college experiences of those who have graduated with a bachelor's degree or higher, including employment status, income in relation to the poverty line, receiving public assistance, and perceptions of happiness. More specifically, current employment status asked respondents whether they worked full-time or not (including working part-time, unemployed, and keeping house with a small number of responses in each category). Individual earnings before taxes and other deductions were asked by ascribing a category, such as \$8,000-\$9,999; and \$10,000-\$12,499. These responses were recoded into earnings below \$10,000 (the approximate poverty line for an individual in 2010 of \$10,830) and earnings of \$10,000 and above. Note, however, that this figure does not reflect respondents' household income, which may have been higher. Receipt of public assistance was asked by a single question inquiring if respondents had received any public assistance from state or local offices for one month or more during the previous year (2009), with specific mention of ADC, TANF, SSI, general assistance programs, and

emergency assistance (the question asked respondents to exclude receipt of federal food stamps and SNAP), with the responses “yes/no.” The measure of overall perceptions of happiness included a question on how happy respondents would say they were “these days,” with the choices “not too happy,” “pretty happy,” and “very happy.” These categories were dichotomized into “pretty and very happy” or “not happy.”

The key independent variables fall under the general heading of social and emotional supports and apply to the undergraduate experiences of respondents. These variables are comprised of three components: social support, relationships, and social involvement. In particular, social support was measured using the Medical Outcomes Study (MOS) Social Support Survey (herein referred to as the “social support” scale) (Sherbourne & Stewart, 1991). Responses were on a scale of 1 to 5, with 1 corresponding to “none of the time” and 5 to “all of the time.” Theoretical scores for the 19-item scale could range from 19 to 95, with higher scores indicating more support. Reliability testing showed a Cronbach’s alpha of 0.91 or higher, which was stable over time (Sherbourne & Stewart, 1991), and a similar Cronbach’s alpha of 0.977 was found for the present study. Respondents were asked to identify how often a list of supports were available when they needed it as an undergraduate. Statements included “Someone to give you good advice about a crisis” and “Someone to love and make you feel wanted.”

Relationships while in college were assessed using four measures, including the presence of: (1) a caring adult (yes/no); (2) a mentor (yes/no); (3) college rapport (7-item scale); and (4) resilience connections capability (5-item scale). The college rapport measure (herein the “college rapport” scale) was derived from a subscale of the Hemingway Measure of Late Adolescent Connectedness (Karcher, 2000), which examined rapport with the college community. Responses were on a scale of 1 to 5, with 1 being “not at all true” and 5 being “very true.” Theoretical scores could range from 7 to 35, with higher scores indicating higher levels of college rapport. Reliability testing showed a Cronbach’s alpha ranging from 0.72 to 0.81 (Karcher, 2003), and an analogous Cronbach’s alpha of 0.866 in the present study. Respondents were asked to designate the truthfulness of a series of statements about being in college. Statements included “There was nobody I liked spending time with at my college” and “I spent a lot of time in my college community.” Resilience connections capability was assessed with another subscale of Hemingway (Karcher, 2000), henceforth referred to as the “belonging” scale. The belonging scale combined five items from the parent, sibling, and friend subscales to reflect the broader definition of family that foster youth may experience (Salazar, 2011). Responses were on a scale of 1–5, with 1 being “not at all true” and 5 being “very true.” Theoretical scores could range from 5 to 25, with higher scores

indicating higher levels of resilience connections capability and belonging. Reliability testing showed a Cronbach’s alpha ranging from 0.63 to 0.88 (Wallace, 2003), and a consistent Cronbach’s alpha of 0.861 for the present study. Respondents were asked how true a series of statements were when they were in college. Statements included “I enjoyed spending time with family and/or friends” and “I felt close to my family and/or friends.”

Social involvement was assessed through three measures: (1) involvement in extracurricular activities, such as clubs, sports teams, and music; (2) having professor contact; and (3) participating in social activities with other students. Each of these items: frequency of participation in extracurricular activities, professor contact, and social activities with other students, were recoded into two categories: once a week or more and once per term or less.

Demographic information of respondents included their current age, race/ethnicity (including 15 possible classifications that were collapsed into four categories: Black, white, Latino, mixed race/other), the number of years they spent in foster care, and the total number of foster care placements they were ever in. In addition, respondents were asked whether they had a mental health diagnosis in college (yes/no) and what they would say was their own current health (with the choices being “poor,” “fair,” “good,” and “excellent,” which were dichotomized into “poor/fair” and “good/excellent”). Respondents were also asked how many children they currently had (with zero coded as “no” to having children and one or more coded as “yes”) and whether they presently identified as having a disability (yes/no).

Data Analysis

Multiple imputation was used to address missing data of independent variables, which can help increase the utilization of available data in a multivariate analysis (Rubin, 2009; Schafer, 1997). An analysis of the patterns of missing data indicated no discernable pattern, and there were very few missing values among the variables analyzed (generally fewer than 3%), therefore supporting the assumption of missing at random (MAR). The greatest number of missing values was for income, with 12% of cases missing. As this was a dependent variable, upon which imputation was not performed, these cases (as well as those from other missing cases of dependent variables) were dropped from the analysis. Five imputations were conducted, and pooled results are reported below. Similar results were found with and without multiple imputation.

A multivariate analysis was conducted to assess whether social and emotional supports experienced during college were associated with post-college outcomes, including employment status, income, public assistance receipt, and perceptions of happiness. Although there could be overlap

among the economic measures on employment, income, and public assistance, these variables were used to capture the different aspects and dimensions of economic outcomes of respondents, and findings on these individual measures, if any, may provide implications for policy and practice in the specific areas that can help promote the economic well-being of alumni of foster care. In addition, a correlation test shows that the correlation coefficients among these measures were relatively low (i.e., 0.35 between employment and income, -0.18 between employment and public assistance, and -0.18 between income and public assistance). Moreover, the research focus of this study was to examine whether social and emotional supports experienced during college were associated with the odds that each of the dichotomized post-college outcomes occurred rather than the odds of occurrence of one outcome variable compared to another outcome variable. Therefore, a series of separate binary logistic regressions (instead of a multinomial logistic regression) were conducted for each of the dependent variables (i.e., employment status, income, public assistance receipt, and perceptions of happiness), with the variables entered based on a review of the literature and the theoretical frameworks. The covariates were a number of demographic variables, including age, race/ethnicity, the number of years spent in foster care, the total number of foster care placements, mental health diagnosis in college, current health status, whether they had children, and whether they had a disability.

Results

Descriptive Statistics of Independent and Dependent Variables

As presented in Table 1, an analysis of the demographic data revealed that the average age of respondents was 25.71 years ($SD=2.57$), with a median age of 26 and a normal distribution of cases ranging from age 21 to 37. They were a racially diverse group, with 32.0% Black, 45.6% white, 6.6% Latino, and 15.8% either mixed race or of some other race. Respondents had spent an average of 8.61 years ($SD=5.09$) in foster care and had an average of 5.09 placements ($SD=5.37$). Nearly one-third (31.1%) had a mental health diagnosis while in college, although the majority (83.0%) replied that they were currently in good or excellent health. A small portion of respondents (7.5%) indicated that they had a disability, and 23.2% had children.

The key independent variables related to social and emotional supports were grouped into three areas: social support, relationships, and social involvement (see Table 1). The average score on the social support instrument was 64.69 ($SD=20.81$), indicating moderate social support. In terms

of relationships, 80.5% of respondents said they had a caring adult while they were in college, and 71.4% had a mentor in college. In addition, the average score on the college rapport scale was 26.98 ($SD=5.93$), representing a moderately high sense of rapport with the college community. Regarding relationships, the average score on the belonging scale was 20.89 ($SD=4.12$), indicating a relatively high sense of belonging to parents, siblings, and friends. For social involvement, 76.3% of respondents indicated that they had participated in extracurricular activities in college, while 44.0% had non-required contact with professors around once per week or more, and 60.6% participated in social events with other students at their college at least once a week.

Regarding the outcome variables of post-college experiences (see Table 1), two-thirds (66.0%) of the respondents worked full-time, with the remainder either working part-time or not working, and nearly a quarter (23.6%) earned less than \$10,000 per year, which was below the federal poverty line of \$10,830 for an individual household in 2010. In addition, 10.4% had received some form of public assistance, such as TANF, SSI, or general assistance. Most respondents (85.1%) indicated that they were either pretty happy or very happy these days.

Multivariate Analysis

Separate binary logistic regressions were conducted for each of the dependent variables, including the key independent variables related to social and emotional supports and the covariates of demographic variables. The pooled results from the data of multiple imputation are presented in Table 2 and discussed below. It should be acknowledged, however, that the relatively high share of respondents reported above who said they had a caring adult in college (80.5%) and indicated that they were happy (85.1%) may have skewed the results of the analysis somewhat.

Hypothesis 1 Social and emotional supports present during college are associated with alumni of foster care college graduates having a full-time job.

Employment

The results on employment status (i.e., having a full-time job or not) show that only two variables of social and emotional supports approach statistical significance ($p < 0.10$), including social support and participation in extracurricular activities. The odds of having a full-time job are 1.9% higher for each point increase in the social support scale ($p=0.06$, 95% CI [1.00, 1.04]) and are 56.0% lower for respondents who participated in extracurricular activities at college compared to those who did not ($p=0.07$, 95% CI [0.18, 1.07]). Among the covariates, two variables (i.e., age and having a

Table 1 Descriptive statistics of independent and dependent variables

Item	Original		Pooled (n=241)	
	Mean/SD	Number/percent	Mean/SD	Number/percent
Demographic variables				
Race (n = 239)				
Black		76 31.8		77 32.0
White		110 46.0		110 45.6
Latino		15 6.3		16 6.6
Mixed race/other		38 15.9		38 15.8
Age (n=240)	25.71 (SD=2.57)		25.71 (SD=2.57)	
Years in foster care (n=227)	8.60 (SD=5.12)		8.61 (SD=5.09)	
Total placements (n=233)	5.02 (SD=5.41)		5.09 (SD=5.37)	
Mental health diagnosis in college (n=233)				
Yes		72 30.9		75 31.1
No		161 69.1		166 68.9
Health (n=238)				
Excellent or good		198 83.2		200 83.0
Fair or poor		40 16.8		41 17.0
Children (n=234)				
Yes		54 23.1		56 23.2
No		180 76.9		185 76.8
Disability (n=233)				
Yes		18 7.7		18 7.5
No		215 92.3		223 92.5
Key independent variables				
Social support				
Social support Sscale (n=240)	64.66 (SD=20.82)		64.69 (SD=20.81)	
Relationships				
Belonging (n=240)	20.89 (SD=4.12)		20.89 (SD=4.12)	
College rapport (n=229)	27.10 (SD=5.93)		26.98 (SD=5.93)	
Caring adult (n=238)				
Yes		192 80.7		194 80.5
No		46 19.3		47 19.5
Mentor (n=236)				
Yes		170 72.0		172 71.4
No		66 28.0		69 28.6
Social involvement				
Extracurricular Activities (n=237)				
Yes		182 76.8		184 76.3
No		55 23.2		57 23.7
Contact with professor weekly + (n=233)				
Yes		102 43.8		106 44.0
No		131 56.2		135 56.0
Social activities with students weekly + (n=233)				
Yes		142 60.9		146 60.6
No		91 39.1		9 39.4
Dependent variables				
Work Full Time (n=241)				
Yes		159 66.0		
No		82 34.0		

Table 1 (continued)

Item	Original		Pooled (n = 241)	
	Mean/SD	Number/percent	Mean/SD	Number/percent
Income (n = 212)				
Below poverty level		50 23.6		
Above Poverty level		162 76.4		
Receiving public assistance (n = 230)				
Yes		24 10.4		
No		206 89.6		
Perceived happiness (n = 235)				
Pretty or very happy		200 85.1		
Not happy		35 14.9		

disability) are statistically significant ($p < 0.01$) in predicting full-time employment status. The odds of having a full-time job are 21.1% higher for each year increase in the age of the respondent ($p = 0.00$, 95% CI [1.07, 1.37]), while the odds of having a full-time job are 69.9% lower for respondents who had a disability ($p = 0.05$, 95% CI [0.09, 0.98]). According to these findings, H1 was partially supported.

Hypothesis 2 Social and emotional supports present during college are associated with alumni of foster care college graduates having an individual income above the poverty threshold.

Income

The logistic regression results on income level (i.e., having earnings above the poverty level of approximately \$10,000 or not) show that one of the key independent variables related to social and emotional supports, namely social involvement, is significantly associated with income level. The odds of having income above the poverty line are 66.3% lower for those who had at least weekly non-required contact with professors while in college compared to those who had less contact ($p = 0.01$, 95% CI [0.15, 0.74]). Regarding the covariates, the odds of having income above the poverty line are 48.5% higher for each year increase in the age of the respondent ($p = 0.00$, 95% CI [1.22, 1.80]) and 12.5% higher for each additional foster care placement ($p = 0.03$, 95% CI [1.01, 1.25]). Moreover, the odds of having income above the poverty line are 79.4% lower for Latinos as for white respondents ($p = 0.03$, 95% CI [0.05, 0.82]). The results indicate that H2 was not supported.

Hypothesis 3 Social and emotional supports present during college are associated with alumni of foster care college graduates not receiving public assistance.

Receiving Public Assistance

Regression results on the receipt of public assistance show that one of the key independent variables of social and emotional supports, social activities, is significantly associated with the receipt of public assistance. The odds of receiving public assistance are 74.5% lower for respondents who participated in social activities with other students at least weekly in college ($p = 0.05$, 95% CI [0.07, 0.98]), compared to those who were less social. With respect to the covariates, the odds of receiving public assistance are 25.7% lower for each year increase in the age of the respondent ($p = 0.04$, 95% CI [0.56, 0.98]). However, the odds of receiving public assistance are 1095.0% higher for those with children ($p = 0.00$, 95% CI [2.94, 48.54]) and 2398.7% higher for respondents reporting a disability ($p = 0.00$, 95% CI [4.44, 140.59]). According to the results, H3 was supported.

Hypothesis 4 Social and emotional supports present during college are associated with alumni of foster care college graduates having general perceptions of being happy.

Perceptions of Happiness

Regression results on the perceptions of happiness show that one of the key independent variables of social and emotional supports, namely social support, is significantly associated with perceived happiness. The odds of perceiving to be happy are 4.6% higher ($p = 0.01$, 95% CI [1.01, 1.08]) for each point increase in the social support scale. Regarding the covariates, the odds of perceived happiness are 422.4% higher for those in good or excellent health as compared to fair or poor health ($p = 0.00$, 95% CI [1.72, 15.87]). In addition, Black respondents have 79.9% lower odds of perceived happiness than whites ($p = 0.01$, 95% CI [0.06, 0.67]). The results indicate that H4 was supported.

Table 2 Multivariate analysis on post-college outcomes

	Work full-time	Income/poverty	Welfare assist	Happy/not
Social and emotional support				
Social support	1.02 (1.91)	1.01 (0.89)	0.98 (- 0.89)	1.05** (2.77)
Relationships				
Belonging	1.01 (0.15)	1.01 (0.14)	0.91 (- 1.04)	1.05 (0.76)
College rapport	0.97 (- 0.77)	1.03 (0.69)	0.98 (- 0.34)	1.03 (0.61)
Caring adult	0.57 (- 1.21)	1.20 (0.31)	0.62 (- 0.55)	0.53 (- 1.02)
Mentor	0.55 (- 1.55)	0.84 (- 0.35)	1.55 (0.60)	1.31 (0.47)
Social involvement				
Extracurriculars	0.44+ (- 1.82)	0.56 (- 1.01)	0.97 (- 0.05)	1.15 (0.24)
Professor contact	1.17 (0.50)	0.34** (- 2.69)	0.68 (- 0.63)	0.79 (- 0.46)
Social activities	1.12 (0.30)	1.29 (0.57)	0.26* (- 1.99)	0.89 (- 0.20)
Demographic variables				
Race/ethnicity (white as reference group)				
Black	0.76 (- 0.72)	0.70 (- 0.74)	1.34 (0.41)	0.20** (- 2.61)
Latino	1.39 (0.49)	0.21* (- 2.25)	0.48 (- 0.48)	0.48 (- 0.65)
Mixed race	0.98 (- 0.04)	0.45 (- 1.24)	3.47 (1.47)	0.70 (- 0.45)
Age	1.21** (2.98)	1.49** (4.02)	0.74* (- 2.09)	0.89 (- 1.21)
Years in foster care	1.05 (1.32)	1.02 (0.45)	0.99 (- 0.26)	0.96 (- 0.75)
Number of placements	0.96 (- 1.32)	1.13* (2.20)	0.95 (- 0.71)	0.98 (- 0.56)
Mental health diagnosis	1.13 (0.33)	0.82 (- 0.40)	1.01 (0.01)	0.84 (- 0.33)
Health status	1.51 (0.97)	1.22 (0.40)	0.54 (- 0.88)	5.22** (2.93)
Having children	0.83 (- 0.48)	0.80 (- 0.46)	11.95** (3.47)	0.56 (- 1.09)
Having a disability	0.30* (- 1.99)	0.55 (- 0.86)	24.99** (3.65)	3.74 (1.43)
Observations	241	212	230	235

Results pooled from five datasets of multiple imputation; odds ratios with z-statistics in parentheses

** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Discussion

Presentation of Findings

The results of the study were mixed, as some social and emotional supports present during college were shown to have had a beneficial impact on certain post-college experiences, while others did not. According to the logistic regression analyses, social and emotional supports established during the college years, namely participating in social activities with other students at least once a week, helped to lower the odds of the respondent receiving some form of public assistance by 74.5%. In addition, having social supports in college, as measured by the social support scale, raised the odds of one perceiving to be happy by nearly 5% for each point increase in the social support scale.

On the other hand, social and emotional supports developed during college did not provide a significant, positive contribution to the odds of attaining a full-time job or having an income above the poverty level. However, social support was found to approach significance ($p < 0.10$) as a predictor of having a full-time job, as each point increase in the social support scale raised the odds of having a full-time job by 1.9%.

There were also some surprising results from the regression analysis related to social and emotional supports. The results indicated that the odds of having an income above the poverty level were actually lower for respondents who had at least weekly non-required contact with a professor during college. Further research is needed to gain a better understanding of these dynamics.

Interpretation of Findings

It is interesting to note that social and emotional supports present during the college years appear to have a more direct impact on subjective measures, such as perceptions of happiness, rather than on more objective measures, such as employment status and income. Although social support has been found to be a predictor of college success and academic success in prior studies (Pecora, 2012; Rios & Rocco, 2014; Salazar, 2012), the connection may not be as direct when it comes to post-college outcomes.

An important caveat is that this study was limited to assessing the impact of social and emotional supports present during college on post-college success, while it did not examine the impact of present day supports, as this information was not available from the survey. It is possible that the supports present during college did not have lasting effects, which could explain why only three of the social support variables showed any significance across the four regression models. It is not to say that social and emotional

supports themselves are unrelated to successful outcomes such as acquiring a full-time job that pays a living wage, it could just be that the supports need to be more current, rather than dating back to the college years. In fact, those supports that were more college specific, such as participating in extracurricular activities and having at least weekly non-required contact with a professor, either showed no impact on post-college outcomes, or even were associated with negative outcomes, including having an income below poverty. Although earlier work with this same sample by Salazar et al., (2016a, 2016b) found that relationships with professors and participation in extracurricular activities were mentioned by students as important components of their college success, these supports do not appear to contribute to post-college success. Once again, however, it is important to acknowledge the caveat that the presence of these relationships and activities post-college were not assessed, and thus it was not possible to determine if they could make a positive difference had they been maintained.

For this study, having a caring adult while in college, or having a mentor during the college years, showed no impact on post-college outcomes. Although research has demonstrated that youth who have been in foster care are more constrained in developing meaningful relationships with adults (Samuels & Pyrcce, 2008; Seita et al., 2016), in this sample, four out of five respondents said that they had a relationship with a caring adult, and more than 70% said they had a mentor while they were in college. There was no indication of the strength of the relationship with the caring adult or the mentor, however, or if they persisted after college graduation. It should be noted that findings in previous studies (e.g., Fitch, 2019; Salazar et al., 2016a, 2016b; Strolin-Goltzman et al., 2016; Unrau et al., 2017) have indicated a connection between mentors and other supportive adults and college success among youth who had been in foster care. Although mentors and caring adults have played an important role in success during college, these benefits do not appear to persist post-college.

The social and emotional support present during college that appeared to be the strongest predictor of successful post-college outcomes was social support, as it had a positive association with perceptions of happiness. In addition, frequent participation in social activities had a negative association with the receipt of public assistance. Social support and participation in social activities imply a social connection with others to spend time with, which is an important component of emotional wellness (Rohrer et al., 2018). Even though the individuals with whom they socialized may have changed since their college years, the tendency to seek others out for social support and engage in social activities could have been maintained after graduation. This underscores that social support and relationships, which are both tied to resiliency and attachment, are integral

to maintaining financial security and feelings of happiness over the long term.

Achieving positive post-college outcomes, such as acquiring a full-time job, earning a living wage, avoiding reliance on public assistance, and being happy, involves a complex dynamic. Social and emotional supports can be part of this dynamic, but the regression results showed that other factors, including age, race/ethnicity, having a disability, having children, and health status, were also significant predictors of these outcomes. Similarly, Courtney and Hook (2017) found that background characteristics such as race, gender, and parenting were associated with significant outcomes such as educational attainment. Furthermore, although Day et al. (2012) found a connection between youth having a mental health diagnosis and educational attainment, in the present study, having a mental health diagnosis in college was not found to have an influence on post-college outcomes. Data were not available on their current mental health situation, however, which may have had an impact on these findings.

In terms of the demographic influences, older respondents had increased odds of having a full-time job and income above the poverty line, as well as lower odds of receiving public assistance. These are in line with findings about the general public (Irving & Loveless, 2015; York, 2019). With age comes experience, and the greater likelihood of securing a job with decent pay and benefits. Race/ethnicity was also a significant factor in several outcomes, which may be an extension of the prevalence of racial disproportionality and disparity in the child welfare system (Child Welfare Information Gateway, 2016). Latinos had 79.4% lower odds of having earnings above the poverty line as compared to whites, and Black respondents had lower odds of perceiving themselves as happy (79.9%) as whites. These findings may point to underlying racism, which could keep persons of color from securing the jobs they want and ultimately attaining the lifestyle they desire in order to be happy.

Strengths and Limitations

The use of secondary data provides both advantages and limitations to this study. An advantage was having access to a comprehensive array of data on college graduates who have been in foster care, information which is not readily available (albeit the data are now somewhat dated, having been collected in 2010). Having these data made it possible to conduct an examination of an understudied population and topic among alumni of foster care. The sample size of 241 respondents was also large enough to perform meaningful multivariate analyses. A limitation in the use of secondary data, however, is that the researchers did not have an opportunity to influence the design of the survey, or to give input into the formulation of questions. As a result, elements that were potentially of interest could not be explored,

including the gender of respondents and the availability of present day social and emotional supports. This also meant that there were a limited set of control variables that could be included in the regression analysis, raising concerns of unmeasured confounding.

It is also important to acknowledge that the predictors of post-college success were collected in some cases a decade after the respondent graduated from college. As a result, memory error could have influenced recollection. Furthermore, the fact that the survey relied entirely on self-report and was conducted online meant that it was not possible to verify if the responses were accurate, or if the respondents fully understood the questions or the measures, as there was no feedback provided. Consequently, random measurement error may have been introduced, making it less likely to detect an association had there been one, for instance.

The data used for this study were from a convenience sample, which presents challenges to generalizability. All of the respondents in this sample graduated from a four-year institution and had at least a bachelor's degree, which is not representative of the general foster care population. Overall, only a small portion (estimated to be around 4%) of youth who have been in foster care tend to attain a bachelor's degree (Courtney et al., 2011). Furthermore, everyone in the sample had received the Casey Family Scholarship or the Orphan Foundation of America's Foster Care to College Scholarship, the qualifications for which required high academic achievement and strong credentials. Consequently, the accomplishments of respondents in this sample may not be generalizable to other college graduates who have foster care histories. Furthermore, as this was a cross-sectional study, it was not possible to capture changes that may have taken place over time.

The study also presents some limitations with respect to measurement and validity. The variable for income, for example, only reflected the participant's individual income and did not take into account total household income, which could have been higher, thereby negating the characterization of having income below the poverty threshold. It was also possible that there may have been a problem with endogeneity for the outcome variable happiness, as the cross-sectional nature of the data meant that it was not possible to ascertain whether social and emotional supports affected happiness, or if happiness affected social and emotional support. Finally, since the multivariate analysis tested a large number of associations between the independent and dependent variables, it was possible that some of the associations could have been found by chance.

Future Research

More research is needed on factors that contribute to success among alumni of foster care who already hold a college

degree. In particular, are the factors that contributed to their success in terms of graduating from college similar to, or different from, those that contribute to their ongoing success as they establish their lives post-college? It would also be beneficial to understand more about the role of ongoing social and emotional supports for this population. For example, do alumni who had mentors in college still maintain contact with these individuals, or did the mentorship come to an end upon graduation? Furthermore, are the same kinds of social supports that one may have had in college, such as having a close friend or family member to turn to during times of need, still available post-college? Some of the unexpected findings from this study could also benefit from additional research, as it is not clear why having more frequent contact with a professor during college raised the odds of having an income below the poverty level after graduation.

Implications for Practice and Policy

Given some of the ongoing challenges that alumni of foster care college graduates face, individuals could benefit from drawing upon social and emotional supports, including those that were present during their college years. Particularly since alumni of foster care may not have the support of social workers and other professionals after they graduate from college, they need to draw support from other sources. Although many students may experience a radical drop in support overall, once they leave the relative protection of higher education and venture out into the world, this situation is compounded for alumni of foster care who may not have stable and reliable social networks available to them. Therefore, the social and emotional supports they developed, and potentially learned to nurture during college could possibly offer them a source of ongoing support and guidance as they establish themselves post-college.

The proliferation of college support programs designed specifically for youth with foster care histories demonstrates how colleges can offer both concrete as well as social supports to help youth better adjust to college life and complete their education, and develop skills that can continue to serve them after they graduate. Campus support programs generally help students create a support network, attain policy information, and receive timely educational support (Kirk & Day, 2011; Salazar et al., 2016a, 2016b). College students often cite the intangible supports of having someone to turn to in times of need, as well as developing a sense of family with fellow participants, as being the most valuable in these types of programs (Dworsky & Perez, 2010). While the benefits gleaned from participation in college support programs can contribute to building social support, sustaining relationships, and encouraging social involvement among alumni of foster care while they are in college, participation in these programs can help these individuals lay the foundation for

building their social networks and social supports post-college as well.

In addition to college support programs, another consideration is extending the age for which individuals who have been in foster care can receive government support. Although the 2008 Fostering Connections to Success and Increasing Adoptions Act gives states the option of extending foster care until age 21, the age could potentially be raised even higher. Among the benefits available under extended foster care are access to subsidized housing and connections with child welfare professionals, as well as eligibility for other resources that could facilitate college enrollment (Courtney et al., 2013). Since academic progress and enrolling in college are among the eligibility criteria for participating in extended foster care, it encourages youth to pursue higher education. A study by Okpych et al. (2019) in California found that youth in extended foster care who were supervised by public child welfare agencies were more likely to enroll in postsecondary education by their 21st birthday. Enrolling in college is the first step towards earning a degree, and alumni of foster care need financial as well as emotional support in order to advance their education, and eventually pave the way for their post-college success.

The foundations for social and emotional support that emerge during college, whether they be from college support programs or other initiatives, could assist alumni of care post-graduation as well. Alumni of care can benefit from ongoing support as they navigate their way through the professional world and endeavor to establish long-lasting ties to people and institutions that can provide them ongoing support throughout their lives. The nascent development of post-college support programs, which are modeled after college support programs and offer continued assistance to alumni of foster care after they graduate, are another topic worthy of further exploration. Such programs can maintain contact with alumni of foster care who have graduated from the university and continue to engage and support them, especially during that critical transition year when they first leave college.

Conclusion

The present study found that social and emotional supports present during the college years, particularly social support and engaging in frequent social activities with others, were associated with better outcomes post-college, such as avoiding public assistance receipt and advancing stronger perceptions of happiness. However, even after earning a college degree, individuals who have been in foster care can continue to struggle, encountering challenges in areas such as securing a full-time job, earning a living wage, reducing the need for public assistance, and nurturing perceptions of

happiness. As the findings from this study showed, these challenges can be moderated to some extent, however, by a history of social and emotional supports developed during college. Factors such as having someone to turn to during times of trouble, maintaining a social network, nurturing caring and supportive relationships, and engaging in social activities with peers can make a positive impact on the lives of alumni of foster care, even after they achieve the notable goal of a college degree. Whatever the genesis of the social emotional supports that were present to them during college—be it college support programs, professors, mentors, or friends—these alumni may be able to continue drawing upon them as they navigate launching a career and establishing their lives.

Declarations

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval This study used secondary data analysis. The Fordham University Institutional Review Board has confirmed that no ethical approval is required.

Informed Consent This study used de-identified secondary data; therefore no informed consent was necessary.

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