



Educational outcomes for homeless young adults with and without a history in foster care

Kalah M. Villagrana*, Elizabeth H. Mody, Siobhan M. Lawler, Qi Wu, Kristin M. Ferguson

Arizona State University, 411 N Central Ave. Suite 800, Phoenix, AZ 85004, United States

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ABSTRACT

Homeless young adults (HYA) with and without a history in foster care in the United States experience lower high school graduation rates than young adults in the general population. Few studies examine the risk and resilience factors that promote positive educational outcomes for these subpopulations. This study explores the factors that are associated with positive educational outcomes for HYA with and without a foster care history. This study uses data from a 3-city cross-sectional study of HYA, which included quantitative interviews of HYA between the ages of 18 and 24 ($N = 601$) in Austin, TX ($n = 200$), Los Angeles, CA ($n = 200$), and Denver, CO ($n = 201$). Positive educational outcomes consisted of HYAs being currently enrolled in or previously attaining a degree from a secondary, postsecondary or technical education program. This study uses two logistic regression models to identify the risk and resilience factors associated with positive educational outcomes for HYA with and without a history in foster care. For HYA with a history in foster care, city was a significant predictor of positive educational outcomes as well as being an older age, formal employment, not having an arrest record, having a lower score of emotional neglect, and having a higher score of physical abuse. For HYA without a history in foster care, significant predictors included not having an arrest record and having a higher score of emotional abuse. Findings highlight the need for an expansion of federal and state postsecondary education financial aid programs for HYA with and without a history in foster care.

1. Introduction

Youth at high risk for negative educational outcomes in the United States include youth who have experienced homelessness and youth who have experienced both homelessness and involvement in foster care. Youth with a history in foster care experience disproportionately high rates of homelessness (Berzin, Rhodes, & Curtis, 2011; Courtney & Dworsky, 2006; Dworsky & Courtney, 2009; Dworsky, Napolitano, & Courtney, 2013). Both groups often experience negative educational outcomes, such as absenteeism, high dropout rates, and both low high school graduation rates as well as postsecondary enrollment rates (Bender, Yang, Ferguson, & Thompson, 2015; Jones, Bowen, & Ball, 2018; Rosenberg & Kim, 2018). The current study of homeless young adults (HYA) in three U.S. cities (Austin, TX, Denver, CO, and Los Angeles, CA) aims to explore the factors that are associated with positive educational outcomes for HYA with and without a foster care history.

1.1. Educational challenges for homeless youth and young adults

Homeless youth experience higher high school dropout rates than the general youth population (Gasper, DeLuca, & Estacion, 2012). However, the majority of homeless youth express a desire to earn a high school degree and pursue postsecondary education (Tierney, Gupton, & Hallett, 2008). A common barrier to educational achievement is transience and school mobility. School mobility has been associated with lower educational well-being and a loss of supportive connections within the school environment (Begg, Levitt, & Hayden, 2017; Fantuzzo, LeBoeuf, Chen, Rouse, & Culhane, 2012). A high number of school changes have been associated with negative educational outcomes for the general youth population and other marginalized groups (Cox, 2013; Herbers, Reynolds, & Chen, 2013; Rumberger, 2013; Rumberger & Larson, 1998). Homeless youth also experience higher rates of chronic absenteeism than the general youth population (National Center for Homeless Education, 2017).

* Corresponding author.

E-mail addresses: Kalah.Villagrana@asu.edu (K.M. Villagrana), Elizabeth.Hatch@asu.edu (E.H. Mody), Slaw@asu.edu (S.M. Lawler), Qi.Wu.5@asu.edu (Q. Wu), Kristin.Ferguson@asu.edu (K.M. Ferguson).

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1.2. Educational challenges for homeless youth and young adults with a history in foster care

Youth in foster care may experience higher rates of changing schools, attending low performing or non-traditional schools, and having an educational achievement gap than other at-risk youth groups (Barrat & Berliner, 2013; Barrat, Berlinder, & Felida, 2015). Studies have shown that changing schools can result in missing school between enrollments, delayed academic progress towards graduation, losing connections to supportive adults and peers, and lower high school graduation rates (Barrat et al., 2015; Clemens, Lalonde, & Sheesley, 2016; Clemens, Klopfenstein, Tis, & Lalonde, 2017).

Although national high school graduation rates of youth in foster care are not available, select statewide data suggest that youth in foster care experience lower graduation rates than the general youth population and other marginalized groups of students (Barrat & Berliner, 2013; Barrat et al., 2015; Courtney, Dworsky, Cusick, Havlicek, Perez, & Keller, 2007). In 2017 to 2018, the national public high school graduation rate was 85% (U.S. Department of Education, National Center for Education Statistics, 2020). In 2017, the high school graduation rate in Oregon for youth in foster care was 35% compared to 77% for the general population (Oregon Department of Education, 2018). Foster youth who successfully graduate from high school also face barriers to postsecondary education. National data reveal that fewer than 10% of all foster youth will enroll in a four-year college and only about 4% of all foster youth will complete a college degree (Geiger & Beltran, 2017; Nixon & Jones, 2007; Wolanin, 2005).

Youth who have experienced both homelessness and foster care may experience the compounded educational challenges of both. These youth often encounter high rates of mobility in school, their homes, and child welfare placements related to both homelessness and system involvement, which may also result in increased rates of absenteeism (Jones et al., 2018). Another study found that HYA with a foster care history reported higher levels of childhood maltreatment and a longer duration of homelessness, both of which can negatively affect educational outcomes (Bender et al., 2015). HYA with and without a foster care history experience challenges in accessing postsecondary education. Challenges may include limited financial aid, housing instability, and limited family support. A study with a large national sample found that HYA with an unstable foster care placement history had lower odds of attending postsecondary education or having full-time employment (Rosenberg & Kim, 2018).

1.3. Education policies to support homeless youth and foster youth

Three federal policies included provisions to promote the secondary and postsecondary success of HYA or foster youth. First, the McKinney-Vento Homeless Assistance Act of 1987 (MVA) mandates educational stability and support programs for children and youth experiencing homelessness (McKinney-Vento Homeless Assistance Act, 2002). The Act ensures that homeless children receive transportation to and from school, may continue to remain enrolled in their school of origin, or can be immediately enrolled in a new school even if they lack the normally required documentation. State educational agencies and local educational agencies must designate a point of contact to oversee these protections for homeless youth. Second, in 2015, the Every Student Succeeds Act (ESSA) reauthorized the Elementary and Secondary Education Act of 1965 with specific educational protections for children who are homeless or in the child welfare system (Every Student Success Act, 2015). ESSA made children in foster care an individually protected group and required that each state's educational agency and local educational agency designate a point of contact to ensure their educational protections (U.S. Department of Education and U.S. Department of Health and Human Services, 2016).

While similar federal support at the elementary and secondary levels exists for both groups through MVA and ESSA, there is differential

support and funding available to homeless youth with and without a history in foster care for pursuing postsecondary education. To support a successful transition to adulthood, the John H. Chafee Foster Care Independence Program provides funding to States and Tribes to engage youth, who are likely to remain in foster care until age 18 as well as who have aged out of the foster care system, in activities and programs (Chafee Foster Care Independence Act, 1999). Activities and programs may include support with accessing education, employment, housing, finances, and emotional support (Children's Bureau, 2020). The Educational and Training Vouchers Program (ETV) provides vouchers of up to \$5000 per year per youth for postsecondary education and training costs to youth who meet eligibility requirements.

In addition to federal financial supports for foster youth, a growing policy trend is to develop state tuition waiver programs to promote high school graduation and college enrollment for foster youth (Hernandez, Day, & Henson, 2017; University of Washington, 2020). Tuition waivers are state-funded programs that cover the cost of tuition and fees at public colleges and universities. Currently, 30 states provide tuition waivers for current or former foster youth (University of Washington, 2020). Whereas a growing number of financial programs exist to support youth with a history in foster care, few such programs exist for HYA without a history in foster care. Both subpopulations have considerable overlap in their characteristics and experience similar educational challenges, yet little financial support for postsecondary education exists for HYA without a history in foster care. Of the states represented in this sample, Texas, California, and Colorado, only Texas offered a state tuition waiver program for youth in foster care at the time of data collection (Texas Education Code § 54.366; Watt, Kim & Garrison, 2018).

2. Educational resilience framework

The educational resilience framework describes how the development of resilience factors can help youth to overcome educational risks to be academically successful (Wang & Gordon, 1994; Wang, Haertel, & Walberg, 1997; Wang, Haertel, & Walberg, 1998). Educational resilience is "the heightened likelihood of success in school and in other life accomplishments, despite environmental adversities, brought about by early traits, conditions, and experiences" (Wang & Gordon, 1994, p. 46). Educational resilience develops through continuous interactions between a young person and their family, peer group, community, and school environments (Wang et al., 1997; Wang et al., 1998). The risk and protective factors within these environments influence the development of educational resilience. The risk and resilience framework has been used to explore the experiences of marginalized youth, including youth and young adults with a history of homelessness or foster care involvement (Bender et al., 2015; Ferguson, Bender, & Thompson, 2018; Pears, Kim, & Leve, 2012; Wu, Villagrana, Lawler, & Garbe, 2020).

Using the educational resilience framework can help researchers explore both the risk and protective factors for HYA with and without a history in foster care that might influence their educational resilience and positive educational outcomes. The current study aims to broaden understanding of the risk and resilience factors that influence educational outcomes for HYA with and without a history in foster care through the following research question: *What risk and resilience factors influence positive educational outcomes for HYA with and without a history in foster care?*

3. Methods

3.1. Sample and recruitment

The original dataset was from a cross-sectional study with HYA between the ages of 18 and 24 ($N = 601$) in three U.S. cities. The data were collected from three different agencies serving homeless youth in

Austin, TX ($n = 200$), Los Angeles, CA ($n = 200$), and Denver, CO ($n = 201$). The host agencies provided services including housing, health, mental health, employment, educational, and outreach to homeless youth. This multisite study represented a collaboration of three principal investigators (PIs) located at different universities in Los Angeles, Denver, and Austin. Agencies were selected based on the PIs' established relationships and staffs' agreement to host the study. It was a collaborative effort among PIs to establish the study design, recruitment and interview protocols, and data-collection measures. Therefore, recruitment procedures were nearly identical across cities with minor variations due to services emphasized in each location (e.g., more crisis-shelter users in Los Angeles, more drop-in service users in Denver and Austin).

Recruitment took place from March 2010 to July 2011 at the identified agencies. Eligibility criteria required HYA to be 18–24 years old, have spent at least two weeks away from home in the month before the interview, and provide written informed consent. Researchers explained the study procedures, obtained written consent, and administered the interview. Researchers conducted a 45-minute, quantitative, semi-structured interview with HYA within the host agency. The interviewer read the questions and response options aloud to the participants who responded verbally. Interview questions related to demographics, homelessness history, mental health, behavior problems, resilience, education, and employment. HYA received a \$10 gift card for participating in the study. Researchers in each city obtained human subjects' approval from their respective universities.

3.2. Measures

3.2.1. Dependent variable: Educational outcomes

Participants were asked, "What is your current school status?" and provided with six response options including graduated from high school, General Education Development (GED), quit/dropped out/or suspended, currently enrolled in a vocational or technical training program, and other. Because both educational statuses of *enrollment in* and *completion of* degree and credential programs at the time of data collection are evidence of HYA being involved in an educational pathway, we recoded the original variable into a dichotomous variable, *educational outcomes*, as 0 = quit, dropped out, or suspended, and 1 = positive educational outcomes (i.e., graduated from high school, GED, or currently enrolled in high school or college/vocational/technical program or other). Due to the relatively small sub-samples for each response category in the original educational variable (ranging from $n = 4$ –59 for HYA with a foster care history and $n = 4$ –113 for HYA without a foster care history), we dichotomized the dependent variable as described above to maximize our sample size for analyses.

3.2.2. Grouping variable: Foster care history

The grouping variable was whether the HYA had a history of being in foster care. Participants were asked, "Have you ever been in foster care?". The variable was coded as a dichotomous variable, indicating whether the participant reported ever having a history in foster care (0 = no, 1 = yes). This question was used to divide the sample into HYA with and without a history in foster care.

3.2.3. Demographic variables

The educational resilience framework guided the selection of variables in the models, which included demographic variables, risk factors, abuse and neglect history, and protective factors related to educational outcomes. The study controlled for *gender* (0 = female, 1 = male) and *age* (as a continuous variable with a range of 18–24). Ethnicity/race was recoded as four dummy variables: *White* (0 = all others, 1 = white), *Black* (0 = all others, 1 = black), *Latino* (0 = all others, 1 = Latino), and *other* (0 = all others, 1 = American Indian, Asian, or Other). White was used as the reference category in the models. The study also controlled for the city in which the youth sought services.

Each city was coded as a dummy variable and included *Austin* (0 = other, 1 = Austin), *Los Angeles* (0 = other, 1 = Los Angeles), and *Denver* (0 = other, 1 = Denver). Austin was used as the reference category in the models because the state offered a state tuition waiver program at the time of the data collection while California and Colorado did not.

3.2.4. Risk factors

For *homelessness*, participants were asked the date they left home for good. The number of months homeless was calculated from the date the HYA left home for good to the date of the interview. Given literature suggesting more negative outcomes among youth who have been homeless over a longer period of time (Milburn et al., 2007), the responses were coded as a dichotomous variable, indicating whether the participant was homeless for six months or more (0 = no, 1 = yes). For *foster care placements*, participants were asked the total number of placements they had while in foster care. Responses were recoded as a dichotomous variable, indicating whether HYA had experienced five or more placement changes while in foster care (0 = no, 1 = yes). Five placements was selected as the cut-off point because some research has shown youth with five or more placements are more likely to experience negative outcomes like juvenile delinquent behavior (Ryan & Testa, 2005). For *previous arrest*, participants were asked if they had ever been arrested as a dichotomous variable (0 = no, 1 = yes). *Substance abuse* was determined using the Mini International Neuropsychiatric Interview (MINI, Version 6.0, which is aligned with the DSM-IV; Lecrubier et al., 1997) by a series of diagnostic questions about substance abuse disorder. Substance abuse was measured as meeting the criteria for abuse of any drug or alcohol and was coded as (0 = does not meet criteria, 1 = meets criteria for substance use disorder (alcohol and/or drugs)).

3.2.5. Abuse and neglect history

The Childhood Trauma Questionnaire (CTQ) is a 25-item tool used to assess *emotional neglect*, *emotional abuse*, *physical neglect*, *physical abuse*, and *sexual abuse* (Bernstein & Fink, 1998). Respondents indicated whether they had experienced certain traumatic events in childhood or adolescence on a five-point Likert scale (1 = never to 5 = very often). The CTQ creates dimensional scales with cut scores to identify histories of abuse and neglect. The responses were coded as a continuous variable with the total reported score for each subcategory reported. Higher scores reflect a greater number of instances of abuse/neglect. The Cronbach's alpha for each subscale range from: *emotional abuse* ($\alpha = 0.94$ –0.95), *emotional neglect* ($\alpha = 0.94$ –0.95), *sexual abuse* ($\alpha = 0.87$ –0.92), *physical abuse* ($\alpha = 0.89$ –0.91), and *physical neglect* ($\alpha = 0.80$ –0.82) (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997).

3.2.6. Resilience factors

For *formally employed*, participants were asked a series of questions about whether they had earned income in the past 6 months from an array of formal (full-time, part-time or temporary) employment. The variable was recoded as a dichotomous variable, indicating whether the participant earned income from formal sources (0 = no, 1 = yes). For *perseverance*, participants were asked a series of questions from the Perseverance subscale of the Resilience Scale (Wagnild & Young, 1993). Perseverance is defined as the ability one has to keep going despite setbacks and adversities (Wagnild & Young, 1993). Respondents indicated their feelings about five statements related to perseverance on a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). The individual scores for each question were added together to give a total score for perseverance. A higher total score indicates a higher level of perseverance. The Cronbach's alpha for the Perseverance subscale was 0.693.

Table 1
Characteristics of homeless young adults: Full sample and sub-sample by foster care history.

Variables	Full Sample (N = 601)		HYA with a foster care history (n = 221)		HYA without a foster care history (n = 380)	
	N	%	n	%	n	%
Educational Outcomes	457	76.0	165	74.7	292	77.0
City Located						
Austin	200	33.3	56	25.3	144	37.9
Denver	201	33.4	84	38.0	117	30.8
Los Angeles	200	33.3	81	36.7	119	31.3
Race/ethnicity						
White	240	39.9	82	37.1	158	41.7
Black	152	25.3	58	26.2	94	24.8
Latino	107	17.8	35	15.9	72	19.0
Other Ethnicity ^a	101	16.8	46	20.8	55	14.5
Gender						
Male	385	64.1	143	64.7	242	63.7
Female	216	35.9	78	35.3	138	36.3
Risk & Resilience Factors						
Previous Arrest	419	69.7	166	75.1	253	66.6
Formally Employed	345	57.4	123	55.7	222	58.4
Substance Abuse	220	36.6	80	36.4	140	37.3
Homelessness (6 or more months)	461	76.7	188	85.1	273	71.8
Foster Care Placement (5 or more)	n/a	n/a	93	42.1	n/a	n/a
	Mean	SD	Mean	SD	Mean	SD
Age	20.0	1.6	19.87	1.57	20.16	1.63
Risk & Resilience Factors						
Perseverance	27.7	4.6	27.94	4.21	27.60	4.86
History of Abuse/Neglect						
Emotional Neglect	14.1	5.6	15.08	5.79	13.52	5.41
Emotional Abuse	13.9	6.1	14.87	6.27	13.36	5.94
Physical Neglect	10.8	4.7	11.83	5.39	10.29	4.21
Physical Abuse	11.0	5.5	12.42	6.13	10.22	5.96
Sexual Abuse	7.9	5.6	9.04	6.54	7.32	4.91

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, ^a Totals for race/ethnicity do not equal 380 for HYA without foster care history due to missing data.

3.3. Data analysis

Descriptive analyses identified the demographics and characteristics for HYA with and without a history in foster care (Table 1). To examine the risk and protective factors associated with HYA with and without a foster care history experiencing positive educational outcomes, we conducted two logistic regressions (Table 2). A logistic regression is an appropriate type of regression analysis to conduct with dichotomous dependent variables. The dependent variable in the models were educational outcome (0 = quit, dropped out, or suspended, and 1 = positive educational outcomes). All statistical tests were considered statistically significant at $p < 0.05$. We conducted the analysis using SPSS 25 for Windows.

4. Results

4.1. Descriptive statistics

Table 1 shows the descriptive statistics on each variable for the full sample ($N = 601$) and HYA with a foster care history ($n = 221$) and no foster care history ($n = 380$). The full sample was ethnically diverse, with young adults who identified as White (39.9%), Black (25.3%),

Latino (17.8%), and other (16.8%). The mean age of the sample was 20.0 years old with 64.1% male participants and 35.9% female participants. The majority of the sample had been homeless for six or more months (76.7%) and had been arrested one or more times (69.7%). Positive educational outcomes were reported by the majority of HYA with a history in foster care (74.7%) and without a history in foster care (77.0%).

4.2. Risk and resilience factors for positive educational outcomes among HYA with a foster care history

Table 2 shows the results of the analysis of positive educational outcomes among HYA with and without a foster care history. The overall model fit was good ($\chi^2[df = 18] = 82.576, p < 0.001$). Results from the model suggest that HYA with a history in foster care in Los Angeles, CA ($OR = 6.08, p < 0.05$) and Denver, Colorado ($OR = 45.77, p < 0.001$) were more likely to experience positive educational outcomes than HYA with a foster care history from Austin, Texas. Being older was associated with a higher likelihood of positive educational outcomes ($OR = 1.53, p < 0.01$). A higher probability of positive educational outcomes also was associated with being formally employed ($OR = 3.23, p < 0.05$), and experiencing physical abuse ($OR = 1.16, p < 0.05$). Conversely, a lower probability of positive educational outcomes was associated with having a previous arrest ($OR = 0.18, p < 0.01$) and experiencing emotional neglect ($OR = 0.85, p < 0.01$).

4.3. Risk and resilience factors for positive educational outcomes among HYA without a foster care history

Table 2 shows the results of the analysis of positive educational outcomes among HYA without a foster care history. The overall model fit was statistically significant ($\chi^2[df = 17] = 33.55, p < 0.01$). A higher probability of experiencing positive educational outcomes was associated with experiencing emotional abuse ($OR = 1.09, p < 0.05$). A lower probability of experiencing positive educational outcomes was associated with having a previous arrest ($OR = 0.51, p < 0.05$).

5. Discussion

This study aimed to explore which risk and resilience factors influence positive educational outcomes for HYA with and without a history in foster care. The two models suggest that there are some differences between HYA with a history in foster care and those without in regards to the risk and resilience factors affecting their educational outcomes. The statistically significant risk and resilience factors associated with a higher likelihood of positive educational outcomes for HYA with a history in foster care (Table 2) included Los Angeles ($p < 0.05$), Denver ($p < 0.001$), age ($p < 0.01$), formally employed ($p < 0.05$), and having a higher score of physical abuse ($p < 0.05$). For HYA with a foster care history, the odds ratio of the Denver variable is large and the 95% confidence interval is wide; therefore, the effects of this variable on the educational outcomes should be interpreted with caution. A lower likelihood of positive educational outcomes was associated with having a higher score of emotional neglect ($p < 0.01$). For HYA without a history of foster care (Table 2), having a higher score of emotional abuse was associated with a statistically significant higher likelihood of positive educational outcomes ($p < 0.05$). Research suggests that youth who experience childhood physical neglect may be more likely in some cases to work on becoming self-sufficient, thereby striving for more opportunities (Hook & Courtney, 2011). This reflects the inherent tension in resilience: people become stronger by learning from difficult experiences. The only risk factor that was a statistically significant predictor for both populations was having a previous arrest.

Within both groups, having an arrest history was associated with a

Table 2
Logistic regression predicting positive educational outcomes for HYA with and without a foster care history.

Variables	HYA with a foster care history			HYA without a foster care history		
	Exp(B)	SE	Odds Ratio [95% CI]	Exp(B)	SE	Odds Ratio [95% CI]
City Located (Austin)						
Los Angeles	6.08*	0.75	[1.39, 26.54]	1.04	0.42	[0.45, 2.38]
Denver	45.77***	0.83	[8.92, 234.90]	1.67	0.36	[0.82, 3.38]
Race/Ethnicity (White)						
Black	1.34	0.73	[0.32, 5.62]	1.53	0.43	[0.66, 3.53]
Latino	0.72	0.77	[0.16, 3.26]	1.24	0.41	[0.55, 2.78]
Other Ethnicity	0.38	0.65	[0.10, 1.35]	1.30	0.45	[0.54, 3.16]
Age	1.53**	0.42	[1.11, 2.11]	1.02	0.10	[0.84, 1.23]
Gender	0.61	0.52	[0.22, 1.69]	0.58	0.33	[0.30, 1.10]
Risk & Resilience Factors						
Homelessness (6 or more months)	1.09	0.63	[0.32, 3.72]	0.66	0.34	[0.34, 1.29]
Foster Care Placements (5 or more)	0.64	0.44	[0.27, 1.52]			
Formally Employed	3.23*	0.46	[1.30, 8.03]	1.66	0.29	[0.94, 2.91]
Perseverance	0.93	0.05	[0.84, 1.03]	0.97	0.03	[0.91, 1.03]
Previous Arrest	0.18**	0.62	[0.05, 0.62]	0.51*	0.34	[0.26, 1.00]
Substance Abuse	2.01	0.46	[0.81, 4.97]	0.98	0.29	[0.56, 1.72]
History of Neglect/Abuse						
Emotional Neglect	0.85**	0.05	[0.76, 0.94]	0.95	0.03	[0.89, 1.01]
Physical Neglect	0.90	0.06	[0.81, 1.01]	0.92	0.04	[0.85, 1.00]
Emotional Abuse	1.08	0.05	[0.97, 1.20]	1.09*	0.04	[1.02, 1.17]
Physical Abuse	1.16*	0.06	[1.03, 1.30]	0.99	0.04	[0.92, 1.07]
Sexual Abuse	0.94	0.04	[0.86, 1.02]	1.02	0.03	[0.95, 1.09]

Note. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, ^a Variables in parentheses represent reference categories.

statistically significant lower probability of having positive educational outcomes. HYA with and without a history in foster care that have arrest histories, have shown lower employment outcomes and more substance abuse and mental health challenges (Ferguson et al., 2011; Hook & Courtney, 2011; Lenz-Rashid, 2006). These findings highlight the importance of providing additional educational support for HYA with an arrest history, both in understanding and navigating their educational options as well as securing financial resources for their education. HYA with an arrest history may have less access to federal or state financial aid programs and have greater financial need (Custer, 2019).

The other statistically significant risk and resilience factors in the two models were different. Within the model for HYA without a history in foster care, experiencing emotional abuse increased the likelihood of positive educational outcomes. HYA without a history in foster care who have experienced emotional abuse may need different support than youth who have experienced other forms of abuse and neglect. There might be something particularly deleterious regarding the impact of emotional abuse (versus neglect) on HYA that negatively influences their accomplishment of adult roles, such as pursuing education. In contrast, it might be that experiencing emotional abuse encourages youth experiencing homelessness to set and accomplish adult roles such as pursuing education. Within the model for HYA with a history in foster care, experiencing emotional neglect was associated with a decreased likelihood of positive educational outcomes and experienced physical abuse was associated with an increased likelihood of positive educational outcomes. Other studies of youth who have experienced neglect or abuse show mixed results in the relationship between forms of neglect and emotional abuse and academic performance (Maguire et al., 2015). Another study found that former foster youth with a history of neglect were more likely to be employed (Hook & Courtney, 2011). Additionally, the effects of emotional neglect or abuse may differ depending on the age in which the abuse occurred. These mixed results present a call for more research about the relationship between different forms of abuse and neglect and educational outcomes.

A statistically significant protective factor among HYA with a history of foster care was having formal employment. This finding suggests that HYA with a history in foster care who are experiencing negative

educational outcomes may also be struggling with unemployment or may benefit from having formal employment. Employment is considered a protective factor for young adults with respect to other prosocial outcomes related to education, such as mental health and substance use (Mendelson, Mmari, Blum, Catalano, & Brindis, 2018). It also might be that employment serves as a facilitator of positive educational outcomes in helping youth become more financially stable and afford the costs of secondary and postsecondary education, by paying for tuition via their wages or tuition benefit programs offered through their employers.

HYA with a history in foster care in Los Angeles and Denver showed statistically significant lower levels of negative educational outcomes than Austin. While Texas was the only state with a state tuition waiver program, HYA with a history of foster care from this state experienced worse educational outcomes. This finding aligns with previous research that state tuition waiver programs show an increase in enrollment but may not be enough to support positive educational outcomes for foster youth (Hernandez et al., 2017; Watt Faulker, Bustillos, & Madden, 2018; Watt, Kim, et al., 2018). While this policy provides financial support, more holistic support services may be needed. A growing number of community colleges and universities provide campus-based support programs to specifically support foster youth and HYA in accessing and succeeding in college (Dworsky & Perez, 2010; Geiger, Hanrahan, Cheung, & Lietz, 2016; Huang, Fernandez, Rhoden, & Joseph, 2018; Randolph & Thompson, 2017).

Seven of the risk and resilience factors were significantly associated with positive educational outcomes for HYA with a history in foster care, but only two were significant for HYA without a foster care history. This suggests that the risk and resilience factors that influence positive educational outcomes may vary between the two groups. Researchers often combine both subpopulations but they may have different strengths and needs (Bender et al., 2015). Additional research is warranted to better understand the risk and resilience factors influencing educational outcomes for HYA with and without a history in foster care.

5.1. Policy implications

The study implies several ways that federal and state postsecondary financial educational supports can be improved for both HYA with and without a history in foster care. Educational support in elementary and secondary schools for youth who are homeless or in foster care are very similar, however, the financial support for postsecondary education varies between the two groups. HYA with a history of foster care potentially have access to the federal Educational and Training Vouchers Program and state tuition waiver programs. States have widely focused their tuition waiver and financial aid programs on the foster youth population, but there may be a similar need for HYA without a foster care history to have financial support for postsecondary education. Existing federal and statewide initiatives for foster youth could be expanded to also provide funding to youth who have experienced homelessness. HYA could benefit from similar financial support programs to increase their access to postsecondary education. Additionally, states could fund campus-based support programs at public community colleges and universities to further support foster youth and HYA.

Almost 70% of HYA with and without a history in foster care in this sample reported having a history of arrest. In order to help address this risk factor to positive educational outcomes, additional guidance is needed by community agencies and postsecondary educational institutions to support HYA convicted with drug-related offenses successfully complete an approved drug rehabilitation program to regain eligibility for federal financial aid (Federal Student Aid, 2019b). Postsecondary education institutions could also provide additional financial support to currently incarcerated HYA by applying to the Second Chance Pell Experimental Sites Initiative (Federal Student Aid, 2019a).

5.2. Limitations

One limitation of the secondary dataset is it did not include many variables specifically related to foster care experiences. Additional variables related to foster care history may be important to consider, such as if the HYA aged out of foster care, enrolled in extended foster care, or met eligibility requirements for the ETV and state financial aid programs. Additionally, the dataset did not include variables related to the youths' experience in foster care which could have an influence on their educational outcomes (e.g., type of placements, length of time in foster care). Participants with a history in foster care may also have been affected by their involvement in the child welfare system. Other risk or resilience factors that were not examined may also affect the educational outcomes of HYA. Another limitation is that data were only collected from HYA who were seeking services and spoke English, thus favoring more service-engaged and English-speaking HYA. Additionally, the perseverance subscale was retained for theoretical reasons in this study, but it has a low Cronbach's alpha value. Lastly, agencies did not all provide the same level of service and might account for some of the variance between cities. This study did not include data on the educational policies and programs to which HYA have or do not have access, nor did the analyses look at correlates for specific educational outcomes. Recommendations for future research include using a larger, representative sample, examining differences among particular educational outcomes (e.g., GED versus high school diploma versus postsecondary enrollment or degree attainment), and controlling for more agency and policy level differences related to HYAs' educational outcomes.

6. Conclusion

This study found that HYA with and without a history in foster care reported different educational risk and resilience factors. HYA in both groups with an arrest history were less likely to experience positive educational outcomes than their peers without an arrest history. Formal employment served as a protective factor for positive educational

outcomes among HYA with a history in foster care. These findings suggest that additional federal and state postsecondary education support programs may be needed to support HYA without a history in foster care, particularly support for HYA with an arrest history and securing formal employment. Policy recommendations include expanding federal and state postsecondary education financial aid programs available to foster youth to HYA without a foster care history. This study suggests a need for additional educational policies and programs to address educational barriers and support homeless young adults with and without a history in foster care.

CRedit authorship contribution statement

Kalah M. Villagrana: Conceptualization, Methodology, Formal analysis, Writing - original draft, Project administration. **Elizabeth H. Mody:** Writing - review & editing. **Siobhan M. Lawler:** Writing - review & editing. **Qi Wu:** Writing - review & editing, Supervision. **Kristin M. Ferguson:** Writing - review & editing, Resources, Supervision.

Declaration of Competing Interest

None.

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