

An exploration of placement-related psychosocial influences on school engagement among adolescents in foster care

Brittany P. Mihalec-Adkins^{a,*}, Sharon L. Christ^b, Elizabeth Day^c

^a Human Development and Family Studies, Purdue University, United States

^b Human Development and Family Studies, Statistics, Purdue University, United States

^c Bronfenbrenner Center for Translational Research, Cornell University, United States



ARTICLE INFO

Keywords:

Foster care
School engagement
Foster parents
Caregiver involvement
Security

ABSTRACT

There is ample evidence that experiencing foster care in childhood often predicts grim outcomes in adulthood, including under-education and resulting poverty and dysfunction. However, little is known about the exact mechanisms through which foster care corrodes academic trajectories, specifically. The current study uses a nationally representative sample of adolescent foster youth (i.e., NSCAW II) to test a model of the influences of placement-related factors on school engagement – namely, foster youth's perceptions of security in their foster placements, their reports of education-specific involvement by foster caregivers, and the mediating potential of adolescents' expectations for their future. Results indicate that adolescents' feelings of "placement security" were linked to their future expectations of positive life outcomes and, ultimately, school engagement. Results also suggest that while educational involvement by foster caregivers was not important for future expectations or social school engagement, it may be related to the more explicitly cognitive aspects of school engagement (i.e., assignment completion, effort, etc.). These findings offer insight into relations between foster care-specific factors and school engagement – a known predictor of academic achievement and eventual educational attainment. Implications for future research and practice are discussed.

1. Introduction

Each year, hundreds of thousands of youth are removed from abusive and neglectful homes and served by the U.S. foster care system, and these numbers have steadily risen – from 638,041 in fiscal year 2013 to 690,548 in 2017 (U.S. Department of Health and Human Services, 2018). Unfortunately, however, evidence suggests that the adult lives of these children are not spared. Studies have found that by their mid-twenties, nearly half of former foster youth (also called "foster care alumni", "alumni of care", or "alumni", for short) are unemployed or severely under-employed (e.g., Okpych & Courtney, 2014), and many report significant financial hardship (e.g., Courtney, Dworsky, Lee, & Raap, 2010). Those who are employed make significantly less than their non-fostered peers each year, on average (Courtney et al., 2010), and are less likely to have full-time positions or jobs that carry benefits, such as paid vacation or health insurance (Courtney et al., 2007). Over 80% of male alumni are arrested in adulthood and over 60% are convicted of a crime, compared to 17% and 10% of males in the general population, respectively (Courtney et al., 2007). Over 70% of female and 30% of male alumni receive need-based public assistance – a number that

jumps to nearly 90% for custodial parents – and all are more likely than their peers to experience homelessness (Courtney et al., 2010; Pecora et al., 2006). Further, about 10% of children born to former foster youth will enter foster care themselves, perpetuating this ruinous cycle (Courtney et al., 2010).

In attempting to discern *why* outcomes for former foster youth are often grim, extensive literature points to educational deficits as one primary factor exacerbating life-course risks. Large representative studies have indicated poor educational outcomes for children in foster care (e.g., Programs, 2005; Courtney et al., 2010). Further, these studies have deemed former foster youth an educationally vulnerable population, reporting alarming numbers without a high school diploma or GED (20–50%), and a mere 7% with two years of college education (Courtney et al., 2007, 2010; Pecora et al., 2006). Decades of research reinforce the many benefits of higher levels of education, which include lower reliance on public assistance, increased earning power, lower chances of incarceration, and better overall health (Baum, Ma, & Payea, 2010). A large-scale study of older youth transitioning from foster care found that a four- or even two-year degree predicted sizable benefits for earnings and employment, and obtaining even just a high school

* Corresponding author at: Hanley Hall, 1202 W. State St., West Lafayette, IN 47907, United States.

E-mail address: bpadkins@purdue.edu (B.P. Mihalec-Adkins).

<https://doi.org/10.1016/j.childyouth.2019.104616>

Received 17 July 2019; Received in revised form 13 November 2019; Accepted 14 November 2019

Available online 04 December 2019

0190-7409/© 2019 Elsevier Ltd. All rights reserved.

diploma predicted greater earning power (Okpych & Courtney, 2014). Despite this knowledge and despite the large investments in interventions for foster children, the literature to date has largely failed to identify the mechanisms behind these dismal educational outcomes. While prior efforts have implicated lower educational attainment as a likely culprit for poor outcomes for alumni of care, and have even suggested foster placement to be an additional risk factor for maltreated children, these studies do not tell us *why* these educational deficits exist or *how* they occur. The present study takes an important step toward addressing this gap by exploring two potential sources of these deficits in foster youth: foster caregivers' education-specific involvement and foster youths' feelings of security in foster placements. Further, we explore the potential for adolescent's expectations of positive life outcomes (i.e., academic and economic success in adulthood) to mediate associations between these placement-related influences and school engagement – a reliable and malleable predictor of educational success.

1.1. Foster placement and educational outcomes

Prior studies of foster home characteristics have deemed foster placement an additional risk factor for already-vulnerable children (e.g., Bruskas, 2008; Zetlin & Weinberg, 2004). Compared with their peers, foster youth often exhibit lower grades and test scores, more absences, and greater chances of being placed in special education classes (e.g., Kirk & Day, 2011; Wiegmann, Putnam-Hornstein, Barrat, Magruder, & Needell, 2014). While studies have found that 70–95% of foster youth say they hope to go to college (McMillen, Auslander, Elze, White, & Thompson, 2003; Rassen, Cooper, & Mery, 2010), only about 10% of former foster youth enroll in post-secondary institutions at all, with a smaller percentage leaving with a degree (Courtney et al., 2010).

While prior studies have explored relations between characteristics of foster placements and foster children's academically-threatening behavior, the links between foster placement-specific factors and educational outcomes for foster youth remain unclear (Orme & Buehler, 2001). Correlational research has suggested that foster children's educational outcomes are affected by mid-school-year moves, the inability to transfer credits between schools, reduced attendance due to court dates and adjustments to new homes, and disjointed school experiences (Barrat & Berliner, 2013; Bruskas, 2008; Kools & Kennedy, 2003; Zetlin, Weinberg, & Kimm, 2005) – all of which may lead to general dissatisfaction or disengagement with school. While these disruptions caused by movement between placements are prevalent and problematic for foster youth, experiences within foster placement settings are also important to understand, as, of course, youth typically spend more time in placements than moving between them (Orme & Buehler, 2001).

1.2. Educational involvement by caregivers

Investigations into the predictors of children's academic success have long found caregivers' educational involvement to be critical in promoting learning and positive school-related adjustment (e.g., Day & Dotterer, 2018; Fan & Williams, 2010; Henderson, 1987; Hill, Tyson, & Bromell, 2009; Lee & Smith, 1999). Caregivers' education-specific involvement includes actions such as helping with homework, having conversations about school and assignments, or even being involved with school programming. Prior research has found that caregivers with various demographic characteristics (i.e., race, level of education, and socioeconomic status) exhibit differing levels of educational support and involvement in their children's schooling, and have even found these differences to factor into achievement gaps among elementary school children (e.g., Lee & Bowen, 2006). While there has been much less work investigating the effects of educational involvement among foster parents specifically, existing work suggests that foster parents' educational involvement may help to buffer against the negative effects of foster care to support educational functioning for foster youth (e.g.,

Bass, 2017; Wells, 2006). Further supporting this point is a series of small qualitative studies of college-educated or enrolled adults who experienced foster care as children or adolescents. Many of these alumni attributed their educational achievements (and overall adjustment) to support and structure provided by foster caregivers (Morton, 2015; Rios, 2009; Schofield, 2002). Unfortunately, studies of foster families have often reported uniquely complex family dynamics that are often largely authoritarian or rigid, possibly due to frequent turnover of household members (i.e., foster children) and the many and unique needs (i.e., emotional, behavioral, or financial) of children in the home (Garcia, Pecora, Harachi, & Aisenberg, 2012; Orme & Buehler, 2001). Overall, however, little has been done to explore the roles of temporary foster caregivers in shaping educational achievement among the foster youth in their care.

1.3. Placement security

Despite the poor environments that might lead to the removal of a child from his or her family of origin, being separated from primary caregivers and placed in foster care can be, on its own, incredibly stressful and disorienting. As such, foster children are prone to problematic emotional and behavioral expressions that can interfere with adjustment and progress – both in their foster placements and in school settings (Sawyer, Carbone, Searle, & Robinson, 2007; Van Andel, Grietens, Strijker, Van der Gaag, & Knorth, 2012). Multiple studies of foster youth well-being have shown better educational and overall adjustment in foster youth with greater placement stability, and among those placed in supportive, child-centered home environments (Clemens, Klopfenstein, LaLonde, & Tis, 2018; Orme & Buehler, 2001; Pecora et al., 2006). Studies of foster family functioning report developmental consequences of weak attachments to foster caregivers, frequent placement disruptions, and unsupportive or authoritarian home environments – all of which can be considered forms of placement-related insecurities (Garcia et al., 2012; Orme & Buehler, 2001). These studies find that children who report low levels of security in their foster placements (i.e., are threatened with being moved, feel as though their placement is temporary, do not feel like part of the family, or do not feel cared for by their foster caregivers) show higher levels of academically-threatening problem behaviors (i.e., internalizing and externalizing behaviors).

The authors of a meta-analysis of placement-related interventions for foster children concluded that it is important that children feel welcome, secure, and well-understood in their foster placements, and that it is vital to address feelings of uncertainty related to permanency of placement (Van Andel et al., 2012). While the aforementioned studies are not necessarily specific to educational outcomes, they suggest that feelings of insecurity specific to foster placements have negative impacts on adjustment in general. Further, college-educated alumni have reported that feelings of belonging and family membership were highly important to their adjustment in long-term foster placements (Schofield, 2002), offering evidence for the importance of placement security in long-term adjustment and eventual educational attainment. These findings are consistent with the propositions of the emotional security hypothesis of Davies and Cummings (1994) – namely, that the overall adjustment and long-term well-being of children are contingent upon feeling secure in important contexts of their social ecology, including in relationships within their families and households.

1.4. School engagement and future expectations

Promoting educational attainment requires a thorough understanding of the constructs that present in school-aged children and lead to eventual educational attainment as adults (i.e., high school credential and post-secondary degrees). For foster youth in particular, who typically experience frequent moves and repeated grades, and whose school performance records are often incomplete or even incorrect

(e.g., Barrat & Berliner, 2013), it may be important to focus on predictors that show increased malleability over traditional performance metrics (i.e., those that can be reliably guided by intervention). Children's school engagement has garnered much attention as an important predictor of academic achievement and overall attainment that holds across different levels of economic and social advantage (e.g., Appleton, Christenson, & Furlong, 2008). For foster youth in particular, school engagement has emerged as protective against academically-threatening problem behaviors, to which foster youth are prone (e.g., Mihalec-Adkins & Cooley, 2019). School engagement is conceptualized as a multidimensional construct, comprising social, behavioral, and cognitive components, where social and behavioral engagement encompass student conduct and relationship-building in school settings, and the cognitive component of engagement refers to students' academic investment and motivations (see Fredricks, Blumenfeld, & Paris, 2004). Overall, school engagement is widely accepted as being malleable or responsive to contextual influence (e.g. Fredricks et al.), making it an attractive candidate for interventions. One study suggested cognitive components of engagement to be greater in foster youth, compared with maltreated youth who remained in home (Font & Maguire-Jack, 2013), however we know little about whether and how school engagement differs between foster youth, perhaps as a function of placement-related influences.

Similarly, school-aged children's and adolescents' expectations of future attainment and success have been found to relate positively with academic performance (Boxer, Goldstein, DeLorenzo, Savoy, & Mercado, 2011) and eventual educational attainment (e.g., Beal & Crockett, 2010; Ou & Reynolds, 2008). One study of adolescents from underrepresented racial and ethnic groups found that future expectations – particularly those related to educational attainment – were positively related to academic achievement (Cunningham, Corprew, & Becker, 2009). However, there have been no identifiable efforts to investigate the relations between future expectations of positive life outcomes and school engagement among youth in foster care, specifically. Similarly, we were unable to find published research that looked at possible influences on school engagement that may work “through” future expectations of positive outcomes or attainment. However, the idea that aspirations or future expectations of achievement might drive effort and engagement is consistent with some prior research with former foster youth (e.g., Neal, 2018) as well as the underlying spirit of Hope Theory (Snyder et al., 1991, 2002a, 2000b, 2000c; Snyder, 1994). Snyder defined “hope” as a strengths-based psychological construct comprised of an individual's abilities to: (1) clearly conceive of goals, (2) formulate specific strategies required to achieve these goals, and (3) launch and sustain the necessary motivation to employ those strategies. In studies of the educational utility of Snyder's conceptualization of hope, researchers have found evidence for hope as a strong predictor of academic outcomes, including grade point average and grades, as well as more ambitious academic goals and expectations (e.g., Snyder et al., 1991, 1997). One of the early studies of hope found that individuals who endorsed greater hope-related thinking were more optimistic, focused on successes rather than failures in pursuit of their imagined

goals, developed more life goals, and were more likely to perceive themselves as able to overcome potential roadblocks that may arise (Snyder et al., 1997). Further, researchers have noted that foster youth's hopes and expectations for their future achievement are influenced by a variety of social factors, including home environments and support from adults (Neal, 2018).

2. Present study

While studies have suggested time spent in foster placement to be an additional education-specific risk factor for maltreated children, existing studies do not tell us *why* these educational deficits exist or *how* they might occur (Orme & Buehler, 2001). The present study focused on how within-placement variables (i.e., feelings of placement security and educational support provided by caregivers) relate to positive future expectations and educational engagement among foster youth. Our overarching goal was to test a model in which foster youth's placement security and educational involvement by foster caregivers relate to their future expectations of positive life outcomes, and ultimately to their engagement with school (i.e., both social engagement and cognitive engagement). As there has been little work done toward developing a model to explain the psychosocial mechanisms contributing to educational deficits among foster youth, this research is largely exploratory in nature. Our specific hypotheses were as follows:

- (1) Placement security and caregivers' educational involvement will be positively correlated, such that higher levels of placement security will be associated with higher levels of educational involvement of caregivers.
- (2) Placement security will be positively associated with future expectations, such that children who report more placement security will report more positive future expectations of attainment.
- (3) Similarly, caregivers' educational involvement will be positively associated with future expectations, such that children who report receiving more educational involvement by foster caregivers will report more future expectations of positive life outcomes.
- (4) Placement security will have positive direct and respective indirect effects on foster children's school engagement (i.e., both components), via future expectations. That is, higher levels of placement security will be associated with more positive future expectations of attainment, which will, in turn, be associated with higher levels of both domains of school engagement.
- (5) Caregiver educational involvement will have positive direct and respective indirect effects on foster children's school engagement (i.e., both components), via future expectations. That is, higher levels of adolescent-reported education-specific involvement by caregivers will be associated with more positive future expectations of attainment, which will, in turn, be associated with higher levels of both domains of school engagement. The hypothesized/conceptual model is provided in Fig. 1 below.

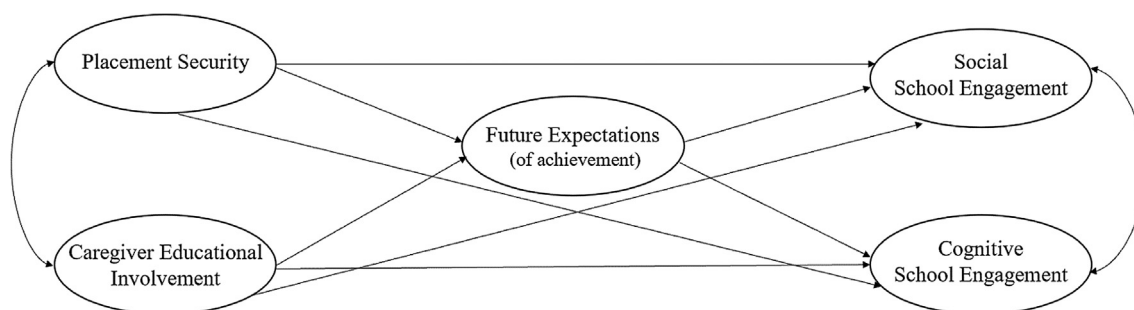


Fig. 1. Conceptual model.

3. Methods

3.1. Participants and data collection

This study used data from the second cohort of the National Survey of Child and Adolescent Well-being (NSCAW II). NSCAW I was the first nationally-representative, longitudinal survey of children and families who were subjects of investigation by Child Protective Services (CPS) in the U.S. (Dowd et al., 2004). For NSCAW I, children were sampled using a two-stage random sampling strategy – first randomly selecting sampling units (i.e., 97 counties in 36 states), then randomly sampling children involved with agencies in selected counties. Sampling for NSCAW II involved investigators contacting counties that agreed to participate in NSCAW I – most of which agreed to participate again, resulting in a final total sample of 5873 children from 83 counties nationwide. For this study, we extracted a subsample of adolescent youth who were living in out-of-home care and attending school at the first wave (March 2008–September 2009) of data collection (total $N = 618$). Data used in the present study were collected during individual in-school interviews with foster youth. Items assessing future expectations were only asked of youth aged 11 years and older, and items assessing placement security were not asked of youth in group/residential care settings, bringing the final sample for the full models to 215 adolescents (i.e., between 11 and 17 years of age; $M = 13.91$ years, $SD = 1.82$ years). On average, youth in our sample had been in their foster placements for a relatively short period, with 80.3% placed for 7 months or less, and 83.7% for one year or less. More complete demographic information for youth in the final sample is presented in Table 1 below.

3.2. Measures

3.2.1. Placement security

Placement security was measured using a latent variable comprised of four items from the “Questions for Children in Out of Home Care” scale from the University of California at Berkeley Foster Care Study (Berrick, Frasch, & Fox, 2000), administered as part of the interviews conducted with each child flagged as being in out-of-home care at the time of the interview. Items were selected for this study based on their relevance to adolescents’ perceptions of security in the permanency or relative stability of their foster placement/caregiver. Each item was answered with a response of “yes” (1) or “no” (0). Specific items (i.e., comprising this and all other latent variables) are provided in Table 2. Results of confirmatory factor analysis (CFA) revealed strong fit for this latent variable and are available in Table 3.

3.2.2. Caregiver educational involvement

Educational involvement by foster caregivers was measured with a

Table 1
Sample demographics.

| | N | % |
|-----------------------------------|-----|-------|
| Race/Ethnicity | | |
| Black, non-Hispanic | 71 | 33.0% |
| White, non-Hispanic | 68 | 31.6% |
| Hispanic | 51 | 23.7% |
| Other | 32 | 10.1% |
| Sex | | |
| Male | 100 | 46.5% |
| Female | 115 | 53.5% |
| Out-of-Home Placement Type | | |
| Non-kinship foster care | 116 | 54.0% |
| Formal kinship care | 51 | 23.7% |
| Informal kinship care | 42 | 19.5% |
| Other placement | 6 | 2.8% |

Table 2

Descriptive statistics for all items comprising latent variables.

| | N | Range | M | SD |
|--|-----|-------|------|------|
| Placement Security (PS) | | | | |
| I feel like part of the family. | 204 | 0,1 | 0.95 | 0.22 |
| I can keep living here next year. | 186 | 0,1 | 0.72 | 0.45 |
| I like the people I live with. | 213 | 0,1 | 0.93 | 0.26 |
| I can live here until I am an adult. | 202 | 0,1 | 0.83 | 0.38 |
| Caregiver Educational Involvement (CEI) | | | | |
| In the past 4 weeks, have you had a talk with your caregiver about a personal problem you were having? | 208 | 0,1 | 0.61 | 0.49 |
| In the past 4 weeks, have you talked about your school work or grades with [caregiver]? | 210 | 0,1 | 0.78 | 0.42 |
| In the past 4 weeks, have you worked on a project for school with [caregiver]? | 207 | 0,1 | 0.26 | 0.44 |
| In the past 4 weeks, have you talked with [caregiver] about other things you're doing in school? | 208 | 0,1 | 0.65 | 0.47 |
| Future Expectations (FE) | | | | |
| What do you think are the chances you will graduate from high school? | 210 | 0–4 | 3.4 | 0.94 |
| What do you think are the chances you will live to be at least 35? | 212 | 0–4 | 3.33 | 0.92 |
| What do you think are the chances you will get a good job someday? | 213 | 0–4 | 3.17 | 0.95 |
| School Engagement – Social (SE1) | | | | |
| How often do you enjoy being in school? | 215 | 0–3 | 1.96 | 0.89 |
| How often do you hate being in school?* | 215 | 0–3 | 1.98 | 0.77 |
| How often do you get along with other students? | 215 | 0–3 | 2.33 | 0.80 |
| How often do you get sent to the office or have to stay after school because you misbehaved?* | 214 | 0–3 | 2.62 | 0.64 |
| How often do you get along with your teachers? | | 0–3 | 2.33 | 0.82 |
| School Engagement – Cognitive (SE2) | | | | |
| How often do you try to do your best work in school? | 215 | 0–3 | 2.38 | 0.74 |
| How often do you find your class interesting? | 215 | 0–3 | 1.69 | 0.85 |
| How often do you listen carefully or pay attention in school? | 215 | 0–3 | 2.13 | 0.82 |
| How often do you get your homework done? | 213 | 0–3 | 2.22 | 0.88 |
| How often do you fail to complete or turn in your assignments?* | 215 | 0–3 | 1.87 | 0.85 |

Note: *indicates items that were reverse-coded; Note: one poorly-loading item was removed from SE2 – i.e., “How often do you find school work too hard to understand?”

Table 3

Fit indices for latent variable CFAs.

| | χ^2 (p) | df | CFI | TLI | RMSEA (90% C.I.) | SRMR |
|---------|--------------|----|-------|-------|------------------|-------|
| PS CFA | 6.03 (0.049) | 2 | 0.986 | 0.958 | 0.10 (0.01/0.19) | 0.094 |
| CEI CFA | 0.85 (0.65) | 2 | 1.00 | 1.159 | 0.00 (0.00/0.09) | 0.045 |
| SE1 CFA | 12.67 (0.03) | 5 | 0.957 | 0.914 | 0.09 (0.03/0.14) | 0.066 |
| SE2 CFA | 15.40 (0.01) | 5 | 0.952 | 0.904 | 0.10 (0.05/0.16) | 0.050 |

latent variable comprised of four youth-reported “yes/no” items administered as part of NSCAW-developed instruments to assess children’s perceived closeness to and relationships with their foster caregivers (i.e., “Closeness to Caregiver (CL)” and “Relationship with Caregiver (RC)” subscales; Dowd et al., 2004). Similar to placement security, items for the current study were selected based on their relevance to the construct of interest – in this case, to the education-specific involvement by their primary foster caregiver (i.e., “Caregiver A”). Results of CFA indicated excellent fit for the latent variable (see Table 3).

3.2.3. Future expectations (of achievement/positive life outcomes)

Future expectations were measured with a latent variable comprised of 3 items from the Expectations about Employment, Education, and Life Span section from the Adolescent Health Survey (Bearman, Jones, & Udry, 1997). Response options were presented as a 5-point Likert-type scale ranging from “0: No chance” to “4: It will happen”.

3.2.4. School engagement

School engagement was assessed in NSCAW with eleven self-reported items from the Drug Free Schools (DFSCA) Outcome Study Questions (U.S. Department of Education: Office of the Under Secretary, n.d.) self-report scale. For this study, we created two sub-components of school engagement: social school engagement (SE1) and cognitive school engagement (SE2) – per the arguments of Fredricks et al. (2004) regarding the value of multidimensional conceptualizations and measures of school engagement. All items asked students to respond using 4-point Likert-type scales, ranging from “Never” to “Almost always”. CFA fit statistics were adequate and are provided in Table 3.

3.2.5. Adolescent-level covariates

We explored several potential covariates related to adolescent and caregiver characteristics, however, most were not associated with constructs of interest. Thus, path models only explicitly accounted for youth age, race/ethnicity, and sex. All covariates were represented with respective “derived and recoded variables” included with NSCAW, which have been created by triangulating information from child-, caregiver-, and caseworker-report instruments (0 = female, 1 = male). Child race/ethnicity was measured with one NSCAW-derived variable that categorizes participants into one of the following categories: White Non-Hispanic, Black Non-Hispanic, Hispanic, or Other. Age is reported in years.

3.3. Data analysis

Latent variables were used to measure all constructs of interest (i.e., placement security, caregiver-provided educational support, future expectations, and cognitive and social school engagement), as these constructs were not intended in the original data collection and were constructed using a subset of items from various scales administered in the NSCAW II for use in the present study. As such, confirmatory factor analysis (CFA) was used to validate measures of the latent variables. We then fit a measurement model (Model 1) to the data before testing the hypothesized model (Models 2–4) using latent variable path modeling. In the full structural path model, we tested associations between two endogenous latent variables (cognitive school engagement and social school engagement) and two latent exogenous variables (placement security and educational involvement of foster caregivers), with one latent variable as an indirect facilitator of these relations (future expectations). Fig. 1 depicts the conceptual model.

All analyses were conducted using the WLSMV estimator – a robust weighted least squares approach that does not assume normality and is recommended for modeling categorical data (Brown, 2006; Muthén, 1984). CFI and TLI fit indices, the root-mean-squared-error-of-approximation (RMSEA), as well as chi-square test of model fit were used to assess model fit. Appropriate sample weights were included in all analyses (i.e., “NANALWT”), per NSCAW II documentation for analysis of baseline wave data. SPSS 24 (Corp, 2016) was used for data cleaning and coding, and Mplus 8 (Muthén & Muthén, 1998, 2012) was used for model building and testing. Respondents who did not answer any of the four placement security items were excluded from the study (i.e., 52 youth). Other missing items were addressed using Full Information Maximum Likelihood (FIML). Table 2 below provides details on each item comprising each of the five latent variables used in this study

4. Results

4.1. CFA analyses

CFA was used to assess the performance of the 4-item placement security (PS) latent variable, and results suggested adequate fit. Similarly, we conducted a CFA using the four self-reported items comprising the latent variable measuring caregiver educational involvement (CEI), which returned excellent fit. Finally, we conducted

Table 4

Model fit for Models 1–4.

| | χ^2 (p) | df | CFI | TLI | RMSEA (90% C.I.) | SRMR |
|----------------|----------------|-----|-------|-------|---------------------|-------|
| Model 1 | 249.44 (0.004) | 179 | 0.874 | 0.852 | 0.043 (0.029/0.055) | 0.159 |
| Model 2 | 373.35 (0.000) | 269 | 0.857 | 0.832 | 0.042 (0.032/0.052) | 0.198 |
| Model 3 | 294.54 (0.000) | 183 | 0.859 | 0.830 | 0.053 (0.042/0.064) | 0.193 |
| Model 4 | 246.20 (0.001) | 183 | 0.900 | 0.879 | 0.040 (0.026/0.052) | 0.165 |

Note: Model 1 is the baseline measurement model, Model 2 is the full path model, Model 3 is a path model that does not include CEI (i.e., PS-only), and Model 4 is a path model that does not include PS (i.e., CEI-only).

CFAs for the two latent school engagement variables (social school engagement – SE1, and cognitive school engagement – SE2). Fit indices for all CFA models are presented in Table 3 below. CFA statistics are not provided for the future expectations variable (FE), as CFAs can only be produce statistics for over-identified models (i.e., more than 3 items are required to obtain statistics). However, the FE variable performs well in the measurement model (Model 1), and was therefore retained.

4.2. Measurement model

Before testing the hypothesized structural model, we first fit a measurement model with all 5 latent variables together (Model 1) to the data. Fit indices for the overall measurement model indicated adequate fit and are presented in Table 4 below. Consistent with Hypothesis 1, placement security and caregiver educational involvement were significantly correlated ($r = 0.358, p = 0.007$). Further, the two components of school engagement – social engagement (SE1) and cognitive engagement (SE2) – were significantly correlated at $r = 0.690$ ($p < .001$).

4.3. Path models

After finding acceptable fit for the overall measurement model (Model 1), we tested the originally hypothesized structural model (Model 2), controlling for adolescent race/ethnicity and sex. Consistent with Hypothesis 2, placement security was significantly positively associated with future expectations ($\beta = 0.356, p = .002$). Hypothesis 3 was not supported – future expectations were not significantly associated with caregiver educational involvement ($\beta = -0.348, p = .103$). In support of Hypothesis 4, results from Model 2 indicate a statistically significant total effect of placement security on social engagement ($\beta = 0.360, p < .001$), carried by the significant indirect effect (i.e., via future expectations; $\beta = 0.273, p = .002$), as the direct effect was not significant ($\beta = 0.239, p = .132$). The total effect of placement security on cognitive school engagement was also significant ($\beta = 0.471, p = .014$). Again, the direct effect was not significant ($\beta = 0.260, p = .139$), but the indirect effect via future expectations emerged as significant ($\beta = 0.137, p = .001$). Caregiver educational involvement had no direct ($\beta = 0.055, p = .747$), or indirect effects on social engagement via future expectations ($\beta = -0.177, p = .102$), rendering the total effect of caregiver involvement on social engagement insignificant ($\beta = -0.122, p = .542$). Similarly, caregiver educational involvement had no direct ($\beta = 0.075, p = .740$) or indirect effects on cognitive engagement ($\beta = -0.136, p = .087$), making for an insignificant total effect ($\beta = -0.061, p = .804$). The effects of future expectations on both social ($\beta = 0.658, p < .001$) and cognitive engagement ($\beta = 0.385, p < .001$) were both positive and highly significant. Parameter estimates for Model 2 are shown in Fig. 2 below.

As an emergent, exploratory effort, we subsequently tested two additional alternative models: Model 3, in which the latent caregiver educational involvement variable (along with all relevant paths) was dropped from the model, and Model 4, in which the latent placement security variable (along with all relevant paths) was dropped from the model (see Figs. 3 and 4 below, respectively). Our emergent goal was to

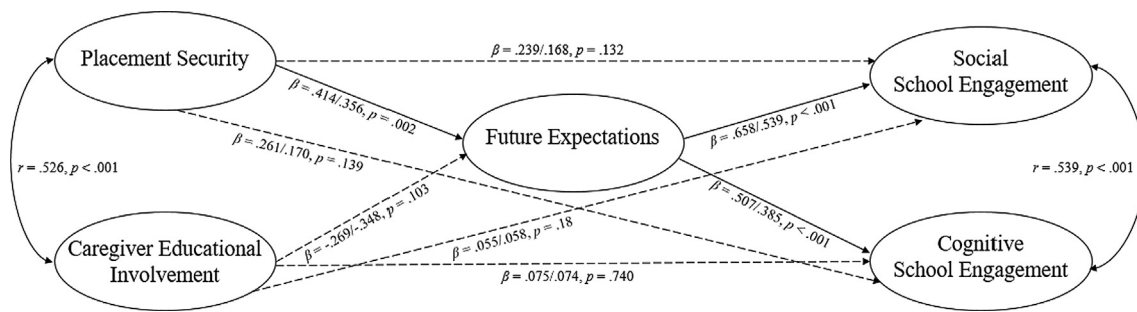


Fig. 2. Latent variable path model diagram with parameter estimates (Model 2).

assess the overall impact of each respective predictor without controlling for the other. Further, our exploratory hypotheses, respectively, were that Models 3 or 4 may return improved model fit over Model 2, as a result of more parsimonious models. Results of Model 3 (shown in Table 4) indicated model fit similar to that of Model 2, and therefore does not suggest overall model improvement by dropping caregiver educational involvement from the model. Unlike what we observed in Model 2, path analysis of Model 3 indicated that placement security had strong, positive direct ($\beta = 0.274, p = .004$) and indirect ($\beta = 0.174, p = .001$) effects on social engagement – making for a significant total effect ($\beta = 0.449, p < .001$). Similarly, placement security had a significant direct effect on cognitive engagement in Model 3 ($\beta = 0.308, p = .002$), and the significant and positive indirect effect via future expectations from Model 2 again persisted in Model 3 ($\beta = 0.132, p = .001$; total effect: $\beta = 0.441, p < .001$). Again, the effects of future expectations on both components of school engagement emerged as significant (social: $\beta = 0.529, p < .001$; cognitive: $\beta = 0.370, p < .001$) (see Table 5).

As in Model 2, Model 4 results showed no significant direct or indirect effects of caregiver educational involvement on social (total effect: $\beta = 0.146, p = .224$) or cognitive school engagement ($\beta = 0.203, p = .217$; see Table 6 for complete results). However, as was observed in Models 2 and 3, the effects of future expectations on both social ($\beta = 0.599, p < .001$) and cognitive engagement ($\beta = 0.488, p < .001$) persisted as positive and highly significant.

Fit indices (displayed in Table 4 below) for Model 3 were comparable to those of Model 2, and is a more parsimonious model. Fit indices for Model 4 were slightly technically superior to those of Models 2 and 3, but the differences are not meaningful – particularly given the consistent, significant effects of placement security in Models 2 and 3, and the lack of empirical or theoretical rationale for the superiority of Model 4 over Model 2. Thus, we conclude that Model 4 is not superior to the original full structural model that also accounts for adolescents' placement security (Model 2), and that there may be an argument for Model 3 as more useful, given the consistent lack of findings related to caregiver educational involvement. Respective changes in chi-square estimates should not be used to comparatively evaluate these models, as they are not nested models; as such, chi-square change values were not

calculated. Model fit for all models suggested adequate, but less than excellent fit, which will be addressed in subsequent efforts – no further modifications could be made to the present models.

5. Discussion

This study tested a model of placement-related psychosocial influences on one important indicator of educational adjustment for foster youth. Results indicated that placement security – that is, feelings of security, stability, and belongingness within foster placements – may be important for boosting foster youth's future expectations of positive life outcomes, which were, in turn, associated with greater school engagement. These findings are consistent with prior research on the positive effects of general home-life stability for foster youth's overall adjustment (e.g., Orme & Buehler, 2001; Pecora et al., 2006; Van Andel et al., 2012). While there is little extant research on perceived placement security as an important factor in foster youth adjustment, it makes sense that a child's insecurities and uncertainties about their living arrangements and relationships with their biological and foster families may inhibit meaningful engagement in cognitively and socially demanding tasks, such as appropriate interactions and classroom participation – possibly via their expectations of life events to come. As we only consistently observed *indirect* effects of placement security on school engagement (i.e., direct effects were significant in Model 3 but not Model 2), the strongest finding related to placement security may be its ability to boost adolescents' positive future expectations, which were consistently positively associated with both components of school engagement in all models.

Concerning foster caregivers' educational involvement, results of our study do not provide consistent support for the hypothesis (based loosely on prior research with former foster youth; e.g., Schofield, 2002) that educational involvement by foster caregivers is universally important for expectations of future attainment and subsequent academic engagement. One possible explanation for the lack of significant findings related to caregiver educational involvement in this study is that is that the items did not tap into the nature of the interactions in which foster children and their caregivers talk about or work on school assignments. For instance, if foster caregivers express negativity about

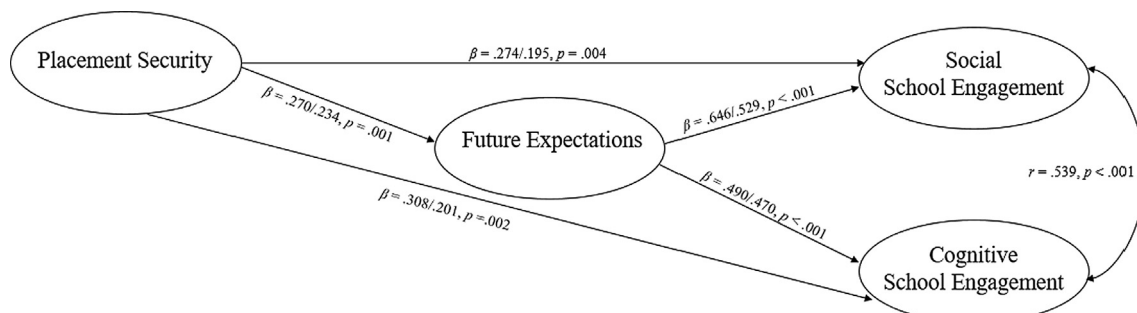


Fig. 3. Latent variable path model diagram with parameter estimates (Model 3).

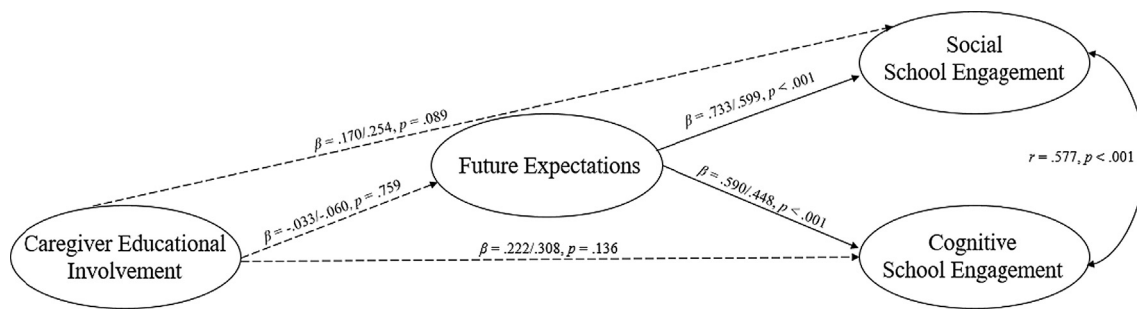


Fig. 4. Latent variable path model diagram with parameter estimates (Model 4).

Table 5

Parameter estimates for Path Models (i.e., Models 2–4).

| Parameter | Model 2 | | | Model 3 | | | Model 4 | | |
|-----------------------|---------|----------|------|---------|----------|------|---------|----------|------|
| | β | B | SE | β | B | SE | β | B | SE |
| PS \rightarrow FE | 0.414 | 0.356** | 0.11 | 0.270 | 0.234** | 0.07 | – | – | – |
| PS \rightarrow SE1 | 0.239 | 0.168 | 0.11 | 0.274 | 0.195** | 0.07 | – | – | – |
| PS \rightarrow SE2 | 0.261 | 0.170 | 0.12 | 0.308 | 0.201** | 0.07 | – | – | – |
| CEI \rightarrow FE | –0.269 | –0.348 | 0.21 | – | – | – | –0.033 | –0.060 | 0.20 |
| CEI \rightarrow SE1 | 0.055 | 0.058 | 0.18 | – | – | – | 0.170 | 0.254 | 0.15 |
| CEI \rightarrow SE2 | 0.075 | 0.074 | 0.22 | – | – | – | 0.222 | 0.308 | 0.21 |
| FE \rightarrow SE1 | 0.658 | 0.539*** | 0.08 | 0.646 | 0.529*** | 0.08 | 0.733 | 0.599*** | 0.08 |
| FE \rightarrow SE2 | 0.507 | 0.385*** | 0.08 | 0.490 | 0.370*** | 0.07 | 0.590 | 0.448*** | 0.06 |

Notes: *indicates parameter estimates significant at $p < .05$, **indicates parameter estimates significant at $p < .01$, ***indicates parameter estimates significant at $p < .001$; Standardization = STDYX; Abbreviations are as follows: PS (placement security), CEI (caregiver educational involvement), FE (future expectations), SE1 (social school engagement), SE2 (cognitive school engagement); B indicates unstandardized estimates, β indicates standardized estimates.

Table 6

Direct, Indirect, and Total Effects (Unstandardized/Standardized) for Path Models 2–4.

| | SE1 | | SE2 | |
|--|---------|----------|---------|----------|
| | β | B | β | B |
| Model 2 (full model) | | | | |
| Placement Security | | | | |
| Direct effect | 0.239 | 0.168 | 0.260 | 0.170 |
| Indirect effect | 0.273 | 0.192** | 0.210 | 0.137** |
| Total effect | 0.511 | 0.360*** | 0.471 | 0.307* |
| Caregiver Educational Involvement | | | | |
| Direct effect | 0.055 | 0.058 | 0.075 | 0.074 |
| Indirect effect | –0.177 | –0.187 | –0.136 | –0.134 |
| Total effect | –0.122 | –0.129 | –0.061 | –0.060 |
| Model 3 (PS-only) | | | | |
| Placement Security | | | | |
| Direct effect | 0.274 | 0.195** | 0.308 | 0.201* |
| Indirect effect | 0.174 | 0.124** | 0.132 | 0.087* |
| Total effect | 0.449 | 0.319*** | 0.441 | 0.288*** |
| Model 4 (CEI-only) | | | | |
| Caregiver Educational Involvement | | | | |
| Direct effect | 0.170 | 0.254 | 0.222 | 0.308 |
| Indirect effect | –0.024 | –0.036 | –0.019 | –0.027 |
| Total effect | 0.146 | 0.218 | 0.203 | 0.281 |

Note: *indicates parameter estimates significant at $p < .05$, **indicates parameter estimates significant at $p < .01$, ***indicates parameter estimates significant at $p < .001$; Standardization = STDYX. Abbreviations are as follows: PS (placement security), CEI (caregiver educational involvement), FE (future expectations), SE1 (social school engagement), SE2 (cognitive school engagement); B indicates unstandardized estimates, β indicates standardized estimates.

school work or students' performance in school, this may actually feed adolescents' negative expectations about their future abilities to

graduate high school, get a good job someday, and have other positive life outcomes. However, this type of interaction would still be captured as “educational involvement” with the current measure, as the “yes/no” items do not differentiate between positive vs. negative, or high- vs low-quality involvement. One important consideration for future research is that educational support from foster parents – who are, by definition, temporary and often non-relative caregivers – is qualitatively different than educational involvement by permanent and thus more invested caregivers. It may be the case that working on homework and talking about education-related tasks with long-term caregivers who are more invested in children's longitudinal trajectories may better promote engagement in school and the ability to see oneself as reaching positive milestones in the future.

All models consistently showed positive direct effects of future expectations on both aspects of school engagement, and Models 2 and 3 showed strong evidence that these future expectations may be an important mechanism in explaining the effects of placement security on both social and cognitive aspects of school engagement. In other words, the extent to which youth meaningfully engage with learning and with school environments may be driven, at least in part, by their underlying expectations of their future abilities to achieve positive life outcomes – a finding not inconsistent with Snyder's hope theory (Snyder et al., 1991, 2002a, 2000b, 2000c; Snyder, 1994). While hope-related types of thinking were not assessed in this study, it is reasonable to preliminarily speculate that adolescents' reports of their future expectations of positive life outcomes may serve as a proxy for this type of thinking – for seeing oneself as able to set, work toward, and achieve important positive life outcomes, such as graduating from high school and having a good job. For foster youth in particular, hope may be an important buffer against feelings of stress and negative affect – as has been shown with broader samples of students (Valle, Huebner, & Suldo, 2006).

5.1. Limitations and future directions

As with any research, results of the present study should be

interpreted in light of a few limitations. First and foremost, the measures of both placement security and caregiver educational involvement were constructed in a post-hoc fashion using this secondary dataset. However, our results (i.e., CFA and Model 1) indicate adequate fit, and thus we argue that our study constitutes an informative first step toward understanding placement-specific factors affecting school engagement for foster youth. Further, the dataset used for this study is one of the largest, most comprehensive representative samples of foster youth in the U.S., providing benefits that outweigh the methodological drawbacks of creating measures secondarily. More work should certainly be done to understand and improve the use of these measures, as well as to develop and test reliable and valid measures of placement security and educational involvement by temporary/foster caregivers. Further, the various indicators included in this study relied heavily on “yes/no” (i.e., dichotomous) data. Future efforts should use scales with five or more response categories so as to increase power and enhance abilities to capture variability.

Another sizable limitation is that we relied solely on self-report data, which admittedly presents important considerations for interpreting these findings. While NSCAW II included teacher-reported measures of adolescents’ school engagement and even academic achievement (i.e., grades by subject, various progress markers), response rates among teachers for foster children in the sample were significantly poorer than for other reporters. This may be due to the different method of data collection for teachers (i.e., mailed surveys instead of interviews), or, at least in part, to the fact that foster children often experience mid-year moves between schools and have more inconsistent contact with teachers. Additionally, teachers who are working to incorporate new students into their classrooms and make up for missed school time may not have time for additional tasks, such as participating in data collection efforts. Further, the self-reported placement security variable revealed rather high placement security on average in this sample, which may not have allowed us to explore the full variability of adolescents’ feelings of placement security in this study. These analyses also rely on cross-sectional data and we are therefore unable to make inferences about causality, which presents a sizable limitation. Future directions for this line of work include testing latent growth curve models measuring dynamic associations to determine the most impactful associations over time, including mediated relationships.

Of course, another limitation is that we did not control for effects of maltreatment experiences, and it has been extensively documented that individuals exposed to maltreatment often suffer long-term consequences, including for educational outcomes (see Romano, Babchishin, Marquis, & Fréchette, 2015 for a review). Future directions include comparing this sub-sample to a matched sample of non-fostered youth – an approach that would allow for isolating the factors specific to foster placement while controlling for experiences of prior maltreatment and other elements of child protective services involvement. While NSCAW II does include data from non-fostered youth, the items needed to construct a measure of placement security were only administered to youth in out-of-home care – making a non-fostered comparison group beyond the scope of this initial study. Finally, our models were not all-inclusive – there are, of course, many other factors that might contribute to poor school engagement and low expectations for future achievements. Many of the NSCAW II variables that represent important potential covariates (e.g., such as prior academic achievement, number of foster placements, etc.) had significant missing data for our sample and were therefore unusable. Future efforts should consider other possible placement-related influences on educational achievement, as well as explore whether these influences vary by age (i.e., as data for this study come from participants ranging in age from only 11 to 17 years). In general, efforts should be undertaken to learn more about the influences on foster children’s future expectations of positive life outcomes, as this may be an important protective factor that has yet to be extensively studied or adequately utilized in

intervention efforts. Subsequent research should also look for potential moderators that may buffer against or exacerbate the effects of placement-related insecurity on foster children’s educational outcomes, such as being placed in a foster home with a sibling that may provide an alternative source of perceived security. Future efforts should also extend models such as the ones tested here so as to include indicators of educational achievement and attainment (e.g., graduation rates, college entry/completion, employment, etc.).

6. Conclusion

Early intervention, including efforts to promote educational attainment, is widely accepted as beneficial for promoting adult outcomes related to health, economic stability, and overall well-being across the lifespan for alumni of foster care (Bruskas, 2008). If foster placement impedes school engagement through future expectations and placement-related insecurities, then increasing children’s feelings of security in foster placements and with foster caregivers, as well as promoting positive future expectations, may be vital components of education-related interventions. Results of such interventions could markedly reduce percentages of the population requiring resources like public assistance, incarceration, and foster care services in the future by promoting educational attainment.

Funding

National Science Foundation (NSF), Graduate Research Fellowship Program (GRFP), United States, Award Number: DGE-1842166.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.chilcyouth.2019.104616>.

References

- Appleton, J. J., Christenson, S. L., & Furlong, M. J. (2008). Student engagement with school: Critical conceptual and methodological issues of the construct. *Psychology in the Schools*, 45, 369–386.
- Barrat, V. X., & Berliner, B. (2013). *The invisible achievement gap, Part 1: Educational outcomes of students in foster care in California’s public schools*. San Francisco, CA: WestEd.
- Bass, G. (2017). *The role of foster parents in improving educational outcomes for youth in foster care* (Dissertation) Amherst, MA: University of Massachusetts Amherst.
- Baum, S., Ma, J., & Payea, K. (2010). *Education pays, 2010: The benefits of higher education for individuals and society*. Trends in higher education series. College Board Advocacy & Policy Center.
- Beal, S. J., & Crockett, L. J. (2010). Adolescents’ occupational and educational aspirations and expectations: Links to high school activities and adult educational attainment. *Developmental Psychology*, 46, 258–265.
- Bearman, P., Jones, J., & Udry, J. R. (1997). *The national longitudinal study on adolescent health: Research design*. Chapel Hill, N.C.: Carolina Population Center Retrieved from: <https://www.cpc.unc.edu/projects/addhealth/design>.
- Berrick, J. D., Frasch, K., & Fox, A. (2000). Assessing children’s experiences of out-of-home care: Methodological challenges and opportunities. *Social Work Research*, 24, 119–127.
- Boxer, P., Goldstein, S. E., DeLorenzo, T., Savoy, S., & Mercado, I. (2011). Educational aspiration-expectation discrepancies: Relation to socioeconomic and academic risk-related factors. *Journal of Adolescence*, 34, 609–617.
- Brown, T. (2006). *Confirmatory factor analysis for applied research*. New York: Guildford.
- Bruskas, D. (2008). Children in foster care: A vulnerable population at risk. *Journal of Child and Adolescent Psychiatric Nursing*, 21, 70–77.
- Casey Family Programs (2005). The northwest foster care alumni. Retrieved from: <http://www.casey.org/NR/rdonlyres/4E1E7C77>.
- Clemens, E. V., Klopfenstein, K., Lalonde, T. L., & Tis, M. (2018). The effects of placement and school stability on academic growth trajectories of students in foster care. *Children and Youth Services Review*, 87, 86–94.

- Courtney, M. E., Dworsky, A., Ruth, G., Havlicek, J., Perez, A., & Keller, T. (2007). *Midwest evaluation of the adult functioning of former foster youth: Outcomes at age 21*. Chicago, IL: Chapin Hall Retrieved from: https://pdxscholar.library.pdx.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=1059&context=socwork_fac.
- Courtney, M. E., Dworsky, A., Lee, J. S., & Raap, M. (2010). *Midwest evaluation of the adult functioning of former foster youth: Outcomes at ages 23 and 24*. Chicago, IL: Chapin Hall Retrieved from: https://rhyclearinghouse.acf.hhs.gov/sites/default/files/docs/18690-Midwest_Evaluation-Outcomes_at_Ages_23_and_24.pdf.
- Cunningham, M., Corprew, C. S., & Becker, J. E. (2009). Associations of future expectations, negative friends, and academic achievement in high-achieving African American adolescents. *Urban Education*, 44, 280–296.
- Davies, P. T., & Cummings, E. M. (1994). Marital conflict and child adjustment: An emotional security hypothesis. *Psychological Bulletin*, 116, 387–411.
- Day, E., & Dotterer, A. M. (2018). Parental involvement and adolescent academic outcomes: Exploring differences in beneficial strategies across racial/ethnic groups. *Journal of Youth and Adolescence*, 47, 1332–1349.
- Dowd, K., Kinsey, S., Wheelless, S., Thissen, R., Richardson, J., Suresh, R., & Dolan, M. (2004). *National Survey of Child and Adolescent Well-Being (NSCAW), Combined Waves 1–4, Data File User's Manual, Restricted Release Version*. Research Triangle Institute, University of North Carolina at Chapel Hill, and Caliber Associates. University of California at Berkeley.
- Fan, W., & Williams, C. M. (2010). The effects of parental involvement on students' academic self-efficacy, engagement and intrinsic motivation. *Educational Psychology*, 30, 53–74.
- Font, S., & Maguire-Jack, K. (2013). Academic engagement and performance: Estimating the impact of out-of-home care for maltreated children. *Children and Youth Services Review*, 35, 856–864.
- Fredricks, J. A., Blumenfeld, P. C., & Paris, A. H. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research*, 74, 59–109.
- Garcia, A. R., Pecora, P. J., Harachi, T., & Aisenberg, E. (2012). Institutional predictors of developmental outcomes among racially diverse foster care alumni. *American Journal of Orthopsychiatry*, 82, 573–584.
- Henderson, A. T. (1987). *The evidence continues to grow: parent involvement improves student achievement: An annotated bibliography*. National Committee for Citizens in Education Special Report.
- Hill, N. E., Tyson, D. F., & Bromell, L. (2009). Developmentally appropriate strategies across ethnicity and socioeconomic status. In N. E. Hill, & R. K. Chao (Eds.). *Families, schools, and the adolescent* (pp. 53–72). New York, NY: Teachers College Press.
- IBM Corp. (Released 2016). IBM SPSS statistics for windows, Version 24.0. Armonk, N.Y.: IBM Corp.
- Kirk, R., & Day, A. (2011). Increasing college access for youth aging out of foster care: Evaluation of a summer camp program for foster youth transitioning from high school to college. *Children & Youth Services Review*, 33, 1173–1180.
- Kools, S., & Kennedy, C. (2003). Foster child health and development: Implications for primary care. *Pediatric Nursing*, 29, 39–45.
- Lee, J. S., & Bowen, N. K. (2006). Parent involvement, cultural capital, and the achievement gap among elementary school children. *American Educational Research Journal*, 43, 193–218.
- Lee, V. E., & Smith, J. B. (1999). Social support and achievement for young adolescents in Chicago: The role of school academic press. *American Educational Research Journal*, 36, 907–945.
- McMillen, C., Auslander, W., Elze, D., White, T., & Thompson, R. (2003). Educational experiences and aspirations of older youth in foster care. *Child Welfare: Journal of Policy, Practice, and Program*, 82, 475–495.
- Mihalec-Adkins, B. P., & Cooley, M. E. (2019). Examining individual-level academic risk and protective factors for foster youth: School engagement, behavior, self-esteem, and social skills. *Child & Family Social Work*. <https://doi.org/10.1111/cfs.12681> In press.
- Morton, B. M. (2015). The power of community: How foster parents, teachers, and community members support academic achievement for foster youth. *Journal of Research in Childhood Education*, 30, 99–112.
- Muthén, B. O. (1984). A general structural equation model with dichotomous, ordered categorical, and continuous latent variable indicators. *Psychometrika*, 49, 115–132.
- Muthén, L. K., & Muthén, B. O. (1998–2012). *Mplus user's guide* (7th ed.). Los Angeles, CA: Muthén & Muthén.
- Neal, D. (2018). Academic resilience and caring adults: The experiences of former foster youth. *Children and Youth Services Review*, 79, 242–248.
- Okpych, N. J., & Courtney, M. E. (2014). Does education pay for youth formerly in foster care? Comparison of employment outcomes with a national sample. *Children and Youth Services Review*, 43, 18–28.
- Orme, J. G., & Buehler, C. (2001). Foster family characteristics and behavioral and emotional problems of foster children: A narrative review. *Family Relations*, 50, 3–15.
- Ou, S. R., & Reynolds, A. J. (2008). Predictors of educational attainment in the Chicago Longitudinal Study. *School Psychology Quarterly*, 23, 199–229.
- Pecora, P. J., Kessler, R. C., O'Brien, K., White, C. R., Williams, J., Hiripi, E., & Herrick, M. A. (2006). Educational and employment outcomes of adults formerly placed in foster care: Results from the Northwest Foster Care Alumni Study. *Children and Youth Services Review*, 28, 1459–1481.
- Rassen, E., Cooper, D. M., & Mery, P. (2010). Serving special populations: A study of former foster youth at California community colleges. *Journal of Applied Research in the Community College*, 17, 24–34.
- Rios, S. J. (2009). From foster care to college: Young adults' perceptions of factors that impacted their academic achievement. In M. S. Plakhotnik, S. M. Nielsen, & D. M. Pane (Eds.). *Proceedings of the eighth annual college of education & GSN research conference* (pp. 112–118). Miami: Florida International University Retrieved from: <https://pdfs.semanticscholar.org/a615/a9ef159114f065024b0de252e9753dc0e31c.pdf>.
- Romano, E., Babchishin, L., Marquis, R., & Fréchette, S. (2015). Childhood maltreatment and educational outcomes. *Trauma, Violence, & Abuse*, 16, 418–437.
- Sawyer, M. G., Carbone, J. A., Searle, A. K., & Robinson, P. (2007). The mental health and wellbeing of children and adolescents in home-based foster care. *Medical Journal of Australia*, 186, 181–184.
- Schofield, G. (2002). The significance of a secure base: A psychosocial model of long-term foster care. *Child and Family Social Work*, 7, 259–272.
- Snyder, C. R. (1994). *The psychology of hope: You can get there from here*. New York, NY: Simon and Schuster.
- Snyder, C. R. (Ed.). (2000). *Handbook of hope: Theory, measures, and applications*. San Diego, CA: Academic Press.
- Snyder, C. R. (2000b). The past and possible futures of hope. *Journal of Social and Clinical Psychology*, 19, 11–28.
- Snyder, C. R. (2002c). Hope theory: Rainbows in the mind. *Psychological Inquiry*, 13, 249–275.
- Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., ... Harney, P. (1991). The will and the ways: Development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, 60, 570–585.
- Snyder, C. R., Hoza, B., Pelham, W. E., Rapoff, M., Ware, L., Danovsky, M., ... Stahl, K. J. (1997). The development and validation of the Children's Hope Scale. *Journal of Pediatric Psychology*, 22, 399–421.
- U.S. Department of Education: Office of the Under Secretary (n.d.). Drug free schools outcome study questions (DFSCA). National Survey of Child & Adolescent Well-Being (NSCAW), 1997–2007. Available online at: <https://www.acf.hhs.gov/opre/research/project/national-survey-of-child-and-adolescent-well-being-nscaw>.
- U.S. Department of Health and Human Services (2018). The AFCARS report: Preliminary FY 2017 Estimates as of July 2018. No. 19. Retrieved from: <https://www.acf.hhs.gov/sites/default/files/cb/afcarsreport25.pdf>.
- Valle, M. F., Huebner, E. S., & Suldo, S. M. (2006). An analysis of hope as a psychological strength. *Journal of School Psychology*, 44, 393–406.
- Van Andel, H. W. H., Grietens, H., Strijker, J., Van der Gaag, R. J., & Knorth, E. J. (2012). Searching for effective interventions for foster children under stress: A meta-analysis. *Child and Family Social Work*, 19, 149–155.
- Wells, S. P. (2006). *Foster parents and parental involvement in the education of children in foster care* (Dissertation)Normal, OK: University of Oklahoma.
- Wiegmann, W., Putnam-Hornstein, E., Barrat, V. X., Magruder, J., & Needell, B. (2014). *The invisible achievement gap part 2: How the foster care experiences of California public school students are associated with their educational outcomes*. San Francisco, CA: WestEd.
- Zetlin, A. G., & Weinberg, L. A. (2004). Understanding the plight of foster youth and improving their educational opportunities. *Child Abuse and Neglect*, 28, 917–923.
- Zetlin, A. G., Weinberg, L. A., & Kimm, C. (2005). Helping social workers address the educational needs of foster children. *Child Abuse and Neglect*, 29, 811–823.