



# Early parenthood for males and females with foster care experience: An exploratory study of predictive factors at entry to care during preadolescence

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## Abstract

Youth and young adults with a history of out-of-home care are at the center of a constellation of factors associated with young parenthood, including experiences of maltreatment, caregiver and school instability, poor access to preventive health care, and high rates of mental health problems. Although correlates of early parenthood among this population have been examined, few studies have examined factors at entry to care or included males when examining young parenthood. This study explores early predictors of parenthood among a sample of young adults ( $N=206$ ), ages 18 to 22, who were enrolled in the Fostering Healthy Futures study between the ages of 9–11 following recent removal from their homes. At baseline, youth and their caregivers were interviewed and child welfare records were coded, providing data on child welfare and family factors, children's school functioning, mental health, relationships, attitudes and appraisals. These indices were examined to determine whether they were related to parenthood status at the young adult interview. A family risk variable that included indicators for single parenthood, maternal substance use, criminal activity and violence was the strongest predictor, but moral-legal maltreatment (i.e., exposing children to illegal activities), school and living instability, and self-worth were also significant predictors over and above the demographic control variables. The discussion critically considers the findings and potential consequences of the results for young people in care with input from consultation sessions with an advisory group of parents possessing a collective wealth of relevant experience, including young parenthood and out-of-home care placement. Implications for child welfare intervention are discussed.

**Keywords** Foster care · Early parenthood · Sexual health · Risk and protective factors · Longitudinal · Experts-by-experience

## Introduction

Young people in or with a history of out-of-home care are more likely to experience parenthood at an early age, with the risk particularly pronounced for females (Courtney et al.,

2005, 2007; Dworsky & Courtney, 2010; Font et al., 2019; King et al., 2014; Shaw et al., 2010; Shpiegel & Cascardi, 2015; Vinnerljung et al., 2007). Although it is not an adverse outcome to become a young parent (and some young people desire early parenthood), it is nonetheless associated with a host of negative health, economic and social outcomes (Gill et al., 2020). Thus, academic interest in early pregnancy and parenthood for young people in and leaving foster care has gained momentum in recent years (Eastman et al., 2019). Evidence reviews spanning 1989 to 2020 provide helpful insights into factors that appear to be influential on young people's 'pathways' to early pregnancy and parenthood (Connolly et al., 2012; Eastman et al., 2019; Fallon & Broadhurst, 2015; Gill et al., 2020; Mendes, 2009; Purtell et al., 2020; Svoboda et al., 2012; Winter et al., 2016). While the reviews vary in terms of scope and focus, collectively

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they draw attention to several associated factors, including demographic, family and child welfare, school, mental health and attachment, and youth attitudes and appraisals.

When examining demographic factors, most, but not all, studies of early parenthood among female youth with a history of out-of-home care in the U.S. find that racial/ethnic minority youth are over-represented among young parents (Combs et al., 2018; King et al., 2019; King & Van Wert, 2017; Putnam-Hornstein et al., 2016). Older teens are more likely than younger teens to have experienced childbirth (King & Van Wert, 2017; Shpiegel et al., 2017).

In terms of family and child welfare factors, both sexual abuse, and to a lesser extent physical abuse, have been identified as factors associated with risky sexual behaviors in females (King, 2017; Mendes, 2009; Winter et al., 2016) but one study found that youth in the highest risk group for early parenthood (based on latent class analysis) were most likely to have been removed for caregiver absence (King et al., 2019). Measuring the impact of type of placement is challenging, as many youth experience multiple type of placements over their time in out-of-home care. Some studies have found that group care or foster care (relative to kinship care) is associated with sexual risk behaviors, pregnancy, and childbirth (Eastman et al., 2019; Gramkowski et al., 2009; King et al., 2019; Shpiegel et al., 2021) while one study found no difference between foster and kinship care (Carpenter et al., 2001). A study of childbirth among females emancipating from care, however, found higher rates for those placed with relatives (Shpiegel et al., 2017). Interestingly, in comparison to teens emancipating from foster care, Putnam-Hornstein & King (2014), observed significantly higher birth rates for youth who were reunified. Many studies have found an association between placement instability and later sexual risk behaviors, pregnancy and parenthood in females (Eastman et al., 2019; King et al., 2019; King & Van Wert, 2017; Purtell et al., 2020; Shpiegel et al., 2021; Winter et al., 2016) but one study found that the number of placements in the current episode of out-of-home care was unrelated to parenthood (Shpiegel et al., 2017).

Regarding additional family factors, parental absence or loss was found to be associated with sexual risk-taking behaviors among youth with out-of-home care experience (Barn & Mantovani, 2007; Carpenter et al., 2001; Gramkowski et al., 2009), but no known quantitative studies have examined the association of parental loss with young parenthood in this population. A qualitative study found that young parents who had emancipated from care had mothers who were also teen parents and families with histories of parental substance use and criminal activities (Barn & Mantovani, 2007). In the general population, being part of non-nuclear families, the absence of extended family support, parental instability, and family history of teenage pregnancy

have been highlighted as factors associated with adolescent pregnancy (East et al., 2007; Santos & Rosario, 2011; Wall-Wieler et al., 2016; Woodward et al., 2001), although not necessarily with early parenthood.

Several studies examining school factors have reported that school attachment and attendance can be protective factors, while poor academic performance is related to early pregnancy and parenthood (Eastman et al., 2019; Fallon & Broadhurst, 2015; Mendes, 2009; Shpiegel, 2017; Shpiegel et al., 2021; Winter et al., 2016). No studies were found that examined how school instability was related to young parenthood, but disruptions in relationships are a known risk factor for poor reproductive health outcomes while stable, positive relationships can buffer the many risks faced by youth in out-of-home care and have been associated with lower rates of pregnancy and childbirth (Eastman et al., 2019; Fallon & Broadhurst, 2015; Shpiegel et al., 2021; Svoboda et al., 2012; Winter et al., 2016). Similarly, youth in foster care are more likely to experience poor mental health, including posttraumatic stress, anxiety, depression, and externalizing problems (Engler et al., 2020). All of these have been associated with sexual risk behaviors, early pregnancy and parenthood among young people in or emancipated from care (Eastman et al., 2019; Fallon & Broadhurst, 2015; Mendes, 2009; Winter et al., 2016).

While there is less research on factors that might buffer young people in care from unplanned pregnancies or parenthood, a few studies have examined potential attitudes and appraisals that might be associated. Two studies of adolescents in foster care found that future orientation was negatively associated with behavioral intentions for, and actual engagement in, sexual risk behaviors (Cabrera et al., 2009; Polgar & Auslander, 2009). A positive sense of self and religiosity have also been associated with lower sexual risk behaviors in some studies (James et al., 2009; Scott et al., 2006; Winter et al., 2016) although the findings have been mixed, leading Matta Oshima et al., (2013) to conclude that young people in out-of-home care are at “exceptional risk of early pregnancy, no matter their maltreatment history, religiosity, school connectedness, or academic achievement, particularly in the years between 17 and 19” (p. 1760).

As the above review demonstrates, there is a burgeoning literature on factors associated with early pregnancy and parenthood among young people with a history of out-of-home placement. However, the majority of studies reviewed used female-only samples and many focused on the transition from care age, which excludes young people who may have become parents at earlier ages. Many studies measured correlates cross-sectionally or using retrospective reports, making it difficult to tease out whether the factor preceded or followed the sexual health outcome. Additionally, a minority of studies examined parenthood; while risky

sexual behaviors and early pregnancy are inextricably tied to parenthood, understanding the factors specifically associated with parenthood are an important step for the field.

## Prior work and the current study

The current study sought to contribute to the literature by exploring pre-adolescent predictors of young parenthood in a longitudinal study of males and females with a history of out-of-home care. It extended the work of a prior study using the same sample which examined correlates of pregnancy and childbearing among both young men and women (ages 18–22) with an earlier history of foster care (Combs et al., 2018). The cross-sectional study compared the educational attainment, financial resources, and homelessness experiences of young adults who were parents to those who were not. In this prior study, parenthood was associated with lower educational attainment, less employment, not having a checking or savings account, and a history of homelessness.

The current exploratory study built upon the Combs et al., (2018) study by examining a host of parenthood predictors among the same sample of young adults with a history of foster care placement. Most of these factors were measured in pre-adolescence, shortly after the participants' entry to care, and almost a decade before their young adult interviews. The study sought to contribute to the burgeoning literature by including: (1) both male and female participants, (2) participants who had attained permanency before age 18 as well as those who had emancipated from care, and (3) a multi-informant battery of measures, that included youth self-reports, caregiver reports and data from administrative records.

## Method

### Participants

Eligible participants included eight cohorts of youth (and their caregivers) who were enrolled in the Fostering Healthy Futures (FHF) study between 2002 and 2009 during pre-adolescence. Participants were recruited for the original study if they met the following inclusion criteria at baseline: (1) they were 9–11 years old, (2) had been court-ordered into out-of-home care within the preceding 12 months by participating county child welfare departments, and (3) they were living in out-of-home care at the baseline assessment. FHF enrolled 91% of all eligible children at this baseline interview. For the current study, 243 participants from the original FHF study who were between the ages of 18 and 22

were recruited as young adults (an average of 9.4 years after their baseline interview). Of the 243 participants recruited, 215 (88.5%) were re-interviewed. Of the 28 not interviewed, seven refused to participate, eight aged out of the eligibility criteria before they were able to be interviewed, and 13 were unable to be located or recruited. Nine participants who were interviewed in young adulthood were excluded from the current study's analyses because they were 12 years old at the baseline interview, they had not been placed into foster care due to maltreatment, or because their baseline data were invalid (due to difficulty understanding the questions and providing coherent responses). Thus, 206 participants were included in this study.

Almost half of the study participants identified as female (based on caseworker report at baseline) and the remainder as male (See Table 2 for demographic data). It was a racially and ethnically diverse sample with about half of participants identifying in young adulthood as Latinx/Hispanic, half as White, about a third as American Indian, and a little over a quarter as Black/African American (non-exclusive categories). Participants' mean age at baseline was 10.5 years old ( $SD=0.87$ ) and in young adulthood the sample had a mean age of 19.5 years ( $SD=0.92$ ). The majority of participants (89.0%) identified as heterosexual/straight in young adulthood. A quarter (25.2%) of the participants had emancipated from foster care.

### Procedures

The current study was approved by the university institutional review board. Written informed consent from legal guardians and youth assent were obtained prior to the baseline interview and participants provided their own consent in young adulthood. Both children and their caregivers were interviewed at baseline; in young adulthood, only participants were interviewed. Children and their legal guardians also provided assent/consent to obtain child welfare records, which were obtained at baseline for the current study. At baseline, children and their caregivers were interviewed separately by trained research assistants in a private place, typically at their residence. At follow-up, participants were usually interviewed in a public place with a private room (e.g., at a library, recreation center). Those who lived out of the area at follow-up were interviewed by phone. Participants received \$40 at baseline and \$100 at follow-up for the interviews. The data reported in this study are a subset of the data collected in the baseline and follow-up interviews.

## Measures

### Parenthood (dependent variable)

Parenthood was measured during the young adult interview from project-designed questions regarding pregnancies and their outcomes and information participants provided about their biological children. No male participants reported not knowing whether they were responsible for a pregnancy. Those participants (both males and females) who reported that any pregnancies ended in live birth(s) were asked to report on characteristics of their children, including the number, gender, age, and living situation of their offspring as well as whether or not they were providing financial support for their child(ren). Participants were also asked whether their child(ren) had ever been removed from their care by social services. Those data have already been published (see Combs et al., 2018).

The current study sought to predict young parenthood, defined as any pregnancy that resulted in live birth by the time of the interview, regardless of where the child was currently living. A quarter ( $52/206 = 25.2\%$ ) of participants had become a parent by the young adult interview. This was the primary dependent variable, but a second dichotomous dependent variable of parenthood was created that excluded participants who had not already become a parent but were currently pregnant or had a pregnant partner at the time of the interview ( $n = 5$  women and 10 men); this variable was only used in final analyses to determine whether the deletion of these 15 participants changed the regression findings.

### Demographic factors (control variables)

Demographic data used in this study included self-reported age, gender, and race/ethnicity.

### Family and child welfare factors (predictor variables)

*Placement factors and caregiver changes* Child welfare records and data from the pre-adolescent interview were used to code type of baseline living situation as either kinship care, non-relative foster care, or congregate care (which included group homes and residential treatment) and the number of caregiver changes (including changes both with and without social services involvement) the child had experienced prior to the baseline interview.

*Type of Maltreatment* Seven types of child maltreatment (physical abuse, sexual abuse, emotional abuse, failure to provide, lack of supervision, moral-legal maltreatment and

domestic violence exposure) were coded as absent=0 or present=1 (see Table 2 for rates). Moral-legal maltreatment is coded when a parent/caregiver fails to demonstrate care in assisting their child to integrate with the expectations of society by either exposing or involving them in illegal activities. Trained research assistants coded Child Protection Services' intake reports and court records of dependency and neglect petitions using a modified version of the Maltreatment Classification System (Barnett et al., 1993). The developers of the rating system report an overall kappa of 0.60 and adequate estimates of inter-rater agreement (0.67–1.0). All records were consensus coded by at least two trained staff, and discrepancies were resolved through consultation with one of the senior investigators.

*Family Risk Index:* A cumulative family risk index was developed using coding from child welfare records (described above). The seven items that comprise the index along with the percent of the sample with each indicator are shown in Table 1. The Family Risk Index was created by adding the dichotomous codes (0=no, 1=yes) of each of the seven items ( $M = 3.2$ ,  $SD = 1.6$ , Range: 0–7). Thus, each one point increase in the scale indicates an additional risk factor.

### School factors (predictor variables)

At the baseline interview, children were asked to list all the schools they had attended since kindergarten and the total number was calculated. Children also reported whether they had ever been suspended from school, that is, not allowed to attend for one or more days. This was coded as 0=no, 1=yes. Children's Sense of School Belonging was measured with the Psychological Sense of School Membership (PSSM) total scale, which is an eight-item, Likert-type scale that asks students to rate various statements about their school experience (e.g., "I feel like a real part of my school," "People at my school notice when I'm good at something"). Higher mean scores reflect a greater level of connectedness to school. Prior research has found this instrument to be a unidimensional construct across multiple cultural groups (e.g., Wagle et al., 2018) and to have good reliability ( $\alpha = 0.88$ ; Goodenow 1993). Finally, the Wechsler

**Table 1** Construction of Family Risk Index

Item Coded from Child Welfare Records Report	% with Indicator
Maternal alcohol abuse	32.5
Maternal substance use (other than alcohol)	71.7
Maternal criminal history	55.3
Maternal history of incarceration	22.8
Maternal domestic violence perpetrator	24.2
Maternal age at first birth below median of 19.8	51.9
Removed from single parent home	62.1

**Table 2** Demographic and Baseline Differences in Predicting Parenthood

	Total Sample (N=206)	Non-Parents (n=154)	Parents (n=52)	Chi-square value	t-value	p-value
<b>Demographic Factors</b>						
Baseline Age, mn years	10.5	10.4	10.7		1.9	0.05
Young Adult Age, mn years	19.5	19.3	20.1		5.0	<0.001
Male, %	53.4	57.1	42.3	3.4		0.06
Latinx/Hispanic, %	53.9	51.3	61.5	1.6		0.20
White, %	50.0	51.3	46.2	0.41		0.52
American Indian, %	29.1	26.0	38.5	2.9		0.09
Black/African American, %	26.7	29.9	17.3	3.1		0.08
<b>Family/Child Welfare Factors</b>						
Physical Abuse, %	28.6	29.9	25.0	0.45		0.50
Sexual Abuse, %	10.7	9.7	13.5	0.56		0.45
Failure to Provide, %	51.5	53.2	46.2	0.78		0.38
Lack of Supervision, %	82.5	83.8	78.8	0.65		0.42
Educational Neglect, %	29.6	29.9	28.8	0.02		0.89
Emotional Abuse, %	64.6	67.5	55.8	2.3		0.12
Moral Legal Maltreatment, %	35.0	31.2	46.2	3.8		0.05
Exposure to DV, %	56.8	59.1	50.0	1.3		0.25
<b>Type of Placement</b>				2.6		0.27
Kinship Care, %	50.5	50.6	50.0			
Foster Care, %	46.1	44.8	50.0			
Congregate Care, %	3.4	4.5	0.0			
No. of Caregiver Changes, mean	3.2	3.0	3.9		2.2	0.03
Family Risk Index, mean	4.1	3.1	3.6		2.1	0.04
<b>School Factors</b>						
Number of Schools, mean	4.4	4.2	5.2		2.3	0.02
Ever Suspended, mean	13.2	13.8	11.5		-0.18	0.68
Sense of School Belonging, mean	2.5	2.5	2.5		-0.03	0.98
Academic Achievement, mean	91.7	91.2	93.3		1.1	0.29
<b>Mental Health &amp; Attachment</b>						
Externalizing Problems, mean	62.1	61.6	63.7		1.1	0.27
Internalizing Problems, mean	60.7	60.6	61.0		0.19	0.85
Trauma Symptoms, mean	0.63	0.63	0.63		0.04	0.97
Attachment to Caregiver(s), mn	2.6	2.6	2.5		-1.4	0.18
Attachment to Birth Parent(s), mn	2.5	2.5	2.4		-0.74	0.46
Attachment to Peers, mean	2.6	2.6	2.6		0.22	0.83
<b>Attitudes/Appraisals</b>						
Religiosity, mean	2.7	2.7	2.7		-0.20	0.84
Future Orientation, mean	1.39	1.37	1.44		1.4	0.15
Global Self-Worth, mean	3.4	3.4	3.2		-2.1	0.06
Quality of Life, mean	2.7	2.7	2.7		-0.58	0.56

Individual Achievement Test II Abbreviated (WIAT-IIA; Psychological Corporation, 2001), a standardized measure of academic achievement, was administered to children at the baseline interview. The WIAT-IIA was normed on a sample that was nationally representative of age, gender, race/ethnicity, geographic region, and parent education level. The total score, comprised of three subtests (Basic Reading, Mathematics, and Spelling), was used in analyses. Higher scores indicate greater achievement.

### Mental health and attachment (predictor variables)

Mental health and social functioning were assessed using child- and caregiver-report measures at baseline. The Child Behavior Checklist (CBCL), a widely used, standardized measure that has previously exhibited good psychometric properties in diverse samples of children, was used to measure internalizing and externalizing symptoms (Achenbach & Rescorla, 2001). The child self-report Trauma Symptom Checklist for Children (TSCC; Briere 1996) is a 54-item measure of posttraumatic stress and related symptomatology



that was normed on a racially and ethnically diverse sample of children. The mean TSCC score was used as a predictor in the current study. The short form of the Inventory of Parent and Peer Attachment (IPPA) was used to measure attachment (separately) to substitute caregivers, birth parents and peers (Armsden & Greenberg, 1987; Gifford-Smith, 2000). The IPPA-Short Form demonstrated high internal consistency with a diverse sample.

### Attitudes and appraisals (predictor variables)

All attitude and appraisal measures were based on youth self-report, multi-item likert-rating scales that were averaged. Religiosity was assessed with a 3-item measure from the Adolescent Risk Behavior Survey (ARBS; Taussig 1998) that asks children how important it is to them to believe in God when facing a problem, pray when facing a problem and go to religious services. Future orientation was also measured with a scale from the ARBS. The scale asked children about the likelihood that they would experience various future accomplishments (e.g., graduating high school, be successful if they work hard). Global Self-Worth was measured with The Self Perception Profile for Children (Harter, 1982, 1985), a widely-used measure of perceived self-esteem. Finally, quality of life was operationalized using the Life Satisfaction Scale (Andrews & Withey, 1976) which asks respondents to rate satisfaction in several different domains (e.g. school, home, health, friendships, leisure activity).

### Analytic Method

To examine bivariate predictors of parenthood by demographic factors, child welfare/family variables and psychosocial constructs, *t*-tests and chi-square tests were conducted. Demographic predictors significant at  $p < .10$  were identified as control variables to be used in regression equations predicting parenthood. Next, each child welfare, family or psychosocial predictor that was significant in the bivariate analyses (at  $p < .10$ ) was entered into a separate logistic regression equation to determine whether it was still a significant predictor of parenthood over and above the demographic control variables. Then, an ‘omnibus’ logistic regression that included all the significant bivariate predictor variables examined which variables were significant over and above all others in the model. A final set of analyses conducted the same primary analyses with the alternate dependent variable of parenthood that excluded participants currently experiencing a pregnancy who were not yet parents.

## Results

### Bivariate predictors of parenthood

As shown in Table 2, older age at both the baseline and young adult interviews was associated with a greater likelihood of being a parent. There was a trend for males to be less likely than females to be parents in young adulthood. In terms of race/ethnicity, there were trends for those who identified as American Indian to be more likely to have become a parent and for Black/African American youth to be less likely. There were no differences among participants who identified as White or Latinx/Hispanic. Most types of maltreatment that were coded from child welfare records at entry to care were unrelated to parenthood, with the exception of moral-legal maltreatment, the presence of which was associated with higher rates of parenthood. Moral-legal maltreatment is defined as a parent/caregiver either exposing or involving their child in illegal activity or other activities that may foster delinquency.

As also shown in Table 2, type of baseline placement (kinship care, foster care, congregate care) was unrelated to young parenthood, although none of the seven children living in congregate care at baseline went on to become parents. The number of caregiver changes a child had experienced before the baseline interview, both with and without social services involvement, was positively associated with parenthood. The family risk index was a strong predictor of young parenthood.

Four school factors were examined, but only number of schools attended predicted parenthood. School suspensions, sense of school belonging, and academic achievement, all measured at baseline, were unrelated to later parenthood. In terms of mental health and attachment, neither the caregiver-reports of mental health and behavioral functioning, nor the youth reports of trauma symptoms or attachment to substitute caregivers, birth parents or peers, was associated with young parenthood. Finally, in examining children’s attitudes and appraisals, religiosity and quality of life were not associated with young parenthood, although there was a trend for youth with lower global self-worth to become parents by the young adult interview.

### Logistic regression results

Demographic factors associated with parenthood were entered into a series of logistic regression models to examine whether the family/child welfare or psychosocial predictors were significantly associated with parenthood above and beyond their influence. These control variables included age at young adult interview, gender, American Indian, and

Black/African American. Table 3 shows the regression statistics.

In the model examining the impact of moral-legal maltreatment over and above the control variables, youth who had experienced this type of maltreatment were twice as likely to be young parents. In the second logistic regression model examining the impact of caregiver changes, there was a statistical trend ( $p = .09$ ); each change in caregiver predicted a 14% increase in the chances of young parenthood. The model that included the family risk index demonstrated that this was a significant predictor of parenthood over and above the control variables, such that for each unit increase on the index, there was a 9 times greater chance of parenthood. In the fourth logistic regression model, each additional school change was found to predict a 15% increase in the chances of young parenthood. The impact of global self-worth was tested in the final regression equation and found to be a significant predictor after controlling for the demographic factors. Each unit increase in self-worth reduced the chances of parenthood by 50%.

A final, omnibus logistic regression included the four demographic factors as well as moral-legal maltreatment, caregiver and school changes, the family risk index, and global self-worth. Gender and the family risk index were significant, with global self-worth approaching significance. Females were 2.3 times as likely to have experienced early parenthood ( $B = 0.83$ ,  $SE = 0.41$ ,  $OR = 2.3$ ,  $CI: 1.0-5.1$ ,  $p = .04$ ). Each additional family risk factor increased the chances of parenthood by 8.4 ( $B = 2.12$ ,  $SE = 0.94$ ,  $OR = 8.4$ ,  $CI: 1.3-53.5$ ,  $p = .02$ ). Finally, there was a statistical trend for each unit increase in self-worth to reduce the chances of parenthood by 44% ( $B = -0.58$ ,  $SE = 0.30$ ,  $OR = 0.56$ ,  $CI: 0.31-1.01$ ,  $p = .055$ ).

The regression equations were conducted again with the alternate parenthood dependent variable that removed participants who were currently experiencing a pregnancy from the non-parent group. All findings were identical.

**Table 3** Logistic Regression Analyses Predicting Parenthood

Key Predictor Variable	B	SE	OR	CI	p-value
Moral-Legal Maltreatment	0.79	0.38	2.19	1.1–4.6	0.04
Number of Caregiver Changes	0.13	0.08	1.14	0.98–1.3	0.09
Family Risk Index	2.3	0.87	9.9	1.8–54.6	0.008
Number of Schools	0.14	0.06	1.15	1.0–1.3	0.02
Global Self-Worth	-0.69	0.28	0.50	0.29–0.87	0.01

Note: Each row represents a separate logistic regression model. Control variables in each model included age at young adult interview, gender, American Indian, and Black/African American; SE = standard error; OR = odds ratio; CI = confidence interval

## Discussion

Multiple studies have documented the association between foster care and teenage parenthood, however the field lacks a clear understanding of early predictors of parenthood in this population. The current investigation sought to begin to fill this gap in the literature by examining predictors of early parenthood in a sample of pre-adolescent children who recently entered foster care. This study demonstrated that a few key variables, measured an average of 10 years earlier, shortly after entry to foster care, predicted parenthood across gender. The strongest predictor of early parenthood was a cumulative measure of family risk. This included being removed from a single-parent home, as well as maternal history of substance use, violence, criminal activity, and young parenthood. This finding helps contextualize the somewhat surprising result of moral-legal maltreatment (i.e., exposing or involving children in illegal activities) being related to early parenthood.

The association of absent fathers and other parental risks with sexual health outcomes has been found in two other studies. First, a nationally-representative U.S. study of adolescents (not a foster care sample) found that greater biological father involvement was associated with fewer sexual risk behaviors across race (Alleyne-Green et al., 2016). Another longitudinal study using administrative data from California's foster care and birth records classified youth in foster care into groups based on a number of characteristics related to their foster care experiences. Interestingly, they found that group with the highest rate of teen parenthood also had the highest rate of caregiver absence/incapacity as the reason for removal from the home. Caregiver absence/incapacity is often noted as a reason for removal when parents are struggling with substance use or incarceration (King et al., 2019). Thus, our findings regarding the association of family (and especially maternal) characteristics with young parenthood complement those of a study using very different methods. Continued research is warranted to better understand what about parental absence and incapacitation may, over and above the other issues faced by children in care, increase the chances of early parenthood.

Instability in caregivers and schools, many of which occurred prior to placement in foster care, was also associated with parenthood. By the baseline interview, when children were 9–11 and had only recently entered care, they had already experienced over three caregiver transitions and four schools on average. Taken together with the parental risk associations, these findings mirror and extend those found in longitudinal studies of adverse childhood experiences (ACEs), which have shown a linear relationship between ACEs and risky sexual behaviors (Shpiegel et al., 2017). What makes these findings particularly striking is

the impact of instability and parental challenges on children who had all experienced maltreatment and removal from their homes. Indeed, two-thirds of the youth in this study had been removed from single-parent homes, half of these children's mothers had a teen birth, and high percentage of their mothers experienced substance use and/or incarceration. Shpiegel et al., (2017) reported that caregivers who struggle with substance use and mental health problems may confer risk for youth in care or returning from care and called attention to the fact that ACEs, which includes parental incarceration, is associated with higher rates of risky sexual behavior, pregnancy and parenthood.

A second major finding was the lack of replication of other frequently identified correlates of sexual health outcomes, such as sexual and physical abuse, congregate care, non-relative foster care, school and academic difficulties, mental health and behavior problems, religiosity, future orientation and quality of life. There are several possible reasons for the discrepancy in findings. First, most other studies looked at possible predictors concurrently, generally in all-female samples, and typically used solely self-report measures to assess psychosocial functioning. The current study examined early potential predictors among both males and females using self- and caregiver reports, as well as child welfare records. It is possible that those correlates found to be important in other studies occur or emerge later in development, and may even emerge after becoming a parent. In addition, the current study included many young people who had experienced permanency prior to age 18, whereas other studies generally examined the interrelationship of constructs among young people still in out-of-home care or those who emancipated from care. Our study's findings replicate those of a study that examined age-17 predictors of age-19 pregnancy and parenthood for both males and females transitioning from foster care. The study found that a history of mental health disorders, maltreatment type, academic achievement, extracurricular activity involvement, placement type, and religious beliefs/behaviors did not predict pregnancy or parenting (Matta Oshima et al., 2013).

The one important psychosocial correlate that was associated with less likelihood of parenthood was higher self-worth. Although few quantitative studies have examined self-esteem as a predictor, Winter et al., (2016) identified low self-esteem as being associated with sexual risk behaviors. In a meta-synthesis of qualitative studies, Connolly et al., (2012) observed that many of the young women who featured within the research studies "linked their sense of self-worth to becoming pregnant or having a child," (p. 628) with parenthood providing a meaningful role and identity.

## Limitations

Despite the strength of the design, there are several limitations of the study. First, because so many potential predictor variables were examined without any adjustment, there is heightened potential for Type I error. For these reasons, actual *p*-values were provided so that the reader could derive their own conclusions about statistically significant results. Second, it was beyond the scope of the present study to examine gender or racial/ethnic differences in predictors. Prior research has identified differences in predictors of sexual risk behavior, pregnancy, and parenthood as a function of gender and race/ethnicity and future investigations should examine these potential differences, as they have implications for sexual and reproductive health programming for this population.

Because this was an exploratory study that used secondary data, theoretical frameworks did not drive the selection of measures or the timing of interviews. Future examinations of early predictors should be grounded in theory and examine the longitudinal relationships between key predictors and early parenthood, as the relationships between these constructs are likely to change over time. Other limitations include the fact that this study was unable to examine whether becoming a parent was planned prior to pregnancy or at what age participants became a parent. Parenthood was also self-reported and males may not have been aware of their status. The cumulative family risk index was comprised of multiple indices that are often highly overlapping in families, so caution in interpreting the linear results is warranted. In addition, this study was conducted in one U.S. state and the findings may not be generalizable to out-of-home care populations in other states and nations. Finally, despite the fact that this was a prospective study, no causal inferences can be made, and none of the findings should be interpreted as such.

## Conclusions and implications

In considering the implications of our findings, we consulted with the Welsh Children's Social Care Research and Development Centre's (CASCADE) research advisory group of parents. The newly formed group builds on previous work within CASCADE to embed the voices of 'experts-by-experience' (Preston-Shoot, 2007) into the research process, from generating research ideas and informing design, through to analysis, interpretation (as in the current study) and dissemination (see Staples et al., 2019). The research advisory group members have a collective wealth of experience, including young parenthood, experiences of maltreatment and out-of-home care. All parents have experienced



child welfare involvement with respect to their own children, including both temporary and permanent separation. The consultation sessions provided a valuable steer in critically considering the utility of the analysis and the potential implications for policy and practice, described below.

The results of this study suggest that children who have experienced substantial instability and parental loss, and who have been exposed to mothers with substance use and criminal involvement, are at heightened risk for parenthood regardless of gender. Such findings make an important contribution to the evidence base, which has long made connections between young women's early experiences and parenthood trajectories. Again, we acknowledge that early parenthood is not necessarily an adverse outcome; whether planned or unplanned, parenthood has the potential to be a positive experience, observed as calming (Chase et al., 2006) repairing (Maxwell et al., 2011), stabilizing (Connolly et al., 2012), and/or a 'turning point' for change (Barn & Mantovani, 2007; Haight et al., 2009). Nevertheless, efforts to reduce teenage parenthood reflect concerns that incidents are both a marker of "social and economic disadvantage and a cause of further disadvantage, emotional and physical health problems" (Cook & Cameron, 2015, p. 243). For those with out-of-home care experience, such risks are compounded by existing disadvantage linked to this status (Social Care Institute for Excellence, 2004), with previous research showing the propensity for stigma, discrimination and disadvantaged access to support and resources (Roberts, 2021). Consequently, we believe that identifying correlates at entry to care is important for prevention efforts and the encouragement of young people starting families of their own at a time and in circumstances that are right for them.

While recognizing the important contribution of this analysis, the policy and practice implications are complex. Stigmatization is often central to young people's care-experience, with a tendency to conceive of young people seen as 'different', 'troubled' and 'of concern' (Dansey et al., 2019; Mannay et al., 2017; Rogers, 2017). Viewed positively, we believe our findings have the potential to help combat stigma. Factors reflective of birth family problems and behaviors were identified as significant in parenthood outcomes, as opposed to psychosocial issues intrinsic to the young person. The findings therefore suggest that labeling children with mental health, behavioral or school problems at entry to care as 'at risk' for young parenthood would be misguided. Yet, while we would caution against broad-brush labeling and assumptions of young people's trajectories, we would not wish for the findings to be used to undermine calls for improved sexual health advice and support for all young people in out-of-home care. There is consensus across the literature regarding the need to strengthen access

to, understanding, and use of sexual health advice and contraception (Fallon & Broadhurst, 2015; Winter et al., 2016).

Reflective of these tensions, we are similarly cautious in calling for more targeted intervention. Used sensitively, the results have the potential to ensure support to young people who need it, which addresses and responds to core needs and individual histories. For example, Purtell et al., (2020) have called for further research into the influence of grief and loss, notably ambiguous loss and disenfranchised grief, on pathways to early parenthood. Our findings lend support to such a call and highlight important opportunities for early intervention and prevention, as the seeds of an 'emotional void' (Connolly et al., 2012) may have been sown through early experiences of absent and risky parenting, combined with instability and disruption. Viewed in this way, timely support in the form of evidence-based therapeutic interventions which allow young people to express and process their experiences and boost their sense of self-worth, may prove effective responses in both the short and longer term.

While the potential of this research to drive sensitive interventions for youth in care was seen as positive among members of the advisory group, we also acknowledge the potential for unintended consequences (Evans et al., 2015). For example, the suggestion that young people require therapy is somewhat at odds with the findings showing parenthood trajectories were predominantly influenced by external factors related to birth family problems and behaviors. Moreover, the results reinforce the influence of the child welfare system to compound or mitigate early adversity; aside from the notable exceptions outlined above, predictions of who would become a young parent largely could not be made based on identified mental health, behavioral, or school problems. In this way, there is a need to be mindful of unwittingly compounding stigma with the suggestion that young people require intervention and/or are in need of 'fixing'.

Related to this, feedback from the advisory group also prompted consideration of the context in which these findings would be interpreted and acted upon. The relentless demands on the child welfare system, combined with ever-scarce resources, raise concerns that the findings will not translate into meaningful solutions or support for young people. Yet, because some studies are finding that placement in care or spending longer time in care may reduce the chances of early parenthood (King, 2017; Shpeigel et al., 2021) the role of the child welfare system in providing intervention cannot be understated (Combs & Taussig, 2021).

We would like to conclude this paper with some clear recommendations for policy and practice but acknowledge that unanswered questions remain. The potential for compounding rather than mitigating stigma is particularly problematic and we would urge partnership working with

‘experts-by-experience’ (Preston-Shoot, 2007) in ongoing efforts to resolve these tensions. Our findings support recent efforts by the child welfare system to engage with families that are struggling *before* children are removed from the home. Such upstream engagement could address and mitigate the family factors that were found to be so highly associated with young parenthood. For example, it is hoped that the findings of this study will provide guidance to child welfare agencies in terms of the importance of engaging with parents who may be struggling in multiple ways and acknowledge and respond to parental absence. For youth who do enter care, research has previously highlighted stability in care, supportive relationships, access to sexual health advice, and educational engagement and aspirations, as important considerations linked to early pregnancy and parenthood (Connolly et al., 2012; Eastman et al., 2019; Fallon & Broadhurst, 2015; Gill et al., 2020; Mendes, 2009; Purtell et al., 2020; Svoboda et al., 2012; Winter et al., 2016). These factors are also within the realm of the child welfare system and should be prioritized in order to support young people’s healthy trajectories through adolescence and young adulthood.

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**Code Availability** Not available.

## Declarations

**Conflicts of interest/Competing interests:** The authors declare they have no conflict of interest.

**Ethics approval:** All procedures performed in studies involving human participants were in accordance with the ethical standards of the University of Colorado Multiple Institutional Review Board and the University of Denver Institutional Review Board, and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Consent to participate:** Informed consent/assent was obtained from all individual participants included in this study at each time point.

**Consent for publication:** Not applicable.

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