Mitigating Risks of Incarceration Among Transition-Age Foster Youth: Considering Domains of Social Bonds

Keunhye Park1 · Mark E. Courtney2

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Abstract
Transitioning to adulthood is difficult for young people aging out of foster care. Research shows that this population faces substantial challenges in trying to avoid legal system involvement during this difficult period of life. Seeking to improve our understanding of the protective factors that mitigate the risks of legal system involvement among transition-age foster youth, this study focuses on social bonds as predictors. Drawing from social control theory and using longitudinal foster youth survey data (n = 687), we explore two domains of social bonds (interpersonal bonds, institutional bonds) youth had at the onset of adulthood (age 17), and assess the association between domains of social bonds and later incarceration in early adulthood (between ages 17 and 21). While results provide no support for the significance of interpersonal bondedness, institutional bonds were significantly associated with decreased odds of later incarceration. This suggests that social bonds may be stronger for institutional domains than for interpersonal domains in helping youth to avoid later incarceration. These findings help explain why some youth navigate the transition to adulthood better than others with regard to legal system involvement, and inform efforts to develop policy and provide services more effectively. Implications and recommendations for the field and professionals are discussed.

Keywords Transition to adulthood · Foster youth · Social bonds · Legal system involvement

The transition from adolescence to adulthood is a crucial period of human development (Arnett, 2012). In typical industrialized societies, reaching adulthood is taking longer, demanding the mastery of many tasks to achieve adult status (e.g., school completion, occupation attainment, independent living, family formation) (Arnett, 2000; Arnett, 2012; Settersten, 2005). If becoming an adult is increasingly difficult for the general population, it is particularly hard for young people in foster care as they leave the system with limited skills for navigating transitional tasks on their own (Osgood et al., 2010). One possible explanation is that these youth lack the support families generally tend to provide to their children transitioning to adulthood (e.g., financial support, a living place, advice) (Courtney & Dworsky, 2006). Moreover, when foster youth are emancipated from care at age 18 or 21, they lose access to resources and services, as well as the social capital or connections necessary to live on their own (Greeson et al., 2015). Given these common barriers to reaching adulthood, it is no surprise that research finds many youth exiting the foster care system enter independence alone and experience marginalization from mainstream social systems (Courtney & Heuring, 2005; Mendes et al., 2012; Wade, 2008).

In particular, youth with foster care experiences face challenges avoiding legal system involvement during the transition to adulthood. Research suggests that in this stage, youth with foster care experiences are more likely than their peers without foster care experiences to become involved in the legal system (Cusick & Courtney, 2007; Cusick et al., 2012; Reilly, 2003; Vaughn et al., 2008; Widom & Maxfield, 2001). A few longitudinal studies show that about one-half are arrested or incarcerated during their transition to adulthood. For example, two panel studies found a 44% rate of self-report legal involvement before age 17 (Park et al., 2020) and an official arrest rate of 46% between ages 17 and 24 (Cusick et al., 2012) among youth transitioning from care to adulthood. Another study similarly found that 45% of the
youth aged 18–25 who had been out foster care for at least 6 months reported legal involvement (41% incarcerated and 26% charged with an offense) (Reilly, 2003).

Being involved in the legal system in early adulthood has adverse effects on future life opportunities. Having a criminal record increases disadvantages in vital domains ranging from college financial aid, professional licensure to public housing benefits (Crutchfield, 2007; Pager, 2003; Raphael, 2007). Furthermore, research shows that individuals with legal system involvement are less likely to complete an educational degree, work consistently, make adequate earnings, and develop social capital than those without legal system involvement (Chung et al., 2005; Holzer et al., 2003; Raphael, 2007; Uggen & Wakefield, 2005).

Laub and Sampson (2003) suggest that avoiding crime requires relationships and structures that can provide nurturing support and social control. To date, limited research has examined the influence of relational context (e.g., social bonds) on legal system involvement for youth transitioning from foster care to adulthood. Moreover, despite the importance of taking a longitudinal approach, few studies have investigated legal system involvement over time among transition-age foster youth. Drawing on social control theory, we used data from a longitudinal study of transition-age foster youth to compare social bonds between the interpersonal domain and the institutional domain at age 17 (baseline interviews), and then assess whether a risk of later incarceration between ages 17 and 21 (follow-up interviews) differs by those social bonds domains. In the context of a longitudinal research design, a primary advantage of using information on social bonds at the onset of adulthood (age 17) to predict incarceration at later ages is that the child welfare system is still well positioned to try to influence malleable risk and protective factors found to predict incarceration, whereas at later ages many youths have left care.

Background

Factors Associated with Legal System Involvement Among Foster Youth

Prior studies on legal involvement of young people in foster care identified several risk factors. They include demographic factors, such as being males and youth of color (Ryan et al., 2007; Vaughn et al., 2008); pre-care childhood experiences (e.g., histories of trauma and child maltreatment, poor family relationships, home issues of domestic violence and substance abuse) (Currie & Tekin, 2012; Cusick et al., 2012; Lee et al., 2015; Ryan & Testa, 2005; Sedlak et al., 2010); and child welfare placement context (e.g., placement instability, group home care) (Barth et al., 2010; Crawford et al., 2018; Ryan, 2008b). Moreover, research noted systemic inequality along the pathways into the legal system among youth in care (i.e., a foster care-to-prison pipeline) (e.g., Maynard, 2017). Studies suggest that the child welfare system’s bias in juvenile justice processing and the cumulative social disadvantage produced particularly for minority youth contribute to legal system involvement (Maynard, 2017; Ryan et al., 2007; Yang et al., 2017). While potential risk factors have been documented, less research has examined important protective factors, such as the social bonds or supportive relationships, among youth exiting foster care during their critical period of the transition to adulthood.

Social Bonds and Social Control Theory

Social control theory (Hirschi, 1969) offers a framework for understanding crime in relation to social bonds. It suggests that crime engagement stems from broken social bonds, and thus youth with strong social bonds experience a reduced risk for engaging in crime—the more extensive youths’ social bonds are, the less youth are likely to engage in crime.

We consider two key domains of social control theory focusing on relational and institutional contexts of transition-age foster youth. Adopting from two studies on social bonds among youth staying in foster care (Cusick et al., 2012; Ryan et al., 2008a), the first domain is interpersonal bonds (attachment to others) and the second is institutional bonds (commitment to social institutions). Interpersonal bonds refer to close connections with others that tie one to social control (e.g., beliefs in conventional norms, behavioral restraints) which, in turn, decreases the likelihood of committing crime (Thornberry et al., 1991). Institutional bonds are conceptualized as commitment to social organizations and engagement in conventional institutions (e.g., school, work, church). Hirschi (1969) hypothesized that when closely bonded to social institutions, “a person may be simply too busy doing conventional things to find time to engage in deviant behavior” (p. 22). Overall, the theory explains a necessary restraint, suggesting that the likelihood of avoiding crime is influenced by relational bonds and connections to conventional institutions. Based on this theory, the current study considers the potential for social bonds as a predictor and aims to advance knowledge by exploring different domains of social bonds.

Prior Research on Social Bonds Related to Legal Involvement Among Foster Youth

Positive effects of social bonds on legal system involvement are well documented in general research, but very few studies have examined salient social bonds among youth in foster care. Two studies provide notable insights, however. Ryan et al. (2008a) studying school-aged foster youth found that bonds to foster parents and religious practices reduced the risk of juvenile justice system involvement, while Cusick...
et al. (2012) studying transition-age foster youth did not find effects with any interpersonal bonds, but with institutional bonds (e.g., employment, postsecondary education) they discovered a reduced risk of later adult arrest.

These contrasting findings might result from differences in sample characteristics, measurement approaches, type of outcomes, or more importantly, the age-specific function of social bonds. The two studies examined different stages of the life course, which might have led to the greater differences in effective type of social bonds from youth-serving bonds (e.g., foster family) vs. adult-serving bonds (e.g., college education, employment). This motivates a question to examine: (1) how did youths’ social bonds differ across domains (interpersonal and institutional) at the onset of adulthood? and (2) did they equally matter for risks of incarceration at later ages?

To date, there has been less research on youth in foster care considering dimensions of social bonds (e.g., specificity, strengths), as well as how different domains of social bonds affect their involvement with the legal system. Thus, topics yet to be explored include the kinds of social bonds youth typically develop during their transition from foster care to adulthood, and the specific of social bonds that are more likely to prevent them from crime engagement.

**Longitudinal Research on Legal Involvement Among Transition-Age Foster Youth**

General research on crime patterns have established the classic age-crime curve during early adulthood (e.g., Farrington, 1986; Hirschi & Gottfredson, 1983; Piquero et al., 2003). A study following young people with criminal behavior over the life span (Laub & Sampson, 2003) showed a sharp increase in crime rates around age 17, followed by a constant decline throughout adulthood. While evidence for the typical crime trend for young adults has accumulated, whether this trend is invariant across youth in foster care is not yet fully known.

Looking at trend research on youth exiting the foster care system, a few studies have provided point estimates of prevalence over time. The Midwest Study (Courtney et al., 2010; Courtney et al., 2011), following a sample of over 700 foster youth between ages 17–25, depicted a gradual decline in legal system involvement. As youth entered adulthood, there were constant drops in rates of self-reported arrests. Another recent study using a sample of over 600 youth in the California foster care system (Park et al., 2020) observed a similar decline in self-reported justice system involvement, such that the rate of justice system involvement dropped by a half from age 17 to 21. These two studies show that a general declining trend in crime during early adulthood is replicated for a foster youth population. While these studies demonstrate overall trends, we know little about what factors observed at the onset of adulthood may account for differences in later legal involvement among transition-age youth in the foster care system.

**The Present Study**

While research has shown a general reduction in crime during early adulthood, potential protective predictors have not been closely examined among transition-age foster youth. Furthermore, there is limited information about how different domains of social bonds affect legal system involvement for youth approaching adulthood from foster care. This study compares different domains of social bonds as protective factors predicting risks of later incarceration, for a sample of youth transitioning to adulthood in the California foster care system. These approaches can provide a longitudinal view of legal system involvement, as well as specificity pertaining to how different domains of social bonds at the onset of adulthood might influence later involvement with the legal system. To improve our understanding of protective factors that could mitigate the risks of incarceration among transition-age foster youth, this study has the following two aims:

1) examine social bonds that can be identified based on the interpersonal domain and the institutional domain youth in the foster care system have at age 17 (Wave 1); and
2) assess whether risks of later incarceration at ages between 17 and 21 (Wave 2 and Wave 3) differ by two social bonds domains.

**Methods**

**Data and Sample**

This study draws data from the CalYOUTH study, which follows a cohort of adolescents in the California foster care system using in-person interviews at ages 17, 19, and 21 (Courtney et al., 2014; Courtney et al., 2016; Courtney et al., 2018). Youth were eligible for study participation if they met the following criteria: (1) in child welfare-supervised out-of-home care for at least 6 months and (2) age between 16.75 and 17.75 years at the time of the sample draw. Based on the number of youth who met the eligibility noted above within each county, the CalYOUTH study employed stratified random sampling design and oversampled participants from the strata (small counties) that had the fewer number of eligible youth to ensure they were represented in the study. This random sampling process yielded 880 potentially eligible youth to be considered for the sample, of whom 117 were eventually excluded from the final sample due to severe physical or mental health difficulties, incarceration or being absent from care without leave.
than minimal risk.

Of 763 eligible youth in the final sample who were reached out, over 95% completed Wave 1 interviews when most participants were 17 in 2012; 84% completed Wave 2 interviews when most participants were 19; and 85% completed Wave 3 interviews when most participants were 21. The analytic sample includes 687 youths who participated in any follow-up interviews (age 19 and 21). The majority of variables in the analysis had less than ten percent missing data, except for variables of incarceration (11.2% missing values), bonds to mother (13.5% missing values), bonds to father (25.9% missing values), and bonds to grandparents (13.5% missing values). Multiple imputation (MI) was employed to account for attrition and missingness. We compared the analyses using MI that accounted for attrition and missing values with the analyses using no imputed data. Since the results were very similar between two analyses, we present findings based on imputed data as the analytic sample would lose about 11% of youths on the outcome variable when not imputing missing values.

The survey questionnaire contained over 1000 items covering various topics to capture a range of youth functioning and life domains. Additionally, youth were asked questions about sensitive topics (e.g., legal system involvement) using the audio, computer-assisted self-interview (ACASI) by which they can respond to the questions privately. All procedures involving human participants were in accordance with the ethical standards of the institutional research committee (IRB) and approved by the IRB involving no more than minimal risk.

Measures

Outcome Variable (Aggregating Waves 2 and 3)

Later Incarceration

With advances in survey design and methodology using ACASI, self-reports of legal system involvement have been widely used in prior studies on youth with foster care experiences (e.g., Lee et al., 2012; Lee et al., 2015) and found to be valid and reliable information in general research when compared with official records (Ghanem et al., 2005; Thornberry & Krohn, 2000). During the baseline interviews, the youths were asked “Have you ever been confined in a jail, prison, correctional facility, or juvenile or community detention facility, in connection with allegedly committing a crime?” Thus, this variable captures any prior incarceration at or before age 17. And at age 19 and 21, youth in this study were asked whether they had spent at least one night in jail, prison, or another correctional facility since the time of their previous interview. Based on whether respondents reported incarceration at either or both the follow-up interviews (Wave 2 or Wave 3), one binary measure capturing later incarceration was created (1 = yes; 0 = no). The primary reason for focusing on incarceration as an outcome variable of legal system involvement is based on the practical consideration that while youth may be unsure whether an encounter with police was an arrest, they are very likely to know whether they spent a night in jail or prison.

Predictor Variables (Wave 1)

Building upon two studies of Cusick et al. (2012) and Ryan et al. (2008a), the predictors in this study include interpersonal bonds and institutional bonds of social control theory.

Interpersonal Bonds

Youth transitioning from foster care to adulthood may have connections with a variety of people, including birth family, caregivers, intimate partners, and professionals. Interpersonal bonds were measured using seven items. During the Wave 1 interview, youth were asked to indicate how close they felt to the following five people: birth mother, birth father, grandparents, siblings, and current caregiver using a four-point scale (1 = very close; 2 = somewhat close; 3 = not very close; 4 = not at all close). This scale was recoded into two categories measuring a positive response (1 = very close; 2 = somewhat close) and a negative response (3 = not very close; 4 = not at all close) to create five binary measures: closeness to birth mother, birth father, grandparents, siblings, and substitute caregivers (1 = yes; 0 = no).

Additionally, a measure of the status of romantic partnership was included in the analysis assessing whether youth were in a romantic relationship with a partner at the baseline interview (1 = yes; 0 = no). Respondents were also asked about social support. If youth nominated an individual as someone they could turn to when they were in need of help, a follow-up question was asked to classify the nature of youths’ relationships to that individual. Youth were able to nominate more than one person. The response options included 24 categories that covered friends, family, romantic partners, people linked to the youth’s foster care involvement, and various professionals. Professionals included caseworkers, therapists, teachers, school counselors, and other professionals. A binary variable for bonds to professionals was created based on whether youth reported they...
could turn to any professionals for their support (1 = yes; 0 = no).

Institutional Bonds

Institutional bonds were captured via two binary measures: school enrollment and employment. These measures were coded based on whether respondents were currently enrolled in school (1 = yes; 0 = no) and whether they were employed (1 = yes; 0 = no).

Other Covariates

Demographics

Other covariates included several Wave 1 demographic characteristics. Gender was included in the analysis as a binary variable (1 = male, 0 = female). Race and ethnicity were measured through four categories: White (reference group), African American, Hispanic, and other race (Asian, Pacific Islander, American Indian, Alaskan Native, multiracial). Age was captured as a continuous variable representing the age of respondents at the time of the Wave 1 interview, to control for administrative influence on respondents’ age at the time of interview. Age of entry into foster care was created as a continuous variable that captures youths’ age at the time of their first entry into care.

Maltreatment History Prior to Care

A total of 18 items were used to capture three domains of maltreatment: neglect, physical abuse, and sexual abuse. During the Wave 1 interview, respondents were asked whether they had ever experienced maltreatment by their caregivers before entering foster care, such as “caretaker failed to provide regular meals (neglect),” “caretaker ever repeatedly beat respondent (physical abuse),” or “respondent was ever raped (sexual abuse).” These items were converted to a score, and three summative measures were created for neglect (ranging 0–9), physical abuse (ranging 0–7), and sexual abuse (ranging 0–2), with a higher score indicating a more severe maltreatment history. The alpha reliability scores for the measures of neglect, physical abuse, and sexual abuse were 0.83, 0.88, and 0.78, respectively.

Family/Caregiver Background Prior to Care

Four items asking whether issues of substance abuse, domestic violence, criminal activity, and mental illness existed in youths’ home environments prior to their entry into care were coded dichotomously. These items were added to convert to a score on a scale of 0–4, with a higher score indicating greater prevalence of problematic issues related to family background. The alpha score for these measures was 0.68.

Behavioral Health Problem

The CalYOUTH study assessed the presence of behavioral health disorders for respondents. At the Wave 1 interview when most youth were at age 17, the Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID) was used. MINI-KID (Sheehan et al., 2010) is a brief, structured diagnostic assessment to identify the presence of several mental health and substance use problems. A binary variable was created based on whether youth screened positive for each of the following 10 behavioral health disorders (1 = yes; 0 = no): major depressive episode, manic or hypomanic episode, social anxiety, post-traumatic stress disorder (PTSD), psychotic thinking, conduct disorder, oppositional defiant disorder, attention deficit hyperactivity disorder (ADHD), alcohol abuse or dependence, and drug abuse or dependence. If youth did not meet the screening criteria for a positive diagnosis due to a “Don’t know/Refused” response, their responses were coded as a negative diagnosis (0 = no).

Placement Type

Extracting from state administrative data, a categorical variable was created to measure placement type at the Wave 1 interview using five categories: nonrelative foster home (reference group), relative foster home, group home, Foster Family Agency (FFA) home, and other placements (legal guardianship, independent living, adoptive home). Placement in FFA homes in California is supervised by nonprofit organizations that are licensed to provide therapeutic foster care as an alternative to group home care.

Placement Instability

Placement instability was coded as a count variable measuring total placements while in care at the time of Wave 1 interview, with a higher score indicating greater placement instability.

Time in Extended Foster Care Past Age 18

As of 2012, youth in California’s foster care system have an option to stay in care beyond their 18th birthday until their 21st birthday. A variable from state administrative data was used to measure the length of time youth had spent in foster care past their 18th birthday, to account for the extent to
which extended care support affects their later legal system involvement. For respondents who stayed in care past age 18, this measure was coded as a continuous variable indicating the total number of months they stayed in care beyond their 18th birthday. For respondents who left care prior to age 18, this measure was coded as “0”.

Any Prior Incarceration at Wave 1

To control for youths’ prior incarceration in the analysis predicting later incarceration, a binary variable was created based on whether youth reported ever being incarcerated prior to the time of their Wave 1 interview (age 17) (1 = yes; 0 = no). It is important to acknowledge the timeframe of incarceration differed between the baseline interview (any prior incarceration) and the follow-up interviews (incarceration since the last interview).1

Data Analysis

Survey weights were applied to analyses to adjust for sampling design and nonresponses. Findings report unweighted frequencies and weighted means, percentages, and odds ratios.

Bivariate Analyses

To investigate whether a risk of later incarceration differed by domains of social bonds at age 17, social bonds were compared within each social bond domain—interpersonal bonds and institutional bonds.

Regression Analyses

Logistic regression analyses assessed whether the risks of self-reported incarceration were predicted by social bonds across domains. The risk of later incarceration was estimated between ages 17 and 21 (Wave 2 and Wave 3), controlling for other covariates.

Results

Sample Description

As shown in Table 1, about three-fifths of the participants were female, and less than a half identified as Hispanic.

Youth were, on average, 17.5 years old at the time of their Wave 1 interview, and they first entered foster care around age 10, on average.

In terms of the interpersonal social bonds domain, bonds to substitute caregiver and siblings were most common (85.5% and 77.1%, respectively), while bonds to a birth father were least common (30.7%). More than two-fifths reported having an intimate partner and over one-quarter reported they could turn to professionals (e.g., caseworker, therapist) if they needed support. Regarding the institutional social bonds domain, the vast majority of youth were enrolled in school (90.5%), and about one-in-seven youths were employed.

The most commonly reported maltreatment type was neglect. With regard to family/caregiver problems prior to care, youth reported on average 1.8 problems, with the most prevalent problem being substance abuse (62.3%). About a half screened positive for either mental health or substance use disorder that was assessed at age 17 (49.1%). Regarding foster care environment, a FFA home was the most common type of placement at age 17 (31.2%). Youth had experienced, on average, five different placements at the time of the Wave 1 interview. The average time youth spent in extended care past age 18 was about 2.3 years. About one-quarter reported having been previously incarcerated at the time of the Wave 1 interview (25.3%). This number dropped by a half at each of the follow-up interviews at age 19 and age 21 (12.7% and 12.5%, respectively).

Regression Analysis

Bivariate analyses showed three salient bonds in predicting incarceration. Analyzing each social bond variable individually using logistic regression, Table 2 indicates that the estimated odds of later incarceration for youths who had bonds to a substitute caregiver at age 17 were 50% significantly lower than those for youth without such bonds ($p < 0.05$). Regarding the institutional domain of social bonds, two bonds were significantly associated with future incarceration: education and employment. Being enrolled in school at age 17 reduced the estimated odds of future incarceration by 63% ($p < 0.01$), while being employed reduced those odds by 54% ($p < 0.05$). Additional bivariate analyses on the association of later incarceration with all other covariates are presented in Table 3.

1 It is also important to note that our questions ask about incarceration rather than other aspects of justice system involvement (e.g., arrest or conviction). While it is possible that youth under age 18 in California can be tried as adults for serious crimes, a minor will stay under the supervision of the Division of Juvenile Justice in one of its facilities if incarcerated until reaching age 18, even if he or she is sentenced to adult prison.
Table 1  Descriptive statistics for independent and dependent variables (n = 687)

|                          | Age 17 (Wave 1) | Between Age 17 and 21 (Waves 2 and 3) |
|--------------------------|-----------------|--------------------------------------|
|                          | n/ mean/ SD     | n/ %                                  |
| **Demographic Characteristics** |                 |                                      |
| Gender                   |                 |                                      |
| Female                   | 410/ 60.2       | –                                     |
| Male                     | 277/ 39.8       | –                                     |
| Race/Ethnicity           |                 |                                       |
| Hispanic                 | 302/ 47.5       | –                                     |
| White                    | 160/ 17.8       | –                                     |
| Black                    | 101/ 17.3       | –                                     |
| Other                    | 123/ 17.5       | –                                     |
| Age at Wave 1 interview  | 17.5/ 0.01      | –                                     |
| Age of entry into foster care | 10.1/ 0.24   | –                                     |
| **Predictor Variables**  |                 |                                       |
| Interpersonal bonds      |                 |                                       |
| Bonds to mother          | 331/ 55.6       |                                       |
| Bonds to father          | 150/ 30.7       |                                       |
| Bonds to grandparents    | 349/ 57.9       |                                       |
| Bonds to siblings        | 524/ 77.1       |                                       |
| Bonds to substitute caregiver | 536/ 85.5     |                                       |
| Romantic partnership     | 295/ 41.4       |                                       |
| Professionals            | 194/ 27.6       |                                       |
| Institutional bonds      |                 |                                       |
| Education                | 619/ 90.5       |                                       |
| Employment               | 106/ 14.3       |                                       |
| **Control Variables**    |                 |                                       |
| Maltreatment history and pre-care family issues |       |                                       |
| Maltreatment history     |                 |                                       |
| Neglect scale (0–9)      | 1.8/ 0.10       | –                                     |
| Physical abuse scale (0–7) | 1.5/ 0.10     | –                                     |
| Sexual abuse scale (0–2) | 0.5/ 0.03       | –                                     |
| Family problem prior to care |           |                                       |
| Substance abuse          | 444/ 62.3       |                                       |
| Criminal records         | 361/ 53.2       |                                       |
| Domestic violence        | 306/ 41.0       |                                       |
| Mental illness           | 190/ 26.2       |                                       |
| Family problem scale (0–4) | 1.8/ 0.06     |                                       |
| Behavioral health issues (current) |       |                                       |
| Major depressive episode | 146/ 20.7       |                                       |
| Manic or hypom manic episode | 90/ 12.5      |                                       |
| Social anxiety           | 40/ 5.5         |                                       |
| PTSD                     | 54/ 7.5         |                                       |
| Psychotic thinking       | 55/ 8.3         |                                       |
| Conduct disorder         | 31/ 4.9         |                                       |
| Oppositional defiant disorder | 51/ 7.5      | –                                     |
| ADHD                     | 49/ 5.8         |                                       |
| Alcohol abuse or dependence | 97/ 12.3      |                                       |
| Drug abuse or dependence | 156/ 21.4       |                                       |
| Any behavioral health disorder | 350/ 49.1   |                                       |

Child welfare characteristics
Table 1 (continued)

| Current placement type at Wave 1 | Age 17 (Wave 1) | Between Age 17 and 21 (Waves 2 and 3) |
|---------------------------------|----------------|-------------------------------------|
| FFA home                        | 226 31.2       | – –                                 |
| Group home/residential treatment care | 150 23.4  | – –                                 |
| Kinship foster home             | 125 20.7       | – –                                 |
| Nonrelative foster home         | 122 16.8       | – –                                 |
| Other                           | 63 7.9         | – –                                 |
| Total placements before age 18  | 5.02 0.05      | – –                                 |
| Total months in care after age 18 | 27.0 0.62  | – –                                 |
| Prior incarceration before age 18 | 166 25.3  | – –                                 |
| Outcome Variable                |                |                                     |
| Incarceration since last interview measured at Wave 2 | 82 12.7 |                          |
| Incarceration since last interview measured at Wave 3 | 80 12.5 |                          |
| Any later incarceration (aggregated Wave 2 and Wave 3) | – – | 139 22.1 |

Table 2 Bivariate estimates of later incarceration from logistic regression for social bonds variables

| Odds Ratio | p-value |
|------------|---------|

**Interpersonal bonds**
- Bonds to mother (ref: no) 1.22 NS
- Bonds to father (ref: no) 0.97 NS
- Bonds to grandparents (ref: no) 1.45 NS
- Bonds to siblings (ref: no) 0.80 NS
- Bonds to substitute caregiver (ref: no) 0.50 0.018
- Romantic partnership (ref: no) 1.19 NS
- Professionals (ref: no) 0.94 NS

**Institutional bonds**
- Education (ref: no) 0.37 0.004
- Employment (ref: no) 0.46 0.031

The final regression model, which was consistent with bivariate results (Table 2). Additionally, due to collinearity between a total of 10 behavioral health measures and the large number of estimates we would add to our regression model by including these other measures, two measures of behavioral health disorder that were found to be associated with later incarceration are included in the final regression model.

Table 4 shows regression results predicting the odds of future incarceration: school enrollment at age 17 was associated with a 53% decrease in the estimated odds of future incarceration (p < 0.05), and being employed at age 17 was associated with a 57% decrease in the estimated odds of future incarceration (p < 0.01).

Nine other predictors were significantly associated with future incarceration: gender, race/ethnicity, age of entry into care, prior incarceration, history of sexual abuse, alcohol abuse or dependence, drug abuse or dependence, total placements before age 18, and time youth spent in extended care past age 18. Males had significantly greater estimated odds of incarceration by a factor of 4.4 (p < 0.001). Black youth had significantly greater estimated odds of incarceration than did White youth by a factor of 2.3 (p < 0.01). Age of entry into care and prior incarceration increased the estimated odds of future incarceration (OR = 1.04; p < 0.05). Young people who reported symptoms consistent with alcohol abuse or dependence (OR = 2.11; p < 0.01) and drug abuse or dependence (OR = 2.52; p < 0.001) at baseline had significantly greater estimated odds of future incarceration, compared to those who did not report such symptoms at baseline. History of sexual abuse prior to care increased the estimated odds of future incarceration (OR = 1.38; p < 0.05).

The total number of placements youth had before age 18 was positively associated with the estimated odds of incarceration (OR = 1.44; p < 0.01). In contrast, the time youth stayed in extended foster care was associated with lower estimated odds of incarceration: each additional month youth spent in extended care past their 18th birthday was associated with a decrease in the estimated odds of future incarceration by 5% (p < 0.001).

In the interest of helping clarify how gender and race/ethnicity might be associated with incarceration through
their associations with social bonds, we estimated regression models (not shown) that interacted gender and race/ethnicity with each social bond, respectively. With respect to gender, we found a marginally statistically significant interaction \((OR = 3.62; p = 0.079)\) between gender and employment at baseline in their prediction of incarceration; the protective effect of being employed at baseline was driven by the benefits for females, with little if any benefit for males. There were no interactions between gender and the other social bonds with respect to their associations with incarceration. We also found an interaction \((p < 0.05)\) between race/ethnicity and attending school at baseline in their prediction of incarceration; the protective effect of attending school was large for Black youth \((OR = 0.23)\) and the other race/ethnicity group \((OR = 0.23)\) and nonexistent for Hispanic youth, compared to White youth. There were no interactions found between race/ethnicity and the other social bonds with respect to their associations with incarceration.

**Discussion**

Our results provide contributions to the growing field of research on legal system involvement among youth making their transition to adulthood from foster care. Descriptive findings are consistent with previous research that documents the high prevalence of legal system involvement.
among older adolescents in foster care (e.g., Cusick et al., 2012; Lee et al., 2012; Lee et al., 2014). Similar to earlier research on general crime trends (Laub & Sampson, 2003), a downward trend in incarceration was observed among the foster youth population as they entered adulthood.

Furthermore, this study provides useful insights into predictors of legal system involvement. First and foremost, it is important to acknowledge gender and race. Consistent with prior research, we find that gender and race were strongly associated with incarceration for youth transitioning to adulthood from foster care. As is the case for the broader population and reflecting the consequences of structural racism in the United States, young men of color in foster care are particularly likely to experience incarceration during the transition to adulthood from care (Crawford et al., 2018; Cusick et al., 2012).

Our findings regarding the predictive power of social bonds provide information that may be useful with respect to practice, policy, and future research as described below. Overall, all institutional bonds at age 17 included in the study were associated with a lower risk of incarceration at later ages, while we did not find a significant association between all interpersonal bonds variables and later incarceration. This suggests that institutional bonds may be stronger than interpersonal bonds included in this study when it comes to helping reduce risk for incarceration for this population.

### Institutional Bonds

Results show that a constellation of institutional sources of social control (education, employment) may effectively mitigate incarceration as youth make the transition to adulthood from foster care. This is also in line with previous literature finding that long-term crime patterns cannot be well predicted by differences in childhood characteristics, but that the influence of important institutions helps to prevent crime in adulthood (Laub & Sampson, 1993; Laub & Sampson, 2003). This finding is promising for policymakers who advocate for fostering and promoting postsecondary and vocational education processes during the transition to adulthood in that increasing youths’ commitment to and engagement with normative social institutions may be more than simply going to school or work where such bonds can provide direct social control, bring a structured routine and stable role models, increase social opportunities and social networks to engage with other people (Cernkovich & Giordano, 1992), and through these mechanisms lead young people to avoid incarceration.

Findings regarding the protective influence of school and work as youth transition from care to adulthood provide support for the provisions of the Fostering Connections Act of 2008 that call for youth in care as young adults to be involved in school, work, or employment training to remain eligible for extended foster care. They also support efforts to address the health problems of youth in extended care that exempt them from the need to work or pursue further education; the sooner such health problems are addressed, often behavioral health problems, the sooner youth in extended care can get on with acquiring the human capital needed to thrive as young adults these days.

Furthermore, policy and practice efforts to support involvement of youth transitioning to adulthood from foster care in education and employment should account for our findings regarding how gender and race/ethnicity interact with institutional bonds with respect to youth incarceration. First, young women’s employment predicted later incarceration while young men’s employment did not. This finding calls for more research to better understand why employment, which has generally been found to reduce justice system involvement, does not appear to benefit young men aging out of foster care as much as it does women. But it also highlights the potential benefits of programs and practice focused on helping young women in care obtain and maintain employment, particularly given the fact that they were less likely than men in the current study to be employed at ages 19, 21, and 23 (Courtney et al., 2020). Second, our findings regarding the interaction of race and ethnicity with education in their relationship to incarceration are particularly encouraging with respect to Black youth; efforts to help Black youth finish high school and continue in postsecondary education have promise to help reduce their disproportionately high rate of involvement with the criminal justice system. At the same time, the fact that education had no association with later incarceration for Hispanic youth begs an explanation through further research, particularly when they make up nearly half of all youth in care in California and an increasing percentage of youths in care nationally.

### Interpersonal Bonds

Each relationship used to capture youths’ bonds to significant people is distinct (e.g., birth family, professionals, romantic partnership) and may have the potential to influence outcomes in different ways; thus the type of relationships may have different implications for services and engagement. We find that, with marginal statistical significance, only bonds to substitute caregivers appear to reduce the likelihood of incarceration. This finding may be encouraging in that youth who had strong relationships with adults they came into contact with from the foster care system (e.g., foster parents, group home staff) may be less likely to experience later incarceration. However, the absence of an association between all other major interpersonal bonds and incarceration needs careful interpretation. Our finding is consistent with one earlier study on transition-age foster
youth (Cusick et al., 2012) that failed to support the significance of interpersonal bonds in predicting later arrest, but it is contrary to general research and social control theory suggesting that strong interpersonal bonds should create an unwillingness to take risks and serve as a protective factor against crime. Although our study does not provide conclusive answers, some plausible explanations are noteworthy.

These require understanding the complex nature of relationships that transition-age foster youth typically have in their lives (Perry, 2006; Samuels, 2009). First, research has found an ambivalent function of the birth family for youth with foster care experiences; a birth family reconnection during the transition to adulthood, for instance, can create stress or anxiety due to unresolved issues between youth and family (Geenen & Powers, 2006; Iglehart & Becerra, 2002). Second, while not uncommon for young people leaving care to reconnect or renew relationships with their family of origin (most commonly with siblings and mothers) and receive practical support (Jones & Kruk, 2005), family connection was not related to further adult outcomes (e.g., housing, education, employment) (Wade, 2008). Thus, possible explanations might be that: (1) maintaining close family relationships does not alone provide direct effects or prosocial influences for young people aging out of foster care to avoid legal system involvement; or (2) interpersonal bonds are not stable and robust enough (i.e., dosage of influence) to blunt the risks of incarceration in the transition to adulthood.

**Limitations**

There are limitations of this study. First, estimates from the self-report measures of incarceration may be different from official records. However, this concern is somewhat abated by the results that our point estimate of youth reporting incarceration between ages 17 and 21 (24%) is consistent with prior research from the Midwest Study (19.2% incarceration at age 19; 29.7% incarceration at age 21 among transition-age foster youth) (Courtney et al., 2005; Courtney et al., 2007). Indeed, estimates reported in this study likely underestimate youth involvement in the legal system, due to the sampling process excluding youth who were incarcerated or had run away from care. Second, the “closeness” measures may not capture the total array of interpersonal bonds youth had with their birth family and caregivers. Third, interpersonal bonds in this study captured a variety of key relationships youth may have at the onset of adulthood, including birth families (mother, father, siblings, grandparents), substitute caregivers, romantic partnerships, and professionals, but these do not exhaust interpersonal relationships that could be relevant as protective factors (e.g., extended families, friends of family, godparents) in understanding risks of later incarceration. Lastly, given the rigorous sampling design employed by the CalYOUTH study, the study findings should be generalizable to transition-age youth within the California foster care system but may not represent the experiences of youth in other states.

**Conclusion**

Social support and social connections are a central part of child welfare services. As youth in care transition into adulthood, these connections become more important (Jones, 2014; Nesmith & Christophersen, 2014). While most attention and services provided to youth transitioning to adulthood from care tend to focus on connecting youth with housing or life-skills training, addressing birth family connections and developing and maintaining healthy relationships have not been a major focus of work for child welfare professionals (Courtney et al., 2015; Wade, 2008). Moreover, until relatively recently child welfare policy has emphasized rapid establishment of legal permanency for youth in care, with recognition of the importance of ensuring that youth in care are on track with respect to their education and preparation for employment being secondary considerations.

Our findings confirm the importance of institutional bonds in preventing incarceration for youth transitioning to adulthood from foster care and call for policy changes and practice to help strengthen those bonds for youth in care. Institutional bonds may be particularly important for policymakers and program developers to emphasize in their efforts to support youth transitions from care to adulthood to reduce their legal involvement. While public interest to improve youths’ postsecondary and employment outcomes has received increasing attention in recent years, policymakers could do more to support youths’ acquisition of human capital. Except for a one-time boost due to the COVID-19 pandemic, funding for the Chafee Education and Training Voucher (ETV) program (Children’s Bureau, 2019) has been between 50 and 60 million dollars per year for decades despite increases in costs of education and training and expansion of the age group eligible for the program. It is long past time for a significant augmentation of federal ETV funding. Expansion of funding for education and training should be accompanied by significant federal funding for and rigorous evaluation of model programs to support youths’ entry to and persistence in postsecondary education and their success in the labor market. There remains scant evidence of the effectiveness of existing programs (Courtney et al., 2017). Furthermore, social workers should encourage and facilitate, through coaching and referrals to relevant services, youth participation in education, employment, and programs that assist youth in pursuing education and work. There is a dearth of evidence-based interventions targeting employment and education for youth in care, so
service providers need to work with evaluators to develop and rigorously test the effectiveness of programs to support youth education and employment (Dworsky et al., 2014; Lansing, 2021).

Lastly, while our findings’ support for the importance of interpersonal bonds in preventing incarceration is limited, we do not believe that this means such bonds should be disregarded. The association between interpersonal bonds and incarceration is worthy of further research to inform policy and practice development. Youth reporting greater interpersonal bonds in preventing incarceration is worthy of further research to inform policy and practice development. Youth reporting greater interpersonal bonds than institutional bonds may be the group of young people who have relatively weak bondedness with institutions (e.g., a lack of professional support, detachment with the school or child welfare systems, disinterest in extended foster care) and therefore turn to other people for support. Policy provisions that ensure active outreach by professionals may be particularly important for those who have weak institutional bonds and therefore count on other people for resources in their early adulthood. If this is true, it requires social workers engage in practice informed by an in-depth understanding of a youth’s social network, to help youth develop healthy interpersonal bonds, improve kin relationship quality, and broaden informal and formal social networks that could support successful transitions to adulthood (Blakeslee, 2015). This likely calls for models of casework practice that differ considerably from the light-touch, one-visit-per-month model of casework typically provided to minors in care. The federal government should lead the way by funding development and evaluation of specialized casework models for youth transitioning to adulthood from care (McDaniel et al., 2019).

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Data Availability The datasets generated and analyzed during the current study are not publicly available due to the review process required by the state social service agency that provided key study data, but may be available from the corresponding author pursuant to obtaining permission from that government agency.

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

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent Informed consent was obtained from all individual participants included in the study.

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