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Institutional Predictors of Developmental Outcomes Among Racially Diverse Foster Care Alumni

Antonio R. Garcia,
University of Pennsylvania

Peter J. Pecora, and
Tracy Harachi

Eugene Aisenberg
University of Washington

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In 2010, over 408,000 children were in foster care. Yet the child welfare system, despite its tireless attempts to ensure safety, permanency, and well-being, faces much criticism as children's very basic needs continue to go unmet (US Department of Health and Human Services; USDHHS, 2011). This is particularly evident for the over 61,000 16- to 20-year-olds who exited the foster care system that same year (USDHHS, 2011). Compared to the general population, former recipients of foster care (alumni) are less likely to complete high school and more likely to rely upon public assistance and experience periods of homelessness and unemployment after leaving care (Collins, 2001; Courtney, Dworsky, Lee, & Rapp, 2009; GAO, 1999; Harris, Jackson, O'Brien, & Pecora, 2009; Pecora et al., 2010; Southerland, Casanueva, & Ringeisen, 2009). Moreover, prior research shows that foster care alumni are more likely to suffer from persistent mental illness and substance abuse relative to those with no foster care history (Courtney & Dworsky, 2006; Kessler et al., 2008; Massinga & Pecora, 2004; Pecora et al., 2010). Other challenges facing young adults aging out of care include higher rates of criminal justice involvement, delinquency, and teen pregnancy compared to the general population (Courtney & Dworsky, 2006; Southerland, Casanueva, & Ringeisen, 2009; Vaughn, Shook, & McMillen, 2008). While these studies provide valuable contributions to informing research and practice strategies, very few of them have critically examined developmental outcomes among foster care alumni of color (Harris et al., 2009; Harris, O'Brien, Jackson, & Pecora, 2010). Thus, while children of color are overrepresented in the child welfare system (Hines, Lemon, Wyatt, & Merdinger, 2004; Roberts 2002), most of the research and child welfare practice implications do not speak to their experiences because of a lack of reporting.

Conceptual Framework

The Latino Child Welfare Research and Practice (LCWRP) Model is intended to serve as a tool to guide future scholars in conceptualizing the multidimensional contextual factors that contribute to Child Protective Services intervention and inequitable permanency outcomes

among Latino children and families (see Garcia, 2009). The current study focused primarily on predictors within the “institutional” domain of the LCWRP model, which as Garcia (2009) explains, considers “the institutional forces (i.e., the agencies that clients come in direct contact with) that shape, govern, regulate, restrict, and reinforce marginality, racism, and inequitable outcomes in child welfare and service delivery” (p. 1246). While the LCWRP Model is not explicitly intended to focus on the experiences of adults who were formerly placed in foster care, it served as a tool to critically think through which institutional factors may impact their development. A conceptual framework elucidating the specific predictors informed by the LCWRP’s institutional domain is illustrated in Figure 1, and the key elements of the framework are discussed below.

Figure 1 also highlights the three developmental outcomes that were the primary focus of this study: (a) being diagnosed with at least one mental health disorder, (b) not participating in the labor force, and (c) lack of high school education. In previous studies, these outcomes were operationalized as indicators of experiencing hardship among foster care alumni (see Pecora, Kessler, et al., 2006; Pecora, Williams, et al., 2006; Courtney & Dworsky, 2006).

Child Welfare Postplacement Characteristics

Placement Instability

Moving from one home environment to another is an all too familiar experience for youth who are in the foster care system. The number of placements children in foster care experience varies widely from one geographic locality to another. For example, James (2004) found that foster children in San Diego County’s child welfare system experienced an average of nearly three placement changes within an 18-month period. According to a report released by Pecora, Kessler, et al. (2006), foster care alumni endured an average of 6.5 placements while in care, with a mean placement change rate of 1.4 placements per year. Further, in an innovative study examining racial and ethnic differences in placement instability, White and colleagues (2008) found that Latino and Caucasian foster care adolescents experienced a significantly higher number of placements than African American youth.

The lack of stability compounds the sense of loss as a result of leaving behind relatives, educational supports and services, and familiar community ties, peers, and mentors (Festinger, 1983; Ryan & Testa, 2004). While placement instability has been linked to negative educational (Pecora, Williams, et al., 2006) and mental health outcomes (Ancil, McCubbin, O’Brien, & Pecora, 2007; White et al., 2009), no research to date has examined these relationships among foster care alumni of color. Using the LCWRP as a framework, the current study will determine what factors within the institutional domain of the model impact alumni odds of experiencing negative developmental outcomes during their adulthood.

Circumstances of Exit

In 2009, nearly 28,000 foster youth emancipated (USDHHS, 2011), and as reported by Samuels (2009), many of these youth were confronted with the hardships of establishing some form of permanency and familial stability in their lives. Other adolescents, despite the challenges they encounter in gaining and maintaining meaningful relationships, are fortunate to exit the foster care system with legal permanency. For example, 42% of the 203 12- and 13-year-olds who were placed in out-of-home care in Cook County, Illinois in June 1997 were either reunified, adopted, or under the guardianship of a caregiver by the time they reached age 20 (Leathers, Falconnier, & Spielfogel, 2010). Whether establishing permanency increases the likelihood of experiencing positive developmental outcomes among foster care alumni of color, however, is unknown.

Institutional Factors

This article will also focus on whether their foster care experiences (i.e., access to service and resources while in out-of-home care, subjective preparedness to leave foster care, and satisfaction with the foster care system) uniquely predict mental health outcomes, labor force participation, and high school completion (see Figure 1).

Service Access and Preparation for Leaving Care

Results of the analysis provided new insights about alumni of color's perceptions of how accessible resources were to them and how prepared they felt to leave the child welfare system. Prior research demonstrates that "preparation for self-sufficiency is enhanced by the provision of the following services: job readiness, educational support and tutoring, time management skills, money management skills, career pathway exploration, access to community resources, parenting education and skills development, and education about sexual health and planning" (Daining & DePanfilis, 2007, p. 1171). Other studies suggest receiving independent living services improves mental health outcomes (Ancil et al., 2007) and having access to tutoring and mental health services while in foster care decreases the likelihood of depression among foster care alumni (White et al., 2009). While several studies (e.g., Pecora, Kessler, et al., 2006; Pecora, Williams, et al., 2006) report that independent living training and having resources upon leaving care (e.g., cash, driver's license, dishes and utensils) decreases negative educational and financial outcomes among foster care alumni, the current analyses will determine whether utilization of these and other resources and services while in foster care impacts developmental outcomes differentially between Latinos, African Americans, and Caucasians.

Satisfaction with Foster Care

Children subjected to abuse and neglect and subsequently placed in foster care are at a greater risk for suffering from attachment related disorders compared to child nonwelfare populations (Palmer, 1996; Pearce & Pearce, 2001; Tremblay, 1999). Children who have been maltreated endure many of the "most intense emotions during the formation, the maintenance, the disruption, and the renewal of attachment relationships" (Bowlby, 1980, p. 40). However, it is widely agreed upon by scholars (e.g., Courtney & Dworsky, 2006; Pecora, Williams, et al., 2006) that providing foster youth with a stable, safe, and loving environment can potentially have a lasting and lifelong positive impact on their lives and their ability to overcome adversity (e.g., negative attachment patterns). For example, Pecora, Williams, et al., (2006) report that having a positive relationship with the most prominent foster family (defined as the last stay, if 3 months or longer, or the longest placement) predicts high school completion. In addition, among foster care alumni with mental and physical impairments, Ancil et al. (2007) found that those who perceived their foster parents as helpful and supportive had higher self-esteem as adults. Pecora, Williams, et al. (2006) concur that these qualities (i.e., providing a nurturing foster family and a supportive agency environment) may help buffer the effects of experiencing child maltreatment. In line with the institutional domain's purpose to consider how systems of care respond to meeting the needs of vulnerable population, the current analysis will determine whether there are indeed different levels of institutional satisfaction and responses to care and advocacy (i.e., foster parent and social worker helpfulness) between Caucasians, African Americans, and Latino alumni, and if these levels subsequently impact their developmental outcomes as adults.

Objectives

As noted above, a growing body of research explores predictors of psychosocial outcomes among young adults formerly placed in foster care (e.g., see Anctil et al., 2007; Courtney, Terao, & Bost, 2004; Harris et al., 2009, 2010; Pecora, Kessler, et al., 2006; Pecora, Williams, et al., 2006; Pecora et al., 2010). However, studies that critically examine institutional predictors of developmental outcomes among foster care alumni of color are limited (Harris et al., 2009, 2010). To address this gap, the current study highlights findings from the National Casey Foster Care Alumni Study (NCFCAS) to address the following objectives: (a) determine whether or not postplacement child welfare case characteristics (i.e., placement instability and circumstances of exit) uniquely predict developmental outcomes among Latino, Caucasian, and African American foster care alumni, and (b) examine racial and ethnic differences in whether access to services, preparation for leaving foster care, and foster care satisfaction uniquely predict developmental outcomes, controlling for age, gender, and postplacement child welfare characteristics.

Method

Participants

Trained research assistants hired by Casey Family Programs (Casey) collected data from 1,582 case records for children and youth who had been served by Casey for at least 1 year in 13 states between 1966 and 1998. Professionally trained interviewers from the University of Michigan Survey Research Center conducted one-on-one interviews with 1,068 Casey alumni between 2000 and 2002. This study presents findings on the subsample of Latinos ($n=124$), African Americans ($n=140$), and Caucasians ($n=541$) who were interviewed in person or by phone for an average of 2 hours. (See Pecora, Kessler, et al., 2006; Pecora, Williams, et al., 2006 for further details on sampling methods and inclusion criteria).

Measures: Outcome Variables

High school completion—Foster care alumni were asked whether they received a high school diploma or GED. During data analysis, dummy codes were assigned, and in this case, those who did not receive the equivalency of a high school education received a score of 1.

Labor force participation—During interviews, alumni were asked if they were currently working for pay, looking for work or unemployed, retired, permanently disabled, a homemaker, a student, or “something else”. Those who were participating in the labor force, that is, working for pay as defined by the Bureau of Labor Statistics (U.S.D.L., 2010) at the time of the interview were dummy coded as 0, while all the other alumni were coded as 1 (i.e., no labor force participation). At the time of the interview, a total of 71 alumni reported being students. Of those alumni, 39 were also working for pay, and thus were included among those participating in the labor force.

Mental health outcomes—One of the outcomes examined in this study was whether alumni were diagnosed with at least one mental health disorder within the past 12 months (dummy coded as 0=no, 1=yes). Psychiatric diagnoses were assessed during the NCFCAS by relying on the 1996 version of the Composite International Diagnostic Interview (CIDI) 2.0 and sections of CIDI 2.1 and CIDI 3.0 (Pecora et al., 2003, 2005). The CIDI is a well known, validated, and reliable measure to diagnose mental health disorders (Wittchen, 1994; Wittchen et al., 1991) for research and clinical purposes (Wittchen, Kessler, Zhao, & Abelson, 1995) among racially diverse populations, including Latinos and Asian Americans (Alegría et al., 2007).

Measures: Predictor Variables

Placement instability—Placement instability was calculated using two sources of information: number of placements while in foster care and length of time in out-of-home care. The placement change rate was calculated by dividing the number of placements by the length of time in care. This variable was included in the analyses as a measure of placement instability. A higher placement change rate reflected greater instability while the alumni were in care.

Circumstances of exit—During case record reviews, data on how the alumni left the foster care system were collected. For the purposes of the NCFCAS, the circumstances were grouped together in the following manner: (a) independent living, which also included the opportunity to continue education, or enter the military or job corps, (b) living with family (living with former foster parents, returned to birth family, or were adoption), and (c) no permanency (group home, remanded back to the state, psychiatric hospital, incarceration, or runaway). Each of these three categories was dummy coded separately; 1 indicated that they experienced that circumstance at exit and 0 represented not having experienced that circumstance at exit.

During the design phase of NCFCAS, those who went on to pursue a higher education, joined the Peace Corps, or enrolled in the military ($n=61$)¹ were included among those who were living independently after leaving foster care. To consider the likelihood that this group may be more likely to experience positive developmental outcomes, particularly with respect to completing high school, they were excluded from a second set of regression analyses.

Access to resources—During interviews, participants were asked to indicate whether they had access to resources and services if they needed it while placed in their last foster care placement of 3 months or longer. These data were included in the analyses as separate predictors to assess access to (a) tutoring or other supplemental education services, (b) employment training or job location services, (c) independent living training groups or workshops, (d) mental health and/or group counseling, and (e) substance abuse treatment.

Agency preparation for leaving foster care—Three different measures were used to assess how prepared alumni were to leave foster care: (a) agency helpfulness, (b) access to tangible items when they left care, and (c) their own subjective rating of preparedness to leave the system.

Agency helpfulness—Respondents were asked whether the agency (i.e., the caseworker or foster parent) assisted them with obtaining a total of nine preparatory resources. These included, but were not limited to, help with obtaining basic needs (i.e., health records, job training, getting a job interview, public assistance, housing, health records, health insurance, finding contact persons, or other). The total number of ways in which they received help was added and a mean score was calculated.

Access to tangible resources—A mean scale score was also calculated based on the number of three tangible resources (i.e., having a driver's license, at least \$250 in cash, and dishes and utensils) each participant had when they left foster care.

¹Forty-four Caucasians (8.8%), 14 African Americans (10.4%), and 3 Latinos (2.5%) were included among those who either pursued higher education, enrolled in the military, or joined the Peace Corps.

Subjective preparedness—Participants responded to 16 items on a scale from 1 (*very prepared*) to 4 (*not prepared at all*) that cover a wide gamut of skills and abilities to gain and maintain self-sufficiency. Example items included: “ability to get a steady job and make money” and “job maintenance skills.” A mean score was tabulated for each participant after reverse scoring the responses. Cronbach's alpha coefficients were .93 (Latino), .93 (African American), and .94 (Caucasian).

Satisfaction with foster care—Respondents were asked to report on a 7-point Likert scale, 1 (*very strongly disagree*) to 7 (*very strongly agree*), how satisfied they were with their foster care experience, how helpful their foster parents were, and how helpful their social workers were while they were in foster care. A mean scale was created to reflect a total satisfaction score. Cronbach's alpha coefficients were: .67 (Latino), .73 (African American), and .80 (Caucasian).

Demographics—Demographic data, including gender and age at the time they were interviewed, were included in the analyses as control variables.

Analyses

First, frequencies were run on the predictor variables and the outcome measures (i.e., mental health, high school completion, and labor force participation) by race or ethnicity. A series of separate logistic regression analyses for each racial or ethnic group was then conducted to identify factors that uniquely predict developmental outcomes, controlling for age, gender, placement instability, and circumstances of exit for foster care.

Before conducting logistic regressions, methods to handle missing data because of nonresponse were implemented. As noted earlier, case records were available for the entire sample of 1,582 alumni, but only 68% ($n=1087$) of them were interviewed. The interview response rate, however, increased to 73% when the alumni who were not interviewed were subtracted from the original sample, because they were in prison ($n=55$), in psychiatric institutions ($n=11$), or deceased ($n=62$; Pecora et al., 2003). To address nonresponse, propensity score matching was used to weight the data by estimating a logistic regression equation that distinguished interview respondents from nonrespondents. Predictors included preplacement characteristics data (i.e., age at time of placement into foster care, gender, race or ethnicity, reason for placement into foster care) that were collected via case record reviews on the entire sample of 1582. Thus, the statistical weighting improved the probability of ensuring survey respondents had distributions on preplacement characteristics comparable to the original total sample. Ultimately, these methods improved the ability to generalize survey respondents to the entire sample of alumni who were in Casey foster care between 1966 and 1998.

Methods were also employed to address nonresponse on each of the predictor variables. Regression-based imputations were conducted using STATA statistical software to address complete nonresponse or missing scores. Rather than replacing a missing score with the overall sample average (i.e., mean substitution), which causes distributions to be more peaked at the mean, “regression-based imputations take better advantage of the structure in the data” (Kline, 2005, p. 54). Specifically, all of the missing values of a dataset were replaced with a predicted score generated by using multiple regression based on nonmissing scores on other variables that have no missing data. In this method, the mean parameters are correctly estimated for data missing completely at random (Kline, 2005; Sinharay, Stern, & Russell, 2001).

Not more than 5% of each of the predictor variables in the current study were missing. Variables that did not have any missing data and subsequently were used to generate a

predicted score on missing values included age at the time of the interview, gender, length of time in care, and number of placements while in foster care.

Results

Bivariate Findings

Table 1 highlights weighted frequencies for the study sample by race or ethnicity. Close to half of the Latinos, African Americans, and Caucasians were female. The mean age for each group was significantly different, $F=22.93(2, 801)$, $p<.001$. Tukey post-hoc comparisons of the three groups showed that Caucasians were older at the time of the interview than African Americans, $x=3.53$, 95% CI [2.19–4.88], $p<.001$, and Latinos, $x=2.38$, 95% CI [.970–3.79], $p<.001$. While a higher percentage of Latinos had no diploma or GED and were diagnosed with at least one mental health disorder compared to African American and Caucasian alumni, the differences were not statistically significant. However, a statistically higher percentage of Latinos (30.9%) were unemployed relative to Caucasians (22.4%), $\chi^2=3.96(1)$, $p<.05$.

Finally, Table 1 provides descriptive information on each of the predictor variables. With few exceptions, there were no racial or ethnic group differences in placement instability, service accessibility, and mean scores for subjective preparedness, agency helpfulness, and foster care satisfaction. Latinos were significantly less likely to have access to drug and alcohol services while in their last foster care placement compared to their Caucasian, $\chi^2=5.80(1)$, $p<.05$, and African American, $\chi^2=5.50(1)$, $p<.05$, counterparts. Moreover, there were racial and ethnic differences in accessing tangible items when leaving the foster care system, $F=2.99(2, 794)$, $p=.05$. Tukey post-hoc comparisons indicated that Caucasians had more tangible items than African Americans, $x=.082$, 95% CI [.002–.166], $p<.05$.

Multivariate Findings

Next, multivariate logistic regressions were conducted to examine institutional predictors (i.e., services access, preparation to leave care, satisfaction with foster care experience) of mental health, high school completion, and labor force participation outcomes. Results that were significant are reported here.

Predictors of not completing a high school education by race or ethnicity—

Table 2 highlights predictors of not completing a high school education for each of the racial or ethnic groups. Results showed that the odds of completing a high school education increased when Latinos and Caucasians left the foster care system living independently. However, African Americans who were living with family (vs. living independently) were more likely to complete high school.

Among African Americans, younger alumni were less likely to obtain a high school education. Results also indicated that the odds of receiving a diploma or GED decreased when placement instability increased among African Americans. On the other hand, when they felt better prepared to leave care and had access to mental health services while in their last foster care placement, the likelihood of completing a high school education increased.

For Caucasian alumni, the odds of receiving a diploma or GED increased when they reported having more access to tangible resources and mental health services during their last placement in foster care.

Predictors of not participating in the labor force by race or ethnicity—While a very limited set of institutional factors predicted labor force participation, it is worthy to note that living with family (compared to independent living) decreased Latino foster care alumni odds of participating in the labor force, OR=4.18; CI=.984–17.77, $p<.05$, but having access to drug and alcohol services increased their odds of working, OR=.330; CI=.107–1.02, $p<.05$. The overall model among African Americans was not statistically significant, and thus none of the predictors was significant. Among Caucasians, males were less likely to participate in the labor force than their female counterparts, OR =.528; CI =.342–.817, $p<.01$.

Mental health functioning by race or ethnicity—Table 3 highlights institutional predictors of being diagnosed with at least one psychiatric disorder within the past 12 months. African American and Caucasian males were less likely than their female counterparts to be diagnosed with a mental health disorder. Among Caucasians, the likelihood of being diagnosed decreased as they felt more prepared to leave foster care, but the odds increased when (a) placement instability increased, (b) they had access to drug and alcohol services and (c) received more help from the child welfare agency in obtaining resources to successfully transition into adulthood.

Among African Americans, the likelihood of being diagnosed with a mental health disorder within the past year decreased if they had access to independent living services and when they reported feeling more satisfied with their foster care experience, but the odds increased if they had access to employment services. Finally, the model for Latinos was not statistically significant, and thus none of the factors predicting mental health outcomes was significant.

Addressing confounding factors—As noted earlier, during the design phase of the NCFCAS, those who went on to pursue a higher education or who joined the Peace Corps or military were included among those who were living independently. To address potential confounding factors in the current analyses (i.e., the likelihood that including these alumni would greatly increase the odds of high school completion, participating in the labor force, or not being diagnosed with a mental health disorder), all the regression analyses were conducted again. After excluding the 61 alumni from the analyses entirely and changing the reference group to those who were living with family, results showed that there were no changes in which factors predicted mental health and labor force participation outcomes among Latinos, African Americans, and Caucasians. However, there were some significant differences in which “circumstances of exit” predicted high school completion. Among Latino and Caucasian alumni, not experiencing permanency (i.e., residing in group care, being remanded back to the state, psychiatric hospital, incarceration, or runaway) after turning 18 years of age was no longer significant in predicting whether they received a high school diploma or GED. The finding that independent living increased the odds of high school completion did not change among Latinos and Caucasians.

Discussion

The primary objective of this study was to determine which factors within the institutional domain of the LCWRP model uniquely predict developmental outcomes among Latino, Caucasian, and African American foster care alumni. As summarized in Table 4, results showed there were significant differences by race or ethnicity in what predictors contributed to high school or GED completion and mental health outcomes, even after controlling for gender and age at the time of the interview. Findings are interpreted within the context of highlighting implications for future child welfare research, practice, and policy.

Postplacement Characteristics

Placement instability—Prior research has shown that fewer placement changes increases the likelihood of completing a high school education among alumni of foster care (Pecora, Williams, et al., 2006) and decreases the number of psychiatric diagnoses into adulthood (Anctil et al., 2007). Similarly, this study found that African American alumni who experienced placement instability were less likely to complete high school or a GED, and that Caucasians were more likely to be diagnosed with a psychiatric disorder within the past year. These findings are consistent with previous research reviewed earlier in the article. What remains unknown, however, is why there was no significant relationship between placement instability and mental health or education outcomes among other racial or ethnic groups. It is worth considering that many other mediating and moderating factors (e.g., ability to trust a positive adult role model, familial connections, exposure to safe neighborhoods and schools, access to and utilization of services and community resources) may buffer the negative consequences of experiencing multiple placement moves. Future research is needed to illuminate which of these factors promotes stable and supportive out-of-home placement experiences and subsequently contributes to favorable educational and mental health outcomes among foster care alumni.

Circumstances of exit—Findings showed that how alumni exited the foster care system had a significant impact on whether they completed a high school education. African Americans who were living with family were more likely to receive a high school education, compared to those living independently. And, while previous research supports the notion that family disruption compromises their ability to succeed in school (Bruce, Naccarato, Hopson, & Morrelli, 2010), the current study's findings suggest that residing with a family is not as pertinent in achieving a high school education among other racial and ethnic communities. Specifically, living independently, as compared to living with a family or not achieving permanency, increased the likelihood of positive educational outcomes among Latino and Caucasian alumni. Did living independently, coupled with relying on other supportive networks, provide the stability they needed to achieve positive educational outcomes?

Surprisingly, circumstances of exit had no bearing on mental health outcomes. Prior research shows that young adults who develop and maintain positive relationships with their caregivers are more likely to be adopted (Leathers et al., 2010). However, it is unknown whether this causal relationship yields an indirect influence on alumni mental health outcomes.

Regardless of the circumstances, Avery and Freundlich (2009) argue that developing and enforcing policy to ensure youth aging out of foster care are connected to at least one caring, responsible adult is warranted. While it is unknown how many alumni in the current study remained in contact with a caring adult, future research is needed to disentangle the processes by which these nurturing and supportive relationships mediate or moderate developmental outcomes.

Institutional Factors

Service access—The current study sought to determine whether having access to services and resources while placed in foster care promotes positive developmental outcomes among Latino, African American, and Caucasian alumni. As highlighted in Table 4, results do not show a consistent pattern. Among Latinos, none of the services predicted whether or not they received a diploma or GED. However, African Americans and Caucasians who had access to mental health services during their last foster care placement were more likely to complete high school or GED.

A majority of the alumni in this study had access to independent living services (nearly 60% in each group) while in their last foster care placement. Yet while the likelihood of being diagnosed with a mental health disorder decreased when African Americans had access to independent living services, this finding did not emerge among Caucasians and Latinos. Previous studies show that access to independent living services predict better mental health scores (Ancil et al., 2007). Is it possible that some individuals who participated in the NCFCAS were more compelled to engage in independent living services? If so, what factors promoted engagement?

Unexpectedly, the odds of having a mental health disorder increased when (a) African American alumni had access to employment services, and (b) Caucasian alumni had access to drug and alcohol services. These findings should not inordinately imply that the services were ineffective, as it is common in program evaluation studies to find that the youth who receive extensive services sometimes experience the worst outcomes (Pecora et al., 2010). As a result of exposure to multiple forms and types of trauma and separation, some youth may need access to and utilization of ongoing services while placed in foster care and during their transition into adulthood (Garcia & Courtney, 2011).

Preparation to leave care—As documented in Table 4, some of the constructs that operationalize the influence of preparing to leave care were predictive of developmental outcomes among alumni. For example, feeling subjectively prepared to transition independently into adulthood increased the odds of high school completion among African Americans and promoted positive mental health outcomes among Caucasians. While previous research demonstrates that feeling prepared to exit care and having resources on hand at the time (e.g., cash, driver's license) decreases negative educational outcomes among foster care alumni (Pecora, Kessler, et al., 2006; Pecora, Williams, et al., 2006), this study did not detect this significant relationship among some racial and ethnic communities. Specifically, further inquiry to determine why there were not any significant relationships between preparation to leave care and developmental outcomes among Latinos is needed. Equally puzzling is the finding that being diagnosed with a mental health disorder increased when Caucasians received help from caseworkers and care providers to successfully transition into adulthood. Did their needs exceed what they could provide, or is it likely that feeling prepared to transition into adulthood may stem from other informal support systems (teachers, friends, mentors, and family members) that may decrease the odds of poor developmental outcomes?

Foster Care Satisfaction

Prior research has demonstrated that having a positive relationship with the most prominent foster family predicted high school completion among alumni (Pecora, Williams, et al., 2006). Surprisingly, results from this study showed that foster care satisfaction among Latino, African American, and Caucasian alumni did not predict high school completion. However, the odds of having a mental health disorder decreased when African Americans felt more satisfied with their foster care experience. While previous research supports this finding (Pecora et al., 2005), it is unknown why the logistical models did not detect this relationship among Caucasian and Latino alumni.

In sum, these results underscore the need to understand how teens and adults with prior system involvement operationalize satisfaction and helpfulness, as the current study may not have captured the true meaning of these constructs. Such efforts will help inform practitioners and researchers of the degree to which individuals' experiences with foster parents and social workers shape their educational aspirations and outcomes. Future research should be devoted to examining the direct and indirect pathways (e.g., self-esteem,

helpfulness, satisfaction with foster care) that contribute to positive outcomes among foster adolescents transitioning into adulthood.

Concluding Thoughts on Developmental Outcomes

As highlighted in Table 4, a decent number of the institutional factors were predictive of completing a high school education. These findings underscore the importance of devoting more research to understanding what resources and supports increase the likelihood of educational mobility. In a recent review of research examining the intersection of child welfare involvement and academic status, Trout et al (2008) concluded that a thorough examination of contextual factors underpinning academic functioning and performance is lacking. Specifically, they concluded that much of the extant research, including the NCFCAS, lacks complete information on specific academic skills, behaviors, and strengths (e.g., reading and math comprehension, school grades, teacher ratings). Other scholars (e.g., see Chapa & De La Rosa, 2004; Schmid, 2001) suggest that when examining predictors of educational attainment among Latinos, cultural values and practices and language proficiency must be considered. Because of the passage of the No Child Left Behind Act (2001), teachers and school administrators are more accountable than in previous years to promote positive educational outcomes. To abide by this important piece of legislation, the contextual factors that shape and motivate students' academic progress must be considered.

The current study also examined institutional predictors of labor force participation outcomes, to find that only a few of them were significant for Latino alumni. As demonstrated in Table 4, findings showed that Latinos who return to their birth parents or family or are adopted are less likely to participate in the labor force. Are they more likely to depend on familial supports to make ends meet? Do they attend to more familial obligations and responsibilities rather than working for pay? In addition, having access to drug and alcohol services increased the likelihood of Latinos' participating in the labor force. Future efforts should be devoted to understand the processes by which substance abuse services provide clients supports and resources to successfully transition into the workforce.

While interpreting these findings, it is important to recognize that many other circumstances, not accounted for in the current analyses, may have explained labor force participation outcomes among ethnically and racially diverse alumni. For example, African Americans' (13%) and Latinos' (13%) exceeded Caucasians' (9%) dependence on the welfare state to make ends meet. In addition, many of the alumni may have relied on spousal partners or other social support networks to thrive; in other cases, they may have been unable to gain employment as a result of a disability.

Finally, it is worthwhile to highlight that the overall statistical model for mental health status among Latinos was not statistically significant. One could speculate that the institutional predictors in the statistical model do not fully capture what might contribute to Latinos, and to some extent African Americans, being diagnosed with a mental health disorder within the past 12 months. Prior research suggests cultural insensitivity at provider and organizational levels – particularly lack of bilingual and bicultural trained mental health providers, bureaucratic and complicated intake procedures, long waits for appointments, and limited operating hours – may contribute to disparities in services access and utilization (Araújo & Borrell, 2006; González-Ramos & González, 2005; IHH, 2005). The degree to which these factors mediate and moderate mental health outcomes among Latino and African American foster care alumni is unknown and worthy of further inquiry.

Limitations

While this study offers a valuable contribution to prior research, there are several limitations that must be considered. First of all, it should be noted that the data presented in this study highlight foster care alumni who received a more comprehensive array of services (e.g., more one on one contact with caseworkers and access to services and resources) compared to those who were placed in a public foster care program. About 98% of the alumni had been served by a public agency prior to placement with Casey. In some cases, their public agency foster home traveled with them to minimize placement disruption. Thus, the results may not be generalizable to the experiences of alumni who were only served by the public child welfare system.

Secondly, while the NCFCAS dataset provides valuable information with respect to capturing the experiences of foster care alumni, inclusion of additional data could have enriched the current analyses. For example, no data was available on the impact of the agency's response to assessing and taking into account experiences of immigration, acculturation, nativity, and language on Latino adult outcomes in this sample. Moreover, the dataset did not allow one to investigate alumni perceptions of experiencing discrimination or daily microaggressions while placed in foster care or postexit. Was the child welfare agency held accountable to ensuring that the alumni cultural values, traditions, and beliefs were honored and taken into account when moving them from one placement to another? How do these factors play a role in mediating risk for poor developmental outcomes?

Thirdly, the original Casey study report did not include data about certain characteristics and predictors of mental health outcomes among the foster care alumni (e.g., which mental health disorders were more prevalent for males versus females and how these rates varied by ethnic group). However, in a recent study utilizing the NCFCAS dataset, Harris et al. (2010) examined the prevalence of various DSM mental health diagnoses. The only difference by racial or ethnic group was that Caucasian foster care alumni were more likely to be diagnosed with social phobia than African American alumni. However, no research was undertaken to examine prevalence rates of different DSM mental health disorders among Latinos. Future research is needed to better understand what factors or circumstances may decrease risk for mental health symptoms and disorders among foster care alumni of color.

Along those lines, the NCFCAS data available did not provide the opportunity to assess the quantity or quality of services accessed or utilized. At the time of interviewing, they were asked only what services they had access to during their last foster care placement. While inquiring only of their most recent placement may have reduced recall bias, it does not speak to the range or quality of services they received while in foster care to mitigate poor outcomes. This limitation underscores the need to conduct longitudinal studies that follow the trajectories of adolescents in the foster care system. Recent research shows that greater intensity of interorganizational relationships between child welfare and mental health providers may help improve children's access to service use and mental health well-being (Bai, Wells, & Hillemeier, 2009). To that end, future studies should explore how pathways to services and resources (e.g., how adolescents navigate services, the impact of cross system collaboration between mental health, education, child welfare, and juvenile justice) impact adult outcomes and reduce disparities in service access and utilization.

The design employed in the NCFCAS also lends itself to other limitations. First of all, as noted, recall bias could have impacted the results of this study. Many alumni had left out-of-home care 10 or even 20 years ago, and may not have been able to accurately recall or disclose some of their experiences. In addition, it is possible that many other confounding factors not explored in the analyses (e.g., divorce, conflict with family and friends, physical health, SES) may partially explain negative developmental outcomes. Moreover, the sample

sizes for Latinos and African Americans in this study are smaller than the Caucasian subsample. Therefore, it is a possibility that because of the larger Caucasian subsample, there may have been more statistical power to detect significant findings.

Finally, when interpreting these findings, it should be noted that the political landscape of the child welfare system was vastly different for many of the alumni in this study than it is today. In particular, the Adoption and Safe Families Act (1997), which requires states to file a petition to terminate parental rights for any child who has been in out-of-home care for 15 of the last 22 months, did not apply to most of the alumni in the current study. What is the impact of this act on developmental outcomes among teens of color who have slim chances of reunifying with their birth parents as a result of these stringent timelines – timelines that may not allow sufficient time for their parents to navigate through institutional and sociostructural barriers while working diligently to access and utilize court ordered counseling and other services that must be completed? Moreover, the Chafee Foster Care Independence Act (1999), which allows states to design enhanced programming in the areas of education, housing, life skills, and other needed supports (Collins, 2004), was not available for the individuals who participated in the NCFCAS. If actually implemented as intended, what impact does this program have on reducing disparate outcomes in accessing services and reducing negative developmental outcomes among alumni of color?

Concluding Remarks and Next Steps

While there are some limitations to the current study, the findings may inform the development and implementation of intervention and prevention programs and services to promote positive developmental outcomes among racially diverse foster care alumni. First of all, the LCWRP model illuminates multilevel dimensions of contextual characteristics that may impact the well-being of Latinos in the child welfare system. While the model is intended to address the experiences of Latinos, the model was also used as a means to contextualize which institutional predictors may be more salient in predicting developmental outcomes among African Americans and Caucasians. Future work to expand upon the model that more clearly elucidates pathways to positive developmental outcomes among youth and adults of color with prior system involvement is needed. Such efforts would move us closer to designing culturally sensitive, evidence-based interventions that increase the likelihood of (a) placement stability, (b) service access and utilization, (c) foster care satisfaction, and (d) thriving and successfully transitioning into a viable living arrangement after exiting the child welfare system.

This comes as no easy task, given that the results of this study do not paint a clear and consistent pattern of what predicts positive mental health, education, and labor force participation outcomes among Latino, Caucasian, and African American alumni. To that end, it is of upmost importance to develop, disseminate, and implement service interventions that facilitate well-being by means of establishing institutional norms and practices. Practitioners must conduct ecologically driven, culturally sensitive assessments to unearth the institutional factors that promote safety, stability, and successful transition into adulthood for each child placed in foster care, regardless of race or ethnicity.

Next steps should entail developing programmatic guidelines to ensure systems of care (i.e., mental health, education, juvenile justice, and child welfare) work jointly to reduce negative developmental outcomes among foster care alumni. Developing and implementing longitudinal studies that compare the experiences of youth in foster care who access and utilize tailored, coordinated services across systems of care with those who rely on “care as usual” are warranted. Study findings suggest that simply having access to services does not necessarily contribute to positive adult outcomes. Are youth and alumni actually using those services? Are they effective in ameliorating the effects of maltreatment and child system

involvement? Are youth in foster care motivated to engage in services, and if not, what factors promote motivation? Addressing these questions may provide practitioners and researchers the tools they need to assess and identify youth who utilize and engage in services.

In closing, study findings highlight the need to implement and disseminate culturally sensitive, evidence-based services and resources to ensure youth in foster care are better prepared to transition out of foster care and are provided tools and educational resources to navigate systems of care well into adulthood. Casey Family Programs already has “established structures (organizational values of diversity and anti-racism), processes (training and skill development in culturally competent practice), and functions (specialized practitioner roles)” that indicate a commitment to reducing service inequity and disproportionate outcomes among children and families of color (Harris et al., 2009, p. 1153). Targeted efforts to meet these expectations at Casey and within public sectors of care may address the many challenges alumni grapple with on a daily basis.

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²Alumni were asked to recall how often they used services while in their last foster care placement only. Given the potential variation of access to services, and how often they may have been utilized during an unspecified amount of time, the data were not included in the analyses. In addition, recall bias could have greatly impacted the validity of findings.

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Figure 1. Conceptual framework of institutional factors predicting adult developmental outcomes among foster care alumni.

Table 1**Weighted Frequencies**

	Latinos	African Americans	Caucasians
Descriptives			
Age time of interview (mean)***	29	28	31.5
Female (<i>n</i> , %)	61(48.8)	72(51.5)	261(48.3)
Outcome variables			
No diploma or GED (<i>n</i> , %)	20(16.2)	21(15.4)	73(13.4)
One mental health disorder (12 month; <i>n</i> , %)	64(51.4)	56(39.9)	237(43.8)
No participation in labor force (<i>n</i> , %)	38(31.2) *	40(28.5)	121(22.3)
Predictor variables			
Child welfare postplacement outcomes			
Placement instability (mean)	1.01	0.846	0.955
Circumstances of exit			
a) Independent living (<i>n</i> , %)	72(58.4)	88(63)	346(64)
b) No permanency (<i>n</i> , %)	30(24.3)	29(20.8)	92(17.1)
c) Living with a family (<i>n</i> , %)	16(12.6)	18(13.1)	62(11.4)
Service access			
a) Mental health/group counseling (<i>n</i> , %)	107(93.9)	122(94.6)	471(97.5)
b) Drug/alcohol services (<i>n</i> , %)	86(69.7) *	115(82.5) **	427(78.9)
c) Employment services (<i>n</i> , %)	99(79.6)	113(81.2)	433(80)
d) Independent living services (<i>n</i> , %)	82(65.8)	102(73)	378(69.9)
e) Tutoring or other education services (<i>n</i> , %)	111(89.2)	127(90.9)	472(87.2)
Preparation to leave care			
Agency helpfulness (mean)	.256	.266	.218
Tangible items (mean)	.436	.404 *	.485
Subjective preparedness (mean)	2.89	2.92	2.80
Satisfaction w/ foster care (mean)	5.38	5.3	5.04
Total (N=805)	124(15.4)	140(17.4)	541(67.2)

Note.

* Significant difference from Caucasians evaluated with χ^2 test at $p=.05$.

** Significant difference from Latinos evaluated with χ^2 test at $p=.05$.

Table 2**Predictors of Not Completing High School**

	Latinos (A)	African Americans (B)	Caucasians (C)
	OR(95% CI)	OR(95% CI)	OR(95% CI)
Gender (Reference group is female)	.416(.063–2.76)	1.24(.277–5.59)	.864(.505–1.48)
Age	.920(.824–1.03)	.692(.550–.871) **	.997(.947–1.05)
Placement instability	1.09(.576–2.07)	4.09(2.20–7.62) ***	1.13(.839–1.52)
Circumstances of exit	Reference group is independent living.		
Living with a family	7.74(1.14–52.44) *	.141(.023–.842) *	3.28(1.60–6.71) ***
No permanency	7.41(1.73–31.73) **	.958(.221–4.16)	2.26(1.17–4.36) **
Service access			
Drug/alcohol	2.88(.628–13.18)	3.45(.562–21.19)	1.83 (.723–4.59)
Mental health	3.18(.310–32.69)	.062(.005–.714) *	.232(.060–.895) *
Tutoring	.453(.048–4.25)	.672(.054–3.17)	1.14(.468–2.78)
Employment	1.20(.094–15.41)	.736(.094–5.79)	1.25(.539–2.92)
Independent living services	.482(.036–6.43)	.609(.069–5.43)	1.22(.621–2.39)
Preparation to leave care			
Tangible items	.482(.053–4.40)	1.20(.049–29.74)	.304(.121–.763) **
Agency helpfulness	.185(.010–3.41)	7.72(.656–90.91)	.228(.046–1.13)
Subjective preparedness	.388(.138–1.09)	.208(.065–.662) **	.688(.413–1.14)
Satisfaction with foster care	1.38(.930–2.05)	1.17(.798–1.73)	1.12(.938–1.33)

Note.

A) Pseudo R^2 .316; Wald Chi-Square: 31.43, df= 14, $p<.01$.

B) Pseudo R^2 .372; Wald Chi-Square:41.83, df=13, $p<.001$.

C) Pseudo R^2 .142; Wald Chi-Square: 52.82, df=14, $p<.001$.

The output from Logistic Regression in STATA does not provide any measure of R^2 . The pseudo- R^2 compares the log-likelihood from the null model (only an intercept) to the log-likelihood from the full model, where all covariates are included. The result is a measure of the improvement in fit of the model that is because of the independent variables (Gelman & Pardoe, 2006).

*
 $p<.05$.

**
 $p<.01$.

 $p<.001$.

Table 3**Predictors of Being Diagnosed With at Least One Mental Health Disorder**

	Latinos (A)	African Americans (B)	Caucasians (C)
	OR(95% CI)	OR(95% CI)	OR(95% CI)
Gender (Reference is female)	.934(.379–2.30)	.335(.126–.885) *	.521(.364–.746) ***
Age	.948(.881–1.02)	.965(.884–1.05)	.987(.957–1.02)
Placement instability	1.48(.895–2.45)	1.69(.967–2.93)	1.40(1.10–1.78) **
Circumstances of exit	Reference group is independent living.		
Living with a family	.780(.185–3.28)	1.41(.314–6.32)	.960(.524–1.76)
No permanency	1.18 (.371–3.72)	.827(.244–2.80)	1.13(.667–1.92)
Service access			
Drug/alcohol	1.54(.498–4.78)	1.47(.346–6.28)	1.72(1.01–2.93) *
Mental health	.436(.041–4.66)	3.51(.381–32.22)	.433(1.57–1.18)
Tutoring	1.38(.257–7.46)	.575(.058–5.74)	.986(.513–1.90)
Employment	.710(.221–2.28)	10.85(2.32–50.76) **	.855(.480–1.52)
Independent living services	1.80(.627–5.15)	.165(.050–.548) **	1.05(.660–1.65)
Preparation to leave care			
Tangible items	.477(.105–2.17)	1.09(.173–6.90)	1.21(.666–2.18)
Agency helpfulness	5.14(.984–26.81)	.709(.096–5.25)	2.29(1.03–5.07) *
Subjective preparedness	.670(.324–1.39)	.389(.144–1.05)	.630(.452–.878) **
Satisfaction with foster care	.859(.640–1.16)	.660(.487–.895) **	.902(.803–1.01)

Note.

A) Pseudo R^2 .111; Wald Chi-Square: 16.52, df=14, $p=.283$.

B) Pseudo R^2 .278; Wald Chi-Square: 41.47, df=14, $p<.001$.

C) Pseudo R^2 .064; Wald Chi-Square:40.35, df=14, $p<.001$.

Results show predictors of developmental outcomes, controlling for gender and age at the time of the interview.

* $p<.05$.

** $p<.01$.

*** $p<.001$.

Table 4
Summary of Institutional Predictors of Developmental Outcomes by Race/Ethnicity

Predictor	No High School/GED			No Labor Force Participation			Past Year MH Disorder		
	<i>African</i>			<i>African</i>			<i>African</i>		
	<i>Latinos</i>	<i>Americans</i>	<i>Caucasians</i>	<i>Latinos</i>	<i>Americans</i>	<i>Caucasians</i>	<i>Latinos</i>	<i>Americans</i>	<i>Caucasians</i>
Postplacement characteristics									
1. Placement instability		+							+
2. Circumstances of exit									
Living with a family	+	-	+	+					
No permanency	+		+						
Institutional factors									
1. Service access									
Drug/alcohol				-					+
Mental health		-	-						
Tutoring									
Employment								+	
Independent living services								-	
2. Preparation to leave care									
Tangible items			-						
Agency helpfulness									+
Subjective preparedness		-							-
3. Foster care satisfaction								-	

Note. Results show predictors of developmental outcomes, controlling for gender and age at the time of the interview.