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A Regression Analysis of Juvenile Delinquency Among African American Females in Foster Care

Jackson de Carvalho, PhD
Associate Professor
Prairie View A & M University
Prairie View, Texas 77446
United States of America

Felix O. Chima, PhD
Professor
College of Arts and Sciences
Prairie View A&M University
United States of America

Abstract

In the United States each year, approximately 600,000 children enter the child welfare system due to allegations of abuse and neglect. Research has shown that the main factors responsible for juveniles crossing over from the foster care system to the juvenile justice system include the type of placement, placement instability, and length of stay in foster care. Most of the research studies in the relevant literature focused on African American females' pathways to delinquency. There is much-needed attention to African American girls' pathways to delinquency, those who crossover from the foster care system to the juvenile justice system. This study examined the relationship between the type of foster care placements, the length of time in foster care, the number of removals, and referrals to the juvenile justice system of African American females, ages 13-19 (n = 221). A quantitative, non-experimental, predictive design was employed for this study, where secondary archival data was collected and analyzed. The study results indicated that from the sample (n= 221) of African American girls who received a referral to the juvenile justice system (n = 51) for all offenses combined (status, misdemeanor, and felony), there was a statistically significant relationship between their foster care placement type, their time in foster care, and their number of foster care placements. Furthermore, specific to the number of referrals to the juvenile justice system for misdemeanor offenses, there were statistically significant relationships between time in foster care and the number of placements. Implications for practice and research are discussed.

Keywords: Juveniles, delinquency, African American, females, and research

1.0. Introduction

Every year approximately 600,000 children enter the child welfare system across the country for suspicions of abuse and neglect (Lee & Villagrana, 2015). Many of these foster children will be shuffled from home-to-home, and some will spend months in overcrowded group homes. Close bonds with family and friends will be severed and forming new bonds will be even more difficult due to what is referred to as the foster care shuffle. The foster care shuffle, or placement instability, is an unfortunate characteristic of a system that is intended to help abused and neglected children. Placement instability has been shown to increase children's likelihood of engaging in delinquent behavior (Bogie, Johnson, Ereth, & Scharenbroch, 2011; Herz, Lee, Lutz, Stewart, Tuell, Wiig, …Kelley, 2012).

For victims of abuse and neglect, studies have confirmed that there is nearly a 50% higher risk of involvement in delinquent behavior (Center for Justice Reform, 2015). The link between child maltreatment and later delinquent offending has dominated the literature; however, few studies have examined factors within the child welfare system that influence the offending behavior committed by youth (Cusick, Courtney, Havlicek, & Hess, 2011).

Due to the poor outcomes children in foster care face, researchers and practitioners in child welfare and juvenile justice systems are beginning to pay more attention to this population.

The literature on delinquency has mostly encompassed females' pathways to offending; however, within the past 20 years, girls have become the fastest-growing segment of the juvenile justice system, from arrest to detention and probation (Sherman & Balck, 2015). Moreover, within this segment of the juvenile justice system, there has been a disproportionate representation of girls of underrepresented populations among delinquent females (Marshall, & Haight, 2014). Compared to their White counterparts, in 2013, African American females were three times more likely to be referred for delinquency offenses, 20% more likely to be detained, and 20% more likely to be formally petitioned to court (Puzzanchera & Hockenberry, 2015). Some experts contend that the growth of females in the justice system is due to their needs not being addressed regarding their abuse histories. As the child welfare system does not address their abusive experiences, these underrepresented adolescent females often make poor decisions; consequently, becoming involved in the juvenile justice system (Sherman & Balck, 2015).

There is much-needed attention to African American girls' pathways to delinquency, in particular those who crossover from the child welfare system to the juvenile justice system, in order for these systems to acknowledge and address their needs. Herz, Ryan, and Bilchik (2010) defined crossover youth, as youth who are involved in both the child welfare and juvenile justice system. According to the Center for Juvenile Justice Reform (2015), crossover youth, when compared to the general delinquent population, are more likely to be female. Data retrieved from jurisdictions that participated in the crossover youth practice model (CYPM) revealed that girls made up 41% of youth involved in the child welfare system who were subsequently arrested for delinquency. Additionally, in many jurisdictions, the crossover youth population is composed of 33% to 46% of African American youth, making this demographic overrepresented on multiple fronts (Centers for Disease Control and Prevention, 2018; Herz et al., 2010; National Center for Juvenile Justice 2014).

The purpose of this study is to examine the relationship between placement instability and delinquency amongst foster care youth. To provide further insight into factors within the child welfare system that could be predictors of becoming involved in the juvenile justice system, this study investigated the relationship between type of foster care placement, length of time spent in foster care placement, number of removals and the number of juvenile delinquency acts committed by African American females in the foster care system. Subsequently, the study tested the following research question:

RQ-1. What is the statistical relationship between the type of foster care placement, the number of foster care placements, length of time in foster care, and juvenile delinquency among African American females in the foster care system?

The statistical hypotheses for the study were:
H01: There is no statistical relationship between the type of foster care placement and the total number of referrals to the juvenile justice system by African American females in the foster care system.
H02: There is no statistical relationship between the number of foster care placements and the total number of referrals to the juvenile justice system by African American females in the foster care system.
H03: There is no statistical relationship between the *length of stay in foster care system* and the total number of referrals to the juvenile justice system by African American females in the foster care system.

2.0. Review of Literature

The existing literature about foster care as it relates to delinquent acts of adolescent African American females is scant. However, an extensive review of the relevant literature revealed several significant findings, particularly the correlation between placement instability and delinquency. Several studies

(Chiu, Ryan, & Herz, 2011; Griffin, 2014; Lee & Villagrana, 2015) have found significant correlation between the length of time spent in foster care, the number of removals and delinquent behavior amongst children in the foster care system. Moreover, Jones (2012) found that twenty percent of the children in foster care had four or more removals, which Lee & Villagrana (2015) defined as placement instability.

Children whose behavior caused their first placement disruption were approximately two times more likely to become engaged in delinquent behavior. Foster children were more likely to assault other individuals than the comparison group (Ainsworth & Hansen, 2014).

Ryan, Williams, and Courtney (2013), Chiu, et al. (2011) and Ryan, Marshall, Herz, and Hernandez (2008) all found placement instability to be correlated with delinquency. Ryan and Testa (2005) utilized a sample of over 4,000 cases in Cook County, Illinois, during 1983. All members of their sample experienced at least one out-of-home placement due to a substantiated allegation of abuse or neglect. Ryan and Testa (2005) found that 37% of boys with a history of placement instability had an official delinquency record. Several studies (Chiu, et al., 2011; Ryan et al., 2008; U.S. Department of Health and Human Services, 2015b) found that those children with multiple removals (i.e., placement instability) were more likely to be classified as delinquency disasters or chronic offenders. Delinquency disasters are children with short-term delinquency or delinquency that ceased at 18 years of age. Chronic offenders are children with delinquency and criminal behavior after the age of 18. Out of the children with placement instability, 31% were classified as delinquency disasters, and 14% were classified as chronic offenders.

Ryan, et al. (2008) conducted a large study which measured delinquency and placement stability for approximately 36,000 children in Missouri who were involved with child protective services between 1993 and 1994. Seven years after the study began, approximately 2% of the sample had entered a juvenile correctional facility. Koh, Rolock, Cross, and Eblen-Manning (2014) found similar results with their large study of foster care children. Their study revealed that seven out of every 1,000 children entered the juvenile justice system by the end of their study period. Children with more removals in foster care were more likely to enter the juvenile justice system.

A removal refers to a child's entrance into foster care placement, removed and readmitted into another foster care placement. A removal also refers to a child entering foster care and exit out of foster care and subsequently readmitted. For example, a child who entered care in 2017, exited in 2018 and then re-entered in 2019 and exits the following year is said to have two removals in foster care. Ryan, et al. (2013) found that 10 out of every 1,000 children with two removals in foster care entered the juvenile justice system, and 30 out of every 1,000 children with three removals in foster care entered the juvenile justice system.

There appears to be a positive correlation between placement instability and delinquency; as placement instability increases, so does delinquent behavior. However, it is essential to discuss what variables may influence placement instability. Several researchers have suggested that the child's behavior influences placement instability (Hirsch, 1969, 2009). James (2004) studied 430 children who entered state custody in California between May 1990 and October 1991. Children who were classified as having placement instability (no placement lasting more than nine months) were more likely than placement-stable children to exhibit behavior problems. Foster, Hillemeier, and Bai (2011) found similar results utilizing cases of children entering custody in the foster care system; placement instability was found to be positively correlated to outward or visible behavioral problems (e.g., aggression, delinquency, etc.). Neither one of these studies discerned the causal order of this apparent relationship.

What remains unknown is whether placement instability causes delinquency or if delinquency causes placement instability. Further, what remains unknown is whether the same characteristics that influence placement instability are also the same factors that influence delinquency. Despite the lack of research disentangling the causal order of placement instability and outward c (e.g., aggression, delinquency, etc.) there is much research discussing the relationship between maltreatment and delinquency (Martell, 2005; Patchin, 2006; U.S. Department of Health and Human Services, 2015a). In fact, Berzenski, and Yates (2010) found in their study of maltreatment reports that multiple maltreatment were associated with increased rates of detention, which indicates outward behavioral problems. Maltreated children with mental health problems were at an increased risk of involvement with the juvenile justice system. Centers for Disease Control and Prevention (2018) found abused children to have an increased likelihood of exhibiting physically assaultive behavior. Corse, and Fertig (2010) found that almost half of the children they studied for over four years had behavioral problems severe enough; they had an official delinquency history.

Byambaa, De, Butchart, Scott, and Vos (2012) found that abused and neglected children had higher rates of self-disclosed delinquency and adult criminality when compared to non-abused/neglected children. Koh, et al. (2014) found that most of the children in foster care, in their study, exhibited some kind of behavioral problem whether it is external (e.g. aggression, delinquency, etc.) or internal (e.g., mental health problems, suicidal ideations, etc.).

Griffin (2014) along with Ryan, and Testa (2005) recognized that maltreatment could lead to internal behavioral problems or problems with mental health stability. Unlike many other researchers, Griffin (2014) and Ryan, and Testa (2005) suggested that the stress and anxiety of separation from biological parents lead to mental health problems more so than the actual maltreatment. The studies of Goodkind, Shook, Kim, Pohlig, and Herring (2013) and Halemba, and Siegel (2011) suggest that separation from biological parents can increase attachment problems within the child. One example of such a psychiatric problem is known as Reactive Attachment Disorder (RAD). For an individual to be diagnosed with RAD, the child must have experienced mentally damaging, or pathogenic, parenting, or multiple caregivers; both criteria for RAD are experienced by most children in foster care (American Psychiatric Association, 2013). Children diagnosed with RAD exhibit inhibited or disinhibited behavior with adults. Mental health disorders are also correlated with drug use and delinquency. Some individuals may abuse alcohol or other drugs to self-medicate (CDC, 2018; Goodkind, et al., 2013; Herz, & Fontaine, 2013).

To briefly summarize, maltreatment can increase internal and external behavioral problems which are correlated to placement instability and delinquency (Bynum & Thompson, 2007; James et al., 2004; Marshall, and Haight (2014); Ryan, 2005; Ryan et al., 2013). It appears, from the literature available, that abused and neglected foster care youth are destined for delinquency. Unfortunately, this relationship (maltreatment, delinquency, and placement instability) has not been completely investigated, nor will it be unless you can incorporate a longitudinal study or experimental design. To date, the causal order of this relationship has yet to be determined. For example, do the children's behavioral problems (including delinquency) increase their likelihood of experiencing maltreatment? Or do the child's behavioral problems lead to great placement instability, or does greater placement instability lead to behavioral problems, including delinquency? Unfortunately, this is a limitation of both the existing literature base and the current study. The current study does not seek to determine the causal order of these events. It is also important to note that although the author went into great detail regarding criminological theories, the current research is not testing the theories discussed. The presentation of criminological theories is meant to serve as a framework for the current study.

3.0. Measures

The researchers achieved objectivity in the current research by using a systematic measurement of the phenomenon illustrated in the study (Morton, 2015). Measurement within research studies defined as the limitation or restraint of the data for interpretation within a quantitative design (Rubin, & Babbie, 2018). There are two types of measurement: Substantial or insubstantial. Substantial pertains to the physical world, for example, measuring how many clients are in a program or the number of live births occurring during a storm. Insubstantial measurement addresses intangible concepts, ideas or theories, for example, the degree of satisfaction with a counselor or teaching a child the value of a dollar. In this study, the researchers demonstrated the use of both substantial and insubstantial measures.

3.1. **Type of Foster Care Placement**

Type of foster care placement required substantial measures because it pertained to the physical world and indicates how many different types of foster care placements there are. Foster care placement type required nominal scales of measurement, which helps to identify accurately any given names, which restrict or limit their function to obtain an exact measurement.

By recoding the variables in several categories, placed the variables in discrete units. For the purpose of this study, there were two different types of foster care placements: Kinship and non-kinship. The statistical technique chosen for this form of measurement was multiple linear regression analysis because it allowed to understand the relationships within data aggregated at more than one level (i.e., beyond the individual level).

It is noteworthy that regression approaches may be applied to a variety of analytic modeling techniques (including linear and multiple regression) offering the researchers considerable flexibility in their selection of variables and procedures to test a research hypothesis (Rosenthal, 2012)

3.2. Length of Time in Foster Care Placement

Time in foster care placement required insubstantial measures because it pertained to intangible concepts, ideas, or theories used in the study. Time in foster care also required interval-scales of measurement, which helped to identify the length of time in placement. Using this scale of measurement placed the variables into continuous units. The statistical technique chosen for this form of measurement was multiple regression. The researchers followed the most cited statistical literature to test the underlying assumptions for the regression analysis, which include (1) normal distribution of continuous variables, (2) no multicollinearity, (3) linearity between independent and dependent variables, and (4) homoscedasticity and reliability of all variables. Any statistical indices that may have violated regression assumptions were addressed to the extent possible (Rubin, & Babbie, 2018).

3.3. Number of Foster Care Removals

The number of foster care removals required substantial measures because it pertained to the physical world and indicated how many times a child is removed and replaced in various foster care environments. The number of removals required interval scales of measurement, which helped identify the frequencies between placements. Using this scale of measurement placed the variables into continuous units. A multiple regression analysiswas used to examine the ability of the model to predict number of removals among foster care children. The significance level was set at .05. The regression analysis allowed determination of whether the number of removals were significant predictors of number of juvenile delinquency acts committed by African American females in the foster care system as proposed by the third hypothesis. (Rosenthal, 2012; Rubin, & Babbie, 2018).

3.4. Juvenile Delinquent Acts

Juvenile delinquent acts required substantial measures because it pertained to the physical world and indicated how many times children committed delinquent acts in foster care. Juvenile delinquent acts required interval scales of measurement, which helped to identify the number of delinquent acts. Using this scale of measurement placed the variables into continuous units. The statistical technique chosen for this form of measurement multiple regression analysis (Rubin, & Babbie, 2018).

The placement type categories and juvenile delinquency components were described in detail. The researchers reviewed the complete record for each category presented. Each act of juvenile delinquency was counted once regardless of the number of incidents per day, providing it was the same type of incident. For example, if a foster child got into a physical altercation and was brought under control and fights again later that day, the incident was only counted once. However, other juvenile delinquent acts that are different in nature were counted separately.

4.0. Methods

The focus of this section is to introduce the strategy for measuring the relationships between the type of foster care placement, the time in foster care, and the number of placements and occurrences of juvenile delinquency acts among African American females, ages 13-19, in foster care. The methodology included a quantitative approach with a correlational design. This includes the research design, research questions/hypothesis, sample, data collection, and data analysis. The investigation was conducted by examining each placement factor (predictor variables), and their relationship to the number of delinquent referrals (criterion variable) in the subjects studied. Using the appropriate form of measurement and statistical techniques, the intent of the research, based on a quantitative correlation design, was to confirm or disconfirm the relationship of the variables in question. An unbiased conclusion is pivotal to maintaining fidelity to a study utilizing quantitative measures (Rubin, & Babbie, 2018).

Research is the systematic process of collecting, analyzing, and interpreting information in order to understand what the phenomenon is about, which the researcher is interested. In so doing, the researcher must articulate the question, the hypothesis, the statement of the problem, the specific plan for the process, data collection, and the strategy for analysis of the data; this is the essence of the research design (Rosenthal, 2012).

4.1. Participants

The study used a secondary data analysis, which is a subset of the data sample from the Mental Health Services Program (MHSP) at Garner & Associates. The MHSP works in collaboration with the State of Texas System of Care (STSC) Program to plan and evaluate foster care services for thousands of foster care children across the state of Texas. The original data was collected between the years of 2013-2018. A random sampling technique was used to select 221 cases from the targeted population of 986 African American females in foster care. The random selection allowed for each member's records of the population to have an equal chance of being selected within the sample and therefore, meet the requirements for generalizing the findings back to the targeted population (Rubin, & Babbie, 2018).

The sample size in a research study is crucial as it offers an estimation of sampling error. If the sample size is less than 100 in a correlational study utilizing a quantitative research design, there may not be enough statistical power to accurately reject the null hypothesis. The sample size was based on a power analysis of the desired confidence level of .95 and a confidence interval of .05 (Tabachnick, & Fidell, 2007). The rationale for selecting a confidence level of 0.95 is that this interval determines the probability that the confidence interval (0.05) that it produces will contain the true parameter value, which, decreases the likelihood of committing a type I error commonly known as a false positive (Rubin & Babbie, 2016). On the other hand, a sufficiently large sample size with an alpha of .05 increases the statistical power and decreases the chances of a type II error, which is failing to reject the null hypothesis when in fact there is a difference (Rubin & Babbie, 2018). Before data collection, a research proposal application was submitted to the Institutional Review Board (IRB), and approval was granted.

4.2. Data Collection

The data collection process consisted of reviewing 986 individual subjects' records located at Garner & Associates office in Houston, Texas. The data collected were entered into an SPSS consisting of two of the three categories of foster care presented (i.e., type of placement, time in placement and number of placements), and the juvenile delinquent acts were counted for each category.

To improve the reliability of the study, the researchers used precise levels of measurement and multiple indicators. In other words, each category was assigned a number, which does not indicate its value, but its position only (Tabachnick, & Fidell, 2007).

4.3. Analysis

The researchers used multiple regression analysis, chi-square, and other statistical tests as a means of data analysis, implementing the Statistical Package for Social Sciences (SPSS) Version 25 software. Multiple regression analysis was also used to examine how the known predictor and criterion variables are related to the study. In other words, does the type of placement, time in placement, and the number of placements predicts the number of juvenile delinquent acts that may be found in the subjects studied? Regression analysis was used to measure the degree of influence the predictor variables have on a single criterion variable, which also indicated the deviation in relation to the means (Rubin & Babbie, 2018).

Furthermore, the researchers used correlation coefficient statistics to determine the nature of the relationship between placement strategies and juvenile delinquent acts following placement. Rosenthal (2012) posit that "a correlation coefficient of the data tells the researcher the direction and the strength of the relationship of the phenomenon being investigated" (p. 265). During the data analysis process, the researcher paid close attention to the direction and and coefficient of the correlations. The direction indicated whether the relationship between the variables was positive or negative, and the coefficient indicated the magnitude of the relationship.

For example, a strong relationship interpretation would be .85 to 1.00, moderate would be .50 to .84, and weak would be 0 to .49. If the relationships between the variables were positive, it indicated that the variables were varying together. Whereas, if the relationship was negative, it indicated that as one variable increased, the other decreased. Whether high or low, the relationship did not imply cause and effect (Rubin & Babbie, 2016).

All variables were metrically scaled. The researchers plotted the relationship between the variables using a scatter diagram to identify the straight-line that represents the trend through the mid-point of the data. The trend found among the data indicated the various values of the predictor variables given the values of the criterion variables.

4.4. Research Variables

The variables are indicative of the nature of the study and were assertive in understanding the research design, scope of the research, and the rationale. The independent and independent variables in this study were addressed as predictor variables and criterium variables. The predictor variables in the study were (a) type of foster care placement, (b) length of time spent in foster care placement, and (c) number of foster care removals. The predictor variables took on multiple forms of measurement.

Type of foster care was a discrete variable and tooks on the form of a nominal-level of measurement. Length of time spent in foster care placement and the number of removals were continuous variables and took on the form of interval-scales of measurement. The criterion variable presented in the study was the number of juvenile delinquent acts committed by the participants.

4.5. Multicollinearity Diagnosis

The variables are indicative of the nature of the study and are assertive in understanding the research design, scope of the research, and the rationale. The independent and independent variables in this study were addressed as predictor variables and criterium variables. The predictor variables in the study were (a) type of foster care placement, (b) time in foster care placement, and (c) number of foster care placements. The predictor variables take on multiple forms of measurement.

Type of foster care is a discrete variable and takes on the form of a nominal-level of measurement. Time spent in foster care and the number of foster care placements are continuous variables and take on the form of interval-scales of measurement. The criterion variable presented in the study was the number of juvenile delinquent acts committed by the subject. The number of delinquent acts was a continuous variable and took on the form of interval scales of measurement (Tabachnick, & Fidell, 2007).

5.0. Results

To answer the research question, regarding the relationship between type of placement, length of time spent in foster care placement, and number of removals for African American females, a Frequency analysis and a Pearson product-moment correlation coefficient was used for each set of variables hypothesized to test whether a significant relationship existed between the variables. Next, a multiple linear regression analysis (MLR), analyses were run while using several explanatory variables to predict the outcome of a **response** variable and to determine if any significant relationships or differences existed between variables of interest. The main goal, however, was to answer the study research question by producing a predictive model that is parsimonious and accurate while excluding variables that did not contribute to explain variances in the dependent variable.

The first part of the analysis involved descriptive statistics of the sample included in this study. The second part of this chapter discusses measurement model and overall model fit and hypotheses tests, which is specified as answers to the research questions and corresponding hypotheses.

Thus, descriptive statistics of the participants on the study reported that the 13-year-old represented 2.7% of the subjects (n=6), the fourteen-year-old represented 17.3% of the subjects (n= 38), the fifteen-year-old represented 28.5% of the subjects (n= 63), the sixteen-year-olds represented 33.9% (n= 75) and the seventeen-year-olds represented 15.4% of the subjects (n= 34) selected. Results indicated there was a low level of juvenile delinquency activity among the 13-15-year-old age groups (4.59%), regardless of the placement setting (see Table 1).

Table 1. Age of Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	13	6	2.7	2.7	2.7
	14	38	17.2	17.2	19.9
	15	63	28.5	28.5	48.4
	16	75	33.9	33.9	82.4
	17	34	15.4	15.4	97.7
	18	2	.9	.9	98.6
	19	3	1.4	1.4	100.0
	Total	221	100.0	100.0	

Furthermore, the study results indicated that within the relative foster family placement setting, there was only three incidents of juvenile delinquent activity found (n= 3; 1.53%). The great majority of the juvenile delinquency activity was found among the 15 (n=16; 8.16%) and 16-year old (n=15; 7.65%), who were placed in the foster home settings. Children placed in non-kinship foster settings represented 21.42% (n= 42) of all of the juvenile activity found in this study. The remaining 4.59% of juvenile delinquency activity was found among children placed in Kinship home settings. In summary, 23.1% (*n*= 51) of the total sample had been arrested (see Table 2).

Table 2. Placement Type * Adjudicate Delinquent 0-1 * *Age of Participants. * *Crosstabulation***
Count

			Adjudicate Delinquent 0-1		
***Age of Participants.			No	Yes	Total
13	Place Type	Non-Kinship	4	1	5
		Kinship	0	1	1
	Total		4	2	6
14	Placement Type	Non-Kinship	24	6	30
		Kinship	7	1	8
	Total		31	7	38
15	Placement Type	Non-Kinship	31	15	46
		Kinship	16	1	17
	Total		47	16	63
16	Placement Type	Non-Kinship	45	11	56
		Kinship	15	4	19
	Total		60	15	75
17	Placement Type	Non-Kinship	20	6	26
		Kinship	6	2	8
	Total		26	8	34
18	Placement Type	Non-Kinship	1	1	2
	Total		1	1	2
19	Placement Type	Non-Kinship	1	2	3
	Total		1	2	3
Total	Placement Type	Non-Kinship	126	42	168
		Kinship	44	9	53
	Total		170	51	221

Out of a sample of n= 221 of African American female foster children between thirteen and nineteen years of age that the researchers used in this study, the majority (n= 161; 72.9%) had been in the current placement one year or less, n= 41(18.6%) had been in placement 2+ years, n= 4 (1.8%) had been in the current placement for 3+ years, n=9 (4.1%) had been in the current placement 4+ years and n=1 (5%) had been in the current placement 5+ years(Table 3).

Table 3. Length of time in current placement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	One year or less	161	72.9	72.9	72.9
	Two years	41	18.6	18.6	91.4
	Three years	4	1.8	1.8	93.2
	Four years	9	4.1	4.1	97.3
	Five years	1	.5	.5	97.7
	Six years	2	.9	.9	98.6
	7	3	1.4	1.4	100.0
	Total	221	100.0	100.0	

The study used a multiple linear regression analysis to determine whether a linear relationship existed between the predictor variables and the criterion variable to address the research question by testing the first hypothesis:

H1: There is no statistical relationship between the type of foster care placement and the number of juvenile delinquency acts of African American females in the foster care system.

Since the first hypothesis only had one nominal independent variable, it was necessary to dummy code this variable to use it in the multiple regression analysis. The "Recode into Different Variables" function was used to code the eight levels of the independent variable, placement type into eight variables with two levels each. Subsequently, a linear regression analysis was conducted using the newly created dummy variables (Trial home visit, Foster home, non-relative, Institution, Foster home, relative, Runaway, Supervised independent living) reflecting the individual characteristics of placement type of the children in the study. It is noteworthy that the variable Pre-adoptive, which was originally valued as 1, stayed as 1, and was used as a dummy coded reference variable for comparison with the other seven. Since Pre-adoptive became the base line variable, it was not entered into the covariate box, and consequently became the Constant in the regression analysis.

The model was constructed by adding all predictor variables simultaneously. This type of regression is called "forced entry" (Field, 2005, p. 160). From this initial regression model, an R, R 2 , and adjusted R 2 value was calculated. R is a "measure of multiple correlation between predictors and the outcome" (Field, 2005, p. 174). In other words, how well the model predicts the observed data. The R 2 metric is a measure of the variance in the outcome that is influenced by the predictor variables, while the adjusted R 2 represents the estimated value of the variance. Once the R, R 2 was computed and the R2 for the initial regression mode was adjusted, a backward stepwise method was employed to eliminate predictors that did not contribute significantly to the model fit. This method involved reviewing the p-value for each predictor. If an independent variable's p-value value was greater than .05 level of significance, the predictor was removed from the model and the model was re-estimated with the remaining predictor variables (Field, 2005). The objective of this technique was to identify the "leanest model" that best predicts the criterion variable (PCR, in this case).

The sample multiple correlation coefficient was .51, indicating that approximately 25% of the variance in juvenile delinquency received in the sample can be accounted for by the linear combination of the eight variables (Table 4).The results are displayed in Table 4. The overall model accounted for 25.9% (R^2 =.259) of the variance in juvenile delinquency acts committed by the participants in the study. The Durbin Watson statistic for this model was 2.02, slightly above 2, suggesting that this model is not auto correlated or that it has a positive correlation and it was significant at predicting outcomes

Table 4. Model Summaryfor Hypothesis #1

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.509[a]	.259	.238	1.079	2.020

a. Predictors: (Constant), Trial home visit, Foster home, non-relative, Institution, Foster home, relative, Runaway, Supervised independent living
b. Dependent Variable: Juvenile Delinquency Acts Committed

A breakdown of the parameter estimates in the data produces a better picture of which variables and to what degree those variables impacted juvenile delinquency. Table 5 shows the parameter estimates and coefficients of the data. As displayed in Table 5, four of the seven variables in the model were statistically significant: Foster home, non-relative (p =.048), Institution (p =.003) Supervised independent living (p =.043) and Runaway (p =.039). The strongest contributor to Juvenile Delinquency was Supervised independent living (β = 1.329) followed by Institution (β = .344). Although the variables Foster home, non-relative, Institution, and Runaway had a small effect on the dependent variable (Juvenile delinquency), most of the variables in the model were statistically significant, which lead to the rejection of the first null hypothesis (There is no significant statistical relationship between the type of foster care placement and the number of juvenile delinquency acts of African American females in the foster care system). Subsequently, the alternative hypothesis was accepted.

Table 5. Summary Output of Regression Analysis for Hypothesis #1 Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.255	.182		1.401	.000
	Foster home, relative	-.168	.250	-.063	-.669	.504
	Foster home, non-relative	.089	.207	.031	.429	.048
	Institution	.344	.116	.232	2.958	.003
	Supervised independent living	1.329	.904	.444	1.469	.043
	Runaway	-.177	.524	-.060	-.337	.039
	Trial home visit	.045	.783	.015	.058	.954

a. Dependent Variable: +++Juvenile Delinquency Acts Committed

To test the second hypothesis (There is not a statistical relationship between length of time spent in foster care placement and number of juvenile delinquency acts committed by African American females in the foster care system) a linear regression analysis was used to examine how effectively length of time spent in foster care placement supports the prediction of juvenile delinquency acts by African American females in foster care. The results are displayed in Table 6. The overall model accounted for 29.9% (R^2 =.299) of the variance in juvenile delinquency acts committed by the participants in the study.

Table 6. Model Summaryfor Hypothesis #2

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.446[a]	.299	.039	1.268

a. Predictors: (Constant), Four to five years or more, Three to four years, Two to Three years, One to two years

As displayed in Table 7, three of the four variables were statistically significant: One to two years (p =.019), Two to Three years (p = .025), and Four to five years or more (p = .009). The strongest contributor to juvenile delinquency was the variable, Two to Three years reflecting the length of time the child spent in the current placement (β = .265). Although the variable, Three to four years was not statistically significant at p > .05, it had a moderate effect on the dependent variable (β = .196) and all variables were statistically significant, which indicated rejection of the second null hypothesis (There is not a statistical relationship between length of time spent in foster care placement and number of juvenile delinquency acts committed by African American females in the foster care system). Subsequently, the alternative was substantiated.

Table 7. Summary Output of Regression Analysis for Hypothesis #2 Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.471	.135		3.493	.001
	One to two years	.252	.205	.093	1.234	.019
	Two to Three years	.265	.252	.077	1.050	.025
	Three to four years	.196	.303	.047	.648	.518
	Four to five years or more	.154	.338	.032	.456	.009

a. Dependent Variable: Juvenile Delinquency Acts Committed

The third hypothesis (There is no statistical relationship between number of removals and number of juvenile delinquency acts committed by African American females in the foster care system) was tested by using a multiple regression analysis to assess the effect of the predictor variables (Median number of removal and High number removal) on the dependent variable number of juvenile delinquency acts committed by African American females in the foster care system. The results are displayed in Table 8. The overall model accounted for 23.6% (R^2 =.236) of the variance in juvenile delinquency acts committed by the participants in the study. While not a huge proportion of explained variance emerges from this model, there is continued value in understanding and exploring any relationships and their parameters.

Table 6. Model Summaryfor Hypothesis #3

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.486[b]	.236	.075	.262

a. Predictors: (Constant), High Removal, Median removal

As displayed in Table 8, the two predictor variables in the model were statistically significant: Median removal (p =.008), High Number of Removals (p = .005). The strongest contributor to juvenile delinquency was the variable, High Number of Removals (β = .300). All the variables were statistically significant, which indicated rejection of the third hypothesis (There is no statistical relationship between number of removals and number of juvenile delinquency acts committed by African American females in the foster care system). Subsequently, the alternative was substantiated.

Table 8. Summary Output of Regression Analysis for Hypothesis #3 Coefficients

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.695	.104		6.674	.000
	Median Number of Removals	.147	.217	.047	.678	.008
	High Number of Removal	.300	.226	.092	1.329	.005

a. Dependent Variable: Juvenile Delinquency Acts Committed

6.0. Discussion

The study results indicated there is a significant statistical relationship between the type of foster care placement and the number of juvenile delinquency acts of African American females in the foster care system. Child welfare professionals often want to know what types of placements and services to focus on to improve positive outcomes for foster children. Thus, the findings presented here underscore the importance of going beyond the fundamental relationship between placement type and children's wellbeing. Doing so will help to identify factors like the social support (e.g., Supervised independent living [b = 1.329] followed by Institution [b = .344] that mitigate the child's placement type, which may enhance adverse effects on the positive outcomes of African American females in the foster care system.

Additionally, assessing whether the length of time spent in foster care placement is linked with positive outcomes of African American females in foster care is crucial. Multiple placements and length of time in placement is a growing concern among foster care professionals (DHHS, 2015a; Koh et al., 2014). The present study results showed there is a significant statistical relationship between the length of time spent in foster care and positive outcomes among African American females. Results indicated that a longer length of time spent in foster care was linked with the lower number of juvenile delinquency acts committed by African American females.

The results of the second study hypothesis are in alignment with the findings of Marinkovic & Backovic (2007), which concluded that the length of time African American children spend in foster care is important because, children who are placed for long periods are at high risk of socio-emotional, behavioral, and psychological problems. The problems this group faces may continue regardless of environmental improvements, such as home life and social affiliations (Marshall, & Haight, 2014; Sherman & Balck, 2015).

The importance of finding stable and lasting placement for African American foster children, who are not allowing returning home to their birth families is essential to their proper developmental process. Without a stabilized environment, they are at a higher risk of not establishing social bonds, which are often useful in the prevention of poor choices, which leads to delinquent behaviors (Marshall, & Haight, 2014). The Children and Family Research Center stability report indicates that stabilized children are much more likely to receive therapy, be rated as less delinquent/aggressive, less attached to the birth mother, and more likely to be placed with competent foster parents than their disrupted counterparts (DHHS, 2015b; Foster et al., 2011).

When children experience more than two placements within one year, while in foster care, it is referred to as placement instability. On the other hand, children placed less than twice in a year are referred to as "stabilized". Multiple placements are essential and relevant because there is an accumulating body of evidence that suggests that placement instability is associated with a wide variety of adverse outcomes, including mental health problems, frail attachments, and especially juvenile delinquency (Ryan & Testa, 2005).

The high number of removals leading length of time spent in foster care is a more pressing issue with African American female youth because they are less likely to receive stabilized placement than their Caucasian female counterparts. Besides, when these children are placed numerous times, they failed to build any lasting relationship with their caregiver or other children that may live in the household (Lee & Villagrana, 2015). When foster children fail to build lasting relationships that confirm their environment, they are subject to look for affirmation in unsuitable places, which could lead to delinquent activity, and could later turn into criminal activity (DHHS, 2015a; Puzzanchera & Hockenberry, 2015)

7.0. Implication for Practice

The study addressed the type of foster care placement in relationship to African American female's juvenile delinquency acts. The implication is that when adolescent females are placed with foster families that model appropriate behaviors in their presence, they are more likely to have a lower rate of juvenile delinquency (Puzzanchera & Hockenberry, 2015). Whereas, if placed in the environment of a foster home where they are exposed to negative behaviors, they are more likely to have a higher rate of juvenile delinquency (Marinkovic & Backovic, 2007; Sherman & Balck, 2015).

Generally, the type of placement setting selected is characterized by the client's needs, age, initial family problem, the reason for the referral, the situation of the parents, and duration of placement (DHHS, 2015b). This discovery implies that when systematically feasible, social workers should use caution when placing children in foster homes, where negative influences are more likely versus placing them with foster families, who may provide them with a healthier environment for positive influences and enriched behavior outcomes. Given that these factors are used in the placement decision process, most likely, the social worker often do not have control over the placement setting chosen (Marinkovic & Backovic, 2007; Salazar, 2013).

The number of removals and length of time spent in foster care placement in relationship to juvenile delinquency acts committed by African American females are also addressed in this study. The implication is that the number of removals and length children spend in foster care is essential because children who are subjective to a high number of removals and placed for long periods of time are at high risk of socio-emotional, behavioral, and psychological problems (Salazar, 2013). The problems this group faces may continue regardless of environmental improvements, such as home life and social affiliations (CWLA, 2008). The implication is that when African American females experience low levels of stability in foster care for long periods of time, they often fail to develop appropriately at every stage when there is no solid connection to a family, which also could lead to an increase in delinquent activity (Marinkovic & Backovic, 2007; Puzzanchera & Hockenberry, 2015).

7.1. Recommendations for Action

One of the goals of foster care is to create a positive environment for children in their care. With this being the case, and to ensure that adolescents placed in the foster care system have the best opportunity for positive outcomes, based on the current research, it is imperative that agencies consider the following suggestions. To offer early intervention programs, which could provide support for at-risk families from the community and local government. With programs such as these in place, many removals could be prevented, and at-risk children's chances for better outcomes could be improved (Ainsworth & Hansen, 2014; Salazar, 2013). To involve more individuals who are not racially biased and culturally ignorant to the needs of the people they serve. Suspect, racially biased people involved in foster care placement decisions may contribute to unnecessary removals when dealing with races and cultures outside of their own (Jones, 2012). To involve children in the placement process. When children are involved in the placement process, they are more likely to take ownership of the situation and cooperate with the new caregiver. Provide continuing education for foster care line-staff and foster parents. Individuals in families involved with foster children must be kept informed and updated on current issues concerning the children and the placement process (Koh, et al., 2014; Ryan et al., 2013).

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