ABSTRACT

There are around 443,000 children in foster care in the United States as of 2018. These children are typically in foster care due to some kind mistreatment or because they have no living guardian. The purpose of this study was to investigate the primary reason for the removal of a child ages three and under from the home nationally, in North Carolina, and in my home area of Catawba County. My parents have fostered children since 2008, and in our experience most children under the age of three were brought into foster care because of parental drug or substance abuse. Thus, my initial hypothesis was that nationwide and in North Carolina, most children ages three and under were removed because the parents or guardians were abusing drugs or other substances. Using graphical and statistical analysis, I found that the primary reason for removal in a case was neglect for all three data sets. In addition, many cases involve two or three reasons. For instance, a child might be removed because of abuse and neglect. Overall, I found that most removal cases involve some form of neglect. With further research, we could help determine what factors influence neglect and help prevent mistreatment of children before they become victims.

Molly Martin
Honor Thesis
Introduction

Foster care has been a significant part of my life. My parents started fostering in 2008 and have continued to foster until today. They have taken in over 60 children of all ages over the years. Our most prolonged placements have been newborn babies who were taken because their birth mother consumed drugs or alcohol while pregnant. These babies were born addicted to these substances and had to go through withdrawal before coming home with us. In this study, I will analyze the reasons that children between the ages of 0 and 3 years were taken from their homes. From personal experience, I hypothesize that most were taken because of their parents' substance abuse.

What is foster care? Foster care is “is a system designed to provide temporary living arrangements for children whose biological parents are unable to care for them.” (Adoption.org). Today there are over four hundred twenty thousand children in foster care. These children are taken from their families for their safety. The parents could have been abusive, taken drugs or alcohol while pregnant, been neglectful, gone to prison, or died leaving no one to care for their children. Foster care dates back to the Old Testament and Talmud. At that time, the idea and practice of foster care were much different than what we know today. Before foster care was normalized in the U.S., children were often taken in when orphaned, but now they are taken in because of mistreatment or having no one to care for them.

Around 1562 in what would become the United States, there was a law passed that allowed children of low income to enter indentured servitude until they came of age. They would be taken in by a family, but in the position of an indentured servant. Not until 1853 did the Free Foster care Movement pass. This movement gave immigrant children who were sleeping in the
streets a free home, but some of these homes still treated children like indentured servants. This movement became the foundation for today's foster care system. In 1865, the government passed a law to pay families with child placements who were too young to be formally indentured. This law was the first step into freeing the children from being forced into servitude in order to have a place. The New York Children’s Aid Society Placements provided funds, but only for those too young to serve the family. In 1885, Pennsylvania passed the first licensing law. During the early 1900’s, social agencies started to supervise foster parents, which created a safer environment for the children. In 1974, the United States passed the Child Abuse Prevention and Treatment Act (CAPTA). “CAPTA provides Federal funding to States in support of prevention, assessment, investigation, prosecution, and treatment activities as well as grants to public agencies and nonprofit organizations for demonstration programs and projects.” (Children’s Bureau, page 2)

Now foster care exists in all 50 states, and all families must go through training and be licensed before becoming foster parents. There is pay for the foster families, which varies with each State. In North Carolina, the pay as a foster parent is $475 per month or around $15 per day. Although the amount is very little, the government does help with food for the child and clothes. For example, with children under the age of five, the foster parent is given WIC vouchers to buy formula and baby food. (Peeples)

The procedure for fostering starts when the birth family is reported to social services and a Child Protective Services (CPS) caseworker or investigator is sent to investigate or remove the child from the home. After the child or children are removed, the social worker tries to find a placement for the child. Many are sent to foster families, group homes, or sometimes relatives. A foster family is a family where the parents are licensed to take in children who need a home. A group home is a home or care facility that houses six or more foster children. The child stays in
their initial placement or they may be moved to another foster situation until their case is settled. Most start with the goal of reunification with birth parents or a relative. If the parents have given up their rights to the child, are found unfit as parents, or there are no relatives to take the child in, then their case moves to adoption.

Dataset Preparation

The data sets I used are from the National Data Archive on Child Abuse and Neglect (NDACAD) and Catawba County Social Services. The 2018 National Data was collected by state agencies and funded by the Children’s Bureau, Administration on Children, Youth and Families, Administration for Children and Families, Department of Health and Human Services. As long as a child is in foster care, the State must submit and Adoption and Foster Care Analysis and Reporting System (AFCARS) record for every reporting period. This data set contains 108 variables from the sex of the child to foster family information. The variables I used are date of birth (DOB), sex, race, date of removal, the total number of removals from the home, and removal reason. This data contains 687,402 total observations in this data set. In other words, there are 687,402 children who have spent time in foster care across the U.S. as of 2018.

The Catawba data has seven variables: sex, age, race, age entered, removal reason, placement code, and date of care. Removal reason from this data only has three factors: abuse, neglect, and dependency, unlike the data set from NDACAD, which has 15 different reasons for removal. Abuse can refer to drug, sexual, physical, or any kind of abuse. Dependency would be parents that were arrested or in the hospital and have no appropriate family members able to take care of the child. Neglect is when the parents abandon or neglect their child. This data set contains information for 98 children ages three and under.
When I obtained the National data set, I filtered variables that would be useful to my research questions. The variables I kept include State, Sex of Child, Date of Birth, Age at Last Removal, First Removal Date, Physical Abuse, Sex Abuse, Neglect, Alcohol Abuse Parent, Drug Abuse Parent, Child Disability, Child Behavior, Parents Died, Parents Jailed, Parents Unable to Cope, Abandonment, and Relinquished. After removing unnecessary variables, I set these variables into a data frame of their own and focused on getting this data frame into the format which would be easier to use. Date of Birth was in year-month-day, but we want it in rounded to how old the child is now. So, using a calc_age (Richmond) code, I adjusted the DOB to year. After that, I had to calculate the age of the child when they were first removed. To do so, I changed the date into years and subtracted that from the current age of the child.

The next manipulation was to condense the reasons for removal into one column using the gather function, so it would be easier to produce graphics. Gathering the reasons into one column resulted in a larger data frame with most of the rows as duplicates and information not useful to this investigation. Therefore, I took a subset of the data frame to create a smaller data frame that would only contain what I needed. Next, I filtered the age of the child to be between zero and three years of age to fit my topic. Finally, the data frame was where I desired it to be. The last step was to create a subset for children in North Carolina to compare with later.

My second data set came from Catawba County Social Services. The reasons for removal were all together in one column. First, I separated the reasons into three separate columns with the first column as the first reason, the second column as the second reason, and the third column as the third reason. Second, I condensed the three new columns into two columns. The first new column containing the names of the three previous reasons columns and the second new column
containing the reasons for removal. Finally, I filtered out the NA’s and renamed my new data frame. Now, this data frame is in the right format to work with.

With these new formats, the data set had more observations than we had previously. Many children have several reasons for removal. For example, a child might be removed because of abuse and neglect. By separating the removal reasons, the child from the example will appear twice, once for removal reason of abuse and a second time for neglect. We will be comparing reasons for removal, but as we continue, keep in mind the above example.

**Analysis and Results**

Foster children cases have reasons for removal listed in the data set. Most cases have two or three reasons, but for our purposes, we want to examine and compare the all the reasons that a child has been removed from their home. To accomplish this, we need the reasons for removal separated. Figure 1 shows the Catawba County children’s ages filled by reasons for removal as they existed in the original data. This show how the format for the data looked before we manipulated the data sets and graphs. As you can see, the reasons for removal are grouped together with a forward slash, /, between the codes for reasons. The most frequent reasons were neglect and dependency, with neglect by itself as the second most common reason. For our Catawba County data set graphs, we will be splitting these reasons apart for analysis.
Figure 1. Reasons for removal by age.

Comparing the reasons for removal in our National data set proved to be more difficult since there were 12 different reasons present in the data. The format was also different than the Catawba County data, with each reason as a separate column in the dataset. I split the graphs based on abuse, dependency, or neglect to be better able to investigate with our Catawba County data. It was easy to split dependency versus abuse, but abandonment can be considered a form of abuse, so there was some question about where to include it. For this investigation, we will be treating abandonment and neglect in a separate category in order to compare it with abuse. In order to separate the reasons for analysis, we would need to use a filter and select physical abuse, sex abuse, alcohol abuse parent, and drug abuse parent for one graph. This would be the graphic for the abuse cases. For dependency, we would filter, and select parents died, parents jailed, no coping, relinquished, child behavior, and child disability. Lastly, I filtered and selected neglect
and abandonment. I produced the same graph but filtered to only show the foster children in North Carolina. First, we will look at the distribution of ages for each data set (See Figure 2).

Our national data set is made up of 40.1% newborns, 24.3% one-year-old, 19.1% two-year-olds, and 16.4% three-year-olds. While our North Carolina data set contains, 36.6% newborns, 24.8% one-year-olds, 20% two-year-olds, and 17.4% three-year-olds. It only follows that the distribution between the two graphs be slightly different since our North Carolina data set has a different distribution between the ages. Catawba County has 57.1% newborns, 29.6% one-year-olds, 12.2% two-year-olds, and 1% three-year-olds. Catawba County has a higher proportion of newborns than the other two data sets. This will possibly affect the analyses below when examining the reasons for removal. In Figures 3 through 5, we will compare these removal

**Figure 2.** Distribution of ages for each region.
reasons from our national graphs and North Carolina. We will not include the Catawba County
graph until later since it only has three possible reasons for removal.

The first comparison is Abuse cases nationally versus North Carolina. From these two
graphs (Figure 3), we see that Abuse cases in North Carolina are very similar to cases Nationally.
For sexual abuse, we see in North Carolina that it is slightly higher for 1 and 3-year-olds
compared with the National Data. We also see that in Drug Abuse the ages are more distributed
in NC and Nationally there are higher quantities in newborns. From personal experience, most of
the newborns we have received were taken because the birth parent participated in drug
consumption while pregnant. In North Carolina, physical abuse has a more similar number of
cases involving newborns and one-year-olds. This may be because there is a slightly larger
proportion of newborns in our national data set than in our North Carolina data set.
Figure 3. Abuse cases Nationally vs. North Carolina.

Now we move on to the dependency cases. At first glance, these graphs (Figure 4) appear to be very similar. No coping in North Carolina looks to be the biggest reason for a dependency case, with the parents being in jail as the second reason. This follows nationally. One of the biggest differences being that there are more one-year-olds in child disability versus newborns, and the newborns are the lowest for child behavior than the other ages. While nationally, there is a spike for newborns and child disability and no coping.
Figure 4. Dependency cases nationally vs. in North Carolina.

Our last comparison between national and North Carolina is our neglect cases (Figure 5). Neglect tends to be our removal reason with the highest number of foster children. Neglect tends to be in many cases involving foster children. It can be a lack of clothing, food, or attention, which are all vital things for a child to grow up properly. Comparing our graphs, they are almost identical, with slight differences between the distribution of ages. As stated earlier, our national data set has a higher percentage of newborns than our North Carolina data set. This higher percentage is an influence on the neglect cases. In the abandonment cases, we see that in North Carolina, there are more newborns abandoned than the other ages. The other ages seem to be relatively equal.
Figure 5. Neglect cases nationally vs. in North Carolina.

Now that we have looked at the reasons separately, we will look at our Catawba County data set and compare it with our other data sets (Figure 6). To make this comparison easier to comprehend, I have combined all of the abuse reasons into one reason and have done the same with neglect and dependency cases.
Figure 6. Comparison of removal cases nationally, in NC, and Catawba County.

From this graph, we see that Catawba County shows a different pattern from the North Carolina and National data sets. Abuse cases are very low compared to Neglect and dependency cases. Since Catawba County is only one county out of one hundred counties, it makes sense that this county may not follow the pattern we found in our national and NC graphs because of its small sample size. Neglect for all three graphs is the highest reason for removal, but notice for Catawba County is the only reason that contains children removed from the home at age three.

For all three graphs, children under the age of one have the highest quantity removed from the home, with neglect being the highest reason. Most cases in our data set have two or three reasons for the removal of a child. For example, the child could have been abused and neglected. Most cases involve some form of neglect, as shown in our graphs. The second highest reason for our national and North Carolina graphs is Abuse. While for Catawba County, the second-highest reason for removal is dependency.
Conclusions

When I began this project, my original hypothesis was that the number one reason for removal of children into foster care was substance abuse. After comparing the cases for children under the ages of three, we saw that the majority of cases involved neglect. Neglect occurred in most cases, while abuse was the second most reason nationally and in North Carolina. In Catawba County, abuse occurs the least in cases. In short, my hypothesis was incorrect, and neglect is the main reason for removal for children in the U.S. I believe Neglect occurs the most for reasons because if a parent is on drug/substance, then they take less care of their child. So, their child ends up neglected. While Abuse is another main factor, Neglect seems to be in almost every case. How can we make sure a parent takes care of their child? How can we protect the children of America? I just analyzed the problem, but I hope than we can reduce the number of children in foster care and create a safe place for these children to thrive. By collecting more information on the parents and investigate what environments or persons lead to the mistreatment of a child.
Work Cited

“History of Foster Care in the United States.” *National Foster Parent Association*, 2020, [https://nfpaonline.org/page-1105741](https://nfpaonline.org/page-1105741)


“When Did Foster Care Start?” *Adoption.org*, 2020, [https://adoption.org/foster-care-start](https://adoption.org/foster-care-start)
Appendix

```{r}
library(tidyverse)
library(readxl)
library(eeptools)
library(dplyr)
```

```{r, warning = FALSE, message = FALSE}
install.packages("eeptools")
Foster <- read_tsv('FC2018v1.tab')
glimpse(Foster)
```

```{r}
library(tidyverse)
CC_Foster <- read_excel("Catawba County Foster Care Data.xlsx")
CC_Foster
#Foster

ggplot(CC_Foster, aes(x = `Age Entered`, fill = `Reason Cared`)) +
  geom_bar(position = "dodge") +
  theme_bw() +
  labs(title = "Cases in Catawba County Unaltered", x = "Age of
  Child When Removed", fill = "Reasons for Removal")

test <- separate(CC_Foster,`Reason Cared`, c("first", "second", "third"), sep = "/")
test

str(test)

test1 <- gather(test, "Nothing", "Reasons", first, second, third)

Catawba_County <- test1[!is.na(test1$Reasons), ]

Catawba_County1 <- Catawba_County %>%
  mutate(`Age Entered` =as.factor(`Age Entered`))

Catawba_County1$Reasons <- as.character(Catawba_County1$Reasons)
Catawba_County$Reasons[Catawba_County$Reasons == "ABU"] <- "Abuse"

Catawba_County$Reasons[Catawba_County$Reasons == "NEG"] <- "Neglect"

Catawba_County$Reasons[Catawba_County$Reasons == "DEP"] <- "Dependency"

Catawba_County$Reasons <- as.factor(Catawba_County$Reasons)

Compare_CC <- ggplot(Catawba_County1, aes(x = Reasons, fill = `Age Entered`)) +
  geom_bar(position="dodge") +
  theme_bw() +
  labs(title = "Cases In Catawba County", x = "Reason for Removal", fill = "Age of Child") +
  theme(legend.position = "bottom")

# 98 kids in total, but there are double counts when I split up the data into reasons
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#Mutate to fix Date of birth
Foster3 <- Foster1 %>%
  mutate(DOB = DOB1)
Foster3

# Calculate Removal into years.
Removal <- calc_age(Foster1$Rem1Dt, as.Date("2018-9-30"))

#Change removal into age at removal by taking the age of the child - removal year
Foster_new <- Foster3 %>%
  mutate(Rem1Dt = DOB - Removal)
Foster_new

Foster_Age56 <- Foster_new[Foster_new$Rem1Dt <= 3,]
Foster_Age100 <- Foster_Age56[Foster_Age56$Rem1Dt >= 0,]
Foster_Age100
Foster_Age101 <- Foster_Age100[Foster_Age100$St == "NC",]
table(Foster_Age100$Rem1Dt)

119520 / 298183
72574 / 298183
57037 / 298183
48993 / 298183

table(Foster_Age101$Rem1Dt)
2314 / 6319
1564 / 6319
1283 / 6319
1099 / 6319
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Foster_condensed <- gather(Foster_new,"Reason","Yes/No",
PHYABUSE, SEXABUSE, NEGLECT, AAPARENT, DAPARENT, CHILDIS,
CHBEHPRB, PRRTSDIED, PRRTSJAIL, NOCOPE, ABANDMNT, RELINQSH)
# gather function
Foster_condensed

Foster_Age <- Foster_condensed[Foster_condensed$Rem1Dt <= 3,]
Foster_Age1 <- Foster_Age[Foster_Age$Rem1Dt >= 0,]

Foster_Reason <- Foster_Age1[Foster_Age1$`Yes/No` == 1,]
Foster_Reason
# Remove NA from data frame
Foster_Reason1 <- Foster_Reason[complete.cases(Foster_Reason), ]

Foster_Reason1$Reason <- as.character(Foster_Reason1$Reason)
Foster_Reason1$Reason[Foster_Reason1$Reason == "PHYABUSE"] <- "Physical"
Foster_Reason1$Reason[Foster_Reason1$Reason == "SEXABUSE"] <- "Sexual"
Foster_Reason1$Reason[Foster_Reason1$Reason == "AAPARENT"] <- "Alcohol"
Foster_Reason1$Reason[Foster_Reason1$Reason == "DAPARENT"] <- "Drug"
Foster_Reason1$Reason[Foster_Reason1$Reason == "PRTSDIED"] <- "Parents Died"
Foster_Reason1$Reason[Foster_Reason1$Reason == "PRTSJAIL"] <- "Parents Jail"
Foster_Reason1$Reason[Foster_Reason1$Reason == "NOCOPE"] <- "No Cope"
Foster_Reason1$Reason[Foster_Reason1$Reason == "RELINQSH"] <- "Relinquished"
Foster_Reason1$Reason[Foster_Reason1$Reason == "CHBEHPRB"] <- "Child Behavior"
Foster_Reason1$Reason[Foster_Reason1$Reason == "CHILDIS"] <- "Child Disability"
Foster_Reason1$Reason[Foster_Reason1$Reason == "ABANDMNT"] <- "Abandonment"
Foster_Reason1$Reason[Foster_Reason1$Reason == "NEGLECT"] <- "Neglect"

Foster_Reason1$Reason <- as.factor(Foster_Reason1$Reason)
NC_Foster <- Foster_Reason1[Foster_Reason1$St == "NC",]
Foster_Factor <- Foster_Reason1 %>%
```r
mutate(Rem1Dt = as.factor(Rem1Dt))

Foster_Abuse <- Foster_Factor %>%
  filter(Reason %in% c("Physical", "Sexual", "Alcohol", "Drug"))

Foster_Other <- Foster_Factor %>%
  filter(Reason %in% c("Parents Died", "Parents Jail", "No Cope", "Reliqished", "Child Behavior", "Child Disability"))

Foster_Neglect <- Foster_Factor %>%
  filter(Reason %in% c("Abandonment", "Neglect"))
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```
Compare_NC <- ggplot(NC, aes(x = Reason, fill = Rem1Dt)) +
  geom_bar(position="dodge") +
  theme_bw() +
  labs(title = "Removal Reasons in NC", x = "Reason for Removal", fill = "Age of Child") +
  theme(legend.position = "bottom")
```

```
Abuse_graph <- ggplot(Foster_Abuse, aes(x = Reason, fill = Rem1Dt)) +
  geom_bar(position="dodge") +
  theme_bw() +
  labs(title = "Abuse Cases Nationally", x = "Reason for Removal", fill = "Age of Child") +
  theme(legend.position = "bottom")
```

```
Other_graph <- ggplot(Foster_Other, aes(x = Reason, fill = Rem1Dt)) +
  geom_bar(position="dodge") +
  theme_bw() +
  labs(title = "Dependency Cases Nationally", x = "Reason for Removal", fill = "Age of Child") +
  theme(legend.position = "bottom")
```

```
Neglect_graph <- ggplot(Foster_Neglect, aes(x = Reason, fill = Rem1Dt)) +
  geom_bar(position="dodge") +
  theme_bw() +
  labs(title = "Neglect Cases Nationally", x = "Reason for Removal", fill = "Age of Child") +
  theme(legend.position = "bottom")
```

```
NC_Foster <- Foster_Reason1[Foster_Reason1$St == "NC",]
Foster_NCFactor <- NC_Foster %>%
  mutate(Rem1Dt =as.factor(Rem1Dt))
Foster_NCAbuse <- Foster_NCFactor %>%
  filter(Reason %in% c("Physical", "Sexual", "Alcohol", "Drug"))
Foster_NCOther <- Foster_NCFactor %>%
  filter(Reason %in% c("Parents Died", "Parents Jail", "No Cope", "Relinquished", "Child Behavior", "Child Disability"))
```
Foster_NcNeglect <- Foster_NCFactor %>%
  filter(Reason %in% c("Abandonment", "Neglect"))

Abuse_NC_graph <- ggplot(Foster_NCAbuse, aes(x = Reason, fill = Rem1Dt)) +
  geom_bar(position="dodge") +
  theme_bw() +
  labs(title = "Abuse Cases In North Carolina", x = "Reason for Removal", fill = "Age of Child") +
  theme(legend.position = "bottom")

# Drug abuse is the second most reason for Removal, with neglect being the number one. Is neglect an abuse form? If so, is abandonment an abuse form? Set up variables based one that

Other_NC_graph <- ggplot(Foster_NCOther, aes(x = Reason, fill = Rem1Dt)) +
  geom_bar(position="dodge") +
  theme_bw() +
  labs(title = "Dependency Cases In NC", x = "Reason for Removal", fill = "Age of Child") +
  theme(legend.position = "bottom")

Neglect_NC_graph <- ggplot(Foster_NcNeglect, aes(x = Reason, fill = Rem1Dt)) +
  geom_bar(position="dodge") +
  theme_bw() +
  labs(title = "Neglect Cases In North Carolina", x = "Reason for Removal", fill = "Age of Child") +
  theme(legend.position = "bottom")

```{r}
Summary <- ggplot(Foster_Reason1, aes(Rem1Dt)) +
  geom_histogram(aes(y=100*..count../sum(..count..)),color = "black", fill = "Blue") +
  coord_cartesian(xlim = c(0, 3), ylim = c(0,60)) +
  theme_bw() +
  labs(x = "Age of Foster Child", y = "Percent", title = "National Data")

Summary_NC <- ggplot(NC_Foster, aes(Rem1Dt)) +
  geom_histogram(aes(y=100*..count../sum(..count..)),color = "black", fill = "gold") +
  coord_cartesian(xlim = c(0, 3), ylim = c(0,60)) +
  theme_bw() +
```
labs(x = "Age of Foster Child", y = "Percent", title = "North Carolina Data")

Summary_CC <- ggplot(CC_Foster, aes(`Age Entered`)) +
  geom_histogram(aes(y=100*..count../sum(..count..)),color = "black", fill = "Red") +
  coord_cartesian(xlim = c(0, 3), ylim = c(0,60)) +
  theme_bw() +
  labs(x = "Age of Foster Child", y = "Percent", title = "Catawba County Data")

table(CC_Foster$`Age Entered`)
56/98
29/98
12/98
1/98
```
```
```{r}
library(gridExtra)
grid.arrange(Abuse_graph, Abuse_NC_graph, ncol=2)
grid.arrange(Other_graph, Other_NC_graph, ncol=2)
grid.arrange(Neglect_graph,Neglect_NC_graph, ncol=2)
grid.arrange(Compare_National, Compare_NC, ncol = 2)
grid.arrange(Compare_NC, Compare_CC, ncol = 2)
Other_graph
Other_NC_graph
grid.arrange(Summary, Summary_NC, Summary_CC, ncol = 3)
```