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# Identifying Typologies of Failure to Appear

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# Identifying Typologies of Failure to Appear

by

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## Abstract

Empirically tracking when defendants fail to appear (FTA) for their court date is important for virtually all court systems. Factors related to FTA can inform court decision-making. Developing a typology of FTAs may provide added accuracy in pretrial detention decisions and using pretrial risk assessments. The current exploratory study expands on current knowledge of factors associated with FTA by identifying profiles of those most likely to fail to appear, and comparing with profiles of those who do show up for their court date. Seven cluster profiles were established for FTAs, and eight cluster profiles were established for non-FTAs. While there was some overlap between profiles, there were a few profiles that were particularly distinct. The profiles and their policy implications are discussed.

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## Introduction

Pretrial processes comprise a topic of growing interest within criminal justice. Annual expenditures on pretrial detention have reached $13.6 billion (Wagner & Rabuy, 2017), accounting for over 60% of the average jail population in the US (Bureau of Justice Statistics [BJS], 2016). Apart from cost, many of those held are at low-risk to recidivate (BJS, 2016). Reducing the number of individuals held in pretrial custody, while also maintaining public safety and ensuring that individuals released return for their court dates, is a difficult task. Many jurisdictions are searching for ways to best utilize resources to reform such processes.

One option for reform efforts is to focus on court appearances. When defendants are released pretrial, whether on their own recognizance, under the auspices of another person or on a bail bond, some still fail to appear to their court date. Those released without any oversight tend to have higher failure to appear (FTA) rates, with rates varying from 10-30% depending on offense type and location (Bornstein, Tomkins & Neeley, 2011). A number of sanctions can occur when an individual fails to appear including fines, arrest and bail revocation. While there is no specific research on how effective these sanctions are, there have been studies that find reduced FTA rates when individuals are reminded of sanctions they will receive if they fail to appear (Bornstein, Tomkins, Neeley, Herian & Hamm, 2012).

One way to improve the effectiveness of applied sanctions for FTAs is by isolating factors that predict when defendants fail to appear. Being able to identify factors indicative of FTA would be beneficial to the courts, by assisting in reducing docket backlog and victim restitution, among other reasons. If certain factors can be identified as more

indicative than others, steps can be taken to target such factors with improved risk assessments, specific interventions and services, avoiding FTAs whenever possible. The current, exploratory study seeks to expand on identifying factors of FTA using cluster analyses to create a typology, or profiles, of defendants who fail to appear, and compare them to profiles of those who do not.

# Literature Review

## Predicting Failure to Appear

There is a growing body of research that attempts to predict outcomes related to pretrial release. These studies often examine the relationship with failure to appear and type of release in relation to predictors. Overall, researchers have found that gender, social ties, and offense type were predictors for failure to appear, often regardless of type of release (Maxwell, 1999; Johnson, Kierkus & Yalda, 2014). There is not much research on FTAs in particular, however, in spite of that, we can still learn a great deal from what has been found. Research has demonstrated that demographic and static risk factors can be the most predictive of FTA, though there have been some mixed findings. Due to the static nature of many FTA predictors, previous research has also sought out solutions to increase appearances at court dates through bail bonds and types of notification (e.g., Bechtel, Holsinger, Lowenkamp & Warren, 2017). While the research sometimes has varied results, there are a number of studies that find when these techniques are properly applied, they can be effective in reducing FTAs (Howat, Forsyth, Biggar & Howat, 2015; Herian & Bornstein, 2010).

One of the more comprehensive reviews on pretrial research is a meta-analysis done by Bechtel, Holsinger, Lowenkamp and Warren (2017). Utilizing sixteen studies, the authors conducted a meta-analysis on studies that contained pretrial FTA, new arrests while on pretrial release, and/or bond revocation. Some studies indicated promise that court notifications are an efficient and cost-effective way to reduce FTAs, and the authors noted that development of pretrial risk assessment tools are an area where more research is needed. Bechtel, Lowenkamp and Holsinger (2011) also conducted an earlier meta-

analysis that examined re-arrest, failure to appear, new crimes and any failures using thirteen studies. The results for failure to appear indicated that age, juvenile arrests, prior conviction, prior jail, property crime, drug crime and victim injury had the strongest significant correlations of the risk items. They concluded that the strongest predictors of pretrial failure were static factors, not dynamic ones.

Predictors consisting of demographic and static risk factors are present throughout research regarding FTAs. Zettler and Morris (2015) used data from the Texas Department of Public Safety to examine financial and nonfinancially secured releases using logistic regression models. The sample consisted of 2,480 cases, with 911 individuals who failed to appear. Comparing across race and gender groups, they found that indigence was a main factor for all. For all race and gender groups, the highest number of FTAs by charge was for drug offenses; and being jailed previously for a different conviction had a significant impact. In particular, race and gender played a role in effects on male and Hispanic defendants. Having a felony charge in comparison to a misdemeanor had a negative effect on all defendants except Hispanic defendants. Males were found to be more likely to fail to appear than females, and in particular, black and Hispanic males. Marriage had a significant impact for males only.

Accounting for previous research, there were a number of categories of variables that need to be included in the current research. Demographic variables such as gender, race and age have all been predictors of failure to appear in the previous research (Bechtel, Lowenkamp & Holsinger, 2011; Maxwell, 1999). Another major area of predictors in the literature is offense type and criminal history. Offense type goes beyond the broad category and encompasses crime type (property and drug) and felony charge as important predictors

(Bechtel, Lowenkamp & Holsinger, 2011; Johnson, Kierkus & Yalda, 2014; Zettler & Morris, 2015). Criminal record and history are important as well, especially having a prior conviction, being jailed previously and having been arrested as a juvenile (Bechtel, Lowenkamp & Holsinger, 2011; Berk et al., 2018; Clarke, Freeman & Koch, 1976; Maxwell, 1999; Zettler & Morris, 2015). Finally, inclusion of social ties is important due to previous research, with marriage in particular having been a valuable predictor of FTA for men (Zettler & Morris, 2015).

There were some factors that differed across FTA research. In particular, one of the first studies to examine factors that contribute to the likelihood that someone is going to fail to appear had mixed results in comparison to later findings, particularly in the area of demographic and static risk factors (Clarke, Freeman & Koch, 1976). Similar to much of the pretrial literature, FTAs were just one of multiple outcomes examined, such as the likelihood to be arrested for a new offense. Using a random sample of 756 felony and misdemeanor defendants, they employed a survival analysis and found that the time between being released on bail until court disposition, criminal record, and type of release (e.g., bail, magistrate release, pretrial release program) were the most important predictors of FTA. In contrast, sex, race, income, age and employment status were not predictive.

**Typology Development in Criminal Justice**

Research in creating typologies in the context of pretrial risk has been a growing area of research. Typological research, also known as classification, has been used in criminal justice research for a number of years, with its prevalence growing due to its ability to help hone resources and efforts toward specific individuals. Ways to conduct typological research are often referred to as machine learning, which can be both

supervised or unsupervised (Brennan & Oliver, 2013). Unsupervised learning uses analyses in order to discover and identify characteristics for categories, creating new classifications (Brennan & Oliver, 2013; Brennan, 1987). Examples of this are cluster analyses and latent class analyses (Brennan & Oliver, 2013). Supervised learning enables one to identify cases that go into preexisting classifications, otherwise known as predictive forecasting (Brennan & Oliver, 2013; Brennan, 1987). Both supervised and unsupervised machine learning have been utilized previously in criminal justice research.

One form of unsupervised learning is latent class analysis, which has proven to be rather useful for corrections agencies in making decisions about individuals of varying risk to reoffend. For instance, Routh, Hamilton and Campbell (2017) used latent-class analysis to create typologies for a risk needs tool in Washington state. The clusters consisted of the risk, needs and protective factors of the offender. This research highlights the importance of the inclusion of dynamic risk factors in identifying unique clusters or classes of offenders. They analyzed a sample of 37,111 individuals who were under the supervision of and received a risk needs assessment from Washington State Department of Corrections. Their study resulted in six classes: Criminally diverse, long-term chronic, high risk/low need, lower risk moderate substance abuse, aggressive and violent, and high-risk substance user. These findings were used to support the STRONG-R tool and Washington State Department of Corrections staff. This research provides a good example for why both static and dynamic risk factors need to be included, as dynamic factors provide the best typologies because they capture the nuanced differences in people's life circumstances.

In contrast to the unsupervised methods, research done by Berk, Bleich, Kapelner, Henderson, Barnes and Kurtz (2018) expanded on the application of machine learning in

criminal justice research through their use of a kernel approach to forecast failure to appear. The jurisdiction used for their dataset had a 40% failure to appear rate. In order to predict FTA, they compared the accuracy between stepwise logistic regression and kernel method (KPCLR). They drew a random sample of 1500 cases from 175,361 with a split sample approach that had 41 predictor variables. The predictor variables consisted mostly of criminal history and current charges. The kernel approach was able to more accurately predict FTA, which would result in a 37% failure rate. While this was seemingly close to the original 40% rate, it would result in 1500 less FTA occurrences. Even though a kernel method differs from the methods of the current study, it demonstrates that incorporating charge and criminal history information can provide an accurate measure of FTAs.

Expanding on the value of different statistical techniques in predicting failure to appear, Clipper (2018) compared the usefulness of random forests, support vector machines and naïve Bayes model in predictive accuracy using logistic regression in comparison. The variables examined in this study were demographics, current charge, release mechanism and prior charges. The authors found support that in particular random forest is a more effective approach to predicting FTA than a logistic regression. The importance of this research in relation to the current study is that it provides further support for the integration of demographics, current charges and criminal history in machine learning application.

**Gaps in the Literature**

Prior literature involving FTA indicates the importance of including demographic, static factors. With the inclusion of these factors, the application of machine learning to analyze FTA can be useful in indicating what is predictive of FTA. Gaps in the literature

involved show that we do not know what dynamic risk factors can tell us about FTA, as most of the literature focuses on static measures. Given the scope of the literature discussed above, the current, exploratory analysis seeks to define unique features of defendants who are most likely to fail to appear using cluster analyses to create a typology, or profiles. Machine learning has been applied previously to FTAs in the application of prediction, but cluster analysis allows for the creation of typologies of what factors are indicative of FTA. It provides a snapshot of what individuals who fail to appear look like. While there is previous research within the field of criminal justice that incorporate cluster analyses, there is no current research on failure to appear that uses cluster analysis to create a typology of FTA defendant traits.

## Methods

This exploratory research aims to develop a profile of defendant and case characteristics of those who are more likely to fail to appear. A form of unsupervised machine learning, cluster analysis allows for the comparison between factors among those who fail to appear and those who do not to create classifications. The profiles created through the cluster analysis identify what factors are common within the clusters. For the current study, cluster analysis will be used to answer the research question: What traits are common across failure to appear, and how do they differ from those who do not fail to appear?

### Data

The data came from the Bureau of Justice Statistics, Survey of Inmates in Local Jails. The data was collected by the Bureau of the Census, under the US Department of Commerce. It was accessed and downloaded from the National Archive of Criminal Justice Data, through ICPSR 4359. This particular dataset is a nationally representative sample of individuals being held in jail for pretrial detention, awaiting a transfer, or are convicted and serving a sentence of a year or less. The data collection is done every five to six years, and as the most updated version, this data was collected from January 1, 2002 to April 31, 2002. It consists of largely self-report data. To create this sample of the data set, there was a stratified two-stage selection process. Jails were selected first, followed by inmates. Jails with larger populations had a higher chance of being selected due to the development of six stratum. From the selection of jails, inmates were then selected to be interviewed using a random sample. There were 7,750 individuals selected in the first round, with a breakdown of one for every 92 males, one for every 27 females, and one for every 13

juveniles. Then, 6,982 interviews were conducted, excluding 768 individuals because they had been moved, released, refused or had some other reason to not be interviewed. There was a nonresponse rate of 15.9% over the two sampling stages. Although this dataset is nationally representative, conclusions cannot be made on more local levels (state, county, or other).

## Measures

**Dependent Variable.** The dependent variable being examined for the purpose of this study was "failed to appear for court appearance" (V645). The question was specifically designated as: "Did you fail to appear for any scheduled court appearance?" It was coded as yes (1) and no (2). The don't know (7), refused to answer (8), or missing (9) responses were excluded in order to look at only if they failed to appear or did not. The "no" response was recoded as 0. For this dataset, 322 individuals failed to appear for a court appearance and 1,217 did not. This gave a total sample of 1,539 individuals that were examined to see what made individuals more likely to FTA. The sample was later split on the dependent variable for the clustering process due to the smaller sample size of this dataset.

**Exploratory Variables.** In order to conduct a cluster analysis, at least eleven variables are needed. To cover the scope of likelihood to fail to appear in the literature, 41 variable groups were selected. Variable selection is important, as they need to be relevant and reliable (Brennan, 1987). This was accounted for by including variables that have appeared in previous research and have a theoretical basis. All the variables included were dichotomized (excluding age) by "yes" being coded as 1 and "no" being coded as 0. This allowed for uniformity across the analysis.

*Static Exploratory Variables.* Static variables were more prevalent in the current dataset, and indicative of FTA given prior research. Race (V2333) was collapsed into four categories in order to cover the major racial/ethnic groups addressed in previous literature: white non-Hispanic (1), black non-Hispanic (2), Hispanic (3), and other (4). Gender was included, as some research only looked at men (Maxwell, 1999), so the variable, sex (V5) was used for this and coded as male (1) and female (0). It is important to note that race and sex were excluded from the initial clustering, but added when looking at how the cases were clustered. This was done to avoid having clusters be grouped by race or sex.

Age (V14) was a continuous variable and its inclusion is supported by prior research (Bechtel et al., 2011). To designate familial connections and social ties, marital status and children were examined through a series of variables (Johnson, Kierkus & Yalda, 2014; Zettler & Morris, 2015). The marital status variable (V57) was broken down into married (1), widowed (2), divorced (3), separated (4) and never married (5). This variable was dichotomized into these categories. The first variable regarding children was whether there was any minor child in the residence at the time of admission (V1474), which was dichotomized as yes or no. Number of children (V1460) and number of minor children (V1473) that the individual had (whether living with them or not) were important related variables that were recoded and dichotomized for no children, 1 child, 2 children, 3 children or 4 or more children for both the variables. These variables showed which individuals had children, which were minors, and which lived in the homes of the individuals.

Variables that provided insight into the defendant's background were included. To do this, whether other family served time was looked at through a few variables, all of which were dichotomized as yes or no. The first was whether parents had been sentenced

to serve time in jail or prison (V2363). Spouse served time (V1518), girlfriend served time (V1524) and boyfriend served time (V1525) were combined into one variable of partner served time. Finally, child/step-child served time (V1519), sister/step-sister served time (V1520), and brother/step-brother served time (V1521) were combined for a variable of other family served time. Whether the parents of the individual had ever abused alcohol or drugs (V1509) was examined through a dichotomized variable. Further, whether the individual had ever been physically or sexually abused (V2348) was looked at, as well as whether the individual had ever lived in a foster home, agency, or institution growing up (V1509).

Research found that drug offenders were more likely to fail to appear, so a number of variables related to this were examined (Johnson, Kierkus & Yalda, 2014). The first was what drugs had ever been used by an individual in the past. These variables were indicated by yes or no if the individual had ever used that particular drug. The "drug use ever" examined was for the categories of marijuana (V2389), cocaine or crack cocaine (V2389), heroin or opiates (V2390), depressants (V2391), stimulants (V2392), hallucinogens (V2393), and inhalants and other drugs (V2394).

Looking at the current offense, there were a number of variables that related to what occurred just before and at the time of offense related to drug use. First, drug use at the time of offense (V2387) was coded as a dichotomous yes or no. The particular drug used when the offense occurred took a number of variables and compiled them into broader categories of drugs. The categories were based off of federal drug classifications (with some categories combined due to low amounts of use). Narcotics used when the offense occurred consisted of the drug variables of heroin (V1767) and other opiates or methadone

outside of treatment (V1768). Stimulants used when the offense occurred included methamphetamine (ice/crank) (V1769), other amphetamine (speed) without a prescription (V1770), crack (V1774), and cocaine other than crack (V1775). Other drug use when offense occurred consisted of broad categories of depressants and hallucinogens, as there were lower counts for both of these categories. Variables for the depressant category was methaqualone (Quaaludes) (V1771), barbiturates (V1772), tranquilizers such as valium (V1773), and variables for the hallucinogens category was PCP (V1776), ecstasy (V1777), and LSD or other hallucinogens (V1778). Cannabis use when the offense occurred (V1779) remained as its own category.

Offense type, criminal record, and criminal history are some of the most important predictors of FTA in previous research. As stated previously, property and drug crime are important predictors (Bechtel, Lowenkamp & Holsinger, 2011; Johnson, Kierkus & Yalda, 2014; Zettler & Morris, 2015). To look at offense, the "controlling offense general categories" variable (V2309) was used. This was coded as violent (1), property (2), drug (3), public order (4) and other (5) and then recoded as dichotomous variables. The current violent, nonviolent offense variable (V2311) was used as well with violent coded as 1 and nonviolent coded as 0.

Continuing on the topic of current arrest, whether or not the individual was searched at the time of arrest (V1142) was examined through a dichotomous variable. What police found when the individual was searched was also covered through a series of dichotomous variables that included illegal weapons (V1143), illegal drugs (V1144), open containers of alcohol (V1145), stolen property (V1146), other evidence of a crime (V1147), and nothing found (V1148). Whether or not the individual resisted arrest was a combination of a series

of variables. The variables that made up resisted arrest were argued or resisted police (V1166), verbally threatened police (V1168), resisted arrest by resisting being handcuffed or arrested (V1169), resisted search (V1170), resisted arrest by hiding, running away or engaging in a high-speed chase (V1171), fought police (V1172), threatened or used a weapon against police (V1173), and used a weapon to assault police (V1174). If an individual had performed one of these actions while being arrested it was assigned a 1 and a yes designation for the dichotomous variable, resisted arrest.

Within the category of criminal record and history, having a prior conviction, being jailed previously and juvenile arrests are all useful predictors for FTA (Bechtel, Lowenkamp & Holsinger, 2011; Clarke, Freeman & Koch, 1976; Maxwell, 1999; Zettler & Morris, 2015). Collapsed criminal history was used to encompass this predictor (V2324), and was coded as no offense (0), no previous sentence (1) and previous sentence (2). This was recoded as a dichotomous variable of whether or not there was a previous sentence. The number of prior arrests (V1175) was examined using a continuous variable that was recoded into categories of dichotomous variables of no arrests, one arrest, two arrests, three arrests, four arrests, five arrests, six to ten arrests, and more than ten arrests.

Prior sentence to a local jail (V1241) was examined in a dichotomous variable. Prior sentence to prison was a variable made up of prior sentence to state prison (V1242), prior sentence to federal prison (V1243), and prior sentence to military prison (V1244). If an individual had served time in any of those three prison locations, they were indicated as yes, those who did not were a no. Adult probation was indicated through the variable of received probation as an adult (V1217), which was dichotomized. Probation violations are a notable indicator of failure to appear (Bechtel, Lowenkamp, & Holsinger, 2011). To

examine this, prior probation violation charge (V1222) and prior probation revoked (V1223) were dichotomized, respectively.

Similar to the prior section, aspects of the juvenile criminal history were examined. Prior sentence to a juvenile facility (V1240) was dichotomized as yes or no, as were all the other variables in this section. Whether the individual had ever been convicted of a juvenile (V1199) or had ever been convicted as a youthful offender (V1200) combined into one variable of prior juvenile conviction. Prior juvenile probation was looked at by combining the variables of received probation as a juvenile (V1215) and received probation as a youthful offender (V1216).

*Dynamic Exploratory Variables.* While there were fewer dynamic variables available for analysis given the constraints of the current dataset, there were still a number of variables that helped to construct the clusters. To examine the socioeconomic factors of the individuals, income and employment were looked at. Previous research indicates this as a factor of interest in FTAs (Zettler & Morris, 2015). Pre-arrest personal income (V2338) was dichotomized and left with its original income groups, as "less than $300" (1), $300-599 (2), $600-999 (3), $1,000-1,999 (4), $2000 or more (5) and "none" (6). Illegal income in the month before the offense (V2347) and welfare received the month before admission (V2346) were included as dichotomized variables.

Employment in the month before admission (V2339) was coded as employed (1) and looking or no job (2), and was recoded with 0 and 1 as the others. The degree of employment (V1399) was also included in the analysis. Originally it was coded as (1) full-time, (2) part-time, (3) occasional, but it was dichotomized and recoded as yes or no to full time employment. Education level (V2336) was initially coded as 8$^{th}$ grade or less (1),

some high school (2), GED (3), high school diploma (4), some college (5), and college graduate (6). This remained largely the same when dichotomized, except “some college” and “college graduate” were combined into a “college” variable.

Residence and related factors were included to understand the living situations of individuals. The first variable that addressed this was residence prior to current admission (V1428). This was originally coded as (01) house, (02) apartment, (03) trailer or mobile home, (04) rooming-house, hotel or motel, (05) on the street or homeless shelter, or (06) in a group living situation or institution, such as a hospital, halfway house, recovery room, dormitory, etc. Homelessness was addressed through a later variable, so it was excluded from this variable. This variable was then recoded and dichotomized yes/no for house, apartment/trailer, and other (which included hotel, motel, group living situation, or institution). Homelessness was evaluated using a dichotomous variable, homeless prior to current admission (V1429).

Mental health diagnoses were examined through seven dichotomous variables of diagnosis. They asked yes/no questions regarding the diagnoses of: depressive disorder (V2022), bi-polar disorder (V2023), psychotic disorder (V2024), post-traumatic stress disorder (V2025), other anxiety disorder (V2026), personality disorder (V2027), and other mental condition (V2028). After the analysis, a variable was created to look at total numbers of diagnoses. This was done by adding up each of the diagnoses. The maximum total of diagnoses was six for one individual, so the variable was dichotomized 0 through 6. This indicated which individuals had multiple diagnoses, and which had no diagnoses at all.

As drug offenders are more likely to fail to appear, dynamic factors related to drug use were included as well (Johnson, Kierkus & Yalda, 2014). The first was collapsed substance (alcohol or drug) dependence and abuse (V2416). This was coded as (1) any dependence, (2) abuse only, and (3) none, which was then dichotomized yes and no for each. Drug use in the month before offense (V2386) and regular drug use (V2385) were both dichotomized.

**Baseline differences between FTA and Non-FTA**

Table 1 provides an overview of all the variables and the percentages across FTA and non-FTA before the data was split and clustered. It is important to note that Table 1 only provides some categories per variable due to space. As it can be seen, FTAs made up about 20 percent of the total sample, while non-FTAs made up almost 80 percent, so these differences were reflected in the percentages. Before clustering, age, sex, white, college, living in a house, living in an "other" residence (which included hotel, motel, group living situation, or institution), homelessness, having lived in a foster home or institution, substance dependence, substance abuse, some drug use ever (cocaine, opiates and stimulants), stimulant use at the time of the offense, having a previous sentence, and having been on probation before were all significant variables related to FTA.

Table 14 in the Appendix provides the percent totals of all clusters for FTA and non-FTA. This goes beyond what was shown previously in Table 1, as it shows the percentage within FTA and non-FTA, not across the sample as a whole. This provides a better picture of general differences between FTA and non-FTA. The main differences between the two were that FTAs were 9.5% more female and had a 9.9% higher rate of having a previous sentence. FTAs also had higher percentages on a number of drug related

variables and had 8% higher substance dependence. Non-FTAs had 6.7% more individuals with a college education, 6% higher with full-time employment, and 6.9% more that live in a house. One important variable to note is that differences in probation violation and revocation were relatively low, with only 4.6% and 3.6% in the percentage difference.

**Table 1. Bivariate descriptives pre-cluster analysis**

| Items | | FTA (n=322) | Non-FTA (n=1217) | p-value |
|---|---|---|---|---|
| Percent of total | | 20.9% | 79.1% | - |
| Mean Age (standard deviation) | | 30.7 (9.21) | 32.0 (10.17) | <.001 |
| Sex | Female | 8.1% | 23.4% | .001 |
| Race | Black | 8.7% | 30.1% | .224 |
| | White | 7.6% | 35.3% | .009 |
| | Hispanic | 3.5% | 10.6% | .119 |
| Education | HS Diploma | 5.3% | 21.4% | .581 |
| Married | | 3.5% | 14.5% | .526 |
| No income | | 4.3% | 12.9% | .072 |
| Illegal Income | | 2.5% | 7.4% | .174 |
| Full time employment | | 11.0% | 46.4% | .055 |
| Lives in house | | 9.8% | 42.8% | .023 |
| Homeless prior to current admission | | 2.5% | 6.3% | .030 |
| No children | | 5.5% | 24.6% | .108 |
| Mental Health | PTSD | 1.7% | 4.6% | .124 |
| Family served time | Parents | 4.9% | 16.3% | .277 |
| | Other (Siblings/Child) | 8.5% | 27.0% | .035 |
| Ever physically or sexually abused | | 5.9% | 19.1% | .127 |
| Foster home growing up | | 3.0% | 6.8% | .002 |
| Substance dependence | | 10.5% | 33.3% | .009 |
| Regular drug use | | 15.2% | 53.7% | .107 |
| Drug use ever | Cocaine | 11.3% | 36.6% | .011 |
| | Opiate | 5.5% | 14.9% | .003 |
| | Depressant | 5.3% | 16.2% | .066 |
| | Stimulant | 8.3% | 26.2% | .023 |
| Crime type | Violent | 3.3% | 14.6% | .221 |
| Crime type | Property | 6.1% | 21.1% | .349 |
| | Drug | 6.1% | 24.4% | .584 |
| Stimulant use at time of the offense | | 4.4% | 10.0% | .000 |
| No prior arrests | | 5.0% | 23.5% | .043 |
| Previous sentence | | 13.1% | 41.7% | .002 |
| Prior sentence to jail | | 7.6% | 24.6% | .086 |
| Prior prison sentence | | 4.2% | 11.0% | .007 |
| Prior probation violation charge | | 5.1% | 15.5% | .063 |
| Prior probation revocation | | 3.6% | 10.8% | .086 |

This table was cut down to save on space, a full version can be found in Table 9 of the Appendix.

**Analytical plan**

A cluster analysis was conducted using SPSS to create typologies of failure to appear. These analyses are typically used for marketing research, but in this case, it was used as exploratory research to generate a profile of who is most likely to fail to appear and was also used to identify who is most likely to appear. That is, what specific factors make someone who fails to appear to a court appearance different from someone who does not? The unsupervised machine learning of cluster analysis will be able to measure similarities or dissimilarities in a group, and cluster them as such (Dolnicar, 2003). In this case, it was used to look at predictors of failure to appear and create a typology, or profile, by identifying the similarities between cases.

While cluster analysis has never been used with FTA, there have been a number of applications of clustering methods in criminal justice research. It has been especially prevalent in the area of juvenile offenders. Breitenbach, Brennan, Dietrich and Grudic (2006) utilized a few forms of unsupervised clustering to create profiles of juvenile offender types. Similarly, a two-step cluster analysis was used by Stefurak and Calhoun (2007) to create profiles of female juvenile offenders, by Onifade, Petersen, Bynum and Davidson (2011) to establish juvenile block groups related to socioeconomic status, and by Köhler, Heinzen, Hinrichs, and Huchzermeier (2009) in creating profiles of mental disorders among juveniles.

The sample size of 1,539 was consistent with the literature on requirements for a cluster analysis. Literature discusses that no matter the sample size, there will always be a result – there is a need to balance the number of variables and sample size (Dolnicar, 2003).

The variables chosen were done so due to their presence in previous research. There were 41 variables used in the analysis.

There are multiple types of cluster analyses, so it had to be determined which type would work best to analyze this data and research question. There is no specific requirement found for clusters (Dolnicar, 2002), but three to five clusters are typical in previous studies utilizing cluster analysis (Dolnicar, 2003). There are a few ways to test and show that clusters are stable. To determine the correct number of clusters, it is recommended to repeat the clusters numerous times to see which produces the most stable option (Dolnicar, 2003). Another method is to use the same sample, but divide it in half and conduct another cluster analysis on both halves, to check that the cluster analyses remain the same (Clatworthy, Buick, Hankins, Weinman & Horne, 2005). This can also be done using another sample altogether. Due to the small sample size of this dataset, the above methods of determining cluster stability were not possible. Instead a variance ratio criterion (VRC) calculation was used.

As identified in the dependent variable section, the dataset was split on the FTA variable in order to create the clusters. There were then two datasets – one that contained FTAs and one that contained non-FTAs. This was done to allow for more power and statistically more informative differences between the FTA and non-FTA clusters. To conduct the cluster analysis, the analysis of FTA and non-FTA followed a similar process. The chosen method for the cluster analysis was the two-step cluster analysis in which a hierarchical cluster analysis was conducted, followed by a k-means cluster analysis (Stefurak & Calhoun, 2007; Onifade et al., 2011; Köhler et al., 2009).

First, a hierarchical cluster analysis was conducted using all of the variables excluding sex and race. This allowed for a range of clusters to be identified for the k-means analysis, as it is required for this analysis that the cluster numbers be known. The hierarchical cluster analysis was done using specifications of Ward's Method, Square Euclidean Distance, and Transform Values range of 1 to -1. Previous research has indicated these as the most useful specifications for this cluster analysis, with Ward's method being chosen because it establishes cluster without a loss of information (Stefurak & Calhoun, 2007; Brennan, 1987). The agglomeration schedule was examined for each and translated into a graph to see if the coefficients indicated a distinct "jump" that would specify the numbers of clusters. Both FTAs and Non-FTAs did not indicate distinct "jumps" at this point, but it did provide a general indication of how many clusters should be examined.

A k-means cluster analysis was then conducted for the general cluster amounts. The ANOVAs for each were exported to be examined in an excel sheet to calculate the variance ratio criterion (VRC). The VRC was used over other techniques due to the small sample size, and the preciseness of the tool. The VRC was calculated in an Excel file using the formula: $\omega k = (VRCk{+}1 - VRCk) - (VRCk - VRCk{-}1)$. According to Caliński and Harabasz (1974), the VRC is specified based off of the value that increased the most. The authors described that a "jump" could possibly occur at the desired cluster number. According to this, the VRC calculation indicated for each the correct cluster amount. Based off of the clusters that were indicated, a k-means cluster was then repeated on the indicated cluster and saved. This saved the cluster profiles to then be analyzed.

Crosstabs were run for all the variables, this time including race and sex, by the cluster assignments. Results were expressed as percentages for the development of cluster

types. When creating the profiles, both total percentages across the clusters and within-percentages were used in creating the profiles. Due to variation in the number of cases within the clusters, within-cluster percentages were relied on more than total cluster percentages. The within-cluster percentages provided a breakdown of each individual cluster, which made the particulars of each cluster easier to evaluate and compare. Crosstabs were also conducted using two variables at a time by the cluster variable to look at the interaction between two particular variables.

A One-Way ANOVA Bonferroni test was conducted to compare which clusters were significantly different from one another at which variables. In order to run this test, the specific clusters were the dependent variables, while the independent variables were all exploratory variables. Anything with a *p* value less than .05 was identified as statistically significant. This went into the creation of the profiles as well, as it indicated significant differences across the clusters (which is denoted in Tables 4 and 7 with an asterisk). In the report of the profiles in the Appendix, it is noted how the clusters were significantly different from others. It is important to note that the creation of clusters did not rely solely on the Bonferroni, rather, it was an additional method to assist in building the profiles. While Bonferroni tests are robust, they are not necessarily robust given the varying case amounts within each of the clusters.

# Results

## Analysis of FTA

Using only cases that failed to appear, a hierarchical cluster analysis was conducted first on all the variables, excluding sex and race. Table 10 (Appendix) and Figure 1 depict the agglomeration schedule, both in the coefficients and in the form of a graph. As seen in Figure 1, below, there was no distinct "jump," or abrupt increase that appears to indicate the number of clusters. Rather, the coefficient values indicated that two to eleven clusters should be examined, as it appeared that it would be within that number of clusters.

**Figure 1. FTA Agglomeration Coefficient Values and Stage**

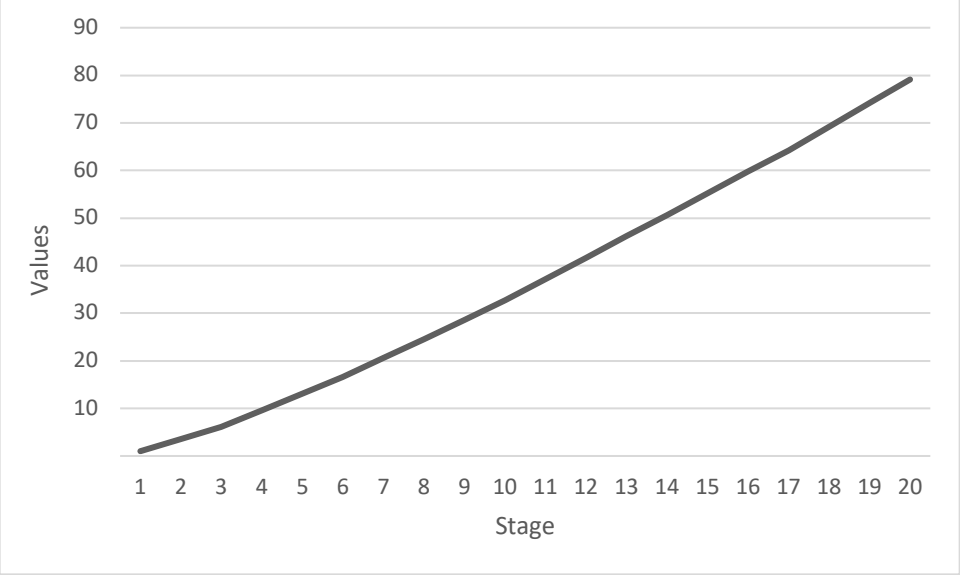

**Table 2. FTA VRC calculations**

| Cluster Solution | Variance Ratio Criterion | $\omega_k$ |
|---|---|---|
| 2 | 1197.709 | - |
| 3 | 1239.220 | 174.084 |
| 4 | 1454.815 | -211.438 |
| 5 | 1458.972 | 23.512 |
| 6 | 1486.641 | 80.598 |
| **7** | **1594.908** | **272.552** |
| 8 | 1975.726 | -246.713 |
| 9 | 2109.832 | -86.337 |
| 10 | 2157.601 | 100.972 |
| 11 | 2306.342 | - |

A k-means cluster analysis was then conducted for cluster amounts from two to eleven. The ANOVAs for each were exported to be examined to calculate the VRC. Table 2 shows the VRC indicated that seven clusters were the correct amount. The bolded values, at seven clusters, showed the greatest difference. Since seven clusters were indicated, a k-means cluster analysis was run one more time for seven clusters and saved. It is important to note here that Cluster 2 of the seven total clusters consisted of one case, that was significantly different from the other cases and clusters, so it was excluded from further analysis. Cluster 6 consisted of only nine cases, but was still included in the analysis. The main focus was on the remaining five clusters, whose number of cases ranged from 32 to 83.

Cluster profiles were devised using within-cluster percentages as shown in Table 3. The statistically significant variables according to Bonferroni tests were indicated by an asterisk. There were noticeable differences between clusters on the variables regarding marital status, children, drug use, and criminal history in particular. The Bonferroni indicated the most significant differences between clusters in these areas.

**Table 3. Profiles of Failure to Appear – within cluster percentages**

| | | Validation Model Cluster Number (Number of cases per cluster) n = 322 | | | | | |
|---|---|---|---|---|---|---|---|
| **Items** | | 1 (73) | 3 (83) | 4 (65) | 5 (59) | 6 (9) | 7 (32) |
| Mean age (standard deviation) | | 30.9 (2.01) | 24.9 (1.59) | 20.1 (1.53) | 38.7 (2.12) | 52.1 (2.21) | 45.5 (1.67) |
| Sex | Male | 60.3% | 63.9% | 75.4%* | 44.1% | 77.8% | 53.1% |
| Race | Black | 38.4% | 44.6% | 44.6% | 42.4% | 33.3% | 37.5% |
| | White | 39.7% | 30.1% | 32.3% | 42.4% | 33.3% | 43.8% |
| | Hispanic | 16.4% | 20.5% | 16.9% | 10.2% | 33.3% | 15.6% |
| Education | 8th grade or less | 9.6% | 13.3% | 10.8% | 6.8% | 22.2% | 12.5% |
| | Some HS | 23.3%* | 37.3% | 50.8%* | 27.1% | 11.1% | 31.3% |
| | College | 15.1% | 6.0% | 4.6% | 11.9% | 11.1% | 12.5% |
| Marital Status | Widowed | 0.0%* | 0.0%* | 0.0%* | 0.0%* | 44.4%* | 0.0%* |
| | Divorced | 13.7%* | 9.6%* | 0.0%* | 37.3%* | 44.4%* | 50.0%* |
| | Not married | 46.6%* | 72.3%* | 87.7%* | 35.6%* | 0.0%* | 18.8%* |
| Income | None | 20.5% | 20.5% | 16.9% | 23.7% | 33.3% | 18.8% |
| | Less than $300 | 6.8% | 7.2% | 15.4% | 6.8% | 0.0% | 9.4% |
| | $600 - $999 | 2.7%* | 12.0% | 18.5% | 11.9% | 0.0% | 25.0%* |
| | $2000 or more | 19.2% | 8.4% | 13.8% | 15.3% | 11.1% | 3.1% |
| Employed month before admission | | 70.6% | 65.8% | 65.1% | 69.2% | 67.8% | 55.6% |
| Full time employment | | 52.1% | 54.2% | 52.3% | 52.5% | 44.4% | 53.1% |
| Lives in a House | | 41.1% | 49.4% | 44.6% | 47.5% | 33.3% | 62.5% |
| Homeless | | 0.0% | 15.1% | 6.0% | 15.4% | 15.3% | 11.1% |
| Minor in home | | 47.9%* | 50.6%* | 26.2%* | 25.4%* | 0.0%* | 12.5%* |
| Children | No children | 17.8%* | 21.7%* | 61.5%* | 13.6%* | 0.0%* | 18.8%* |
| | 2 children | 27.4% | 18.1% | 12.3%* | 37.3%* | 22.2% | 18.8% |
| | 3 children | 13.7% | 18.1% | 1.5%* | 20.3%* | 0.0% | 21.9% |
| | 4 or more children | 19.2% | 6.0%* | 3.1%* | 11.9% | 44.4%* | 28.1%* |
| Minor children | None | 20.5%* | 21.7%* | 61.5%* | 28.8%* | 66.7% | 59.4%* |
| | 2 minor children | 24.7% | 18.1% | 12.3% | 28.8% | 0.0% | 15.6% |
| | 3 minor children | 13.7% | 18.1%* | 1.5%* | 6.8% | 0.0% | 9.4% |
| Mental Health | Depressive Dis. | 17.8% | 21.7% | 21.5% | 32.2% | 44.4% | 15.6% |
| | Bi-Polar | 6.8%* | 10.8% | 6.2%* | 23.7%* | 33.3% | 3.1%* |
| | Psychotic | 2.7% | 4.8% | 1.5% | 5.1% | 0.0% | 0.0% |
| | PTSD | 4.1% | 6.0% | 9.2% | 13.6% | 22.2% | 6.3% |
| | Personality | 6.8% | 2.4% | 4.6% | 11.9% | 11.1% | 0.0% |
| | 0 | 76.7% | 72.3% | 75.4% | 59.3% | 33.3% | 81.3% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Number of Diagnoses | 1 | 8.2% | 10.8% | 10.8% | 11.9% | 22.2% | 9.4% |
| | 2 | 8.2% | 6.0% | 7.7% | 11.9% | 33.3% | 3.1% |
| Parents served time | | 15.1%* | 25.3% | 41.5%* | 18.6%* | 0.0% | 15.6% |
| Ever physically or sexually abused | | 23.5% | 30.1% | 22.9%* | 18.5%* | 42.4% | 22.2% |
| Foster home growing up | | 19.2% | 18.1% | 12.3% | 13.6% | 0.0% | 3.1% |
| Parents abused alcohol | | 34.2% | 34.9% | 35.4% | 37.3% | 11.1% | 25.0% |
| Substance dependence | | 64.4%* | 43.4% | 36.9%* | 55.9% | 55.6% | 50.0% |
| No substance abuse | | 17.8% | 33.7% | 32.3% | 22.0% | 11.1% | 25.0% |
| Drug use month before offense | | 11.8%* | 60.3% | 56.6% | 43.1% | 49.2% | 44.4% |
| Regular drug use | | 75.3% | 74.7% | 69.2% | 72.9% | 77.8% | 65.6% |
| Drug use ever | Cocaine | 67.1%* | 39.8%* | 35.4%* | 69.5%* | 100.0%* | 59.4% |
| | Opiate | 27.4% | 21.7%* | 12.3%* | 40.7%* | 66.7%* | 28.1% |
| | Depressant | 21.9%* | 18.1%* | 20.0%* | 35.6% | 66.7%* | 31.3% |
| | Stimulant | 49.3% | 32.5% | 40.0% | 39.0% | 44.4% | 37.5% |
| Crime type | Property | 32.9% | 24.1% | 44.6% | 22.0% | 0.0% | 25.0% |
| | Drug | 27.4% | 33.7% | 24.6% | 28.8% | 55.6% | 25.0% |
| | Public Order | 26.0% | 22.9% | 12.3% | 30.5% | 33.3% | 37.5% |
| Drug use at time of offense | | 38.4% | 31.3% | 23.1% | 25.4% | 33.3% | 21.9% |
| Drug Type | Cannabis | 13.7% | 14.5% | 21.5%* | 6.8% | 22.2% | 0.0%* |
| | Narcotics | 8.2% | 4.8% | 1.5% | 6.8% | 22.2% | 3.1% |
| | Stimulants | 30.1% | 16.9% | 13.8% | 22.0% | 22.2% | 21.9% |
| Searched at time of arrest | | 75.3% | 71.1% | 84.6%* | 66.1% | 100.0% | 53.1%* |
| Prior arrests | No prior arrests | 16.4% | 27.7% | 26.2% | 22.0% | 22.2% | 31.3% |
| | 1 prior arrest | 21.9% | 18.1% | 18.5% | 11.9% | 0.0% | 15.6% |
| | 2 prior arrests | 12.3% | 25.3%* | 10.8% | 10.2% | 22.2% | 3.1%* |
| | more than 10 prior arrests | 13.7% | 4.8% | 4.6% | 13.6% | 11.1% | 6.3% |
| Previous sentence | | 65.8% | 62.7% | 46.2%* | 66.1% | 100.0%* | 71.9% |
| Prior sentence to jail | | 42.5% | 27.7% | 24.6% | 47.5% | 55.6% | 40.6% |
| Prior prison sentence | | 27.4%* | 12.0%* | 6.2%* | 28.8%* | 55.6%* | 25.0% |
| Received probation as an adult | | 29.4% | 43.8% | 33.7%* | 23.1%* | 49.2%* | 77.8% |
| Prior juvenile conviction | | 13.7% | 26.5% | 32.3%* | 16.9% | 0.0% | 6.3%* |
| Prior juvenile probation | | 12.3% | 21.7% | 23.1%* | 11.9% | 11.1% | 0.0%* |

* Bonferroni test indicated significance for this cluster

This table was cut down to save on space, a full version can be found in Table 11 of the Appendix.

**FTA Profiles**

Table 4 provides a brief overview of the more specific distinctions of the particular FTA clusters. These are what made them specifically distinct and different from one another. Below Table 4, there is a brief overview of the most important specifics of each cluster. A full overview of cluster profiles can be found in the Appendix. It is important to note that Cluster 6 (9 cases) and Cluster 7 (32 cases) had a smaller amount of cases compared to the other FTA clusters, making them slightly more difficult to interpret. When within-cluster percentages were used, they were typically high due to the small number of cases. The percentages included are within-cluster percentages, unless otherwise noted, as they show specifics of the cluster. The total percentages across the clusters were useful in determining the profiles as well, but were not as applicable to clusters with smaller case amounts. The Bonferroni indicated when clusters were significantly different from one another and were noted as such in the Appendix cluster descriptions.

**Table 4. Profiles of Failure to Appear**

| Cluster | Profile |
|---|---|
| 1 | 28-34. Higher education and income, married with minor children living in the home. High rates of chemical dependence, with cocaine being the drug of choice. Range of criminal history and offenses. |
| 3 | 23-27. Largest percentage of black individuals with high levels of full-time employment, but low monthly income. Lower education, with the highest amount on welfare. Not married, but have minor children that live in the home. Family members have previously served time, especially brothers and sisters. High drug crime arrest rates, most likely due to nonviolent, marijuana-related charges. |
| 4 | 17-22. Large percentage male with some high school education. High rates of employment, but many live below the poverty line. Not married and without children. Substance abuse, but not much regular drug use (marijuana and stimulants are drugs of choice). Arrested for property crime and resisted arrest. Parents served time. Not much adult criminal history, but higher rates of juvenile criminal history. |

| | |
|---|---|
| 5 | 35-42. Female with a high school diploma. Higher rates of no income, welfare and illegal income. Divorced, separated, and partners served time. Live in a house and have children. History of physical or sexual abuse, with high mental health diagnoses. Have substance dependence, with cocaine and opiates being the drugs of choice. Previous involvement with criminal justice system, but lower rates of involvement as a juvenile. |
| 6 | 50-56. Majority male that is equally black, white and Hispanic. Low rates of employment and lower income bracket. Widowed, divorced or separated. High rate of mental health diagnoses. Chemically dependent with high rates of drug use across drug categories. Drug-related offenses. Previous criminal history. |
| 7 | 43-48. Highest percentage white. Employed with a medium income, and lives in a house. Married and divorced with older children. Low rates of mental health diagnoses and drug use. Public order offenses that were nonviolent, and they did not resist arrest. Had a previous sentence with many on probation without violation or revocation. |

**Cluster One.** This cluster included individuals who were between 28 to 34 years old. They were more likely to have a higher education than other clusters, with either a GED (24.7%) or some sort of college education (15.1%). The majority of these individuals were above the poverty line, making typically $1,000 to $1,999 (32.9%) and $2,000 or more per month (19.2%). There was a high rate of married individuals (27.4%), with a lower rate of divorce than other clusters (13.7%). This cluster was likely to have minor children, and they would commonly live in the home (47.9%). None of these individuals were homeless prior to their current admission. Parents of these individuals typically did not serve any time in a prison or jail facility (15.1%), but some abused alcohol (65.8%).

This group reported the highest rates of substance dependence (64.4%) and drug use in the month before offense (60.3%). The drugs of choice commonly included marijuana (79.5%), stimulants (49.3%), hallucinogens (34.2%), and cocaine (67.1%), with depressant use (21.9%) being less common. At the time of the arrest, this cluster also had the highest of percentage of drug use at the time of the offense (38.4%), with stimulant use being much higher than the other clusters (30.1%). In addition to the self-report drug use,

drugs were also commonly found when these individuals were searched at the time of arrest (21.9%). The criminal history for the members of this group ranged rather widely as they were likely to either have only one prior arrest (21.9%) or more than 10 (13.7%). Moreover, this group typically had some prior prison sentences (27.4%), as well as probation violation (31.5%) and probation revocations (26.0%).

**Cluster Three.** Members of this cluster were between the ages of 23 and 27. While race was not included as a clustering variable, this cluster had the largest percent black of the clusters (44.6%). This group had a lower education, typically possessing an education of 8$^{th}$ grade or less. These individuals did not have a very high income per month, but had the smallest percentage of illegal income (8.4%). This cluster had full-time employment (54.2%) before their arrest, with 65.1% being employed the month before admission. They had slightly more individuals on welfare (10.8%) than other clusters. Almost half within this cluster lived in a house before their arrest (49.4%), but some were homeless (15.1%).

This cluster had one of the largest percentages of individuals not married (72.3%), but also the largest percentage of minors living in the home (50.6%). The percentages between minor children and children were identical, indicating that if these individuals had children, they were minors. This cluster had the highest percentage of other family (brother/sister/child) having served time (43.4%), with about a quarter of the parents having served time as well (25.3%). This may indicate that this group came from families that have more criminal histories, but chose partners who do not.

This cluster had the second highest rate of drug use the month before the offense (56.6%), with 74.7% reporting regular drug use. Members of this group report one of the highest percentages of marijuana use (81.9%), but relatively lower rates within the other

drug categories. That being said, this cluster had one of the higher arrest rates for drug crime (33.7%). Drug use at the time of the offense (31.3%) was on the lower side compared to the other clusters. The majority of the crime was nonviolent (81.9%), indicating that a portion of these arrests may be for nonviolent, marijuana related charges. This group typically had less than two prior arrests and relatively low rates of prior jail sentences (27.7%), prior prison sentences (12%), prior probation (21.7%) and prior probation revocation (12%).

**Cluster Four.** This cluster was largely male (75.4%) and between the ages of 17 and 22. This group was the most distinct from the other FTA clusters. The education level of this group was on the lower level, with most only having some high school education (50.8%). About 40% of these individuals fell below the poverty line, with many who made less than $300 a month (15.4%). That being said, this cluster had the highest percentage of individuals employed the month before admission (69.2%), with 52.3% being employed full time. The majority of these individuals were not married (87.7%), with only 26.2% living with a minor in the home. A small portion of these individuals had children, and if they did, they were minors. This group had many parents who have served time (41.5%), as well as other family (brother/sister/child) (40%).

This cluster had the highest percentage for substance abuse (27.7%), but substance dependence (36.9%) was less common in this cluster than others. This group had one of the lowest percentages of regular drug use (69.2%). Members of this cluster had at some point used marijuana (80%) and stimulants (40%). A small portion of this group used drugs at the time of offense (23.1%). Property crime was the most prevalent crime within this cluster (44.6%), with stolen property being found when searched at the time of arrest

(16.9%); which many reported resisting (26.2%). While less likely to have an adult criminal history, this group had higher rates of juvenile criminal history than the other clusters; 15.4% had a prior sentence to a juvenile facility, 32.3% had a prior juvenile conviction, and 23.1% had prior juvenile probation. This was mostly likely due to the age group of this cluster, as they were the youngest group of offenders. In terms of an adult criminal history, this group had high rates of probation violation charges (21.5%) and probation revocation (13.8%) when compared to the lower rate of those on probation (23.1%).

**Cluster Five.** This group was distinctly female (55.9%) and between the ages of 35 and 42. The education of this group was a high school diploma (37.3%). This cluster had one of the higher percentages of individuals who had no income (23.7%), as well as welfare (10.2%) and illegal income (13.6%). A large number of individuals lived in a house (47.5%), but this group also had the highest percentage of individuals who were homeless prior to the current admission (15.4%). There was a high rate of divorce (37.3%) and separation (13.6%) among these individuals, and their partners had served time in prison (13.6%). There was a relatively low rate of minors living in the home for these individuals (25.4%), however, they also had a low percentage of no children (13.6%). It appears that this group had many children over the age of eighteen.

Members of this cluster group experienced the highest rate of physical or sexual abuse than any other (42.4%). This cluster had the highest percentage of parents who abused alcohol (37.3%). These individuals had the highest number of mental illness diagnoses in total (40.7%), as well on the individual diagnoses of depressive disorder

(32.2%), bi-polar disorder (23.7%), PTSD (13.6%), and personality disorder (11.9%). Many individuals had multiple diagnoses (28.9%).

Substance dependence was common (55.9%) among these individuals. About half of cluster cases had used drugs in the month before the offense (49.2%), with cocaine (69.5%), opiate (40.7%) and depressant (35.6%) drug use being common. It appeared that stimulants, particularly cocaine, and opiates were the drug of choice for many individuals in this cluster. These individuals were more likely to have previous involvement with the criminal justice system than many other clusters. A large portion of the cases had a previous sentence (66.1%), with 47.5% having a prior sentence to jail, 28.8% having a prior prison sentence and 49.2% having been on probation. Similarly, the rates for probation violation (25.4%) and probation revocation (22%) were high as well. While they had adult criminal justice involvement, this group had less involvement as a juvenile.

**Cluster Six.** This group was between the ages of 50 and 56, and largely male (77.8%). This cluster was a third black, a third white, and a third Hispanic. Most of these individuals had a GED (33.3%) or high school diploma (22.2%). One third of this cluster had no income (33.3%), while 22.2% fell within the category of $300 to $599 a month. There were relatively low percentages of individuals employed in the month before admission (55.6%) and who had full time employment (44.4%). They were either widowed (44.4%), divorced (44.4%), or separated (11.1%). Many had more than four children (44.4%), but did not live with any minor children in the home (0%). This group had the second highest percentage of individuals who were homeless prior to the current admission (15.3%). There was a high rate of mental illness diagnoses in this group (66.7%), with

depressive disorder (44.4%), bi-polar disorder (33.3%), and PTSD (22.2%) being diagnosed on the individual level.

Drugs were used regularly by these group members (77.8%), with them having used marijuana (100%), cocaine (100%), opiates (66.7%), depressants (66.7%), stimulants (44.4%), and hallucinogens (55.6%) at some point in their lives. A lesser percentage (44.4%) had used drugs in the month before arrest, but 55.6% of these individuals had substance dependence. For the current arrest, many of this group were arrested for a drug crime (55.6%) and searched at the time of arrest (100%). A third of the individuals had used drugs at the time of arrest, with the distribution being pretty equal across cannabis, narcotics and stimulants. In terms of criminal history, all individuals within this cluster had a previous sentence, with group members having served time for previous jail (55.6%), prison (55.6%), and probation sentences (77.8%). While quite a few had been on probation, only 22.2% had a probation violation or revocation.

**Cluster Seven.** This cluster was between the age of 43 to 48. While race was not part of the clustering process, this cluster had the largest percent of individuals who were white (43.8%). Most of the monthly income fell between $600 to $999 (25%) or $1,000 to $1,999 a month (21.9%), but only 3.1% made over $2,000 a month (which is much lower than other clusters). These individuals were typically not on welfare (3.1%) and lived in a house (62.5%), but some were homeless prior to the current admission (11.1%). Many of these individuals were employed prior to admission (68.8%), with 53.1% having full time employment. Divorce was most common for this group (50%), with the other majority of individuals within this cluster being married (25%). While 59.4% had no minor children, a large percentage had older children.

This cluster did not have many mental health diagnoses, with 81.3% of individuals having no diagnosis. There were low percentages of drug use the month before the offense (43.8%), regular drug use (65.6%), and drug use at the time of the offense (21.9%). When compared to other cluster percentages, use of drugs ever fell in the middle of most of the clusters in terms of use for all the drug categories. This group had the largest amount of public order offenses (37.5%) of the cluster groups, and were the least likely to be searched at the time of arrest (53.1%). These individuals were non-violent (90.6%), and typically did not resist arrest (6.3%). Regarding criminal history, 71.9% of this cluster had a previous sentence. The percentage for having a prior sentence to jail (40.6%), prior probation (40.6%), prior probation violation (21.9%) and prior probation revocation (6.3%) were all relatively low, with having a prior prison sentence (25%) being the only adult criminal history variable that was higher than other clusters. Similar to adult, there was not an extensive juvenile criminal history.

**Analysis of Non-FTA**

The analysis of the non-FTA cases was similar to that of the FTA cases. The cases who appeared to their court appearance were selected from the variable (V645) and the cases who failed to appear were deleted. A total of 1,217 cases remained of individuals who appeared to their court appearance.

The hierarchical cluster analysis's agglomeration schedule, as detailed by Table 12 (Appendix) and Figure 2, indicated no apparent jump. Two to eleven clusters were examined again as the range that the clusters were most likely to fall within. A k-means cluster analysis was conducted for cluster amounts from two to eleven. The VRC indicated

that eight clusters were the correct amount, as shown in Table 5, as the bolded value is much higher than the others.

**Figure 2. Non-FTA Agglomeration Coefficient Values and Stage**

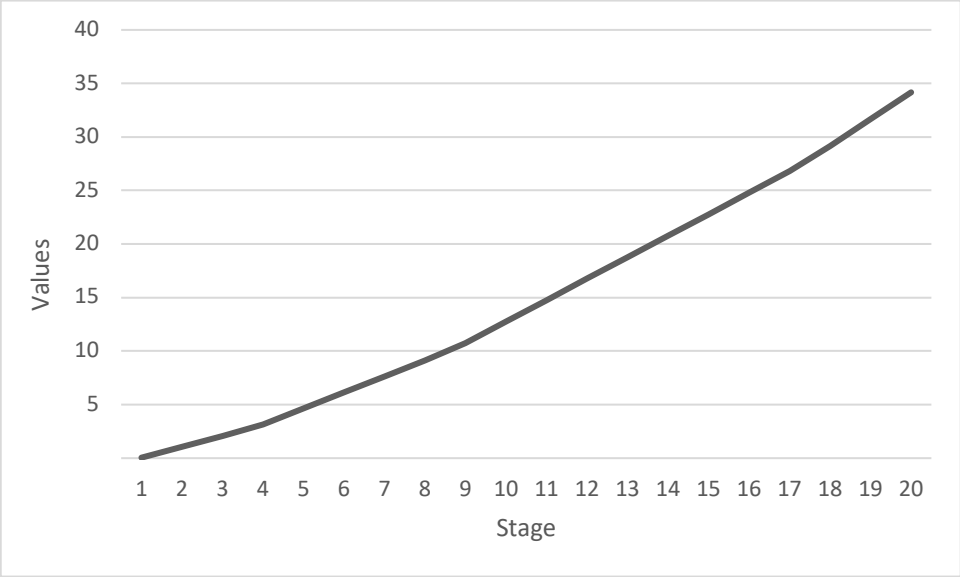


**Table 5. Non-FTA VRC calculations**

| Cluster Solution | Variance Ratio Criterion | $\omega_k$ |
|---|---|---|
| 2 | 4047.732 | - |
| 3 | 4128.252 | 325.600 |
| 4 | 4534.372 | 180.289 |
| 5 | 5120.781 | -544.756 |
| 6 | 5162.434 | 172.880 |
| 7 | 5376.967 | -623.653 |
| **8** | **4967.847** | **1340.959** |
| 9 | 5899.686 | -284.673 |
| 10 | 6546.852 | -769.281 |
| 11 | 6424.737 | - |

Since eight clusters were indicated, a k-means cluster analysis was run one more time for eight clusters and saved. Cluster grouping was irregular on a few of the clusters

here as well. Cluster 2 was excluded from the analysis because it consisted of only two cases. Similar to the FTAs, this consisted of two individuals who were significantly older. Clusters 1, 3 and 4 were analyzed, but had smaller case amounts at 17, 110 and 36, respectively. Clusters 5, 6, 7 and 8 all had cases in the range from 256 to 273. The focus, therefore, was more on the later clusters due to their similarity in number of cases.

Table 6 provides an overview of the within-cluster percentage breakdown according to cluster profile. There was some variation in the case numbers for certain clusters (especially Clusters 1, 3 and 4), which made reporting according to total percentages across clusters difficult, as these clusters did not show much information due to the smaller case size. The asterisk next to percentages in Table 6 indicates when the Bonferroni was significant. Marriage, drug use, and previous criminal history variables were significant across the non-FTA clusters. Differing from the FTA Bonferroni, the variables involving race and crime type had significant variation for the non-FTA clusters.

**Table 6. Profiles of Non-FTAs – within cluster percentages**

| | | **Validation Model Cluster Number** (Number of cases per cluster) n = 1217 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Items** | | 1 (17) | 3 (110) | 4 (36) | 5 (260) | 6 (263) | 7 (273) | 8 (256) |
| Mean age (standard deviation) | | 60.7 (2.74) | 46.8 (1.92) | 53.5 (1.95) | 39.5 (2.25) | 31.9 (2.01) | 25.4 (1.83) | 20.1 (1.64) |
| Sex | Male | 88.2% | 69.1% | 72.2% | 63.8%* | 64.6%* | 73.3% | 79.3%* |
| Race | Black | 47.1% | 38.2% | 25.0% | 28.1%* | 38.8% | 44.0%* | 42.2%* |
| | White | 41.2% | 52.7% | 63.9%* | 56.2%* | 41.4%* | 35.9%* | 39.5%* |
| Education | Some HS | 11.8% | 15.5%* | 25.0% | 22.3%* | 25.5%* | 36.3%* | 41.0%* |
| | College | 11.8% | 27.3%* | 19.4% | 20.8%* | 19.4%* | 15.0%* | 4.7%* |
| Marital Status | Married | 35.3%* | 23.6%* | 33.3%* | 26.2%* | 24.0%* | 14.3%* | 3.5%* |
| | Widowed | 5.9%* | 1.8%* | 11.1%* | 0.8%* | 1.1%* | 0.0%* | 0.0%* |
| | Divorced | 47.1%* | 47.3%* | 47.2%* | 28.8%* | 12.9%* | 8.8%* | 1.2%* |
| | Separated | 11.8% | 11.8%* | 2.8% | 12.3%* | 11.4%* | 5.5% | 1.6%* |
| Income | None | 11.8% | 14.5% | 13.9% | 14.6% | 15.6% | 13.9% | 22.7% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $2000 or more | 17.6% | 18.2% | 11.1% | 19.6% | 17.1% | 15.8% | 12.5% |
| Illegal Income | | 5.9% | 7.3% | 2.8% | 4.6%* | 8.4% | 11.7% | 14.5%* |
| Welfare | | 5.9% | 9.1% | 8.3% | 7.3% | 13.3%* | 8.1% | 3.9%* |
| Employed month before admission | | 70.6% | 75.5% | 75.0% | 70.8% | 77.9%* | 65.2%* | 64.8%* |
| Full time employment | | 58.8% | 64.5% | 61.1% | 60.4% | 66.5%* | 56.8% | 47.7%* |
| Lives in a house | | 70.6% | 55.5% | 44.4% | 51.5% | 58.9% | 48.4% | 57.8% |
| Homeless | | 0.0% | 3.6% | 13.9% | 8.5% | 8.7% | 6.2% | 10.2% |
| Minor in home | | 5.9% | 22.7%* | 11.1%* | 40.8%* | 41.1%* | 35.9%* | 21.1%* |
| No children | | 17.6%* | 17.3%* | 13.9%* | 19.2%* | 21.7%* | 31.9%* | 61.3%* |
| 4 or more children | | 52.9%* | 18.2%* | 27.8%* | 15.8%* | 16.7%* | 11.4%* | 3.1%* |
| No minor children | | 94.1%* | 58.2%* | 72.2%* | 29.2%* | 22.1%* | 31.9%* | 61.3%* |
| 4 or more minor children | | 0.0% | 4.5%* | 0.0%* | 10.8% | 16.3%* | 11.0%* | 3.1%* |
| Mental Health | Depressive Dis. | 23.5% | 26.4% | 36.1% | 22.3% | 22.8% | 18.7% | 18.8% |
| | Bi-Polar Dis. | 5.9% | 10.9% | 19.4% | 11.9% | 13.7% | 8.4% | 9.4% |
| | PTSD | 17.6% | 8.2% | 11.1% | 5.0% | 6.5% | 4.8% | 4.3% |
| Number of Diagnoses | 0 | 70.6% | 61.8% | 61.1% | 71.5% | 70.3% | 76.9% | 73.8% |
| | 1 | 11.8% | 20.0% | 11.1% | 11.9% | 10.3% | 9.9% | 13.7% |
| | 2 | 5.9% | 10.0% | 5.6% | 7.3% | 8.7% | 7.0% | 5.1% |
| Parents served time | | 5.9% | 10.0%* | 13.9%* | 13.1%* | 13.7%* | 25.6%* | 36.3%* |
| Ever physically or sexually abused | | 23.5% | 23.6% | 19.4% | 27.7% | 27.0% | 21.2% | 21.9% |
| Foster home growing up | | 5.9% | 8.2% | 5.6% | 6.9% | 7.2% | 9.2% | 12.1% |
| Parents abused alcohol | | 23.5% | 27.3% | 22.2% | 34.2% | 32.3% | 31.9% | 32.8% |
| Substance dependence | | 23.5% | 44.5% | 25.0% | 44.2% | 49.0% | 36.3% | 41.4% |
| No substance abuse | | 52.9% | 29.1% | 50.0% | 30.8% | 26.6% | 31.9% | 27.7% |
| Drug use month before offense | | 11.8%* | 28.2%* | 25.0%* | 50.4%* | 52.5%* | 51.3%* | 60.9%* |
| Regular drug use | | 11.8%* | 60.9%* | 47.2%* | 70.4%* | 69.2%* | 67.8%* | 73.8%* |
| Drug use ever | Marijuana | 35.3%* | 70.0%* | 50.0%* | 76.2%* | 70.0%* | 78.8%* | 85.2%* |
| | Cocaine | 17.6%* | 50.9% | 38.9% | 57.7%* | 52.9%* | 37.0%* | 38.7%* |
| | Opiate | 0.0% | 26.4% | 22.2% | 26.9%* | 16.3% | 16.1%* | 13.7%* |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Stimulant | 5.9% | 21.8%* | 27.8% | 34.6% | 31.2% | 32.6% | 41.4%* |
| Crime type | Property | 17.6% | 24.5% | 27.8% | 20.8%* | 24.3% | 27.5% | 35.5%* |
| | Drug | 23.5% | 20.9% | 27.8% | 31.9% | 36.1% | 33.0% | 27.3% |
| | Public Order | 47.1%* | 38.2%* | 27.8% | 31.5%* | 22.4%* | 17.6%* | 12.9%* |
| Drug use at time of offense | | 5.9% | 17.3% | 8.3% | 26.9% | 27.0% | 26.7% | 27.0% |
| | Cannabis | 0.0% | 4.5%* | 5.6% | 8.8%* | 8.7%* | 15.4% | 19.9%* |
| | Narcotics | 0.0% | 4.5% | 0.0% | 6.2% | 4.6% | 3.7% | 2.7% |
| | Stimulants | 5.9% | 10.0% | 8.3% | 15.4% | 18.3%* | 10.6% | 8.2%* |
| Searched at time of arrest | | 76.5% | 70.9% | 58.3% | 69.6% | 73.4% | 71.4% | 74.6% |
| What found when searched | Weapon found | 0.0% | 0.9% | 0.0% | 0.8%* | 3.0% | 5.9%* | 7.0%* |
| | Drugs found | 17.6% | 15.5% | 19.4% | 18.5% | 24.0% | 23.1% | 23.8% |
| | Stolen property found | 0.0% | 7.3% | 2.8% | 5.8% | 3.8% | 7.7% | 8.6% |
| | Nothing found | 76.5% | 69.1% | 72.2% | 65.0% | 65.8% | 60.4% | 60.9% |
| Resisted arrest | | 5.9% | 18.2% | 2.8% | 13.1% | 13.3% | 16.5% | 15.2% |
| No prior arrests | | 41.2% | 26.4% | 27.8% | 24.2% | 25.5% | 35.2% | 34.8% |
| 1 prior arrest | | 23.5% | 16.4% | 2.8% | 12.7%* | 23.2%* | 17.6% | 21.5% |
| More than 10 prior arrests | | 5.9% | 6.4% | 11.1% | 13.8%* | 5.3%* | 4.4%* | 3.5%* |
| Previous sentence | | 41.2% | 60.9% | 52.8% | 60.4%* | 54.0% | 50.2% | 43.8%* |
| Prior sentence to jail | | 23.5% | 33.6% | 36.1% | 45.4%* | 30.8%* | 28.9%* | 18.0%* |
| Prior prison sentence | | 11.8% | 28.2%* | 22.2%* | 21.9%* | 14.1%* | 10.3%* | 2.3%* |
| Received probation as an adult | | 29.4% | 46.4%* | 38.9% | 44.6%* | 41.1%* | 30.8%* | 17.6%* |
| Prior probation violation charge | | 5.9% | 20.9% | 22.2% | 24.2% | 18.3% | 19.8% | 16.0% |
| Prior probation revocation | | 0.0% | 11.8% | 22.2% | 17.3% | 12.5% | 16.1% | 9.0% |
| Prior sentence to juvenile facility | | 5.9% | 6.4%* | 5.6% | 6.9%* | 6.8%* | 9.2%* | 17.6%* |
| Prior juvenile conviction | | 11.8% | 11.8%* | 8.3%* | 10.0%* | 13.3%* | 19.4%* | 36.3%* |
| Prior juvenile probation | | 0.0%* | 7.3%* | 8.3%* | 8.5%* | 6.8%* | 12.8%* | 27.3%* |

* Bonferroni test indicated significance ($p < .05$) for this cluster
This table was cut down to save on space, a full version can be found in Table 13 of the Appendix.

**Non-FTA Profiles**

The non-FTA cluster profiles were created in a similar way to the FTA clusters. A brief overview of each cluster and its main differences is provided in Table 7. Below Table 7 are cluster profiles, and more extensive cluster profiles can be found in the Appendix. As with the FTA cluster profile development, the percentages included were within-cluster percentages, unless otherwise noted. There was variation in the number of cases in the clusters, so the total percentages were not as applicable to the clusters that had the smaller case amounts. It is important to note that Cluster 1 (17 cases), Cluster 3 (110 cases), and Cluster 4 (36 cases) had a smaller amount of cases compared to the other FTA clusters, which had around 260 cases each. Within-cluster percentages could be slightly higher due to the smaller case number. The Bonferroni indicated when clusters were significantly different from one another and were noted as such in the cluster descriptions.

**Table 7. Profiles of Non-Failure to Appear**

| Cluster | Profile |
|---|---|
| 1 | 58-66. Male with a high school diploma. Live in a house with a history of committed relationships. Has older children. Little to not substance abuse or dependence, with low rates of drug use. Public order offenses, with lower rates of having a criminal history. Not likely to have a probation violation or revocation when on probation. |
| 3 | 44-50. Have a higher education and are employed, with a history of committed relationships. The have children, but many are older than 18. High mental health diagnoses. Previous criminal history with a focus on having a prior prison sentence and having been on probation. |
| 4 | 51-57. White, with a history of committed relationships and older children. Have a higher income, with low illegal income. Little to not substance abuse or dependence, with low rates of drug use. Mental health diagnoses, mostly depressive and bi-polar disorder. Varied crime type across property, drug and public order offenses. History of probation violations. Did not resist arrest. |
| 5 | 36-43. Female with varied relationships. Have minor children who live in the home. Parents abused alcohol. History of physical or sexual abuse. Regular drug use in the month before offense, with cocaine and opiates being drugs of focus. Public order offenses. Previous criminal history, with repeated prior arrests. Prior sentences were for jail and probation, with high rates of violation and revocation. |

| | |
|---|---|
| 6 | 29-35. Not married, but have a minor in the home. Employed full-time, but on welfare. History of physical or sexual abuse. Substance dependence, with cocaine being the drug of choice. Arrested for drug-related offenses, with drugs often being found at time of arrest. Previous sentences being to probation and jail. |
| 7 | 23-28. Black and Hispanic individuals. Education mostly some high school, but also some college. Low employment. Not married, but has minor children in the home. History of parental alcohol abuse, current substance abuse for these individuals. Moderate drug use, which is mainly marijuana. Varied criminal offenses. Limited criminal history. |
| 8 | 16-22. Male, with lower educational attainment overall. Not married, and most do not have children. Low employment with illegal income, but not on welfare. Parents served time. Chemical dependence, with marijuana, stimulants, hallucinogens, and other drugs being of choice. Limited adult criminal history, but extensive juvenile histories. |

**Cluster One.** The age range for members of this cluster was from 58 to 66. These individuals were largely male (88.2%), with a high school diploma (35.3%). Income was relatively spread for this cluster, with none of the individuals making less than $300 a month. A large percentage of this group lived in a house (70.6%), with the other 29.4% having lived in an apartment/trailer. None of these individuals were homeless prior to the current admission. Members of this cluster made up the largest percentage married (35.3%) compared to other clusters, with all individuals having been married at least once before, if not currently married. There was a very low percentage of individuals who had a minor child living in the home (5.9%), and if there was a minor in the home, it was only one child. These individuals, however, did have the highest percentage of four or more children (52.9%), but they must have mostly been over the age of 18.

This cluster had the highest percentage of individuals who had no substance abuse or dependence (52.9%), with low rates of regular drug use (11.8%) and drug use in the month before the offense (11.8%). Overall, members of this group reported low rates of ever using specific drugs compared to the other clusters. These individuals were more likely

to be arrested for public order crime (47.1%). Many of these individuals had a previous sentence (41.2%), but the same amount also had no prior arrests. With relatively low rates of prior probation (29.4%), it is distinct for this cluster that there were no probation revocations, and only a few probation violation charges (5.9%). These individuals had a limited juvenile criminal history.

**Cluster Three.** Members of this cluster were between the ages of 44 and 50. The education level for these cases was high, with 27.3% having completed some form of college and 31.8% having a high school diploma. A large percentage of this cluster was employed in the month before admission (75.5%), with 64.5% having full-time employment. Only 3.6% of this group was homeless prior to the current admission, so most of these individuals lived in either a house (55.5%) or apartment/trailer (36.4%). This group largely consisted of individuals who had been divorced (47.3%), and also had a relatively high number of individuals who had been separated (11.8%). Only 15.5% of this cluster was not married. There was a low rate of having a minor in the home (22.7%). This group had high rates of having children, but lower rates of minor children, indicating that they were older than 18 typically. It is most likely due to the older age of this group.

Quite a few of these individuals had some sort of mental health diagnosis (38.2%). The diagnoses were rather spread out, with depressive disorder being the most common (26.4%). Rates of drug use variables fell in the middle of other cluster rates, with drug use ever being rather spread out across the categories. This cluster had the second-highest percentage of public order crime (38.2%). These individuals had the highest rate of having a previous sentence (60.9%), having mostly been sentenced to prison (28.2%) and adult probation (46.4%).

**Cluster Four.** This cluster had an age range from 51 to 57, and was largely white (63.9%). Education was relatively spread out, concentrating around some high school (25%) and high school diploma (33.3%). This cluster had the highest percentage in the income bracket of $1,000 to $1,999 a month, with only 2.8% having an illegal income. A large percentage of individuals in this cluster were employed full-time prior to admission (75%), with 61.1% having full-time employment. The majority of individuals lived in either a house (55.5%) or an apartment/trailer (36.4%), but also had the highest percentage of individuals who were homeless (13.9%). This cluster had a history of committed relationships, with the majority having been divorced (47.2%), married (33.3%) or widowed (11.1%). This cluster had a significantly lower number of minors in the home (11.1%). Given the age of this cluster, there were a high number of individuals who had three (25%) or more (27.8%) children, but had no minor children for these categories. The majority of the children these individuals had were over the age of 18, and 30.6% of these children had served time.

This cluster had the highest percentage of mental health diagnoses (38.9%), spread across the diagnosis types. Diagnoses for depressive disorder (36.1%) and bi-polar disorder (19.4%) were much higher when compared to the other clusters. Half of this cluster had no substance dependence or abuse. These individuals had significantly lower regular drug use (47.2%), with a low number of individuals having ever used marijuana ever (50%). Other drug use was spread out, and did not have significant percentages in comparison to other clusters. Crime type was pretty evenly spread across property, drug and public order offenses, and they were all typically nonviolent (88.9%). These individuals rarely resisted arrest (2.8%). About half of this cluster had a previous sentence (52.8%). While only 38.9%

had received probation as an adult, 22.2% had a probation violation and revocation. For this cluster, there were low rates of having a juvenile conviction (8.3%).

**Cluster Five.** This cluster had the largest percent female within the cluster (36.2%) and was between the ages of 36 and 43. This cluster had achieved relatively high education levels, with 30.4% having a high school diploma and 20.8% having done some form of college. These individuals were relatively average in terms of members married (26.2%), not married (31.5%), and divorced (28.8%), but had the highest within-cluster percentage of separated (12.3%) individuals. This cluster had higher rates of minors in the home (40.8%), with relatively high percentages of two (28.5%) and three (18.5%) children. Parents of these individuals had a history of abusing alcohol (34.2%).

Regular drug use was common (70.4%), with many having used drugs in the month before the offense (50.4%). There were high rates among having ever used marijuana (76.2%), cocaine (57.7%), opiate (26.9%) and depressants (26.9%), with cocaine and opiate use being significantly high. This cluster had one of the lowest percentages of property crime (20.8%), but a higher rate of public order crime (31.5%). These individuals typically had a significant criminal history, with the highest percentage of prior arrests greater than ten (13.8%). It was common for individuals in this cluster to have a prior jail sentence (45.5%) and received probation as an adult (44.6%), with 24.2% having a probation violation charge and 17.3% having prior probation revocation.

**Cluster Six.** The age range for this cluster was 29 to 35. There was a relatively high amount who have done some form of college (19.4%). A large percentage of individuals were not married (50.6%). Members of this cluster had the highest percentage of individuals on welfare at 13.3%, yet this cluster had the highest percentage of individuals

employed the month before admission (77.9%), and who had full time employment (66.5%). It was common for these individuals to have minor children that live in the home (41.1%). Individuals in this cluster had experienced some physical or sexual abuse (27%), and some parents had abused alcohol (32.3%).

This was the highest percentage of substance dependence (49%), with 52.5% reporting drug use in the month before the offense and 69.2% reporting regular drug use. These individuals had the second-highest rate of cocaine use ever (52.9%) of the clusters, with lower percentages spread across the other drug categories. While this cluster had a lower rate of cannabis use at the time of the offense (8.7%), it had a significantly higher percent of stimulant use (18.3%). This cluster had the highest rate of drug crime related offenses (36.1%), with drugs being found often when the individual was searched (24%). Only 54% of these individuals had a previous sentence, which fell in the middle of the clusters for this variable. Prior probation was the most frequent sentence (41.1%), with jail (30.8%) and prison (14.1%) following.

**Cluster Seven.** This cluster was between the ages of 23 to 28 and had more minority group individuals than other clusters. While race was not a variable in the clustering, black individuals made up 44% of the cluster cases, and Hispanic individuals accounted for 16.5%. This cluster had a high percentage of individuals who had completed some high school (36.3%), but also had some who had done some form of college (15%). There were low employment rates within this cluster (compared to the others), with 65.2% employed the month before admission and 56.8% were employed full-time. These individuals were typically not married (71.4%), but some had minor children living in the home (35.9%).

This cluster had the second highest percentage of individuals whose parents served time (25.6%). Some parents had abused alcohol (31.9%), and individuals in this cluster had one of the highest rates of substance abuse themselves (28.9%). These individuals had moderate drug use, with 51.3% reporting drug use in the month before the offense and 67.8% reporting regular drug use. There was a high percentage of marijuana use ever (78.8%), but lower rates of cocaine use (37%) and opiate use (16.1%). This cluster had one of the lower rates of public order crime (17.6%), with offenses varying across violent (20.9%), property (27.5%) and drug crime (33%). In terms of criminal history, only 50.2% had a previous offense and 35.2% had no prior arrests. Prior sentences to jail (28.9%) and probation (30.8%) were more common than to prison (10.3%).

**Cluster Eight.** This cluster consisted of an age range from 16 to 22, making it the youngest group of the clusters. These individuals were largely male (79.3%), and with a large percentage of black individuals (42.2%). Members of this cluster had an overall lower education, with higher percentages of 8$^{th}$ grade or less (14.1%) and some high school education (41%). The majority of this cluster was not married (93.8%), and did not have children (61.3%). There were low rates of being employed month before admission (64.8%) and full time employment (47.7%), with high rates of illegal income (14.5%). This cluster had one of the highest percentages of individuals living in a house (57.8%), but also the second highest percentage of individuals who were homeless prior to the current admission (10.2%). They also had the highest percentage of parents who served time (36.3%).

Substance abuse (28.9%) and dependence (41.4%) were prevalent in this cluster. This cluster reported the highest rate of drug use in the month before offense (60.9%) and

regular drug use (73.8%). These individuals had the highest percentage of having ever used marijuana (85.2%), stimulants (41.4%), hallucinogens (30.5%), and inhalants or other drugs (14.5%), but had lower rates of cocaine use (38.7%) and opiate use (13.7%). Property crime (35.5%) and violent crime (24.2%) were prevalent throughout this group (35.5%), with public order crime (12.9%) being less common. This cluster had the highest percentage of cannabis use at the time of the offense (19.9%), but significantly less percentage of stimulant use at time of offense (8.2%). These individuals had limited criminal histories, being more likely to have prior involvement in the juvenile justice system. This may be due to the young age of this group. In terms of previous juvenile justice involvement, 17.6% individuals in this group had a previous sentence to a juvenile facility, 36.3% had a juvenile conviction, and 27.3% have been placed on juvenile probation.

**FTA and Non-FTA clusters compared**

While there was overlap between the profiles of FTA and non-FTAs, some differences were evident. Table 8 provides an overview of all the profiles for both FTA and Non-FTA. A full version of the table can be found in Appendix Table 15. A One-way ANOVA Bonferroni test was conducted on all the clusters, to indicate differences that were present between FTAs and non-FTAs (asterisk indicates which clusters were significantly different for each variable). There were a number of differences found between FTA and non-FTA clusters. One surprising finding was that FTA clusters had more females, with FTA Clusters 4 and 5 being significantly different from Non-FTA Cluster 1, 5, 6, 7, and 8.

There were some important differences to note regarding crime type. Property crime was more prevalent among FTAs than non-FTAs. FTA Cluster 4 had a high rate of

property crime (44.6%), but a low rate of public order crime (12.3%). In particular, Cluster 4 was significantly different from Non-FTA Clusters 3 and 5 regarding crime type. FTA Cluster 4 was also significantly different from Non-FTA Cluster 6, in that they were more likely to be found with stolen property.

Substance dependence for FTA Cluster 1 was significantly different from the that of Non-FTA Clusters 4, 7, and 8, due to the higher rate of substance use by FTA Cluster 1. FTA Cluster 1 was also significantly different from Non-FTA Cluster 4 regarding no substance abuse and dependence, because of the lower rate among Non-FTA Cluster 4. Individuals who had ever used cocaine, stimulants, and opiates made up a significantly larger proportion of those who FTA than those who do not. FTA Cluster 1 was significantly different in use of stimulants (including cocaine) at the time of the offense, with a higher proportion of cases using stimulants than Non-FTA Clusters (3, 7, and 8).

There were a number of differences between clusters regarding criminal history. FTA Clusters 1 and 5 were significantly different from Non-FTA Cluster 8, given the higher rate of previous jail sentence. Regarding a prior prison sentence, FTA Clusters 1, 5, 6 and 7 had higher rates of previously served time in prison, and were significantly different from Non-FTA Clusters 6, 7, and 8 in particular. While clusters may not be specifically different, across FTA and non-FTA totals, FTAs were more likely to have a previous sentence (Appendix Table 14). FTA Clusters 1, 3, 4, and 5 had typically higher rates of a prior juvenile conviction than Non-FTA Clusters (excluding Non-FTA Cluster 8). Prior juvenile probation was also more prevalent among a number of FTA Clusters (3 and 4), when compared to lower rates among Non-FTA Clusters. It is something to note that Non-FTA Cluster 8 did have high rates of juvenile criminal history.

**Table 8. Total Percentages across All Cluster Profiles**

| | | Validation Model Cluster Number (Number of cases per cluster) n = 1539 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FTA Clusters (n=322) | | | | | | Non-FTA Clusters (n=1217) | | | | | | |
| **Items** | | 1 (73) | 3 (83) | 4 (65) | 5 (59) | 6 (9) | 7 (32) | 1 (17) | 3 (110) | 4 (36) | 5 (260) | 6 (263) | 7 (273) | 8 (256) |
| | Male | 13.7% | 16.5% | 15.2%* | 8.1%* | 2.2% | 5.3% | 1.2%* | 6.2% | 2.1% | 13.6%* | 14.0%* | 16.4%* | 16.7%* |
| Race | Black | 8.7% | 11.5% | 9.0% | 7.8% | 0.9% | 3.7% | 0.7% | 3.5% | 0.7% | 6.0%* | 8.4% | 9.9%* | 8.9% |
| | White | 9.0% | 7.8%* | 6.5%* | 7.8% | 0.9% | 4.3% | 0.6% | 4.8% | 1.9%* | 12.0%* | 9.0%* | 8.1%* | 8.3%* |
| Education | Some HS | 5.3%* | 9.6% | 10.2%* | 5.0% | 0.3% | 3.1% | 0.2% | 1.4%* | 0.7% | 4.8%* | 5.5%* | 8.1%* | 8.6%* |
| | HS Diploma | 6.2% | 6.2% | 3.4% | 6.8% | 0.6% | 2.2% | 0.5% | 2.9% | 1.0% | 6.5% | 5.9% | 5.3% | 4.9% |
| | College | 3.4% | 1.6%* | 0.9%* | 2.2% | 0.3% | 1.2% | 0.2% | 2.5%* | 0.6% | 4.4%* | 4.2%* | 3.4% | 1.0%* |
| Marital Status | Married | 6.2%* | 3.7% | 1.9% | 2.5% | 0.0% | 2.5% | 0.5% | 2.1%* | 1.0%* | 5.6%* | 5.2%* | 3.2%* | 0.7%* |
| | Divorced | 3.1%* | 2.5%* | 0.0%* | 6.8%* | 1.2%* | 5.0%* | 0.7%* | 4.3%* | 1.4%* | 6.2%* | 2.8%* | 2.0%* | 0.2%* |
| Welfare | | 2.2% | 2.8% | 0.9% | 1.9% | 0.3% | 0.3% | 0.1% | 0.8% | 0.2% | 1.6% | 2.9%* | 1.8% | 0.8%* |
| Full time employment | | 11.8% | 14.0% | 10.6% | 9.6% | 1.2% | 5.3% | 0.8% | 5.8% | 1.8% | 12.9% | 14.4%* | 12.7% | 10.0%* |
| Minor in home | | 10.9%* | 13.0%* | 5.3% | 4.7% | 0.0% | 1.2%* | 0.1%* | 2.1%* | 0.3%* | 8.7%* | 8.9%* | 8.1%* | 4.4%* |
| Children | No children | 4.0%* | 5.6%* | 12.4%* | 2.5%* | 0.0%* | 1.9%* | 0.2%* | 1.6%* | 0.4%* | 4.1%* | 4.7%* | 7.1%* | 12.9%* |
| | 1 child | 5.0% | 9.3%* | 4.3% | 3.1% | 0.9% | 1.2% | 0.1% | 1.7% | 0.4% | 3.9%* | 3.9%* | 6.1% | 5.0% |
| | 2 children | 6.2% | 4.7% | 2.5% | 6.8%* | 0.6% | 1.9% | 0.2% | 2.4%* | 0.6% | 6.1%* | 5.9%* | 4.2% | 2.0%* |
| Minor children | No minor children | 4.7%* | 5.6%* | 12.4%* | 5.3%* | 1.9% | 5.9%* | 1.3%* | 5.3%* | 2.1%* | 6.2%* | 4.8%* | 7.1%* | 12.9%* |
| | 2 minor children | 5.6% | 4.7% | 2.5% | 5.3%* | 0.0% | 1.6% | 0.0% | 1.1%* | 0.2% | 4.2% | 6.0%* | 4.2% | 2.0%* |
| Parents served time | | 3.4%* | 6.5% | 8.4%* | 3.4% | 0.0% | 1.6% | 0.1% | 0.9%* | 0.4% | 2.8%* | 3.0%* | 5.8%* | 7.6%* |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Substance dependence | | 14.6%* | 11.2% | 7.5% | 10.2% | 1.6% | 5.0% | 0.3% | 4.0% | 0.7%* | 9.4% | 10.6% | 8.1%* | 8.7%* |
| Drug use month before offense | | 13.7%* | 14.6%* | 8.7% | 9.0% | 1.2% | 4.3% | 0.2%* | 2.5%* | 0.7%* | 10.8%* | 11.3%* | 11.5%* | 12.8%* |
| Regular drug use | | 17.1%* | 19.3%* | 14.0%* | 13.4%* | 2.2%* | 6.5%* | 0.2%* | 5.5%* | 1.4% | 15.0%* | 15.0%* | 15.2%* | 15.5%* |
| Drug use ever | Cocaine | 15.2%* | 10.2%* | 7.1%* | 12.7%* | 2.8%* | 5.9%* | 0.2%* | 4.6% | 1.2% | 12.3%* | 11.4%* | 8.3%* | 8.1%* |
| | Opiate | 6.2% | 5.6% | 2.5%* | 7.5%* | 1.9%* | 2.8% | 0.0%* | 2.4% | 0.7% | 5.8%* | 3.5%* | 3.6%* | 2.9%* |
| | Stimulant | 11.2%* | 8.4% | 8.1% | 7.1% | 1.2% | 3.7% | 0.1%* | 2.0%* | 0.8% | 7.4% | 6.7% | 7.3% | 8.7%* |
| Crime type | Property | 7.5% | 6.2% | 9.0%* | 4.0% | 0.0% | 2.5% | 0.2% | 2.2% | 0.8% | 4.4%* | 5.3% | 6.2% | 7.5%* |
| | Drug | 6.2% | 8.7% | 5.0% | 5.3% | 1.6% | 2.5% | 0.3% | 1.9% | 0.8% | 6.8% | 7.8% | 7.4% | 5.8% |
| | Public Order | 5.9% | 5.9% | 2.5%* | 5.6% | 0.9% | 3.7% | 0.7% | 3.5%* | 0.8% | 6.7%* | 4.8% | 3.9%* | 2.7%* |
| Stimulant use at time of offense | | 6.8%* | 4.3% | 2.8% | 4.0% | 0.6% | 2.2% | 0.1% | 0.9%* | 0.2% | 3.3% | 3.9% | 2.4%* | 1.7%* |
| No prior arrests | | 3.7% | 7.1% | 5.3% | 4.0% | 0.6% | 3.1% | 0.6% | 2.4% | 0.8% | 5.2% | 5.5% | 7.9% | 7.3% |
| more than 10 prior arrests | | 3.1% | 1.2% | 0.9% | 2.5% | 0.3% | 0.6% | 0.1% | 0.6% | 0.3% | 3.0%* | 1.2%* | 1.0%* | 0.7%* |
| Prior sentence to jail | | 9.6%* | 7.1% | 5.0% | 8.7%* | 1.6% | 4.0% | 0.3% | 3.0% | 1.1% | 9.7%* | 6.7%* | 6.5%* | 3.8%* |
| Prior prison sentence | | 6.2%* | 3.1%* | 1.2%* | 5.3%* | 1.6%* | 2.5%* | 0.2% | 2.5%* | 0.7% | 4.7%* | 3.0%* | 2.3%* | 0.5%* |
| Received probation as an adult | | 9.9%* | 8.7% | 4.7% | 9.0%* | 2.2%* | 4.0% | 0.4% | 4.2%* | 1.2% | 9.5%* | 8.9%* | 6.9% | 3.7%* |
| Prior probation revocation | | 5.9%* | 3.1% | 2.8% | 4.0% | 0.6% | 0.9% | 0.0% | 1.1% | 0.7% | 3.7% | 2.7% | 3.6% | 1.9%* |
| Prior juvenile conviction | | 3.1%* | 6.8%* | 6.5%* | 3.1%* | 0.0% | 0.6%* | 0.2% | 1.1%* | 0.2%* | 2.1%* | 2.9%* | 4.4%* | 7.6%* |

* Bonferroni test indicated significance for this cluster

The proportions are within FTA and non-FTA clusters, so they total across the cluster groups within each.

This tables was cut down to save on space, a full version can be found in Table 15 of the Appendix.

## Discussion

The goal of this exploratory research was to develop a profile of defendant and case characteristics unique to those who to fail to appear. Using a cluster analysis allowed for the comparison between static and dynamic factors of those who failed to appear for their court appearance, and those who did not, through the development of classifications for each. The creation of the profiles did successfully allow for comparisons across the clusters, which indicated certain factors in which FTAs differed from non-FTAs. Specifically, crime type, drug use, and criminal history were particularly indicative of FTA.

Previous research indicated that the static factor of crime type may play a factor in failure to appear, specifically, property and drug crime are important predictors of FTA (Bechtel, Lowenkamp & Holsinger, 2011; Johnson, Kierkus & Yalda, 2014; Zettler & Morris, 2015). This was evident in cluster differences on the variables of property crime and public order crime. Consistent with prior literature, FTA Cluster 4 had a high rate of property crime, but a low rate of public order crime. Given that Cluster 4 had high rates of property crime, they were more likely to be found with stolen property. There were no significant differences that were evident for drug crime, but there were differences associated with drug use.

While arrest for a drug crime was not necessarily indicative of FTA, drug use was significantly different on more dynamic factors of substance dependence and specific drug use. These results indicate that drug use, particularly stimulant use, was more prevalent among those who FTA than those who do not. The difference between drug use and arrests for drug crime might be indicating that those who fail to appear may be drug-users, while those who do not fail to appear may be associated with less drug use. Not everyone arrested

for a drug crime had chemical dependency, so factors related more to the use of drugs may be a better indicator of FTA than the arrest.

The literature indicated that static factors related to having a previous criminal record is a strong indicator of failure to appear (Bechtel, Lowenkamp & Holsinger, 2011; Johnson, Kierkus & Yalda, 2014; Zettler & Morris, 2015). This was evident in the overall difference between FTA and non-FTA. FTA Clusters had a higher rate of having a previous jail sentence and prison sentence than non-FTA Clusters. While clusters may not be specifically different, across FTA and non-FTA totals, FTAs were more likely to have a previous sentence (Appendix Table 14). Having a juvenile record was indicative as well of FTA, according to previous literature (Bechtel, Lowenkamp & Holsinger, 2011; Berk et al., 2018; Clarke, Freeman & Koch, 1976; Maxwell, 1999; Zettler & Morris, 2015). FTA clusters typically had higher rates of juvenile conviction and prior juvenile probation than non-FTA clusters. It is something to note that Non-FTA Cluster 8 had high rates of having a juvenile criminal history (prior conviction and probation), which may be due to the age and that this group is possibly more criminogenic than other non-FTA clusters.

The static factor of gender was highlighted as an indicator of FTA in previous literature, with males being more likely to fail to appear (Zettler and Morris, 2015). The findings of this study contradict this, as females were more prevalent in the FTA group (Appendix Table 14), particularly FTA Cluster 5. The identifying factors of this cluster were that these individuals had experienced physical or sexual abuse, had high mental health diagnoses, and had chemical dependence. Zettler and Morris (2015) report that marriage had a significant impact for males only, which may be relevant to explaining the female involvement of this cluster, as these individuals had partners who had served time,

and were divorced or separated from many. Males may have had a negative effect on the females in the FTA cases. This was the main difference between this and the largely female non-FTA cluster.

Indigence was a main factor for FTA in previous research (Zettler & Morris, 2015). One way this was measured was if an individual had been homeless prior to the current admission. This variable, however, was not as indicative of FTA as others. That being said, there were some differences that can be seen in Table 14 in the Appendix, where it does indicate that there are overall higher rates of homelessness for FTA (11.8%) than non-FTA (8%). Looking at FTA, Clusters 3, 5 and 6 have the highest percentage of individuals who were homeless prior to the current admission, all around 15%. FTA Cluster 1 and 4 had low rates of homelessness prior to the current admission, even being some of the most indicative clusters of FTAs. This indicated that homelessness is somewhat related to FTA, but is not one of the major indicators in this case. Non-FTA Cluster 8 did have the second highest percentage homeless of the non-FTA clusters, but it was only 10.2%. A larger percentage of these individuals lived in a house. Given the age of Non-FTA Cluster 8, it can be assumed that the house may belong to a family member.

While the FTA clusters were significantly different on certain aspects, FTA Clusters 1 and 4 seem to be the most indicative of being significantly different from non-FTA Clusters. This was particularly evident on the variables of property crime and drug use. Non-FTA Cluster 8 was more criminogenic and closest to the FTA profiles compared to the other non-FTA profiles. The age of this cluster was between the ages of 16-22, the youngest of the non-FTA clusters. According to the age crime curve, it makes sense that this group would be the most criminogenic. What is interesting about this group is that

given their indicators, they still appeared at their court date. This could be due to a number of factors including being on some sort of conditional release, or that (given their age) many of them still lived with parents or guardians who made sure that they went to court. It could be that something else about them in particular is inherently different than those who failed to appear.

There are a number of theories that may apply to these profiles to help explain why FTAs may occur. Cullen (2018) offers a social support theory which may assist in explaining the FTA profiles. His theory posits, through thirteen propositions, that social support has an impact on crime. In general, the more social support an individual has, the less likely they are to be involved in crime. Propositions 7 and 8 may be particularly relevant to FTA. These two propositions follow the idea that when an individual anticipates that they are going to have a lack of social support, they are more likely to commit crime, and the inverse that providing individuals with social support lessens their involvement (Cullen, 2018). If individuals are provided support for their needs, whether it be drug treatment or other programming, they may be more likely to appear to their court dates and less likely to commit crime, whether it be new crimes or simply failing to appear.

Another theory relevant to FTA may be legal socialization and cynicism. This socialization develops over time, starting in childhood, in which individuals internalize values, develop perceptions, and acquire attitudes toward the criminal justice system. Their experiences with the law, law enforcement, and the institutions lead toward the development of these attitudes (Reisig, Wolfe & Holtfreter, 2011). Further theory holds that individuals who view the system as legitimate and do not have cynicism toward it are more likely to be compliant (Reisig, Wolfe & Holtfreter, 2011). Given this theory, if

individuals have a legal socialization that has oriented them to be cynical and view the system as not legitimate, they could be likely to fail to appear. These individuals may view that the court does not function properly, or they view they are not being treated in a procedurally just way and may choose to not come into court. Given the belief that legal socialization develops over time, these individuals may have juvenile involvement in the criminal justice system that has contributed to a cynical view. This is consistent with the criminal history (and juvenile criminal history) component of the FTA profiles. Previous studies have indicated that racial minorities often have more legal cynicism, which may explain why there is a higher percentage of white individuals in the non-FTA clusters (Reisig, Wolfe & Holtfreter, 2011).

**Limitations**

A major limitation of this dataset and study was the sample size. Individuals who failed to appear only made up 322 cases, which was only about 20 percent of the total sample. This made it more challenging to distinguish what makes FTAs unique or not. The more cases, the more potential variation in the sample. While there was no minimum sample size for a cluster analysis, more cases would have assisted in building the clusters. Some clusters were much smaller than others within the variable, so a larger sample size possibly could have reduced these differences. Beyond this, forms of bail/bond and bond amount would have been useful variables to include, but the current dataset did not allow for this (Clarke, Freeman & Koch, 1976; Johnson, Kierkus & Yalda, 2014).

There are limitations to cluster analysis. Normally used in marketing, information regarding cluster analyses is rather limited compared to other statistical analyses within criminal justice research. When applied, it is not always well documented in literature. In

relation to other machine learning techniques, such as latent class and random forest, there are some limitations. Clipper (2018) found support that when predicting FTAs, random forest is a more effective approach than regression analyses. While the author did not look at cluster analyses in creating typologies, random forest is a similar technique that is also predictive.

In terms of the analysis, a One-Way ANOVA Bonferroni test was used to help determine significant differences between clusters. While Bonferroni tests are robust, they are not necessarily robust to different distributions across categories (clusters). A limitation of using this is that the clusters did vary in the number of cases that each contained. This may have led to some inconsistencies in this portion of the analysis. That being said, the cluster profiles did not rely solely on the Bonferroni. The within and total cluster percentages were used as well. Additionally, split half validation for the cluster analysis was not able to be used due to the small sample size. The benefits of being able to do a split half validation is that it would increase reliability and validity.

More generally, there are a number of limitations that occur given the topic of FTA. Some limitations are inevitable given the difficulty of the topic. Properly measuring failure to appear can be difficult due to the variation in when a failure to appear is given. The question for the FTA variable for this dataset was simply, “Did you fail to appear for any scheduled court appearance?” FTA was not properly defined, which could have resulted in some inconsistencies in the self-reported data. A more local dataset would allow for us to address this, as a failure to appear conviction could possibly be examined. While there is some variation in this way of measurement as well, it is a more official and dependable

variable. A more local dataset would also be searchable by county or by judge to note if more counties are giving out a higher number of failure to appear convictions.

Another limitation is that failure to appear notifications can vary from county to county. For the current nationally representative dataset this information was not available. Given this, we were unable to examine how notifications may play a role in failure to appear. A more local dataset would possibly allow for practices in particular counties to be examined and included. Given that the bulk of failure to appear research involves court notifications, this would have been useful to include in the study if the dataset allowed.

**Implications**

Given the findings of this study, it provides implications for solutions and steps that can be taken to reduce and prevent the number of FTAs that occur. Risk assessments base a portion of the information on whether or not the individual has a history of probation violations or revocations (Bechtel, Lowenkamp, & Holsinger, 2011). Through the profiles and the total percentages between FTA and non-FTA, there is not a large difference in probation violation or revocation. It seems that prior criminal history, property crime, and drug use have larger differences between FTA and non-FTA. Being able to examine these differences can assist in shaping and perhaps rethinking current risk assessments.

Given that drug use was a predictor in prior research, but had different results through this exploratory analysis, it highlights the importance of offering treatment to individuals, even though they may not be in court for a drug crime. Previous research stated that drug crime was a predictor, but it seems that chemical dependence is a better predictor than the offense category itself (as a drug offense was not a difference between FTA and non-FTA) (Johnson, Kierkus & Yalda, 2014). Addressing substance dependence and

specific drug use, rather than just whether it was a drug offense or not may be able to identify individuals that were otherwise overlooked. Incorporating a pretrial assessment for substance dependence and being able to incorporate it into the pretrial conditions for those who are chemically dependent could assist in reducing the number of individuals who fail to appear.

It could be useful to be able to target notifications toward individuals who are less likely to appear to their court date. There are mixed findings in research on whether different types of notifications and reminders reduce FTA (Howat, Forsyth, Biggar & Howat, 2015; Lowenkamp, Holsinger & Dierks, 2017). A number of studies found that including sanctions that individuals would receive if they failed to appear reduced FTA rates (Herian & Bornstein, 2010; Bornstein, Tomkins, Neeley, Herian & Hamm, 2012). Future research could look into if, and what kind of, notifications may be useful for property crime offenders in particular. These individuals are typically younger, so perhaps text notifications may be useful among this group to serve as a reminder. This could also serve useful towards individuals who have a prior adult or juvenile criminal history. A reminder, particularly one that includes sanctions that will occur if they do not appear, could be utilized for the individuals who already have prior involvement in the system.

Building off the current study, there are implications for future research. A regression should be run once profiles are created to see the predictability of typologies of failure to appear. Due to constraints with the dataset, this was not possible within the current study. Further studies should look on more state and county levels in order to incorporate a greater number of variables that account for details involving failure to appear. This would mean trying to incorporate specific variables such as ones that

measured how counties notified individuals of their court dates, and if there are discrepancies in how failure to appear convictions are assigned. Being able to more specifically define failure to appear as a measure would assist in focusing the variable. Given the information from these cluster profiles, future research could look at particular groups in relation to notifications. It could be useful to look at what type of notifications, if any, work for which types of individuals that may be more likely to fail to appear.

Inclusion of as many specific variables as possible regarding the accessibility of individuals in attending court is important for future research. It would be useful to include the distance to court and the transportation resources that individuals may or may not have. If individuals are far from a public transportation route, and do not have access to a car, this could be affecting their ability to attend court. If an individual has easily accessible transportation, it may be other factors that are contributing to their FTAs. Availability of childcare is another factor that may play a role in FTA, given that there were a relatively high number of individuals in the study who had children in the home. Lacking adequate assistance for childcare should be another factor regarding FTA that should be included in future analyses.

As indicators of FTA are developed in these profiles, returning to a more traditional approach of running correlations and regressions of these specific factors may be useful to further develop an understanding of FTA. While previous research has covered this to an extent, the addition of typologies that provide a profile of what these individuals may look like will further what is already known. Combining complex aspects of profiles with the more direct results from correlations and regressions will assist in the translation to practice. It may supplement future FTA research to include qualitative aspects into the

research to fully understand what reasons some individuals may have for why they failed to appear. As different approaches to understanding FTA are used, it assists in providing a more complete picture of who is more likely to FTA, and why.

## Conclusion

Being able to create typologies of those who fail to appear, and those who do not, through a cluster analysis assists in understanding why individuals fail to appear. Once typologies are determined, we are able to identify ways in which we can focus services to individuals in order to increase court appearances. The development of clusters for FTA and non-FTA indicated differences on a number of static and dynamic variables, including drug use, crime type, and criminal history in particular. These findings provide implications for addressing specific risk factors for individuals who are released pretrial and suggest use of court notifications to target individuals who are more likely to fail to appear. This exploratory research provides suggestions for further research in understanding FTA.

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# Appendix

**Table 9. Bivariate Descriptives Pre-cluster analysis**

| Items | | FTA (n=322) | Non-FTA (n=1217) | p-value |
|---|---|---|---|---|
| Percent of total | | 20.9% | 79.1% | - |
| Mean Age (standard deviation) | | 30.7 (9.21) | 32.0 (10.17) | <.001 |
| Sex | Female | 8.1% | 23.4% | .001 |
| Race | Black | 8.7% | 30.1% | .224 |
| | White | 7.6% | 35.3% | .009 |
| | Hispanic | 3.5% | 10.6% | .119 |
| Education | 8th grade or less | 2.3% | 8.1% | .715 |
| | Some HS | 7.0% | 23.2% | .139 |
| | GED | 4.0% | 13.1% | .297 |
| | HS Diploma | 5.3% | 21.4% | .581 |
| | College | 2.0% | 12.8% | .003 |
| Marital Status | Married | 3.5% | 14.5% | .526 |
| | Widowed | 0.3% | 0.8% | .685 |
| | Divorced | 3.9% | 13.9% | .629 |
| | Separated | 1.6% | 6.3% | .908 |
| | Not married | 11.6% | 43.6% | .901 |
| Income | None | 4.3% | 12.9% | .072 |
| | Less than $300 | 1.8% | 7.6% | .652 |
| | $300 - $599 | 2.7% | 10.9% | .730 |
| | $600 - $999 | 2.5% | 10.1% | .771 |
| | $1000 - $1999 | 5.1% | 19.4% | .933 |
| | $2000 or more | 2.7% | 12.9% | .121 |
| Illegal Income | | 2.5% | 7.4% | .174 |
| Welfare | | 1.8% | 6.5% | .917 |
| Employed month before admission | | 13.9% | 55.7% | .199 |
| Full time employment | | 11.0% | 46.4% | .055 |
| Residence | House | 9.8% | 42.8% | .023 |
| | Apartment/Trailer | 8.1% | 29.4% | .619 |
| | Other | 2.5% | 5.9% | .008 |
| Homeless prior to current admission | | 2.5% | 6.3% | .030 |
| Minor in home | | 7.4% | 25.8% | .377 |
| Children | No children | 5.5% | 24.6% | .108 |
| | 1 child | 5.0% | 16.7% | .259 |
| | 2 children | 4.8% | 16.9% | .604 |

| | | | | |
|---|---|---|---|---|
| | 3 children | 2.9% | 10.3% | .633 |
| | 4 or more children | 2.7% | 10.6% | .763 |
| Minor children | No minor children | 7.5% | 31.5% | .190 |
| | 1 minor child | 5.5% | 18.6% | .274 |
| | 2 minor children | 4.1% | 13.9% | .404 |
| | 3 minor children | 2.1% | 7.6% | .727 |
| | 4 or more minor children | 1.6% | 7.4% | .376 |
| Mental Health | Depressive Disorder | 4.8% | 17.1% | .673 |
| | Bi-Polar Disorder | 2.3% | 8.7% | .925 |
| | Psychotic Disorder | 0.7% | 2.5% | .932 |
| | PTSD | 1.7% | 4.6% | .124 |
| | Other Anxiety | 1.9% | 7.6% | .780 |
| | Personality Disorder | 1.2% | 4.3% | .902 |
| | Other Mental Condition | 0.5% | 1.4% | .433 |
| Number of Diagnoses | 0 | 14.9% | 56.8% | .879 |
| | 1 | 2.2% | 9.6% | .433 |
| | 2 | 1.8% | 5.7% | .479 |
| | 3 | 1.1% | 4.1% | .937 |
| | 4 | 0.7% | 1.8% | .353 |
| | 5 | 0.2% | 0.8% | .832 |
| | 6 | 0.1% | 0.3% | .961 |
| Family served time | Parents | 4.9% | 16.3% | .277 |
| | Partner | 1.8% | 5.4% | .244 |
| | Other family | 8.5% | 27.0% | .035 |
| Ever physically or sexually abused | | 5.9% | 19.1% | .127 |
| Foster home growing up | | 3.0% | 6.8% | .002 |
| Parents abused alcohol | | 7.0% | 25.2% | .541 |
| Substance dependence, abuse | Substance dependence | 10.5% | 33.3% | .009 |
| | Substance abuse | 4.0% | 19.9% | .028 |
| | No substance abuse | 5.5% | 23.9% | .158 |
| Drug use month before offense | | 10.8% | 39.5% | .576 |
| Regular drug use | | 15.2% | 53.7% | .107 |
| Drug use ever | Marijuana | 16.5% | 59.6% | .201 |
| | Cocaine | 11.3% | 36.6% | .011 |
| | Opiate | 5.5% | 14.9% | .003 |
| | Depressant | 5.3% | 16.2% | .066 |
| | Stimulant | 8.3% | 26.2% | .023 |
| | Hallucinogen | 6.2% | 19.8% | .096 |

| | | | | |
|---|---|---|---|---|
| | Other drug | 2.7% | 8.3% | .195 |
| Crime type | Violent | 3.3% | 14.6% | .221 |
| | Property | 6.1% | 21.1% | .349 |
| | Drug | 6.1% | 24.4% | .584 |
| | Public Order | 5.1% | 18.4% | .599 |
| | Other | 0.3% | 0.5% | .205 |
| Nonviolent offense | | 17.6% | 64.5% | .221 |
| Drug use at time of offense | | 6.1% | 19.9% | .137 |
| | Cannabis | 2.7% | 9.5% | .604 |
| | Narcotics | 1.2% | 3.3% | .248 |
| | Stimulants | 4.4% | 10.0% | .000 |
| | Other | 0.7% | 3.1% | .526 |
| Searched at time of arrest | | 15.2% | 56.8% | .689 |
| What found when searched | Weapon found | 0.8% | 2.9% | .772 |
| | Drugs found | 4.1% | 17.1% | .450 |
| | Alcohol found | 1.3% | 4.2% | .500 |
| | Stolen property found | 1.9% | 5.0% | .090 |
| | Other found | 1.4% | 2.9% | .021 |
| | Nothing found | 12.1% | 50.7% | .045 |
| Resisted arrest | | 3.2% | 11.4% | .697 |
| Prior arrests | No prior arrests | 5.0% | 23.5% | .043 |
| | 1 prior arrest | 3.6% | 14.3% | .686 |
| | 2 prior arrests | 3.0% | 10.2% | .482 |
| | 3 prior arrests | 2.1% | 7.7% | .795 |
| | 4 prior arrests | 1.5% | 4.4% | .290 |
| | 5 prior arrests | 1.2% | 3.7% | .367 |
| | 6-10 prior arrests | 2.6% | 9.8% | .987 |
| | more than 10 prior arrests | 1.8% | 5.4% | .244 |
| Previous sentence | | 13.1% | 41.7% | .002 |
| Prior sentence to jail | | 7.6% | 24.6% | .086 |
| Prior prison sentence | | 4.2% | 11.0% | .007 |
| Received probation as an adult | | 8.1% | 27.5% | .204 |
| Prior probation violation charge | | 5.1% | 15.5% | .063 |
| Prior probation revocation | | 3.6% | 10.8% | .086 |
| Prior sentence to juvenile facility | | 2.1% | 7.6% | .693 |
| Prior juvenile conviction | | 4.2% | 14.6% | .481 |
| Prior juvenile probation | | 3.3% | 10.2% | .201 |

*Indicates that p-value is significant on a 0.05 level

**Table 10. FTA Agglomeration Coefficients**

| Stage | Agglomeration Coefficients |
|---|---|
| 1 | 1.006 |
| 2 | 3.535 |
| 3 | 6.080 |
| 4 | 9.580 |
| 5 | 13.082 |
| 6 | 16.590 |
| 7 | 20.590 |
| 8 | 24.590 |
| 9 | 28.594 |
| 10 | 32.676 |
| 11 | 37.176 |
| 12 | 41.676 |
| 13 | 46.176 |
| 14 | 50.687 |
| 15 | 55.198 |
| 16 | 59.711 |
| 17 | 64.225 |
| 18 | 69.118 |
| 19 | 74.118 |
| 20 | 79.119 |

**Table 11. Profiles of Failure to Appear – within cluster percentages**

| | | **Validation Model Cluster Number** (Number of cases per cluster) n = 322 | | | | | |
|---|---|---|---|---|---|---|---|
| **Items** | | 1 (73) | 3 (83) | 4 (65) | 5 (59) | 6 (9) | 7 (32) |
| Mean age (standard deviation) | | 30.9 (2.01) | 24.9 (1.59) | 20.1 (1.53) | 38.7 (2.12) | 52.1 (2.21) | 45.5 (1.67) |
| Sex | Female | 39.7% | 36.1% | 24.6% | 55.9%* | 22.2% | 46.9% |
| | Male | 60.3% | 63.9% | 75.4%* | 44.1% | 77.8% | 53.1% |
| Race | Black | 38.4% | 44.6% | 44.6% | 42.4% | 33.3% | 37.5% |
| | White | 39.7% | 30.1% | 32.3% | 42.4% | 33.3% | 43.8% |
| | Hispanic | 16.4% | 20.5% | 16.9% | 10.2% | 33.3% | 15.6% |
| | Other | 5.5% | 4.8% | 6.2% | 5.1% | 0.0% | 3.1% |
| Education | 8th grade or less | 9.6% | 13.3% | 10.8% | 6.8% | 22.2% | 12.5% |
| | Some HS | 23.3%* | 37.3% | 50.8%* | 27.1% | 11.1% | 31.3% |
| | GED | 24.7% | 19.3% | 13.8% | 15.3% | 33.3% | 18.8% |
| | HS Diploma | 27.4% | 24.1% | 16.9% | 37.3% | 22.2% | 21.9% |
| | College | 15.1% | 6.0% | 4.6% | 11.9% | 11.1% | 12.5% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Marital Status | Married | 27.4% | 14.5% | 9.2% | 13.6% | 0.0% | 25.0% |
| | Widowed | 0.0%* | 0.0%* | 0.0%* | 0.0%* | 44.4%* | 0.0%* |
| | Divorced | 13.7%* | 9.6%* | 0.0%* | 37.3%* | 44.4%* | 50.0%* |
| | Separated | 12.3% | 3.6% | 3.1% | 13.6% | 11.1% | 6.3% |
| | Not married | 46.6%* | 72.3%* | 87.7%* | 35.6%* | 0.0%* | 18.8%* |
| Income | None | 20.5% | 20.5% | 16.9% | 23.7% | 33.3% | 18.8% |
| | Less than $300 | 6.8% | 7.2% | 15.4% | 6.8% | 0.0% | 9.4% |
| | $300 - $599 | 11.0% | 15.7% | 9.2% | 15.3% | 22.2% | 12.5% |
| | $600 - $999 | 2.7%* | 12.0% | 18.5% | 11.9% | 0.0% | 25.0%* |
| | $1000 - $1999 | 32.9% | 27.7% | 16.9% | 18.6% | 22.2% | 21.9% |
| | $2000 or more | 19.2% | 8.4% | 13.8% | 15.3% | 11.1% | 3.1% |
| Illegal Income | | 15.1% | 8.4% | 12.3% | 13.6% | 11.1% | 9.4% |
| Welfare | | 9.6% | 10.8% | 4.6% | 10.2% | 11.1% | 3.1% |
| Employed month before admission | | 70.6% | 65.8% | 65.1% | 69.2% | 67.8% | 55.6% |
| Full time employment | | 52.1% | 54.2% | 52.3% | 52.5% | 44.4% | 53.1% |
| Residence | House | 41.1% | 49.4% | 44.6% | 47.5% | 33.3% | 62.5% |
| | Apartment/Trailer | 43.8% | 37.3% | 44.6% | 39.0% | 33.3% | 18.8% |
| | Other | 12.3% | 13.3% | 10.8% | 8.5% | 22.2% | 15.6% |
| Homeless prior to current admission | | 0.0% | 15.1% | 6.0% | 15.4% | 15.3% | 11.1% |
| Minor in home | | 47.9%* | 50.6%* | 26.2%* | 25.4%* | 0.0%* | 12.5%* |
| Children | No children | 17.8%* | 21.7%* | 61.5%* | 13.6%* | 0.0%* | 18.8%* |
| | 1 child | 21.9% | 36.1% | 21.5% | 16.9% | 33.3% | 12.5% |
| | 2 children | 27.4% | 18.1% | 12.3%* | 37.3%* | 22.2% | 18.8% |
| | 3 children | 13.7% | 18.1% | 1.5%* | 20.3%* | 0.0% | 21.9% |
| | 4 or more children | 19.2% | 6.0%* | 3.1%* | 11.9% | 44.4%* | 28.1%* |
| Minor children | No minor children | 20.5%* | 21.7%* | 61.5%* | 28.8%* | 66.7% | 59.4%* |
| | 1 minor child | 24.7% | 36.1% | 21.5% | 27.1% | 22.2% | 15.6% |
| | 2 minor children | 24.7% | 18.1% | 12.3% | 28.8% | 0.0% | 15.6% |
| | 3 minor children | 13.7% | 18.1%* | 1.5%* | 6.8% | 0.0% | 9.4% |
| | 4 or more minor children | 16.4% | 6.0% | 3.1% | 8.5% | 11.1% | 0.0% |
| Mental Health | Depressive Disorder | 17.8% | 21.7% | 21.5% | 32.2% | 44.4% | 15.6% |
| | Bi-Polar Disorder | 6.8%* | 10.8% | 6.2%* | 23.7%* | 33.3% | 3.1%* |
| | Psychotic Disorder | 2.7% | 4.8% | 1.5% | 5.1% | 0.0% | 0.0% |
| | PTSD | 4.1% | 6.0% | 9.2% | 13.6% | 22.2% | 6.3% |
| | Other Anxiety | 8.2% | 13.3% | 3.1% | 10.2% | 11.1% | 9.4% |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Personality Disorder | 6.8% | 2.4% | 4.6% | 11.9% | 11.1% | 0.0% |
| | Other Mental Condition | 2.7% | 3.6% | 3.1% | 0.0% | 11.1% | 0.0% |
| Number of Diagnoses | 0 | 76.7% | 72.3% | 75.4% | 59.3% | 33.3% | 81.3% |
| | 1 | 8.2% | 10.8% | 10.8% | 11.9% | 22.2% | 9.4% |
| | 2 | 8.2% | 6.0% | 7.7% | 11.9% | 33.3% | 3.1% |
| | 3 | 4.1% | 4.8% | 4.6% | 8.5% | 0.0% | 6.3% |
| | 4 | 1.4% | 4.8% | 0.0% | 6.8% | 11.1% | 0.0% |
| | 5 | 1.4% | 1.2% | 0.0% | 1.7% | 0.0% | 0.0% |
| | 6 | 0.0% | 0.0% | 1.5% | 0.0% | 0.0% | 0.0% |
| Family served time | Parents | 15.1%* | 25.3% | 41.5%* | 18.6%* | 0.0% | 15.6% |
| | Partner | 9.6% | 6.0% | 7.7% | 13.6% | 11.1% | 6.3% |
| | Other family | 42.5% | 43.4% | 40.0% | 39.0% | 33.3% | 34.4% |
| Ever physically or sexually abused | | 23.5% | 30.1% | 22.9%* | 18.5%* | 42.4% | 22.2% |
| Foster home growing up | | 19.2% | 18.1% | 12.3% | 13.6% | 0.0% | 3.1% |
| Parents abused alcohol | | 34.2% | 34.9% | 35.4% | 37.3% | 11.1% | 25.0% |
| Substance dependence, abuse | Substance dependence | 64.4%* | 43.4% | 36.9%* | 55.9% | 55.6% | 50.0% |
| | Substance abuse | 16.4% | 19.3% | 27.7% | 16.9% | 11.1% | 15.6% |
| | No substance abuse | 17.8% | 33.7% | 32.3% | 22.0% | 11.1% | 25.0% |
| Drug use month before offense | | 11.8%* | 60.3% | 56.6% | 43.1% | 49.2% | 44.4% |
| Regular drug use | | 75.3% | 74.7% | 69.2% | 72.9% | 77.8% | 65.6% |
| Drug use ever | Marijuana | 79.5% | 81.9% | 80.0% | 76.3% | 100.0% | 65.6% |
| | Cocaine | 67.1%* | 39.8%* | 35.4%* | 69.5%* | 100.0%* | 59.4% |
| | Opiate | 27.4% | 21.7%* | 12.3%* | 40.7%* | 66.7%* | 28.1% |
| | Depressant | 21.9%* | 18.1%* | 20.0%* | 35.6% | 66.7%* | 31.3% |
| | Stimulant | 49.3% | 32.5% | 40.0% | 39.0% | 44.4% | 37.5% |
| | Hallucinogen | 34.2% | 26.5% | 26.2% | 28.8% | 55.6% | 28.1% |
| | Other drug | 12.3% | 15.7% | 7.7% | 16.9% | 11.1% | 12.5% |
| Crime type | Violent | 12.3% | 18.1% | 18.5% | 16.9% | 11.1% | 9.4% |
| | Property | 32.9% | 24.1% | 44.6% | 22.0% | 0.0% | 25.0% |
| | Drug | 27.4% | 33.7% | 24.6% | 28.8% | 55.6% | 25.0% |
| | Public Order | 26.0% | 22.9% | 12.3% | 30.5% | 33.3% | 37.5% |
| | Other | 1.4% | 1.2% | 0.0% | 1.7% | 0.0% | 3.1% |
| Nonviolent offense | | 87.7% | 81.9% | 81.5% | 83.1% | 88.9% | 90.6% |
| Drug use at time of offense | | 38.4% | 31.3% | 23.1% | 25.4% | 33.3% | 21.9% |
| | Cannabis | 13.7% | 14.5% | 21.5%* | 6.8% | 22.2% | 0.0%* |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Narcotics | 8.2% | 4.8% | 1.5% | 6.8% | 22.2% | 3.1% |
| | Stimulants | 30.1% | 16.9% | 13.8% | 22.0% | 22.2% | 21.9% |
| | Other | 5.5% | 1.2% | 6.2% | 0.0% | 11.1% | 0.0% |
| Searched at time of arrest | | 75.3% | 71.1% | 84.6%* | 66.1% | 100.0% | 53.1%* |
| What found when searched | Weapon found | 5.5% | 4.8% | 4.6% | 1.7% | 0.0% | 3.1% |
| | Drugs found | 21.9% | 19.3% | 21.5% | 18.6% | 22.2% | 12.5% |
| | Alcohol found | 12.3% | 2.4% | 7.7% | 1.7% | 11.1% | 6.3% |
| | Stolen property found | 6.8% | 9.6% | 16.9% | 3.4% | 22.2% | 3.1% |
| | Other found | 1.4% | 7.2% | 12.3% | 8.5% | 0.0% | 3.1% |
| | Nothing found | 60.3% | 51.8% | 46.2% | 69.5% | 66.7% | 68.8% |
| Resisted arrest | | 13.7% | 12.0% | 26.2% | 11.9% | 33.3% | 6.3% |
| Prior arrests | No prior arrests | 16.4% | 27.7% | 26.2% | 22.0% | 22.2% | 31.3% |
| | 1 prior arrest | 21.9% | 18.1% | 18.5% | 11.9% | 0.0% | 15.6% |
| | 2 prior arrests | 12.3% | 25.3%* | 10.8% | 10.2% | 22.2% | 3.1%* |
| | 3 prior arrests | 12.3% | 6.0% | 12.3% | 15.3% | 11.1% | 3.1% |
| | 4 prior arrests | 6.8% | 4.8% | 7.7% | 8.5% | 11.1% | 9.4% |
| | 5 prior arrests | 6.8% | 4.8% | 6.2% | 1.7% | 11.1% | 12.5% |
| | 6-10 prior arrests | 9.6% | 8.4% | 13.8% | 16.9% | 11.1% | 18.8% |
| | more than 10 prior arrests | 13.7% | 4.8% | 4.6% | 13.6% | 11.1% | 6.3% |
| Previous sentence | | 65.8% | 62.7% | 46.2%* | 66.1% | 100.0%* | 71.9% |
| Prior sentence to jail | | 42.5% | 27.7% | 24.6% | 47.5% | 55.6% | 40.6% |
| Prior prison sentence | | 27.4%* | 12.0%* | 6.2%* | 28.8%* | 55.6%* | 25.0% |
| Received probation as an adult | | 29.4% | 43.8% | 33.7%* | 23.1%* | 49.2%* | 77.8% |
| Prior probation violation charge | | 5.9% | 31.5% | 20.5% | 21.5% | 25.4% | 22.2% |
| Prior probation revocation | | 26.0% | 12.0% | 13.8% | 22.0% | 22.2% | 9.4% |
| Prior sentence to juvenile facility | | 6.8% | 12.0% | 15.4% | 11.9% | 11.1% | 0.0% |
| Prior juvenile conviction | | 13.7% | 26.5% | 32.3%* | 16.9% | 0.0% | 6.3%* |
| Prior juvenile probation | | 12.3% | 21.7% | 23.1%* | 11.9% | 11.1% | 0.0%* |

* Bonferroni test indicated significance for this cluster

**Table 12. Non-FTA Agglomeration Coefficients**

| Stage | Agglomeration Coefficients |
|---|---|
| 1 | 0.047 |
| 2 | 1.052 |
| 3 | 2.067 |

| | |
|---|---|
| 4 | 3.131 |
| 5 | 4.631 |
| 6 | 6.132 |
| 7 | 7.634 |
| 8 | 9.155 |
| 9 | 10.752 |
| 10 | 12.752 |
| 11 | 14.752 |
| 12 | 16.753 |
| 13 | 18.754 |
| 14 | 20.758 |
| 15 | 22.765 |
| 16 | 24.789 |
| 17 | 26.821 |
| 18 | 29.169 |
| 19 | 31.669 |
| 20 | 34.169 |

**Table 13. Profiles of Non-FTAs – within cluster percentages**

| | | **Validation Model Cluster Number** (Number of cases per cluster) n = 1217 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Items** | | 1 (17) | 3 (110) | 4 (36) | 5 (260) | 6 (263) | 7 (273) | 8 (256) |
| Mean age (standard deviation) | | 60.7 (2.74) | 46.8 (1.92) | 53.5 (1.95) | 39.5 (2.25) | 31.9 (2.01) | 25.4 (1.83) | 20.1 (1.64) |
| Sex | Female | 11.8% | 30.9% | 27.8% | 36.2%* | 35.4%* | 26.7% | 20.7% |
| | Male | 88.2% | 69.1% | 72.2% | 63.8% | 64.6% | 73.3% | 79.3%* |
| Race | Black | 47.1% | 38.2% | 25.0% | 28.1%* | 38.8% | 44.0%* | 42.2%* |
| | White | 41.2% | 52.7% | 63.9%* | 56.2%* | 41.4%* | 35.9%* | 39.5%* |
| | Hispanic | 5.9% | 8.2% | 8.3% | 10.8% | 14.4% | 16.5% | 15.2% |
| | Other | 5.9% | 0.9% | 2.8% | 5.0% | 4.9% | 3.3% | 3.1% |
| Education | 8th grade or less | 23.5% | 8.2% | 11.1% | 10.4% | 10.3% | 6.2% | 14.1% |
| | Some HS | 11.8% | 15.5%* | 25.0% | 22.3%* | 25.5%* | 36.3%* | 41.0%* |
| | GED | 17.6% | 16.4% | 11.1% | 16.2% | 17.1% | 17.2% | 16.4% |
| | HS Diploma | 35.3% | 31.8% | 33.3% | 30.4% | 27.4% | 23.8% | 23.4% |
| | College | 11.8% | 27.3%* | 19.4% | 20.8%* | 19.4%* | 15.0%* | 4.7%* |
| Marital Status | Married | 35.3%* | 23.6%* | 33.3%* | 26.2%* | 24.0%* | 14.3%* | 3.5%* |
| | Widowed | 5.9%* | 1.8%* | 11.1%* | 0.8%* | 1.1%* | 0.0%* | 0.0%* |
| | Divorced | 47.1%* | 47.3%* | 47.2%* | 28.8%* | 12.9%* | 8.8%* | 1.2%* |
| | Separated | 11.8% | 11.8%* | 2.8% | 12.3%* | 11.4%* | 5.5% | 1.6%* |
| | Not married | 0.0%* | 15.5%* | 5.6%* | 31.5%* | 50.6%* | 71.4%* | 93.8%* |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Income | None | 11.8% | 14.5% | 13.9% | 14.6% | 15.6% | 13.9% | 22.7% |
| | Less than $300 | 0.0% | 8.2% | 8.3% | 8.5% | 8.7% | 9.5% | 12.9% |
| | $300 - $599 | 23.5% | 19.1% | 19.4% | 13.1% | 11.8% | 13.9% | 12.9% |
| | $600 - $999 | 23.5% | 9.1% | 13.9% | 10.8% | 12.9% | 15.4% | 12.5% |
| | $1000 - $1999 | 23.5% | 22.7% | 33.3% | 24.6% | 27.8% | 21.6% | 23.8% |
| | $2000 or more | 17.6% | 18.2% | 11.1% | 19.6% | 17.1% | 15.8% | 12.5% |
| Illegal Income | | 5.9% | 7.3% | 2.8% | 4.6%* | 8.4% | 11.7% | 14.5%* |
| Welfare | | 5.9% | 9.1% | 8.3% | 7.3% | 13.3%* | 8.1% | 3.9%* |
| Employed month before admission | | 70.6% | 75.5% | 75.0% | 70.8% | 77.9%* | 65.2%* | 64.8%* |
| Full time employment | | 58.8% | 64.5% | 61.1% | 60.4% | 66.5%* | 56.8% | 47.7%* |
| Residence | House | 70.6% | 55.5% | 44.4% | 51.5% | 58.9% | 48.4% | 57.8% |
| | Apartment/ Trailer | 29.4% | 36.4% | 52.8% | 35.8% | 35.0% | 38.8% | 37.5% |
| | Other | 0.0% | 5.5% | 2.8% | 11.9%* | 5.7% | 10.6% | 3.5%* |
| Homeless prior to current admission | | 0.0% | 3.6% | 13.9% | 8.5% | 8.7% | 6.2% | 10.2% |
| Minor in home | | 5.9% | 22.7%* | 11.1%* | 40.8%* | 41.1%* | 35.9%* | 21.1%* |
| Children | No children | 17.6%* | 17.3%* | 13.9%* | 19.2%* | 21.7%* | 31.9%* | 61.3%* |
| | 1 child | 5.9% | 19.1% | 13.9% | 18.1% | 17.9% | 27.1% | 23.8% |
| | 2 children | 17.6% | 26.4%* | 19.4% | 28.5%* | 27.4%* | 18.7% | 9.4%* |
| | 3 children | 5.9% | 19.1%* | 25.0%* | 18.5%* | 16.3%* | 11.0% | 2.3%* |
| | 4 or more children | 52.9%* | 18.2%* | 27.8%* | 15.8%* | 16.7%* | 11.4%* | 3.1%* |
| Minor children | No minor children | 94.1%* | 58.2%* | 72.2%* | 29.2%* | 22.1%* | 31.9%* | 61.3%* |
| | 1 minor child | 5.9% | 20.9% | 22.2% | 26.9% | 18.3% | 27.5% | 23.8% |
| | 2 minor children | 0.0% | 11.8%* | 5.6%* | 19.6% | 27.8%* | 18.7% | 9.4%* |
| | 3 minor children | 0.0% | 4.5%* | 0.0% | 13.5%* | 15.6%* | 11.0%* | 2.3%* |
| | 4 or more minor children | 0.0% | 4.5%* | 0.0%* | 10.8% | 16.3%* | 11.0%* | 3.1%* |
| Mental Health | Depressive Disorder | 23.5% | 26.4% | 36.1% | 22.3% | 22.8% | 18.7% | 18.8% |
| | Bi-Polar Disorder | 5.9% | 10.9% | 19.4% | 11.9% | 13.7% | 8.4% | 9.4% |
| | Psychotic Disorder | 5.9% | 4.5% | 2.8% | 1.9% | 3.0% | 4.0% | 3.1% |
| | PTSD | 17.6% | 8.2% | 11.1% | 5.0% | 6.5% | 4.8% | 4.3% |
| | Other Anxiety | 11.8% | 13.6% | 16.7% | 10.4% | 12.2% | 6.2% | 6.6% |
| | Personality Disorder | 5.9% | 7.3% | 8.3% | 5.8% | 5.3% | 4.0% | 5.5% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Other Mental Condition | 0.0% | 2.7% | 5.6% | 1.5% | 1.1% | 0.7% | 3.1% |
| Number of Diag-noses | 0 | 70.6% | 61.8% | 61.1% | 71.5% | 70.3% | 76.9% | 73.8% |
| | 1 | 11.8% | 20.0% | 11.1% | 11.9% | 10.3% | 9.9% | 13.7% |
| | 2 | 5.9% | 10.0% | 5.6% | 7.3% | 8.7% | 7.0% | 5.1% |
| | 3 | 0.0% | 2.7% | 16.7% | 5.8% | 6.8% | 3.3% | 4.7% |
| | 4 | 11.8% | 2.7% | 0.0% | 2.3% | 2.7% | 1.8% | 1.6% |
| | 5 | 0.0% | 1.8% | 5.6% | 1.2% | 1.1% | 0.7% | 0.4% |
| | 6 | 0.0% | 0.9% | 0.0% | 0.0% | 0.0% | 0.4% | 0.8% |
| Family served time | Parents | 5.9% | 10.0%* | 13.9%* | 13.1%* | 13.7%* | 25.6%* | 36.3%* |
| | Partner | 5.9% | 7.3% | 5.6% | 7.7% | 8.0% | 7.7% | 3.9% |
| | Other family | 35.3% | 33.6% | 41.7% | 35.8% | 35.4% | 34.1% | 30.5% |
| Ever physically or sexually abused | | 23.5% | 23.6% | 19.4% | 27.7% | 27.0% | 21.2% | 21.9% |
| Foster home growing up | | 5.9% | 8.2% | 5.6% | 6.9% | 7.2% | 9.2% | 12.1% |
| Parents abused alcohol | | 23.5% | 27.3% | 22.2% | 34.2% | 32.3% | 31.9% | 32.8% |
| Substance dependence | | 23.5% | 44.5% | 25.0% | 44.2% | 49.0% | 36.3% | 41.4% |
| Substance abuse | | 23.5% | 21.8% | 25.0% | 22.7% | 21.7% | 28.9% | 28.9% |
| No substance abuse | | 52.9% | 29.1% | 50.0% | 30.8% | 26.6% | 31.9% | 27.7% |
| Drug use month before offense | | 11.8%* | 28.2%* | 25.0%* | 50.4%* | 52.5%* | 51.3%* | 60.9%* |
| Regular drug use | | 11.8%* | 60.9%* | 47.2%* | 70.4%* | 69.2%* | 67.8%* | 73.8%* |
| Drug use ever | Marijuana | 35.3%* | 70.0%* | 50.0%* | 76.2%* | 70.0%* | 78.8%* | 85.2%* |
| | Cocaine | 17.6%* | 50.9% | 38.9% | 57.7%* | 52.9%* | 37.0%* | 38.7%* |
| | Opiate | 0.0% | 26.4% | 22.2% | 26.9%* | 16.3% | 16.1%* | 13.7%* |
| | Depressant | 5.9% | 23.6% | 19.4% | 26.9% | 16.7% | 16.5% | 21.9% |
| | Stimulant | 5.9% | 21.8%* | 27.8% | 34.6% | 31.2% | 32.6% | 41.4%* |
| | Hallucinogen | 5.9% | 19.1% | 25.0% | 27.3% | 19.8% | 26.4% | 30.5% |
| | Other drug | 0.0% | 6.4% | 0.0% | 11.2% | 7.6% | 12.8% | 14.5% |
| Crime type | Violent | 11.8% | 15.5% | 11.1% | 15.4% | 16.3% | 20.9% | 24.2% |
| | Property | 17.6% | 24.5% | 27.8% | 20.8%* | 24.3% | 27.5% | 35.5%* |
| | Drug | 23.5% | 20.9% | 27.8% | 31.9% | 36.1% | 33.0% | 27.3% |
| | Public Order | 47.1%* | 38.2%* | 27.8% | 31.5%* | 22.4%* | 17.6%* | 12.9%* |
| | Other | 0.0% | 0.9% | 2.8% | 0.0% | 0.8% | 1.1% | 0.0% |
| Nonviolent offense | | 88.2% | 84.5% | 88.9% | 84.6% | 83.7% | 79.1% | 75.8% |
| Drug use at time of offense | | 5.9% | 17.3% | 8.3% | 26.9% | 27.0% | 26.7% | 27.0% |
| | Cannabis | 0.0% | 4.5%* | 5.6% | 8.8%* | 8.7%* | 15.4% | 19.9%* |
| | Narcotics | 0.0% | 4.5% | 0.0% | 6.2% | 4.6% | 3.7% | 2.7% |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Stimulants | 5.9% | 10.0% | 8.3% | 15.4% | 18.3%* | 10.6% | 8.2%* |
| | Other | 0.0% | 1.8% | 0.0% | 5.0% | 3.0% | 5.1% | 3.9% |
| Searched at time of arrest | | 76.5% | 70.9% | 58.3% | 69.6% | 73.4% | 71.4% | 74.6% |
| What found when searched | Weapon found | 0.0% | 0.9% | 0.0% | 0.8%* | 3.0% | 5.9%* | 7.0%* |
| | Drugs found | 17.6% | 15.5% | 19.4% | 18.5% | 24.0% | 23.1% | 23.8% |
| | Alcohol found | 5.9% | 7.3% | 2.8% | 6.5% | 4.6% | 4.4% | 5.1% |
| | Stolen property found | 0.0% | 7.3% | 2.8% | 5.8% | 3.8% | 7.7% | 8.6% |
| | Other found | 0.0% | 0.9% | 0.0% | 3.8% | 3.4% | 5.1% | 3.9% |
| | Nothing found | 76.5% | 69.1% | 72.2% | 65.0% | 65.8% | 60.4% | 60.9% |
| Resisted arrest | | 5.9% | 18.2% | 2.8% | 13.1% | 13.3% | 16.5% | 15.2% |
| Prior arrests | No prior arrests | 41.2% | 26.4% | 27.8% | 24.2% | 25.5% | 35.2% | 34.8% |
| | 1 prior arrest | 23.5% | 16.4% | 2.8% | 12.7%* | 23.2%* | 17.6% | 21.5% |
| | 2 prior arrests | 5.9% | 12.7% | 19.4% | 13.1% | 14.4% | 12.1% | 11.3% |
| | 3 prior arrests | 0.0% | 9.1% | 13.9% | 11.5% | 10.6% | 8.4% | 9.0% |
| | 4 prior arrests | 5.9% | 6.4% | 13.9% | 6.2% | 4.9% | 4.8% | 5.1% |
| | 5 prior arrests | 0.0% | 6.4% | 0.0% | 5.8% | 2.7% | 4.4% | 6.3% |
| | 6-10 prior arrests | 17.6% | 16.4% | 11.1% | 12.7% | 13.3% | 13.2% | 8.6% |
| | more than 10 prior arrests | 5.9% | 6.4% | 11.1% | 13.8%* | 5.3%* | 4.4%* | 3.5%* |
| Previous sentence | | 41.2% | 60.9% | 52.8% | 60.4%* | 54.0% | 50.2% | 43.8%* |
| Prior sentence to jail | | 23.5% | 33.6% | 36.1% | 45.4%* | 30.8%* | 28.9%* | 18.0%* |
| Prior prison sentence | | 11.8% | 28.2%* | 22.2%* | 21.9%* | 14.1%* | 10.3%* | 2.3%* |
| Received probation as an adult | | 29.4% | 46.4%* | 38.9% | 44.6%* | 41.1%* | 30.8%* | 17.6%* |
| Prior probation violation charge | | 5.9% | 20.9% | 22.2% | 24.2% | 18.3% | 19.8% | 16.0% |
| Prior probation revocation | | 0.0% | 11.8% | 22.2% | 17.3% | 12.5% | 16.1% | 9.0% |
| Prior sentence to juvenile facility | | 5.9% | 6.4%* | 5.6% | 6.9%* | 6.8%* | 9.2%* | 17.6%* |
| Prior juvenile conviction | | 11.8% | 11.8%* | 8.3%* | 10.0%* | 13.3%* | 19.4%* | 36.3%* |
| Prior juvenile probation | | 0.0%* | 7.3%* | 8.3%* | 8.5%* | 6.8%* | 12.8%* | 27.3%* |

* Bonferroni test indicated significance for this cluster

**Table 14. Comparison on Total Percentages FTA vs. Non-FTA Post-Cluster**

| Items | | FTA (n=322) | Non-FTA (n=1217) |
|---|---|---|---|
| Mean age (standard deviation) | | 30.72 | 32.01 |
| Sex | Female | 39.1% | 29.6% |
| | Male | 60.9% | 70.4% |
| Race | Black | 41.6% | 38.0% |
| | White | 36.6% | 44.6% |
| | Hispanic | 16.8% | 13.4% |
| | Other | 5.0% | 3.8% |
| Education | 8th grade or less | 11.2% | 10.2% |
| | Some HS | 33.5% | 29.3% |
| | GED | 18.9% | 16.5% |
| | HS Diploma | 25.5% | 27.1% |
| | College | 9.6% | 16.3% |
| Marital Status | Married | 16.8% | 18.4% |
| | Widowed | 1.6% | 1.1% |
| | Divorced | 18.6% | 17.5% |
| | Separated | 7.8% | 8.0% |
| | Not married | 55.3% | 55.0% |
| Income | None | 20.5% | 16.3% |
| | Less than $300 | 8.7% | 9.5% |
| | $300 - $599 | 13.4% | 13.8% |
| | $600 - $999 | 12.1% | 12.8% |
| | $1000 - $1999 | 24.2% | 24.6% |
| | $2000 or more | 12.7% | 16.3% |
| Illegal Income | | 11.8% | 9.3% |
| Welfare | | 8.4% | 8.2% |
| Employed month before admission | | 66.5% | 70.3% |
| Full time employment | | 52.5% | 58.5% |
| Residence | House | 47.2% | 54.1% |
| | Apartment/Trailer | 38.5% | 37.1% |
| | Other | 12.1% | 7.5% |
| Homeless prior to current admission | | 11.8% | 8.0% |
| Minor in home | | 35.1% | 32.5% |
| Children | No children | 26.4% | 31.1% |
| | 1 child | 23.9% | 21.0% |
| | 2 children | 22.7% | 21.4% |
| | 3 children | 14.3% | 13.1% |
| | 4 or more children | 12.7% | 13.4% |

| | | | |
|---|---|---|---|
| Minor children | No minor children | 36.0% | 39.9% |
| | 1 minor child | 26.4% | 23.5% |
| | 2 minor children | 19.6% | 17.6% |
| | 3 minor children | 10.2% | 9.6% |
| | 4 or more minor children | 7.8% | 9.4% |
| Mental Health | Depressive Disorder | 22.7% | 21.6% |
| | Bi-Polar Disorder | 11.2% | 11.0% |
| | Psychotic Disorder | 3.1% | 3.2% |
| | PTSD | 8.1% | 5.8% |
| | Other Anxiety | 9.0% | 9.5% |
| | Personality Disorder | 5.6% | 5.4% |
| | Other Mental Condition | 2.5% | 1.8% |
| Number of Diagnoses | 0 | 71.4% | 71.8% |
| | 1 | 10.6% | 12.2% |
| | 2 | 8.4% | 7.2% |
| | 3 | 5.3% | 5.2% |
| | 4 | 3.1% | 2.2% |
| | 5 | 0.9% | 1.1% |
| | 6 | 0.3% | 0.3% |
| Family served time | Parents | 23.3% | 20.5% |
| | Partner | 8.7% | 6.8% |
| | Other family | 40.7% | 34.1% |
| Ever physically or sexually abused | | 28.3% | 24.2% |
| Foster home growing up | | 14.3% | 8.6% |
| Parents abused alcohol | | 33.9% | 31.8% |
| Substance dependence, abuse | Substance dependence | 50.0% | 42.0% |
| | Substance abuse | 19.3% | 25.1% |
| | No substance abuse | 26.4% | 30.3% |
| Drug use month before offense | | 51.6% | 49.9% |
| Regular drug use | | 72.4% | 67.8% |
| Drug use ever | Marijuana | 78.6% | 75.3% |
| | Cocaine | 54.0% | 46.2% |
| | Opiate | 26.4% | 18.8% |
| | Depressant | 25.2% | 20.5% |
| | Stimulant | 39.8% | 33.0% |
| | Hallucinogen | 29.5% | 25.0% |
| | Other drug | 13.0% | 10.5% |
| Crime type | Violent | 15.5% | 18.5% |
| | Property | 29.5% | 26.6% |
| | Drug | 29.2% | 30.8% |

| | | | |
|---|---|---|---|
| | Public Order | 24.5% | 23.3% |
| | Other | 1.2% | 0.6% |
| Nonviolent offense | | 84.5% | 81.5% |
| Drug use at time of offense | | 29.2% | 25.1% |
| | Cannabis | 13.0% | 12.0% |
| | Narcotics | 5.6% | 4.1% |
| | Stimulants | 20.8% | 12.6% |
| | Other | 3.1% | 3.9% |
| Searched at time of arrest | | 73.0% | 71.7% |
| What found when searched | Weapon found | 4.0% | 3.7% |
| | Drugs found | 19.6% | 21.5% |
| | Alcohol found | 6.2% | 5.3% |
| | Stolen property found | 9.3% | 6.3% |
| | Other found | 6.5% | 3.6% |
| | Nothing found | 57.8% | 64.1% |
| Resisted arrest | | 15.2% | 14.5% |
| Prior arrests | No prior arrests | 24.2% | 29.7% |
| | 1 prior arrest | 17.1% | 18.1% |
| | 2 prior arrests | 14.3% | 12.8% |
| | 3 prior arrests | 10.2% | 9.9% |
| | 4 prior arrests | 7.1% | 5.6% |
| | 5 prior arrests | 5.9% | 4.7% |
| | 6-10 prior arrests | 12.4% | 12.4% |
| | more than 10 prior arrests | 8.7% | 6.8% |
| Previous sentence | | 62.7% | 52.8% |
| Prior sentence to jail | | 36.3% | 31.1% |
| Prior prison sentence | | 19.9% | 13.9% |
| Received probation as an adult | | 38.8% | 34.8% |
| Prior probation violation charge | | 24.2% | 19.6% |
| Prior probation revocation | | 17.4% | 13.6% |
| Prior sentence to juvenile facility | | 10.2% | 9.5% |
| Prior juvenile conviction | | 20.2% | 18.5% |
| Prior juvenile probation | | 15.5% | 12.8% |

**Table 15. Total Percentages across All Cluster Profiles**

| | | Validation Model Cluster Number (Number of cases per cluster) n = 1539 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | FTA Clusters (n=322) | | | | | | Non-FTA Clusters (n=1217) | | | | | | |
| **Items** | | 1 (73) | 3 (83) | 4 (65) | 5 (59) | 6 (9) | 7 (32) | 1 (17) | 3 (110) | 4 (36) | 5 (260) | 6 (263) | 7 (273) | 8 (256) |
| Sex | Female | 9.0% | 9.3% | 5.0% | 10.2% | 0.6% | 4.7% | 0.2% | 2.8% | 0.8% | 7.7% | 7.6% | 6.0% | 4.4% |
| | Male | 13.7% | 16.5% | 15.2%* | 8.1%* | 2.2% | 5.3% | 1.2%* | 6.2% | 2.1% | 13.6%* | 14.0%* | 16.4%* | 16.7%* |
| Race | Black | 8.7% | 11.5% | 9.0% | 7.8% | 0.9% | 3.7% | 0.7% | 3.5% | 0.7% | 6.0%* | 8.4% | 9.9%* | 8.9% |
| | White | 9.0% | 7.8%* | 6.5%* | 7.8% | 0.9% | 4.3% | 0.6% | 4.8% | 1.9%* | 12.0%* | 9.0%* | 8.1%* | 8.3%* |
| | Hispanic | 3.7% | 5.3% | 3.4% | 1.9% | 0.9% | 1.6% | 0.1% | 0.7% | 0.2% | 2.3% | 3.1% | 3.7% | 3.2% |
| | Other | 1.2% | 1.2% | 1.2% | 0.9% | 0.0% | 0.3% | 0.1% | 0.1% | 0.1% | 1.1% | 1.1% | 0.7% | 0.7% |
| Education | 8th grade or less | 2.2% | 3.4% | 2.2% | 1.2% | 0.6% | 1.2% | 0.3% | 0.7% | 0.3% | 2.2% | 2.2% | 1.4% | 3.0% |
| | Some HS | 5.3%* | 9.6% | 10.2%* | 5.0% | 0.3% | 3.1% | 0.2% | 1.4%* | 0.7% | 4.8%* | 5.5%* | 8.1%* | 8.6%* |
| | GED | 5.6% | 5.0% | 2.8% | 2.8% | 0.9% | 1.9% | 0.2% | 1.5% | 0.3% | 3.5% | 3.7% | 3.9% | 3.5% |
| | HS Diploma | 6.2% | 6.2% | 3.4% | 6.8% | 0.6% | 2.2% | 0.5% | 2.9% | 1.0% | 6.5% | 5.9% | 5.3% | 4.9% |
| | College | 3.4% | 1.6%* | 0.9%* | 2.2% | 0.3% | 1.2% | 0.2% | 2.5%* | 0.6% | 4.4%* | 4.2%* | 3.4% | 1.0%* |
| Marital Status | Married | 6.2%* | 3.7% | 1.9% | 2.5% | 0.0% | 2.5% | 0.5% | 2.1%* | 1.0%* | 5.6%* | 5.2%* | 3.2%* | 0.7%* |
| | Widowed | 0.0%* | 0.0%* | 0.0%* | 0.0%* | 1.2%* | 0.0%* | 0.1%* | 0.2%* | 0.3%* | 0.2%* | 0.2%* | 0.0%* | 0.0%* |
| | Divorced | 3.1%* | 2.5%* | 0.0%* | 6.8%* | 1.2%* | 5.0%* | 0.7%* | 4.3%* | 1.4%* | 6.2%* | 2.8%* | 2.0%* | 0.2%* |
| | Separated | 2.8% | 0.9% | 0.6% | 2.5% | 0.3% | 0.6% | 0.2% | 1.1% | 0.1% | 2.6%* | 2.5%* | 1.2% | 0.3%* |
| | Not married | 10.6%* | 18.6%* | 17.7%* | 6.5%* | 0.0%* | 1.9%* | 0.0%* | 1.4%* | 0.2%* | 6.7%* | 10.9%* | 16.0%* | 19.7%* |
| Income | None | 4.7% | 5.3% | 3.4% | 4.3% | 0.9% | 1.9% | 0.2% | 1.3% | 0.4% | 3.1% | 3.4% | 3.1% | 4.8% |

| | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Less than $300 | 1.6% | 1.9% | 3.1% | 1.2% | 0.0% | 0.9% | 0.0% | 0.7% | 0.2% | 1.8% | 1.9% | 2.1% | 2.7% |
| | $300 - $599 | 2.5% | 4.0% | 1.9% | 2.8% | 0.6% | 1.2% | 0.3% | 1.7% | 0.6% | 2.8% | 2.5% | 3.1% | 2.7% |
| | $600 - $999 | 0.6% | 3.1% | 3.7% | 2.2% | 0.0% | 2.5% | 0.3% | 0.8% | 0.4% | 2.3% | 2.8% | 3.5% | 2.6% |
| | $1000 - $1999 | 7.5% | 7.1% | 3.4% | 3.4% | 0.6% | 2.2% | 0.3% | 2.1% | 1.0% | 5.3% | 6.0% | 4.8% | 5.0% |
| | $2000 or more | 4.3% | 2.2% | 2.8% | 2.8% | 0.3% | 0.3% | 0.2% | 1.6% | 0.3% | 4.2% | 3.7% | 3.5% | 2.6% |
| Illegal Income | | 3.4% | 2.2% | 2.5% | 2.5% | 0.3% | 0.9% | 0.1% | 0.7% | 0.1% | 1.0%* | 1.8% | 2.6% | 3.0%* |
| Welfare | | 2.2% | 2.8% | 0.9% | 1.9% | 0.3% | 0.3% | 0.1% | 0.8% | 0.2% | 1.6% | 2.9%* | 1.8% | 0.8%* |
| Employed month before admission | | 14.9% | 16.8% | 14.0% | 12.4% | 1.6% | 6.8% | 1.0% | 6.8% | 2.2% | 15.1% | 16.8% | 14.6% | 13.6% |
| Full time employment | | 11.8% | 14.0% | 10.6% | 9.6% | 1.2% | 5.3% | 0.8% | 5.8% | 1.8% | 12.9% | 14.4%* | 12.7% | 10.0%* |
| Residence | House | 9.3% | 12.7% | 9.0% | 8.7% | 0.9% | 6.2% | 1.0% | 5.0% | 1.3% | 11.0% | 12.7% | 10.8% | 12.2% |
| | Apartment/ Trailer | 9.9% | 9.6% | 9.0% | 7.1% | 0.9% | 1.9% | 0.4% | 3.3% | 1.6% | 7.6% | 7.6% | 8.7% | 7.9% |
| | Other | 2.8% | 3.4% | 2.2% | 1.6% | 0.6% | 1.6% | 0.0% | 0.5% | 0.1% | 2.5%* | 1.2% | 2.4% | 0.7%* |
| Homeless prior to current admission | | 3.4% | 1.6% | 3.1% | 2.8% | 0.3% | 0.6% | 0.0% | 0.3% | 0.4% | 1.8% | 1.9% | 1.4% | 2.1% |
| Minor in home | | 10.9%* | 13.0%* | 5.3% | 4.7% | 0.0% | 1.2%* | 0.1%* | 2.1%* | 0.3%* | 8.7%* | 8.9%* | 8.1%* | 4.4%* |
| Children | No children | 4.0%* | 5.6%* | 12.4%* | 2.5%* | 0.0%* | 1.9%* | 0.2%* | 1.6%* | 0.4%* | 4.1%* | 4.7%* | 7.1%* | 12.9%* |
| | 1 child | 5.0% | 9.3%* | 4.3% | 3.1% | 0.9% | 1.2% | 0.1% | 1.7% | 0.4% | 3.9%* | 3.9%* | 6.1% | 5.0% |
| | 2 children | 6.2% | 4.7% | 2.5% | 6.8%* | 0.6% | 1.9% | 0.2% | 2.4%* | 0.6% | 6.1%* | 5.9%* | 4.2% | 2.0%* |
| | 3 children | 3.1% | 4.7%* | 0.3%* | 3.7%* | 0.0% | 2.2% | 0.1% | 1.7%* | 0.7%* | 3.9%* | 3.5%* | 2.5% | 0.5%* |
| | 4 or more children | 4.3%* | 1.6%* | 0.6%* | 2.2%* | 1.2%* | 2.8%* | 0.7%* | 1.6%* | 0.8%* | 3.4%* | 3.6%* | 2.5%* | 0.7%* |
| Minor children | No minor children | 4.7%* | 5.6%* | 12.4%* | 5.3%* | 1.9% | 5.9%* | 1.3%* | 5.3%* | 2.1%* | 6.2%* | 4.8%* | 7.1%* | 12.9%* |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 minor child | 5.6% | 9.3% | 4.3% | 5.0% | 0.6% | 1.6% | 0.1% | 1.9% | 0.7% | 5.8% | 3.9% | 6.2% | 5.0% |
| | 2 minor children | 5.6% | 4.7% | 2.5% | 5.3%* | 0.0% | 1.6% | 0.0% | 1.1%* | 0.2% | 4.2% | 6.0%* | 4.2% | 2.0%* |
| | 3 minor children | 3.1% | 4.7%* | 0.3%* | 1.2% | 0.0% | 0.9% | 0.0% | 0.4% | 0.0% | 2.9%* | 3.4%** | 2.5% | 0.5%* |
| | 4 or more minor children | 3.7%* | 1.6% | 0.6% | 1.6% | 0.3% | 0.0% | 0.0% | 0.4%* | 0.0% | 2.3% | 3.5%* | 2.5% | 0.7%* |
| Mental Health | Depressive Disorder | 4.0% | 5.6% | 4.3% | 5.9% | 1.2% | 1.6% | 0.3% | 2.4% | 1.1% | 4.8% | 4.9% | 4.2% | 3.9% |
| | Bi-Polar Disorder | 1.6% | 2.8% | 1.2% | 4.3% | 0.9% | 0.3% | 0.1% | 1.0% | 0.6% | 2.5% | 3.0% | 1.9% | 2.0% |
| | Psychotic Disorder | 0.6% | 1.2% | 0.3% | 0.9% | 0.0% | 0.0% | 0.1% | 0.4% | 0.1% | 0.4% | 0.7% | 0.9% | 0.7% |
| | PTSD | 0.9% | 1.6% | 1.9% | 2.5% | 0.6% | 0.6% | 0.2% | 0.7% | 0.3% | 1.1% | 1.4% | 1.1% | 0.9% |
| | Other Anxiety | 1.9% | 3.4% | 0.6% | 1.9% | 0.3% | 0.9% | 0.2% | 1.2% | 0.5% | 2.2% | 2.6% | 1.4% | 1.4% |
| | Personality Disorder | 1.6% | 0.6% | 0.9% | 2.2% | 0.3% | 0.0% | 0.1% | 0.7% | 0.2% | 1.2% | 1.2% | 0.9% | 1.2% |
| | Other Mental Condition | 0.6% | 0.9% | 0.6% | 0.0% | 0.3% | 0.0% | 0.0% | 0.2% | 0.2% | 0.3% | 0.2% | 0.2% | 0.7% |
| Number of Diagnoses | 0 | 17.4% | 18.6% | 15.2% | 10.9% | 0.9% | 8.1% | 1.0% | 5.6% | 1.8% | 15.3% | 15.2% | 17.3% | 15.5% |
| | 1 | 1.9% | 2.8% | 2.2% | 2.2% | 0.6% | 0.9% | 0.2% | 1.8% | 0.3% | 2.5% | 2.2% | 2.2% | 2.9% |
| | 2 | 1.9% | 1.6% | 1.6% | 2.2% | 0.9% | 0.3% | 0.1% | 0.9% | 0.2% | 1.6% | 1.9% | 1.6% | 1.1% |
| | 3 | 0.9% | 1.2% | 0.9% | 1.6% | 0.0% | 0.6% | 0.0% | 0.2% | 0.5% | 1.2% | 1.5% | 0.7% | 1.0% |
| | 4 | 0.3% | 1.2% | 0.0% | 1.2% | 0.3% | 0.0% | 0.2% | 0.2% | 0.0% | 0.5% | 0.6% | 0.4% | 0.3% |
| | 5 | 0.3% | 0.3% | 0.0% | 0.3% | 0.0% | 0.0% | 0.0% | 0.2% | 0.2% | 0.2% | 0.2% | 0.2% | 0.1% |
| | 6 | 0.0% | 0.0% | 0.3% | 0.0% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.0% | 0.0% | 0.1% | 0.2% |
| Family served time | Parents | 3.4%* | 6.5% | 8.4%* | 3.4% | 0.0% | 1.6% | 0.1% | 0.9%* | 0.4% | 2.8%* | 3.0%* | 5.8%* | 7.6%* |
| | Partner | 2.2% | 1.6% | 1.6% | 2.5% | 0.3% | 0.6% | 0.1% | 0.7% | 0.2% | 1.6% | 1.7% | 1.7% | 0.8% |

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| | Other family | 9.6% | 11.2% | 8.1% | 7.1% | 0.9% | 3.4% | 0.5% | 3.0% | 1.2% | 7.6% | 7.6% | 7.6% | 6.4% |
| Ever physically or sexually abused | | 6.8% | 5.9% | 3.7% | 7.8% | 0.6% | 3.4% | 0.3% | 2.1% | 0.6% | 5.9% | 5.8% | 4.8% | 4.6% |
| Foster home growing up | | 4.3% | 4.7% | 2.5% | 2.5% | 0.0% | 0.3% | 0.1% | 0.7% | 0.2% | 1.5% | 1.6% | 2.1% | 2.5% |
| Parents abused alcohol | | 7.8% | 9.0% | 7.1% | 6.8% | 0.3% | 2.5% | 0.3% | 2.5% | 0.7% | 7.3% | 7.0% | 7.1% | 6.9% |
| Substance dependence | | 14.6%* | 11.2% | 7.5% | 10.2% | 1.6% | 5.0% | 0.3% | 4.0% | 0.7%* | 9.4% | 10.6% | 8.1%* | 8.7%* |
| Substance abuse | | 3.7% | 5.0% | 5.6% | 3.1% | 0.3% | 1.6% | 0.3% | 2.0% | 0.7% | 4.8% | 4.7% | 6.5% | 6.1% |
| No substance abuse | | 4.0%* | 8.7% | 6.5% | 4.0% | 0.3% | 2.5% | 0.7% | 2.6% | 1.5%* | 6.6% | 5.8% | 7.1% | 5.8% |
| Drug use month before offense | | 13.7%* | 14.6%* | 8.7% | 9.0% | 1.2% | 4.3% | 0.2%* | 2.5%* | 0.7%* | 10.8%* | 11.3%* | 11.5%* | 12.8%* |
| Regular drug use | | 17.1%* | 19.3%* | 14.0%* | 13.4%* | 2.2%* | 6.5%* | 0.2%* | 5.5%* | 1.4% | 15.0%* | 15.0%* | 15.2%* | 15.5%* |
| Drug use ever | Marijuana | 18.0%* | 21.1%* | 16.1%* | 14.0%* | 2.8%* | 6.5% | 0.5%* | 6.3% | 1.5%* | 16.3%* | 15.1%* | 17.7%* | 17.9%* |
| | Cocaine | 15.2%* | 10.2%* | 7.1%* | 12.7%* | 2.8%* | 5.9%* | 0.2%* | 4.6% | 1.2% | 12.3%* | 11.4%* | 8.3%* | 8.1%* |
| | Opiate | 6.2% | 5.6% | 2.5%* | 7.5%* | 1.9%* | 2.8% | 0.0%* | 2.4% | 0.7% | 5.8%* | 3.5%* | 3.6%* | 2.9%* |
| | Depressant | 5.0% | 4.7% | 4.0% | 6.5% | 1.9%* | 3.1% | 0.1%* | 2.1% | 0.6% | 5.8% | 3.6%* | 3.7%* | 4.6% |
| | Stimulant | 11.2%* | 8.4% | 8.1% | 7.1% | 1.2% | 3.7% | 0.1%* | 2.0%* | 0.8% | 7.4% | 6.7% | 7.3% | 8.7%* |
| | Hallucinogen | 7.8% | 6.8% | 5.3% | 5.3% | 1.6% | 2.8% | 0.1% | 1.7% | 0.7% | 5.8% | 4.3% | 5.9% | 6.4% |
| | Other drug | 2.8% | 4.0% | 1.6% | 3.1% | 0.3% | 1.2% | 0.0% | 0.6% | 0.0% | 2.4% | 1.6% | 2.9% | 3.0% |
| Crime type | Violent | 2.8% | 4.7% | 3.7% | 3.1% | 0.3% | 0.9% | 0.2% | 1.4% | 0.3% | 3.3% | 3.5% | 4.7% | 5.1% |
| | Property | 7.5% | 6.2% | 9.0%* | 4.0% | 0.0% | 2.5% | 0.2% | 2.2% | 0.8% | 4.4%* | 5.3% | 6.2% | 7.5%* |
| | Drug | 6.2% | 8.7% | 5.0% | 5.3% | 1.6% | 2.5% | 0.3% | 1.9% | 0.8% | 6.8% | 7.8% | 7.4% | 5.8% |
| | Public Order | 5.9% | 5.9% | 2.5%* | 5.6% | 0.9% | 3.7% | 0.7% | 3.5%* | 0.8% | 6.7%* | 4.8% | 3.9%* | 2.7%* |
| | Other | 0.3% | 0.3% | 0.0% | 0.3% | 0.0% | 0.3% | 0.0% | 0.1% | 0.1% | 0.0% | 0.2% | 0.2% | 0.0% |
| Nonviolent offense | | 19.9% | 21.1% | 16.5% | 15.2% | 2.5% | 9.0% | 1.2% | 7.6% | 2.6% | 18.1% | 18.1% | 17.7% | 15.9% |

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| Drug use at time of offense | | 8.7% | 8.1% | 4.7% | 4.7% | 0.9% | 2.2% | 0.1% | 1.6% | 0.2% | 5.8% | 5.8% | 6.0% | 5.7% |
| | Cannabis | 3.1% | 3.7% | 4.3% | 1.2% | 0.6% | 0.0% | 0.0% | 0.4%* | 0.2% | 1.9%* | 1.9%* | 3.5% | 4.2%* |
| | Narcotics | 1.9% | 1.2% | 0.3% | 1.2% | 0.6% | 0.3% | 0.0% | 0.4% | 0.0% | 1.3% | 1.0% | 0.8% | 0.6% |
| | Stimulants | 6.8%* | 4.3% | 2.8% | 4.0% | 0.6% | 2.2% | 0.1% | 0.9%* | 0.2% | 3.3% | 3.9% | 2.4%* | 1.7%* |
| | Other | 1.2% | 0.3% | 1.2% | 0.0% | 0.3% | 0.0% | 0.0% | 0.2% | 0.0% | 1.1% | 0.7% | 1.2% | 0.8% |
| Searched at time of arrest | | 17.1% | 18.3% | 17.1% | 12.1% | 2.8% | 5.3% | 1.1% | 6.4% | 1.7% | 14.9% | 15.9% | 16.0% | 15.7% |
| What found when searched | Weapon found | 1.2% | 1.2% | 0.9% | 0.3% | 0.0% | 0.0% | 0.0% | 0.1% | 0.0% | 0.2%* | 0.7% | 1.3% | 1.5%* |
| | Drugs found | 5.0% | 5.0% | 4.3% | 3.4% | 0.6% | 0.2% | 0.2% | 1.4% | 0.6% | 3.9% | 5.2% | 5.2% | 5.0% |
| | Alcohol found | 2.8% | 0.6% | 1.6% | 0.3% | 0.3% | 0.1% | 0.1% | 0.7% | 0.1% | 1.4% | 1.0% | 1.0% | 1.1% |
| | Stolen property found | 1.6% | 2.5% | 3.4%* | 0.6% | 0.6% | 0.0% | 0.0% | 0.7% | 0.1% | 1.2% | 0.8%* | 1.7% | 1.8% |
| | Other found | 0.3% | 1.9% | 2.5%* | 1.6% | 0.0% | 0.0% | 0.0% | 0.1%* | 0.0% | 0.8% | 0.7% | 1.2% | 0.8% |
| | Nothing found | 13.7% | 13.4% | 9.3% | 12.7% | 1.9% | 1.1% | 1.1% | 6.2% | 2.1% | 13.9% | 14.2% | 13.6% | 12.8% |
| Resisted arrest | | 3.1% | 3.1% | 5.3% | 2.2% | 0.9% | 0.6% | 0.1% | 1.6% | 0.1% | 2.8% | 2.9% | 3.7% | 3.2% |
| Prior arrests | No prior arrests | 3.7% | 7.1% | 5.3% | 4.0% | 0.6% | 3.1% | 0.6% | 2.4% | 0.8% | 5.2% | 5.5% | 7.9% | 7.3% |
| | 1 prior arrest | 5.0% | 4.7% | 3.7% | 2.2% | 0.0% | 1.6% | 0.3% | 1.5% | 0.1% | 2.7% | 5.0% | 3.9% | 4.5% |
| | 2 prior arrests | 2.8% | 6.5% | 2.2% | 1.9% | 0.6% | 0.3% | 0.1% | 1.2% | 0.6% | 2.8% | 3.1% | 2.7% | 2.4% |
| | 3 prior arrests | 2.8% | 1.6% | 2.5% | 2.8% | 0.3% | 0.3% | 0.0% | 0.8% | 0.4% | 2.5% | 2.3% | 1.9% | 1.9% |
| | 4 prior arrests | 1.6% | 1.2% | 1.6% | 1.6% | 0.3% | 0.9% | 0.1% | 0.6% | 0.4% | 1.3% | 1.1% | 1.1% | 1.1% |
| | 5 prior arrests | 1.6% | 1.2% | 1.2% | 0.3% | 0.3% | 1.2% | 0.0% | 0.6% | 0.0% | 1.2% | 0.6% | 1.0% | 1.3% |

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| 6-10 prior arrests | 2.2% | 2.2% | 2.8% | 3.1% | 0.3% | 1.9% | 0.2% | 1.5% | 0.3% | 2.7% | 2.9% | 3.0% | 1.8% |
| more than 10 prior arrests | 3.1% | 1.2% | 0.9% | 2.5% | 0.3% | 0.6% | 0.1% | 0.6% | 0.3% | 3.0%* | 1.2%* | 1.0%* | 0.7%* |
| Previous sentence | 14.9% | 16.1% | 9.3% | 12.1% | 2.8% | 7.1% | 0.6% | 5.5% | 1.6% | 12.9%* | 11.7% | 11.3% | 9.2%* |
| Prior sentence to jail | 9.6%* | 7.1% | 5.0% | 8.7%* | 1.6% | 4.0% | 0.3% | 3.0% | 1.1% | 9.7%* | 6.7%* | 6.5%* | 3.8%* |
| Prior prison sentence | 6.2%* | 3.1%* | 1.2%* | 5.3%* | 1.6%* | 2.5%* | 0.2% | 2.5%* | 0.7% | 4.7%* | 3.0%* | 2.3%* | 0.5%* |
| Received probation as an adult | 9.9%* | 8.7% | 4.7% | 9.0%* | 2.2%* | 4.0% | 0.4% | 4.2%* | 1.2% | 9.5%* | 8.9%* | 6.9% | 3.7%* |
| Prior probation violation charge | 7.1% | 5.3% | 4.3% | 4.7% | 0.6% | 2.2% | 0.1% | 1.9% | 0.7% | 5.2% | 3.9% | 4.4% | 3.4% |
| Prior probation revocation | 5.9%* | 3.1% | 2.8% | 4.0% | 0.6% | 0.9% | 0.0% | 1.1% | 0.7% | 3.7% | 2.7% | 3.6% | 1.9%* |
| Prior sentence to juvenile facility | 1.6% | 3.1% | 3.1% | 2.2% | 0.3% | 0.0% | 0.1% | 0.6% | 0.2% | 1.5%* | 1.5%* | 2.1% | 3.7%* |
| Prior juvenile conviction | 3.1%* | 6.8%* | 6.5%* | 3.1%* | 0.0% | 0.6%* | 0.2% | 1.1%* | 0.2%* | 2.1%* | 2.9%* | 4.4%* | 7.6%* |
| Prior juvenile probation | 2.8% | 5.6%* | 4.7%* | 2.2% | 0.3% | 0.0%* | 0.0% | 0.7%* | 0.2% | 1.8%* | 1.5%* | 2.9%* | 5.8%* |

* Bonferroni test indicated significance for this cluster

**FTA Profiles**

**Cluster One.** This cluster included individuals who were between 28 to 34 years old. They were more likely to have a higher education than other clusters, with either a GED (24.7%) or some sort of college education (15.1%). The Bonferroni indicated this as significant from Cluster 4 in particular, which had a higher percentage of individuals with lower educational attainment of some high school. They had a higher income, making typically $1,000 to $1,999 (32.9%) and $2,000 or more (19.2%) per month, placing the majority of them above the poverty line. In terms of income, the Bonferroni indicated that Cluster 1 was significantly different in the area of $600 to $900 a month. This is because Cluster 7 had a higher percentage of income within this income group, while Cluster 1 had a higher average income. That said, there was a high rate of illegal income as well, with 15.1% having obtained an illegal income.

In terms of residence prior to admission, this cluster resided mostly between houses (41.1%) or apartment/trailers (43.8%). Members of this group were the highest percentage of married individuals (27.4%). The Bonferroni showed this group to be significantly different from Clusters 5 and 7 regarding divorce, given that this cluster had a lower rate of divorce (13.7%). This cluster was also significantly different from Clusters 3, 4, 6 and 7 for individuals who were not married, with this group falling in the middle of the clusters with 46.6% of the cases in this cluster being not married.

This cluster had the second highest percentage of minor children living in the home (47.9%). The Bonferroni indicated that this cluster was significantly different from Clusters 6 and 7, which had very low rates of minors living in the home. It was also significantly different from Clusters 4 and 7 on the variable of no minor children, as Cluster 1 had the

lowest percentage of no minor children (20.5%). Given these indicators, this cluster was likely to have minor children, and they were likely to be living in the home.

This group had the highest rate of individuals who lived in a foster care or an institution at some point growing up (19.2%). Parents of these individuals typically did not serve any time in a prison or jail facility (15.1%), but some abused alcohol (65.8%). The Bonferroni indicated that this cluster was significantly different from Cluster 4 because a low percentage of the parents served time. This cluster had the second highest within-cluster percentage of other family (brother/sister/child) who had served time as well (42.5%). In terms of mental health, this group had relatively few diagnoses, with 76.7% having no diagnosis.

This group reported the highest rates of chemical dependence (64.4%) and drug use in the month before offense (60.3%). The drugs of choice commonly included marijuana (79.5%), stimulants (49.3%), hallucinogens (34.2%), and cocaine (67.1%) with depressant (21.9%) being less common. This was reflected in the significant differences indicated from the Bonferroni, in which Cluster 1 differed from Clusters 3 and 4 due to the high rate of cocaine use, as well as differing from Cluster 6 due to the lower rate of depressant use. At the time of the arrest, this cluster also had the highest of percentage of drug use at the time of the offense (38.4%), with stimulant use being much higher than the other clusters (30.1%). In addition to the self-report drug use, drugs were also commonly found when these individuals were searched at the time of arrest (21.9%).

The criminal history for the members of this group ranged rather widely as they were likely to either have only one prior arrest (21.9%) or more than 10 (13.7%). Moreover, this group typically had some prior prison sentences (27.4%), as well as probation violation

(31.5%) and probation revocations (26.0%). The Bonferroni indicated that this cluster in particular was significantly different from Cluster 4 regarding prior prison sentences, as Cluster 4 had low rates of prior sentences to prison. This cluster was less likely to have juvenile involvement in the criminal justice system, with low rates of sentence to a juvenile facility (6.8%), juvenile conviction (13.7%) and juvenile probation (12.3%).

**Cluster Three.** Members of this cluster were between the ages of 23 and 27. While race was not included as a clustering variable, this cluster had the largest percent black of the clusters (44.6%). This group had a lower education, with many possessing an education of 8$^{th}$ grade or less. These individuals typically made about $300 to $599 a month, but the smallest percentage of illegal income (8.4%). This group had slightly more individuals on welfare (10.8%) than other clusters. This cluster had the highest within-cluster percentage of individuals possessing full-time employment (54.2%) before their arrest, with 65.1% being employed the month before admission. Almost half within this cluster lived in a house before their arrest (49.4%), but some were homeless (15.1%).

This cluster had one of the largest percentages of individuals not married (72.3%), with the Bonferroni indicating that it was significantly different from Clusters 1, 5, 6 and 7 for this variable. It was also significantly different from Clusters 5 and 7 on the variable of divorce, as a small portion of cluster members were divorced (9.6%).

About half of cases within this cluster had minors living in the home (50.6%). This was the largest percentage of minors living in the home of all the clusters, with the Bonferroni indicating that it was significantly different from Clusters 4, 5, 6 and 7 in this aspect. The percentages between minor children and children were identical, indicating that if these individuals had children, they were minors. These individuals had one to three

children (36.1%, 18.1%, 18.1%), but typically not four or more (6%). The Bonferroni indicated that this cluster was significantly different from Clusters 6 and 7 on the variable of four or more children, due to the lower percentage; this cluster was also significantly different from Cluster 4 on the variable of three minor children, as it had a higher percentage.

This cluster had the highest percentage of other family (brother/sister/child) having served time (43.4%). That being said, it did have the lowest percentage of partners who had served time (6%). About a quarter of the parents had served time (25.3%). This may indicate that this group came from families that had more criminal histories, but chose partners who do not. Members of this cluster had pretty average percentages of parents who abused alcohol (34.9%), and had substance dependence (43.4%) and abuse (19.3%) themselves, when compared to the other clusters. This cluster had the second highest percentage of individuals that had lived in a foster home growing up (18.1%).

The individuals had the second highest rate of drug use the month before the offense (56.6%), with 74.7% reporting regular drug use. Members of this group reported one of the highest percentages of marijuana use (81.9%), but relatively lower rates of cocaine, opiates, depressants, stimulants, hallucinogens and other drug use ever. The Bonferroni confirmed this by indicating that this cluster was significantly different from a number of clusters on the variables of cocaine, opiate and depressant use. That being said, this cluster had one of the higher arrest rates for drug crime (33.7%). Drug use at the time of the offense (31.3%) was on the lower side compared to the other clusters. A large percentage of the crime was nonviolent (81.9%), indicating that a portion of these arrests may have been for nonviolent, marijuana related charges.

This group typically had less than two prior arrests, with the Bonferroni indicating that two prior arrests was significantly different from Cluster 7 due to the higher percentage (25.3%). Members of this cluster had relatively low rates of prior jail sentences (27.7%), prior prison sentences (12%), prior probation (21.7%) and prior probation revocation (12%). The Bonferroni indicated that this cluster was significantly different from Cluster 6 regarding having a prior prison sentence, due to its low rate.

**Cluster Four.** This cluster was largely male (75.4%) and between the ages of 17 and 22. This group was the most distinct from the other clusters. The Bonferroni indicated that this cluster was significantly different from Cluster 5 on sex based on the proportion of males in this cluster. The education level of this group was on the lower level, with most only having some high school education (50.8%). The Bonferroni indicated that it was significantly different from Cluster 1 regarding education, due to the lower educational attainment of this group. Members of this group had a higher percent of individuals who made less than $300 a month (15.4%), with about 40% of them being below the poverty line. That being said, this group fell in the middle for rates of illegal income (12.3%) compared to the other clusters and had the second lowest percentage of individuals on welfare (4.6%). This cluster had the highest percentage of individuals employed the month before admission (69.2%), with 52.3% being employed full time.

These cases had the highest percentage of individuals not married (87.7%), with the Bonferroni indicating that this cluster was significantly different from Clusters 1, 5, 6 and 7. It also indicated that this cluster was significantly different from Clusters 5, 6 and 7 regarding divorce, given that no individuals from these cases are divorced. The majority of cases within this cluster lived in either a house (44.6%) or an apartment/trailer (44.6%).

Only 26.2% had a minor in the home, making them significantly different from Cluster 3, given the low percentage. The other 61.5% had no children at all, which was significantly higher than every other cluster. This indicated that a small portion of these individuals had children, and if they did, they were minors. If they had children, it was typically only one (21.5%) or two (12.3%).

This group had the highest percentage of parents who had served time (41.5%), with the Bonferroni indicating this significantly different from Clusters 1 and 5. There was also a relatively high percentage of other family (brother/sister/child) who had served time (40%). This cluster had the lowest percentage of individuals who had been physically or sexually abused (18.5%), as well as one of the lower percentages of individuals who grew up in a foster home (12.3%). Given the low percentage of physical or sexual abuse, the Bonferroni indicated that this cluster was significantly different from Cluster 5 on this variable.

This cluster had the highest percentage for substance abuse (27.7%), but substance dependence (36.9%) was less commonly reported in this cluster than others. The Bonferroni indicated that Cluster 1 was significantly different from this one regarding substance dependence given the lower percentage in this cluster. This group had one of the lowest percentages of regular drug use (69.2%). Members of this cluster had at some point used marijuana (80%) and stimulants (40%) at higher rates. The Bonferroni indicated that this cluster was significantly different regarding cocaine (35.4%), opiate (12.3%), and depressant use (20%), due to the lower reported use among this group. A small portion of this group used drugs at the time of offense (23.1%), with marijuana being the only significant drug of choice (21.5%). Property crime was the most prevalent crime within

this cluster (44.6%), with stolen property being found when searched at the time of arrest (16.9%); which many reported resisting (26.2%). This cluster had one of the highest percentages of individuals searched at the time of arrest (84.6%), and the lowest rate of having nothing found when searched (46.2%). The Bonferroni indicated that the rate in which these individuals were searched was significantly different from Cluster 7, which had far less individuals searched.

In terms of criminal history, this group had the smallest percentage of individuals with a previous sentence (46.2%), with the Bonferroni indicating that this was significant from Cluster 6. Due to this, there were also low rates of prior jail sentence (24.6%), prior prison sentence (6.2%), and prior probation (23.1%). Of those who received probation, however, 21.5% received a probation violation charge and 13.8% had a prior probation revocation. While less likely to have an adult criminal history, this group had higher rates of juvenile criminal history than the other clusters; 15.4% had a prior sentence to a juvenile facility, 32.3% had a prior juvenile conviction, and 23.1% had prior juvenile probation. This was mostly likely due to the age group of this cluster, as they were the youngest group of offenders.

**Cluster Five.** This group was distinctly female (55.9%) and between the ages of 35 and 42. The Bonferroni indicated that this cluster was significantly different from Cluster 4 regarding sex, given the proportion of females in this cluster. The education of this group was typically a high school diploma (37.3%). In comparison to other clusters, this one had relatively higher education. This cluster had one of the higher percentages of individuals who had no income (23.7%), as well as welfare (10.2%) and illegal income

(13.6%). A high percentage were employed the month before admission (67.8%), with 52.5% of those individuals being employed full-time.

There was a high rate of divorce (37.3%) and separation (13.6%) among these individuals, and their partners had served time in prison (13.6%). The Bonferroni indicated that this cluster was significantly differently from Clusters 1, 3 and 4 due to the high rate of divorce. It also indicated that this cluster was different from Clusters 3 and 4 on the variable of not married, due to the lower percentage of those who were not married within this cluster (35.6%). There was a relatively low rate of minors living in the home for these individuals (25.4%), as shown by the Bonferroni indicating significance from Cluster 3. This cluster did, however, have a low percentage of no children (13.6%). There were higher percentages among two (37.3%) and three children (20.3%), which the Bonferroni indicated as significantly different from Cluster 4. If these individuals had minor children, they were more likely to only have one (27.1%) or two (23.7%). It appears that this group had many children over the age of eighteen. A large number of these individuals lived in a house (47.5%), with a very low percentage living in other (which included hotel, motel, group living situation, or institution) residences (8.5%).

The Bonferroni indicated that the low percentage of parents who served time (18.6%) was significantly different from Cluster 4. This cluster did, however, have the highest rate of partners who served time (13.6%). Members of this cluster group experienced the highest rate of physical or sexual abuse than any other (42.4%). The Bonferroni indicated that this was significantly different from Cluster 4 in particular. This cluster had the highest percentage of parents who abused alcohol (37.3%), and a relatively high percentage of these individuals had substance dependence (55.9%). This group had

the highest number of mental illness diagnoses in total (40.7%), as well on the individual diagnoses of depressive disorder (32.2%), bi-polar disorder (23.7%), PTSD (13.6%), and personality disorder (11.9%). Many individuals had multiple diagnoses (28.9%). The Bonferroni indicated that on the variable of bi-polar in particular, this cluster was significantly different from Clusters 1, 4 and 7, due to the higher diagnoses of this disorder.

About half of cluster cases had used drugs in the month before the offense (49.2%). Cocaine (69.5%), opiate (40.7%) and depressant (35.6%) drug use ever were high, while marijuana use (76.3%) was on the lower end when compared to other clusters. The Bonferroni indicated that cocaine and opiate use was significantly different from other clusters. Only 25.4% of individuals used drugs at the time of offense. If a drug was used, it was most likely to be a stimulant (22%). This indicated that stimulants, particularly cocaine, were the drug of choice for many individuals in this cluster.

This cluster had one of the lower percentages of searches at the time of arrest (66.1%), with the highest percentage of nothing being found when they were searched (69.5%). Very few resisted arrest (11.9%). These individuals were more likely to have previous involvement with the criminal justice system than many other clusters. Within the realm of criminal history, 66.1% of the cases had a previous sentence, with 47.5% having a prior sentence to jail, 28.8% having a prior prison sentence and 49.2% having been on probation. Similarly, the rates for probation violation (25.4%) and probation revocation (22%) were high as well. While they had adult criminal justice involvement, this group had less involvement as a juvenile; only 11.9% had a prior sentence to a juvenile facility, 16.9% had a prior juvenile conviction, and 11.9% had prior juvenile probation.

**Cluster Six.** The sample of this cluster was only nine individuals, making it slightly more difficult to interpret than the others. It was important to note that the within-cluster percentages were used, which were high due to the small number of cases compared to other clusters. This group was between the ages of 50 and 56, and largely male (77.8%). This cluster was a third black, a third white, and a third Hispanic. Regarding education, it appeared to mostly be clustered around having a GED (33.3%) or high school diploma (22.2%), but 22.2% also had an 8$^{th}$ grade or less education. One third of this cluster had no income (33.3%), while 22.2% fell within the category of $300 to $599 a month, and the remainder made $1000 or more a month. A few of the individuals had an illegal income (11.1%) and were on welfare (11.1%). Only 55.6% of the individuals were employed in the month before admission, and 44.4% had full time employment, both percentages which were lower than the other clusters.

They were either widowed (44.4%), divorced (44.4%), or separated (11.1%). Widowed was indicated as significant on the Bonferroni compared to all other clusters. Many had more than four children (44.4%), but did not live with any minor children in the home (0%). The Bonferroni indicated that the variable of four or more children was significantly different for this cluster from Clusters 3 and 4, and for the variable of minor in the home it was different from Clusters 1 and 3. None of the parents of these individuals served time, and the parents rarely abused alcohol (11.1%). None of these individuals lived in a foster home. There was a high rate of mental illness diagnoses in this group (66.7%), with depressive disorder (44.4%), bi-polar disorder (33.3%), and PTSD (22.2%) being diagnosed on the individual level. None of these individuals had a diagnosis for a psychotic disorder.

Drugs were used regularly by these group members (77.8%), with them having used marijuana (100%), cocaine (100%), opiates (66.7%), depressants (66.7%), stimulants (44.4%), and hallucinogens (55.6%) at some point in their lives. Only 44.4% had used drugs in the month before arrest, which was lower than many other of the clusters. A little over half of these individuals had substance dependence issues (55.6%). For the current arrest, many individuals were arrested for a drug crime (55.6%) and searched at the time of arrest (100%). A third of the individuals had used drugs at the time of arrest, with the distribution being pretty equal across cannabis, narcotics and stimulants. The majority of the offenses were nonviolent (88.9%). No weapons were found when these individuals were searched. A third of this cluster resisted arrest.

When looking at a previous criminal history, these group members had previous jail (55.6%), prison (55.6%), and probation sentences (77.8%). The Bonferroni indicated that prior probation was significantly different from Cluster 4 given the high percentage, and prior prison was also significantly different from Clusters 3 and 4. All of the cluster members had a previous sentence, which was significantly different from Cluster 4 according to the Bonferroni. Only 22.2% had a probation violation or revocation. In terms of juvenile criminal history, only 11.1% had a prior sentence to a juvenile facility and juvenile probation, but none had a prior juvenile conviction.

**Cluster Seven.** This cluster was between the age of 43 to 48. It was important to note that the size of this cluster was 32 cases, which was on the smaller side, making it slightly more difficult to interpret. While race was not part of the clustering process, this cluster had the largest percent white (43.8%). There was a relatively high percentage female (46.9%). Most of the monthly income fell between $600 to $999 (25%) or $1,000

to $1,999 a month (21.9%), but only 3.1% made over $2,000 a month (which is much lower than other clusters). The Bonferroni indicated that the range of $600 to $999 a month is significantly different from Cluster 1 in particular. These individuals were typically not on welfare (3.1%) and lived in a house (62.5%). A small portion were homeless prior to the current admission (11.1%). Many of these individuals were employed prior to admission (68.8%), with 53.1% having full time employment.

Divorce was most common for this group (50%), with the Bonferroni indicating that this was significantly different from Clusters 1, 3 and 4. The other majority of individuals within this cluster were married (25%). Only 12.5% of individuals had a minor in the home, which the Bonferroni indicated as significantly lower than Clusters 1 and 3 in particular. While 59.4% had no minor children, a large percentage had older children. The Bonferroni indicated that 28.1% had four or more children, which was significantly different from Clusters 3 and 4.

This cluster did not have many mental health diagnoses, with 81.3% of individuals having no diagnosis. There were not diagnoses of psychotic or personality disorders. The low percentage of bi-polar disorder (3.1%) was significantly different from Cluster 5 according to the Bonferroni. A rather high percentage of these individuals had been physically or sexually abused (34.4%). Only 3.1% had lived in a foster home growing up. While half of these cluster cases had substance dependence, very few of their parents abused alcohol (25%) when compared to other clusters.

In terms of drug use, this cluster had one of the lowest percentages of drug use the month before the offense (43.8%) and regular drug use (65.6%). When compared to other cluster percentages, the drug use ever fell in the middle of most of the clusters in terms of

use for all the drug categories. This group also had the lowest percentage of drug use at the time of the offense (21.9%). No individuals used cannabis or other category drugs at the time of the offense. If drugs were used, it was stimulants (21.9%). The Bonferroni indicated that cannabis use at the time of the offense was significantly different from Cluster 4.

This group had the largest amount of public order offenses (37.5%) of the cluster groups, and were the least likely to be searched at the time of arrest (53.1%). The Bonferroni indicated that being searched at the time of the arrest was significantly different from Cluster 4. A large percentage of individuals in this cluster had nothing found when they were searched (68.8%). The majority of offenses were nonviolent (90.6%), which was the highest percentage for all clusters. They typically did not resist arrest (6.3%).

Regarding criminal history, 71.9% of this cluster had a previous sentence. Percentages for having a prior sentence to jail (40.6%), prior probation (40.6%), prior probation violation (21.9%) and prior probation revocation (6.3%) were all very low compared to other clusters. Having a prior prison sentence (25%) was the only variable regarding adult criminal history that was not as low as other clusters. The juvenile criminal history was similar to the adult. Prior juvenile conviction (6.3%) and juvenile probation (0%) were indicated as significantly different from Cluster 4 on the Bonferroni, due to their low percentages. No individuals had a prior sentence to a juvenile facility as well.

**Non-FTA Profiles**

**Cluster One.** This cluster was relatively smaller than others with 17 cases, whereas most other clusters have around 260 cases. This cluster's age range was from 58 to 66, and had the highest within-cluster percentage male (88.2%). This cluster had the highest within-cluster percentage of individuals who had a high school diploma. Income was

relatively spread for this cluster, with none of the individuals making less than $300 a month, but 11.8% had no income. This cluster had lower percentages of illegal income (5.9%) and welfare (5.9%). A large percentage of this group lived in a house (70.6%), with the other 29.4% living in an apartment/trailer. The percentage living in a house was 11.7% higher than the next highest percentage of living in a house (Cluster 6).

Members of this cluster made up the largest percentage married (35.3%) compared to other clusters, with all individuals having been married at least once before if not currently married. The Bonferroni indicated that this cluster was significantly different from Cluster 8, given the high rate of marriage. Cluster 1 was the only other cluster (beyond Cluster 4) that had a noteworthy percentage of individuals who had been widowed (5.9%). This cluster largely consisted of divorced individuals (47.2%), and had a relatively high number of individuals who had been separated (11.8%) in comparison to the other clusters. Regarding the variables of divorced and not married, the Bonferroni indicated that this cluster was significantly different from Clusters 6, 7 and 8 for these variables.

This cluster contained the lowest percentage of people who had a minor child living in the home (5.9%), and if there was a minor in the home, it was only one child. This cluster, however, did have the highest percentage of four or more children (52.9%), but they must have been all over the age of 18 because this group had no more than one minor child. The Bonferroni indicated that the variable of four or more children made this cluster significantly different from all the other clusters due to the high percentage. A large majority had no minor child (94.1%), which is also significant for the Bonferroni. The low number of minor children, yet higher number of older children makes sense given the older age of this cluster.

This group had the lowest within-cluster percentages of parents (5.9%) and partner (5.9%) who had served time previously. A relatively low percentage of their parents abused alcohol as well (23.5%). This cluster had the highest percentage of individuals who had no substance abuse or dependence (52.9%).

Cluster 1 had significantly lower regular drug use (11.8%) than all other clusters (excluding Cluster 4), as indicated by the Bonferroni. Only 11.8% also used drugs in the month before the offense, with the Bonferroni indicating this as significantly different from Clusters 5, 6, 7 and 8. Overall, members of this group reported low rates of ever using drugs compared to the other clusters: Marijuana (35.3%), cocaine (17.6%), opiate (0%), depressant (5.9%), stimulant (5.9%), and hallucinogen (5.9%). Marijuana and cocaine use in particular were significantly different according to the Bonferroni.

This cluster had a higher percentage by almost ten percent than the other clusters for public order crime (47.1%), being significantly different from Cluster 8 in particular. Similar to Cluster 8, however, only 41.2% of individuals in this cluster had a previous sentence, which differed from the other clusters. Given this, 41.2% of individuals had no prior arrests as well. With relatively low rates of prior probation (29.4%), it was distinct for this cluster that there were no probation revocations, and only a few probation violation charges (5.9%). Only 11.8% had a juvenile conviction, with only 5.9% of that being sentenced to a juvenile facility and none going on juvenile probation.

**Cluster Three.** This cluster consisted of 110 cases, with members between the ages of 44 and 50. The education level for these cases was higher in comparison to other clusters, with 27.3% having completed some form of college and 31.8% having a high school diploma. The Bonferroni indicated that this cluster was significantly different from Cluster

8 regarding college, given the high percentage. A large majority of this cluster was employed in the month before admission (75.5%), with 64.5% having full-time employment. Only 3.6% of this group was homeless prior to the current admission, so most of these individuals lived between a house (55.5%) or apartment/trailer (36.4%).

This group largely consisted of individuals who had been divorced (47.3%), and also had a relatively high number of individuals who had been separated (11.8%). Only 15.5% of this cluster was not married. The Bonferroni indicated that this cluster was significantly different from a number of other clusters on these variables. Having a minor in the home (22.7%) was significantly different from Clusters 5 and 6, with minors being less likely to be in the home. This group had high percentages of two children (23.4%), three children (19.1%) and four or more children (18.2%), but lower percentages than other clusters in these categories for minor children (11.8%, 4.5%, 4.5%, respectively). This was most likely due to the older age of this group.

Of the clusters, this one had one of the lower percentages of individuals whose parents had served time (13.9%), and on the higher end of partners who had served time (7.7%). There were a number that had some sort of mental health diagnosis (38.2%). The diagnoses were rather spread out, with depressive disorder being the most common (26.4%). A little under half of individuals in this cluster had substance dependence (44.5%).

Overall, this cluster had relatively low rates of drug use in the month before offense (28.2%), but the rates of regular drug use (60.9%) fell more in the middle. The Bonferroni did indicate that regular drug use was significantly different from Cluster 1, as it had a low rate of regular drug use. Drug use ever was rather spread out across the categories,

concentrating on marijuana (70%) and cocaine use (50.9%). These rates fell in the middle of many of the clusters.

This cluster had the second-highest percentage of public order crime (38.2%), being significantly different from Clusters 6, 7 and 8. This cluster had the highest percentage of individuals who had a previous sentence (60.9%). These individuals also had high rates of prior prison sentence (28.2%) and adult probation (46.4%). Both of these variables were identified as significantly different from other clusters according to the Bonferroni.

**Cluster Four.** This cluster contained only 36 cases, and consisted of the oldest age group of the clusters analyzed (Cluster 2 excluded), with an age range from 51 to 57. This cluster was largely white (63.9%), which was significantly different from Cluster 7 according to the Bonferroni. Education was relatively spread out, concentrating around some high school (25%) and high school diploma (33.3%). This cluster had the highest percentage in the income bracket of $1,000 to $1,999 a month. Only 2.8% had an illegal income, which was lower than all other clusters. A large portion of individuals in this cluster were employed full-time prior to admission (75%), with 61.1% having full-time employment. The majority of individuals lived in either a house (55.5%) or an apartment/trailer (36.4%). This cluster did have the highest percentage of individuals who were homeless (13.9%).

This cluster had the second-highest percent married (33.3%), with a very low percentage not married (5.6%). These individuals had the highest rate of having been widowed (11.1%). This cluster also had a large number of individuals who had been divorced (47.2%), but a lower number of individuals who have been separated (2.8%). The Bonferroni indicated these variables as significantly different from a number of other

clusters. This cluster had a significantly lower number of minors in the home (11.1%) than Clusters 5 and 6, as indicated by the Bonferroni. Given the age of this cluster, there were a high number of individuals who had three (25%) or more (27.8%) children, but had no minor children for these categories. The majority of the children these individuals had were over the age of 18.

This cluster had a relatively average percentage of parents who served time (13.9%) in comparison to other clusters, but highest number of siblings or children who had served time (41.7%). When the broken apart, 30.6% of this was children who had served time. This cluster had the highest percentage of mental health diagnoses (38.9%), spread across the diagnosis types. Diagnoses for depressive disorder (36.1%) and bi-polar disorder (19.4%) were much higher when compared to the other clusters. Half of this cluster had no substance dependence or abuse, which was high when compared to most other clusters (except Cluster 1).

Compared to other clusters (Cluster 8 in particular), Cluster 4 had significantly lower regular drug use (47.2%). Only 50% of Cluster 4 had ever used marijuana, which was significantly different from Clusters 5, 7 and 8. Other drug use was spread out, and did not have significant percentages in comparison to other clusters.

At the time of arrest, only 58.3% were searched, which was much lower when compared to other clusters. Crime type was pretty evenly spread across property, drug and public order offenses. This cluster had the highest percentage of nonviolent offenses (88.9%). A little over half of this cluster had a previous sentence (52.8%). For this cluster, there were low rate of having a juvenile conviction (8.3%). While only 38.9% had received probation as an adult, 22.2% had a probation violation and revocation.

**Cluster Five.** This cluster had the largest percent female within the clusters (36.2%) and was between the ages of 36 and 43. The Bonferroni indicated that this cluster was significantly different from other clusters based off of the female proportion of this cluster. There were 260 cases in this cluster. This cluster had a higher percentage white than other clusters (56.2%). These individuals achieved relatively high education levels as well, with 30.4% having a high school diploma and 20.8% having done some form of college. The Bonferroni indicated college in regards to this variable as significantly different from Cluster 8. This cluster was relatively average in terms of members married (26.2%), not married (31.5%), and divorced (28.8%), but had the highest within-cluster percentage of separated (12.3%). These variables were all indicated as significant according to the Bonferroni.

In terms of income, this cluster had one of the lowest within-cluster amounts of illegal income (4.6%). Members of this group were more likely than others to be living in an "other" residence (11.9%), which was a rooming-house, hotel, motel, group living situation or institution. This was the highest within-in cluster percentage of all the clusters for this variable. This group had higher rates of minors in the home (40.8%), with relatively high percentages of two (28.5%) and three (18.5%) children, and three minor children (13.5%). The Bonferroni indicated that these variables were significantly different from a number of other clusters.

This cluster also had a relatively average percentage of parents who served time (13.1%) in comparison to other clusters, but on the higher end of partners who had served time (7.7%). This cluster had the highest percentage of parents who abused alcohol (34.2%) and a history of being physically or sexually abused (27.7%).

About half had used drugs in the month before the offense, with 70.4% reporting regular drug use. This cluster had a high percentage of cases who had used marijuana ever (76.2%), as well as the highest rate of cocaine use (57.7%), opiate use (26.9%) and depressant use ever (26.9%). The Bonferroni indicated that opiate and cocaine use in particular were significantly different from other clusters due to the higher percentages of use. That being said, this cluster had relatively spread out rates of substance dependence (44.2%), substance abuse (22.7%), and no substance abuse or dependence (30.8%), when compared to other clusters.

These individuals had one of the lowest percentages of property crime (20.8%), being significantly different from Cluster 8. It did, however, have one of the higher rates of public order crime (31.5%). This cluster was significant for prior arrests greater than ten, having the highest percentage across clusters (13.8%). This group also had the highest percentage of individuals who had a prior jail sentence (45.5%), making it significantly different from Clusters 6, 7 and 8. A number of individuals in this cluster had received probation as an adult (44.6%), 24.2% had a probation violation charge, and 17.3% had prior probation revocation.

**Cluster Six.** This cluster had the second largest percent female (35.4%) from the other clusters, with an age range of 29 to 35. There were 263 cases in this cluster. This group had a lower percentage of those who had done some high school (25.5%), and a relatively high amount who had done some form of college (19.4%). These individuals were relatively average in terms of members married (24%), but had a higher number of individuals not married (50.6%). The number of divorced individuals (12.9%) was in the middle of the clusters, but this cluster had a relatively high number of individuals who had

been separated (11.4%). The Bonferroni indicated that all of these indicators were significantly different from other clusters.

Members of this cluster had the highest percentage of individuals on welfare (13.3%), and was shown to be significantly different from Cluster 8 on this variable. What was interesting about this is that this cluster had the highest percentage of individuals employed the month before admission (77.9%), and full time employment (66.5%), being significantly different from Cluster 8 for both variables.

Members of this cluster were more likely to have a minor in the home (41.1%), and had almost identical rates of children to minor children at the variables of two children (27.4% and 27.8%), three children (16.3% and 15.6%) and four or more children (16.7% and 16.3%). This cluster was relatively similar to Clusters 4 and 5 in terms of parents who had served time (13.7%). It was the highest, but similar to Clusters 3, 5 and 7 for individuals whose partners had served time (8%). Individuals in this cluster had experienced some physical or sexual abuse (27%), and some parents abused alcohol (32.3%).

This was the highest percentage of substance dependence (49%), with 52.5% reporting drug use in the month before the offense and 69.2% reporting regular drug use. Both drug use the month before the offense and regular drug use were indicated as significant by the Bonferroni. Cluster 6 had the second-highest rate of cocaine use ever (52.9%) of the clusters, with lower percentages spread across the other drug categories.

This cluster had one of the lower rates of public order crime (22.4%), being significantly different from Cluster 3. While this cluster had a lower rate of cannabis use at the time of the offense (8.7%), it had a significantly higher percent of stimulant use

(18.3%). This cluster had the highest rate of drug crime related offenses (36.1%). Drugs were often found when the individual was searched (24%).

Only 54% of this cluster had a previous sentence, which falls in the middle of the clusters for this variable. Prior probation was the most frequent sentence (41.1%), with jail (30.8%) and prison (14.1%) following. Only 13.3% had been convicted as a juvenile, with 6.8% being sentence to both a juvenile facility and juvenile probation.

**Cluster Seven.** This cluster was between the ages of 23 to 28 and had more minority group individuals than other clusters. There were 273 cases in this cluster. While race was not a variable in the clustering, black individuals made up 44% of the cluster cases, and Hispanic individuals made up 16.5%. This cluster had a high percentage of individuals who had completed some high school (36.3%), but had more who had done some form of college (15%) in comparison to Cluster 8, making it slightly more educated. These individuals were significantly different from Cluster 6 according to the Bonferroni for being employed the month before admission (65.2%). Only 56.8% were employed full-time as well.

This cluster had the second lowest percentage of people married (14.3%), and the second largest percentage of people not married (71.4%). This cluster also had a low percentage of individuals who had been divorced (8.8%) and no individuals who had been widowed. The number of minors in the home (35.9%) was lower than Clusters 5 and 6, but was still significantly different from Cluster 8. In terms of no children, Cluster 7 was significantly different from Cluster 5, with 31.9% having no children. This was still much lower than and significantly different from Cluster 8. There were similar findings for three minor children (11%) and four or more children (11%).

This cluster had the second highest percentage of individuals whose parents served time (25.6%), being less than Cluster 8, but still significantly different from Clusters 3, 5 and 6. Partners who had served time was on the higher end at 7.7%. Some parents abused alcohol (31.9%), and individuals in this cluster had one of the highest rates of substance abuse themselves (28.9%) (same as Cluster 8).

About half of individuals in this cluster reported drug use in the month before the offense (51.3%), and 67.8% reported regular drug use. These were indicated as significantly different from other clusters according to the Bonferroni. These individuals had the second highest percentage of marijuana use ever (78.8%), but lower rates of cocaine use (37%) and opiate use (16.1%). This cluster had one of the lower rates of public order crime (17.6%), making it significantly different from Clusters 3 and 5. Members of this cluster varied in their offenses across violent (20.9%), property (27.5%) and drug crime (33%). In terms of criminal history, only 50.2% had a previous offense and 35.2% had no prior arrests. Prior sentences to jail (28.9%) and probation (30.8%) were more common than to prison (10.3%).

**Cluster Eight.** This cluster consisted of an age range from 16 to 22, which made it the youngest group of the clusters. The number of cases within this cluster was 256. This cluster was largely male (79.3%), and black individuals made up 42.2% of these cases. Members of this cluster had an overall lower education, with higher percentages of 8$^{th}$ grade or less (14.1%) and some high school education (41%) than the other clusters. Only 4.7% of this cluster had done some form of college. The majority of this cluster was not married (93.8%), while only 3.5% were married. This cluster had the lowest percentages of individuals who had been widowed (0%), divorced (1.2%) and separated (1.6%).

This cluster had the highest percentage of illegal income (14.5%), and was shown to be significantly different from Cluster 5 for this variable. Given this, however, members of this cluster were less likely to be on welfare (96.1% not on welfare), in comparison to cluster 6. This cluster was significantly different from Cluster 6 for employed month before admission (35.2% not employed) and full time employment (52.3% with no full time employment) as well.

This group had a significantly lower percentage of minors in the home (21.1%) than Clusters 5 and 6. These individuals were significantly different from all other groups, with 61.3% having no children. There were identical percentages that were significantly lower than most other groups on the variables for both minor and general children for two children (9.4%), three children (2.3%) and four or more children (3.1%). Cluster 8 was the group least-likely to have children.

This cluster had the highest percentage of parents who served time (36.3%), but the lowest number of partners who had served time (3.9%). Substance abuse (28.9%) and dependence (41.4%) were prevalent in this cluster. These individuals reported the highest rate of drug use in the month before offense (60.9%) and regular drug use (73.8%). This cluster had the highest percentage of marijuana use ever (85.2%), but had lower rates of cocaine use (38.7%) and opiate use (13.7%). This group had the highest percentage of stimulant use ever (41.4%). This cluster did have the highest within-cluster percentage of hallucinogen (30.5%), and inhalant or other drug use (14.5%).

These individuals had the highest percentage of property crime (35.5%), being significantly different from Cluster 5 in particular. It also had the highest percentage of violent crime (24.2%), and therefore the lowest rate of nonviolent offenses (75.8%). This

cluster had the lowest percentage of public order crime (12.9%), which made it significantly different from Clusters 1, 3 and 5. This cluster had the highest percentage of cannabis use at the time of the offense (19.9%), but significantly less percentage of stimulant use at time of offense (8.2%) compared to Cluster 6.

This cluster had a higher percentage of individuals without a prior sentence (56.3% with no prior sentence) than most other clusters. This group, however, was more likely than other to have prior involvement with the juvenile justice system. There were 17.6% individuals in this group that had a previous sentence to a juvenile facility, being significantly different from other clusters. It had the highest rates of juvenile conviction (36.3%) and juvenile probation (27.3%). This cluster, however, had the lowest percentage of prior prison sentence (2.3%) and adult probation (17.6%), which may be in part due to the age of this group.