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**Do Ugly Criminals Receive Harsher Sentences?: An Analysis of Lookism in
the Criminal Justice System**

By:

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Project Statement:

**Submitted to the Faculty of Ursinus College in fulfillment of the requirements for
Distinguished Honors in the Business and Economics Department.**

Introduction:

Plato was once said to have stated "Remember how in that communion only, beholding beauty with the eye of the mind, he will be enabled to bring forth, not images of beauty, but realities (for he has hold not of an image but of a reality), and bringing forth and nourishing true virtue to become the friend of God and be immortal, if mortal man may."¹ It is also said that this statement has been paraphrased down to "*Beauty is in the eye of the beholder*"² What is clear from the paraphrased quote is that beauty is a subjective issue because people have such differing views on what they find beautiful.

This subjective element of beauty makes it necessary for an objective measure of beauty to be utilized to conduct an unbiased study. Recently, economists and sociologists have tried to link beauty to labor market outcomes by using facial symmetry (Hamermesh and Biddle (1994, 1998), Harper (2000), and Hamermesh, Meng, and Zhang (2002)). Although each study provides important findings, beauty was assessed in each by an investigator looking at subjects to rate the level of attractiveness. This subjective measurement, while important, could introduce personal bias into the study. In this study, the question of beauty is applied to criminals and their sentences. Using a computer based symmetry measurement tool, an objective beauty measurement will be utilized. Rather than analyzing the benefits in the workforce for being more attractive, I examine whether or not criminals who are less attractive, measured through facial symmetry, receive harsher prison sentences than criminals whose facial features are more symmetric.

¹ *Plato, Symposium*

² See www.quoteland.com for more information on this topic.

Literature Review

Research supports the findings that unattractive individuals have a higher probability of engaging in criminal activity. Hamermesh and Biddle (1994, 1998), Harper (2000), and Hamermesh, Meng, and Zhang (2002) all found beauty to be correlated with higher wages in the labor market. They also report that beautiful people tend to choose careers where they can make more money by using their more attractive features (Hamermesh and Biddle 1994, 1998). This leads to beauty resulting in higher earnings for attractive individuals, and lower earnings for unattractive ones. Mocan and Tekin (2006) found that given the choice between the legal labor market and a life of crime, unattractive individuals are more likely to choose the life of crime due to their lack of human capital and labor force disadvantage. The findings conclude that an individual enters a life of crime if the negative risk of being caught and the earnings from the particular criminal activity exceed the earnings in the legal labor force. Following this theory, the researchers found that unattractive people commit more crimes than average looking individuals, and that very attractive people commit fewer crimes than average looking individuals.

One could question whether beauty in the earlier stages of an individual's life also plays a role in future successes or failures. Interestingly, Mocan and Tekin (2006) considered both current beauty measurements as well as high school beauty in their analysis. Their study found that a labor market utility exists where there is more incentive for "uglier" individuals to enter a life of crime. These researchers also found that high school beauty can have a negative effect on criminal activity, but this was seen more in females than in males. Using three waves of the Add Health Survey, the authors concluded that very attractive

individuals are less likely to engage in criminal activity whereas unattractive individuals commit more crimes.

Mocan and Tekin, however, are not the first to include physical characteristics, such as BMI, hair color, and eye color, on individuals in their analysis. For example, Perisco, Postlewaite, and Silverman (2004) found that taller workers are allotted a wage premium tracing back to their participation in high school sports and clubs. Additionally, Kuhn and Weinberger (2005) showed leadership skills learned in high school were positively related to higher wages in the future. Mocan and Tekin (2006) found beauty to be positively correlated with scores on adult achievement tests showing a correlation between high school beauty and formation of human capital. This relationship could be due to connections the person developed with teachers and other peers. Umberson and Hughes (1987) found that beauty has an impact on the psychological welfare of a human being. Additionally, Mobius and Rosenblat (2005) found that attractive individuals gain better communication skills in high school and better communication skills are correlated with higher wages. Individuals who are attractive in high school may develop better relationships and are better liked by peers, teachers, and parents in relation to their unattractive counterparts (Cialdini 1984, Galluci and Meyer 1984, Feingold 1992). As a result of this, high school beauty may have a separate impact on the likelihood of an individual entering a life of crime. Hatfield and Sprecher (1986) suggested that teachers give preferential attention to the more attractive students leading those students to have more confidence and they become more adept at interacting with others in a social situation.

Interestingly, Mocan and Tekin (2006) found that seventy-five percent of the individuals in their sample were given the same attractiveness rating in all three waves or two

of the three waves. The three waves of the survey took place over six years. This can lead to the conclusion that a person's looks do not change drastically over the course of his or her life. Following this line of thought, we can make the assumption that the symmetry of a person's face would not change over the course of his or her life.

Mocan and Tekin (2006) also found some evidence that beauty has an impact on the criminal justice system. Their results found that, on the condition that the female defendant was involved in criminal activity, attractive females are less likely to be held in custody. Interestingly, there was no evidence that beauty had an impact for male defendants on the likelihood of being detained, arrested, or convicted. It appears that females encounter a stronger effect from beauty than males. This finding was echoed by Hamermesh and Biddle (1994). Their study found that unattractive females tend to not participate in the labor force as much as attractive females and also tend to marry partners with less education. This was found to lead unattractive females to an income effect which increases the utility of the criminal labor force for them. Additionally, Lewison (1974) found that criminals who have had plastic surgery to enhance their features have a greater chance of not returning to prison.

An issue with this previous research is the beauty measurement used. Previous studies have relied on an interview assessment rating of each candidate's beauty. One problem with this method is that interviewers may hold cultural and racial differences that may insert bias into the study. Mocan and Tekin (2006) found that results did not change when female-only interviewers measurements were used as well as white-only interviewers, but differences were found between genders and races.

What is Beauty?

When conducting research on attractiveness levels, questions develop on the measurement of beauty and what beauty really means. A web based experiment on Viewzone.com tries to assess, *What is Beauty?* This webpage discusses a study conducted where researchers had a group of people measure both the vertical and horizontal symmetry of people's faces using hundreds of photographs of people of all races, ages, and genders. Then another independent group of people were asked to look at the already measured pictures and grade the pictures based on their own perception of beauty. People graded the photos more positively when the pictures were previously rated as being facially symmetrical. While one could question the validity of these less than scientific results, it does open the door to the question of how people see beauty. This also shows the idea of how subjective measuring beauty can be.

Shackelford and Larsen (1997) evaluated people in photos and found that men whose faces were determined to be less symmetric were more likely to have problems psychologically including depression, stomach problems, anxiety, headaches, sleep apnea, concentration issues, and lower intelligence than those men measured as more facially symmetric. They also found a similar result for women.

Academic literature utilizes the term Lookism for this type of analysis. Lookism is defined as the standardization of attractiveness or beauty.³ According to Hamermesh and Biddle (1994), a culture at a point in time will have a particular, agreed upon standard of beauty. In some cases, there may be a "Halo Effect" where good characteristics, like honesty, honor, and compassion are associated with people who are attractive. Someone who looks like an angel is automatically perceived as acting like an angel. Evidence of this

³ Angela C. Stalcup, *The Plainness Penalty: Lookism in Western Culture*, 1.

perception has been found in mock trials. According to Buck and Tiene (1989), juries in mock trials tend to be more lenient to more attractive defendants than their less attractive counterparts.

Oslen and Marshuetz (2002) conducted an experiment where pictures of faces were quickly shown to test subjects. The subjects were then asked to classify in words their feelings as either good or bad. Attractive faces were found to be associated with eliciting positive emotions and resulted in speedy positive words. The study concluded that facial attractiveness is swiftly evaluated, but the authors stated that further research needed to be conducted to find conclusive results since the sample size was questionable.

Jackson, Hunter, and Hodge (1995) found that people who are viewed as attractive are seen as more capable. Attractive people are also found to be more socially acceptable and socially compatible with others (Eagly, Ashmore, Makhijani, and Longo, 1991). Researchers including Hume and Montgomerie (2001), Jones et al. (2001), and Mealey, Bridgstock and Townsend (1999), have found that more symmetrical faces are viewed as more attractive. This link between symmetry and attractiveness comes from the idea that symmetrical faces are correlated to being healthy and more capable to reproduce (Hume and Montgomerie (2001), Jones et al. (2001), Kalick, Zebrowitz, Langlois and Johnson (1998), Milne et al. (2003, Rhodes et al. (2001).⁴ Luxen and Vijver (2005) conducted a study to see the influence of attractiveness on a mock hiring situation, where attractiveness was measured

⁴ Facial symmetry is connected to health and vitality. Someone with a more symmetrical face is associated with resisting disease and, therefore, signifies a healthy potential mate for passing along good genes. This preference for facial symmetry has become favored in evolution and is not just seen in choosing a mate but also in general judgments including an individual's "good" character.

subjectively by six judges, and found that facial attractiveness did play a role in the hiring scenario.

Disparities in Sentencing Decisions

There have been several studies that try and measure the disparities in sentencing that revolve around the particular judge presiding over the case, the particular crime, the particular state or the country. Sporer and Goodman-Delahunty (2009) found the judge's personal background may come into play as well as the attractiveness of the offender. One issue in diagnosing the problem with the disparity in sentencing is the influence of "extra-legal factors" on decision-making. These can be defined as race or ethnicity or the damages from an offender's crimes. Publicity, in some cases, could be considered an extra-legal factor. These factors are defined as the judge or jury, who are the people required to make a decision on the case, having no idea of the impact these factors may or may not have on their decision. The authors also found that attractiveness of the offender could very well act as an extra-legal factor in the trial where attractiveness was rewarded with a more lenient sentence.

Another issue that arises is the debate between the different decisions of a judge and a jury. A study conducted in Germany found the existence of different philosophies on punishment between lay and professional decision makers but the differences in sentencing were minimal (Rennig, 1991). Similar to the previous issues discussed is the role of the judge's discretion during trials. The judge is required to take into account the nuances of each case and offender and pass judgment. As a result, many studies have concluded that the decision making process within the court system can be subjective (Hogarth, 1971; Kapardis 2003; Oswald, 1994; Rennig, 1993; Sporer, 1982; Wagenaar, van Koppen and Crombag, 1993).

As a result of their status in society and their education and experience, judges are more likely to be conservative (Stephenson, 1992). Psychologically, jurors and judges are influenced by their belief in a just world. This just world concept is “that people get what they deserve and deserve what they get” (Lerner 1970). Walster (1966) found that in the more serious accidents there was a greater likelihood that people would blame someone for the accident.

Offender characteristics have been shown to be correlated to judgments. Some research has shown a link between the specific types of crimes to certain levels of attractiveness (Goldstein, Chance and Gilbert, 1984; Bull and Rumsey, 1988; Sporer, 1989, 1992). This is to say that there may be a bias towards more attractive people who, in turn, may receive more lenient sentences. However, this is not the case when the crime was influenced by the offender’s attractiveness. Sigall and Ostrove (1975) found, for instance, that a woman who used her attractiveness to her advantage in a crime, like in grand larceny, was punished more harshly than an unattractive offender.⁵

A meta-analysis by Mazzella and Feingold (1994) found that “physical and characterological attractiveness” had an effect on punishment depending on the type of crime. An attractive person who committed a theft or rape received a less harsh sentence where as there was no impact on fraud. Interestingly, a harsher sentence was given to the more attractive defendant in cases of “negligent homicide.”

Baby-facedness is also discussed in research. This is identified as having a curved face, larger eyes, thinner and high eyebrows, a large forehead, and a smaller chin (Berry and McArthur, 1986). Baby-faced adults are seen as more attractive, especially females. Baby-

⁵ This violates the evolutionary perception that pretty people are automatically good people.

faced offenders, with attractiveness held constant, were seen as less likely to be negligent, but were more likely to lose cases having to do with negligence (Berry and Zebrowitz-McArthur, 1988).

Although outside the purview of the study, previous literature also suggests that the characteristics of the victim may also influence the sentencing of a criminal. When a victim was depicted as having a dangerous criminal history, for example, the offender received a more lenient punishment than when the victim was seen as an innocent injured party (Alicke and Davis, 1989). Other studies found that race had an influence. For example, Curry, Lee, and Rodriguez (2004) found when black offenders committed a crime against a white victim, they received a harsher sentence than if the victim was black. Sporer and Goodman-Delahunty (2009) found from a random sample of murder cases in the United States, male offenders who murdered women received harsher sentences than any other offender/victim combination. This finding was reiterated in Texas where it was found that when women were victims, the offenders received sentences that averaged 4.2 years longer than crimes where men were the victims (Curry, Lee, and Rodriguez 2004). Again this shows how decisions on sentencing may include externalities other than just the crime.

Attractiveness and Sentencing Outcomes

Researchers have sought to uncover the relationship between attractiveness and sentencing outcomes. Stewart (1980) conducted a study using the attractiveness ratings of seventy-four defendants. In the case of sixty-seven defendants, attractiveness was correlated with both minimum and maximum sentences where the more attractive a defendant more lenient the sentence. Seriousness of the crime had a negative relationship with attractiveness, meaning more attractive people commit less serious crimes. Race also was a significant

variable with nonwhite defendants receiving harsher sentences than whites. The rating of attractiveness in this study was highly subjective. Those who rated the defendants were given thirty minutes to watch and rate the defendant on a scale from 1 to 7 covering nine different characteristics including whether the person appeared attractive, educated, well-dressed, confident, good, sloppy, rich, dirty, and had good posture. Efran (1974) found that unattractive offenders are regarded in a much more severe fashion than their more attractive counterparts. Stewart (1980) looked at race, seriousness of crime, minimum/maximum sentence, conviction/acquittal, and whether or not the defendant was incarcerated. The researchers separated the crimes into three categories based on seriousness. For example, the highest serious level included crimes like murder, voluntary manslaughter, and rape. The second tier included armed robbery, robbery, burglary, aggravated assault, and involuntary manslaughter. The final tier included theft by taking, deception, victimless crimes and minor drug offenses. Attractiveness was correlated with minimum and maximum sentences. The seriousness of the crime was found to be negatively related to attractiveness.⁶

Taylor and Butcher (2007) utilized a mock trial of a mugging to see if there was a connection between sentencing decisions and attractiveness.⁷ The study included ninety-six participants where half were white and half were black. They found that the mock jurors were less likely to call the verdict guilty for attractive defendants and more likely to call the verdict guilty for less attractive ones. There was no significant finding for race or ethnicity as the predictor for the verdict. On the other hand, less attractive black guilty defendants

⁶ This study looks to find a correlation between attractiveness, using superficial variables, with sentencing decisions.

⁷ "Blind Justice." The British Psychological Society. [http://www.bps.org.uk/media-centre/press-releases/releases\\$/annual-conference-2007/blind-justice.cfm](http://www.bps.org.uk/media-centre/press-releases/releases$/annual-conference-2007/blind-justice.cfm)

were given harsher sentences than their white counterparts. Eberhardt (2006) found that “male murderers with stereotypically ‘black-looking’ features were more than twice as likely to get the death sentence as compared to lighter-skinned African American defendants found guilty of killing a white person.”

Sigall and Ostrove (1975) found that when the crime was unrelated to attractiveness, like burglary, the more attractive defendant would receive a more lenient sentence.

However, when the attractiveness was an advantage in a particular crime, such as swindle, the more attractive defendant would receive a harsher sentence.

Theoretical Component

The question posed by this research paper is, “Do ‘ugly’ criminals receive harsher sentences?” Using the economic theory of rational choice, two hypotheses are developed. The rational choice theory assumes that people, when making decisions, act rationally. Rationality, as described by Green (2002), can be defined as making a decision based on reason. Reason is interconnected with utility maximization. People make rational decisions in order to maximize their utility. They have a reason for their actions instead of just acting without a purpose. Typically this theory is developed using a utility function where the subject who acts in his or her best interest is defined as acting rationally. Adam Smith developed this theory of self interest in what he termed the invisible hand.

For sentencing decisions, the utility is not so clear cut. The setting of the courtroom for the subjects, meaning the judge and jury, offers the constraint. These individuals must make a decision on a criminal’s conviction and sentencing based on their limited knowledge of the defendant and the evidence brought to their attention by the district attorney. The increase in utility of the judge and jury comes from the decision they make in the courtroom.

According to Friedman (1993), the legal system is put into place to affect people's behavior. Here utility is tied to protecting the interest of the public and punishing a criminal for the wrongs he has done. It also is tied to the criminal's behavior. The legal system is put into place to help prevent recidivism. Utility is achieved through this punishment because, not only will it punish the criminal and hope to teach him a lesson, but also it will hopefully lead to setting an example for other potential criminals. On a more cynical level, the judge and jury gain utility from this decision because it fills them with a sense of duty, power, and achievement. They may gain personal utility by the euphoric feelings of protecting their country from the villainous criminals they encounter in the court system.

Carlsmith (2006) argues that this utility is linked to incapacitation and deterrence. In the case of deterrence, the judge and jury, acting rationally, assume that the defendant is a rational person as well. In this case, in punishing the defendant for their wrongdoing they are changing the costs and benefits of crime and making it an unattractive choice. For the case of incapacitation, the judge and jury see the criminal's past misbehavior as a predictor for the future and, therefore, hope to incapacitate them somehow to prevent them from future crimes. Retribution also plays a key role in the feelings of the judge and jury. Retribution, according to Carlsmith (2006), is a way of doling out punishment based on "moral proportionality" where a punishment should be given that is proportionate to the moral offense that the criminal committed. For this, the judge and jury achieve a feeling of working towards the common good and helping to protect society as well as allotting someone with their "just desserts."

Rationally, the judge and jury make decisions on the defendant based on constraints. The constraints are the time of the trial and the limits of information as well as sentencing

guidelines. The judge and jury are forced to give a guilty or innocent verdict as well as a sentencing decision based on the limited information they are provided. Similar to what Eagly, Ashmore, Makhijani, and Longo, (1991) found, men and women who are more attractive are associated with trust and other positive qualities, whereas an 'ugly' individual is associated with mistrust and negative qualities. Assuming this discrimination enters the courtroom in the judgment of a defendant and the judge and jury are thinking rationally, it can be hypothesized that men and women who are more attractive may get a more lenient sentence than their 'ugly' counterpart. However, as Mazzella and Feingold (1994) found, when the crimes are more heinous and brutal, the discrimination is reversed. The judge and jury want to maximize their utility in both situations. When the crime is more violent, the trustworthy, attractive defendant is seen as more dangerous than his unattractive counterpart. In this case, maximizing utility would be seen as putting the attractive defendant in jail for a longer sentence since he can deceive the public more easily.⁸

There is a second part to this hypothesis. One can argue that the judge and jury, acting rationally, would want to punish the attractive person for their betrayal of the assumed trust associated with beauty. They broke the trust that was associated with their attractiveness and the judge and jury may feel deceived. In this case, the more attractive individual may receive the harsher sentence in comparison to the 'ugly' defendant. It is proposed that there is a threshold to this argument and that up to a certain point, when the defendant's crimes are not as serious or violent, the unattractive defendant is at the disadvantage because the judge and jury are more likely to 'forgive' or give a more lenient

⁸ Going along with the discussion on evolution, he receives a harsher sentence because he violated the "natural" order of things.

sentence to the attractive individual. The attractive individual is given a more lenient sentence since their beauty is associated with trust. The judge and jury are more willing to trust the attractive defendant to be a more upstanding citizen. In this case, the unattractive defendant is at a disadvantage. However, when an attractive individual commits a heinous and brutal crime, the judge and jury are more likely to 'punish' or give a harsher sentence to the attractive individual. In this case, the unattractive defendant would be at an advantage.

The rational choice the judge and jury are making is associated with maximizing their perceived utility. They make decisions based on the defendant's crime as well as their level of attractiveness in order to earn utility maximization. Utility maximization in this case is to punish and protect society from the criminal who is most dangerous. Since the ideas of trust and benevolence are related to the level of attractiveness that is associated with an individual, this level of attractiveness enters into the decision-making process to maximize utility.

When the crime is less severe and the level of beauty is high, the utility is maximized when the defendant is given a more lenient sentence. When the crime is less severe and the level of beauty is low, utility is maximized with a harsher sentence. In the case of more severe crimes, when the level of beauty is high, utility is maximized when the defendant is given a harsher sentence compared to when the level of beauty is low for the defendant, who receives a lesser sentence.

Data

The Georgia Department of Corrections outlines the details of all convicts.⁹ The website also includes photographs for each criminal currently incarcerated. Using

⁹ See <http://www.dcor.state.ga.us/> for more information on data available.

information from this website, a dataset was composed.¹⁰ The dataset includes multiple demographic variables as well as beauty variables and crime variables. The Table 1 shows the coding for the all the variables used in this discussion as well as the definition for each.

State of Georgia Background Information

Georgia placed 6th for the country's highest incarceration rate in 2007.¹¹ According to the Georgia Governor's Office, Georgia's incarceration rate has been higher than the national average for the past 29 years. Many policies and legislations were enforced in the 1990s to make sure that prisoners served a larger portion of their sentence. This legislation was a direct response to the social concern over crime in Georgia and the belief that too many dangerous criminals were being released too early. Georgia's incarceration rate is influenced by factors that cross organizational and societal boundaries. In the offender population of Georgia, about 75-80% have substance abuse problems, 56% have mental health issues, and 31% have the equivalent of a GED.¹²

Georgia's crime rate in 2007 was 558 prisoners per 100,000 residents resulting in 6th place in the nation behind Louisiana, Mississippi, Texas, Oklahoma, and Alabama.

¹⁰ I contacted the Georgia Department of Corrections to see if there were any demographic variables available and they informed me that there were none available.

¹¹ Governor's Office of Planning and Budget, Policy Brief: Factors that Influence Incarceration Rates, October 2008, abstract.

¹² Please see Appendix 2, Population Statistics, for more information on the Georgia Department of Corrections' inmate population.

TABLE 1: Variable List and Definitions

Table of Variables		
Acronym	Name	How is it measured or defined?
<i>Dependent Variable</i>		
SENTENCE	Type of Sentence	Life without Parole, Life with Parole, Death Penalty
<i>Independent Variables</i>		
SYM	Symmetry Measure	the symmetry of the convict's face using symmeter.com
UGLY	Ugly	1= symmetry measure between 87.29 and 92.58; 0 = >92.58
AVERAGE	Average	1= symmetry measure between 92.59 and 97.88; 0 = <92.59 and >97.88
ABOVE AVERAGE	Above Average	1= symmetry measure between 97.89 and 98.87; 0 = <97.89 and >98.87
AGE	Age	age of the defendant ending 2009
BLACK	Black	1= black, 0= not black
HGHT	Height	measured in inches
WGHT	Weight	measured in pounds
BMI	BMI	measures the Body Mass Index of the criminal using Height and Weight
OVERWEIGHT	Overweight	1= BMI is from 26.01 to 30; 0= BMI is <25.01 and >30.01
OBESE	Obese	1= BMI is >= 30.01; 0=BMI is <30.01
EYE	Eye Color	1=unknown, 2=other, 3=blue, 4=brown
HAIR	Hair Color	1= no hair, 2= gray, 3=blonde, 4=dirty blonde 5=red, 6=brown, 7=black
SCAR	Scars and Marks	1= scars and/or marks, 0 = no scars and/or marks
TATS	Tattoos	1= tattoos, 0= no tattoos
VISIBLE	Visible Scars, Marks, and Tattoos	1= visible scars, marks, and tattoos when wearing a t-shirt and pants, 0 = not visible
VISCARS	Visible Scars and Marks	1=visible scars and marks when wearing a t-shirt and pants, 0= not visible
VITATS	Visible Tattoos	1= visible tattoos when wearing a t-shirt and pants, 0= not visible
ALIAS	Number of Aliases	number of known aliases of the convict
ALL CRIME VARIABLES	Crimes	number of convictions for each of the convicts crimes
Tier 1	Murder Convictions	total number of murder and voluntary manslaughter convictions
Tier 2	Sexual and Children	total number of convictions of crimes that involve children or are of a sexual nature
Tier 3	Violent/Assault	total number of convictions of a criminal that are violent or involve assault
Tier 4	Robbery and Theft	total number of the convictions of a criminal that involve some sort of robbery or theft
Tier 5	Non-Violent or Reckless Crimes	total number of the convictions of a criminal that are not violent in nature
PRIOR	Prior Sentences	number of prior sentences
INCAR	Incarceration	number of months the convict has been incarcerated ending 6/1/2009
MAJOFF	Major Offense	the major offense listed for each convict
COUNTY	Current Conviction County	the primary county that gave the criminal the harshest sentence
%Black	Black Population	the percent of the population living in that county that categorize themselves as Black
%Female	Female Population	the percent of the population living in that county who are females
RELIGIOUS	Religious Adherents	the percent of the population living in that county who describe themselves as religious
CRIMERATE	Crime Rate	the total index crime rate per capita of the county
RGB	RGB Score	assigns a number to the tone of a criminal's skin
FAIR	Fair	1= RGB score between 125 and 260.99; 0 = >260.99
LIGHT	Light	1= RGB score between 261 and 395.99; 0 = <261 and >395.99
MEDIUM	Medium	1= RGB score between 396 and 544.99; 0 =<396 and >544.99

Policies enforced that have been said to influence this outcome include the “Three Strikes Law” and “Seven Deadly Sins.” The “Three Strikes Law” demands that the fourth time a person commits a felony, they are to serve the maximum time for this final felony. The “Seven Deadly Sins” involves a required sentence of ten years for certain the first offense and a life without parole sentence for the second offense for certain violent crimes, including

murder, rape, armed robbery, kidnapping, aggravated sodomy, aggravated sexual battery, and aggravated child molestation.¹³

According to the Governor's Office of Budget and Planning, environmental factors have also affected the incarceration rate. These include: socioeconomic status, the neighborhood where they live, personal associations with those involved in a life of crime, employment status, and family influence. Write et al (1999) show that a relationship exists between a person's socioeconomic status and the probability of the person committing a crime and being incarcerated. The neighborhood where a person lives is a factor involving socioeconomic status. In Georgia, eight counties, including Fulton, Cobb, DeKalb, Clayton, Richmond, Chatham, Muscogee, and Dougherty, retained forty-three percent of prisoners released in 2004 as residents. County data showed that most prisoners returned to the inter-cities of Fulton and Dougherty counties where it is harder to find a job and this area is more poverty-stricken than the rest of the county.¹⁴ Around twelve percent of released prisoners resided in Fulton County alone.

Employment affects the incarceration rate as well. Information from the Georgia Department of Corrections shows that only fifty-six percent of incarcerated offenders had full-time jobs before entering prison. This returns us to the Mocan and Tekin (2006) study which found that individuals may tend to choose between labor market activities and criminal behavior.

¹³ Governor's Office of Budget and Planning, 3.

¹⁴ According to the Georgia Department of Labor, surprising Fulton ranked number 1 with the highest average weekly wages with 1,144 compared to the other counties. Dougherty ranked 24 with 668 as the average weekly wage.

Prisoner Reentry in Georgia

According to La Vigne and Mamalian (2004) between 1982 and 2002, the Georgia prison population increased from 13,884 to a 46,534. These numbers correlate to an increase of incarceration rate from 219 to 538 per capita. Of the prisoners released in 2002, the majority were male and black. This study found that an important piece of legislation affecting the incarceration rate in Georgia is the truth in sentencing legislation that demands that serious violent criminals serve their full sentence and are ineligible for parole.

La Vigne and Mamalian (2004) found that although blacks make up approximately twenty-nine percent of the population in Georgia, this group made up two-thirds of the released prisoners in 2002. Prisoners who were released in 2002 had served on average about six years in prison. The authors quoted a study conducted by the Bureau of Justice Statistics that found roughly fifty-two percent of prisoners released in 1994 went back to prison after only three years.

The demographic variables included are Age and Black. Age is expected to have a positive coefficient. The "Three Strikes Law" and the "Seven Deadly Sins Law" resulted in a harsher penalty for criminals who had prior convictions and crimes that were viewed as particularly violent. The Age coefficient is hypothesized to be positive because older individuals have a longer timeframe in which to commit crimes and therefore come in contact with the repercussions of these laws.

The Black variable is expected to have a negative sign. According to a study conducted by Sommers and Ellsworth (2001), when a mock trial was characterized as "non-race-salient," meaning race is not addressed in the courtroom, white jurors were more likely to convict a black defendant over a white defendant. On the other hand, when race was

addressed as an issue in the case, there was no evidence of racial discrimination in the white jurors. The mock jurors, who were required to give a sentence recommendation, gave black defendants in a “non-race-salient” trial a harsher sentence than the white defendant. Taking the study by Sommers and Ellsworth and applying it to this study, the black convicts are expected to have harsher sentences than the non-black defendants.¹⁵

As a corollary to this variable, the RGB Score measures the tone of a criminal’s skin. Similarly to the case of attractiveness, race can be a subjective measure as well. People can misjudge someone’s race by their appearance in the courtroom. The idea behind the RGB measurement is taken from a model where the colors red, green, and blue are blended together to form different colors. Adobe Photoshop is used to create this score. The color or tone of a person’s skin can be defined in numeric terms by measuring the amount of each of the colors red, green and blue. Each of these colors can range from the absolute minimum or no color to the absolute maximum or full intensity. The color values in Adobe Photoshop range from 0 to 255. For example, full intensity blue would be reported as 0, 0, 255. White would be measured with higher values for red, green and blue. On the other hand, black would be measured with lower values for red, green and blue (Wright 2006). The RGB numbers is composed by taking measurements from three areas of a criminal’s face: forehead, right cheek, and left cheek. These multiple samples were taken to allow for image irregularities. Each number for red, green and blue is averaged and then the averaged values for red, green, and blue value are summed. A lower RGB score captures a darker colored criminal whereas a larger score captures a lighter skinned criminal. Thompson and Keith (2001) discussed this form of discrimination when they stated that even within the African

¹⁵ No sex variable was included because the population was predominantly male.

American community, darker skin tones are seen as less desirable. This study also concluded that lighter-skinned people are more likely to succeed in politics and business than compared to those who are darker-skinned. Thompson and Keith (2001) found that lighter-skinned blacks stayed longer in school, had better jobs, and earned more money than darker-skinned blacks. Gyimah-Brempong and Price (2006) found that darker skinned blacks are more likely to enter into criminal activity because of their possible lack of advantages or opportunities in the labor market. Their study looked at skin tone and its effect on the likelihood of participating in criminal activity as well as its effect on sentencing decisions. By utilizing a search-theoretic hazard model, the researchers categorized four hundred and three observations of skin tone into six skin tone categories: fair, light, light brown, medium brown, dark brown, dark. Out of the six categories, five skin tones were significant in the study. The results also suggested that skin tone needed to be accounted for when estimating the effects of race on crime. That is, darker skinned blacks were more likely to engage in criminal activity as well as more likely to receive a harsher sentence for their crimes. Based on the same conclusions and the literature for the above Black variable, the RGB score is expected to have a negative coefficient where the darker skinned criminals, those with a lower RGB score, are more likely to receive a harsher sentence. For this research the RGB score variable was further separated into four variables including, Fair, Light, Medium, and Dark. This segmentation was done to look into great detail the spectrum of skin shade. Fair, Light, and Medium will be used to compare to Dark.

The appearance or beauty variables include Height, Weight, Overweight, Obese, Eye Color, Hair Color, Visible Scars and Marks, Symmetry Measure, and Visible Tattoos. The Visible variable assigns a 1 or 0 based on whether the scar, mark, or tattoo the prisoner has is

visible when he wears a t-shirt and jeans. The Symmetry Measure Variable measures the pixels in a bi-lateral ellipse placed on each picture of the criminals face. The measurement using the computer program, Symmeter.com, and assigns a number from 0 to 1. The higher the number, the more symmetrical the person's face, the more attractive they are from an objective, scientific measure. This is one of the innovative pieces of this research, often in previous studies, the measures of beauty and attractiveness have been subjectively measured. This numeric analysis of beauty allows for a more objective measurement. The expected sign on the symmetry variable is a negative indicating the more attractive a defendant, the more lenient the sentence. The symmetry measure was broken down into four groups, which are Ugly, Average, Above Average, and Attractive. This was done to investigate possible larger effects that beauty might have on sentencing decisions. Ugly, Average, and Above Average will be used in comparison with the Attractive variable. Seen in most of the literature, including Stewart (1980) and Efran (1974), it is expected that the more attractive criminals, with the more symmetrical faces, will be at an advantage in the courtroom and receive the more lenient sentence. On the other hand, the more unattractive the criminal the harsher sentence they are expected to receive. Using a similar thought process, the expected sign on the visible scars and marks and visible tattoos will be positive or the more visible scars, marks, and tattoos, the harsher the sentence. Research suggests no a priori hypothesis on the signs of both the eye and hair color variables.

Body type of the criminal is also taken into account. Prior research conducted by Sheldon et al (1940) wrote that there are three types of body types, or somatotypes, including ectomorphs, endomorphs, and mesomorphs. The ectomorph is classified as having a body that is skinny and underweight. The endomorph, on the other hand, is classified as having a

body that is round or overweight. The mesomorph is classified as having a body that is athletically built and a healthy weight. The endomorph variables, which are captured as Overweight and Obese, are expected to have a negative sign since these dummy variables are being compared to the mesomorph body type.

The common measurement to healthy height and weight is the Body Mass Index (BMI). The BMI is a measurement of body fat based on height and weight. The Overweight variable captures the BMI measurements of 26.01 to 30.00. The Obese variable captures the BMI measure higher than 30.01. The mesomorph, or acceptable body type, is measured as having a BMI from 20 to 25 according to the research conducted by Maddan, Walker, and Miller (2008). The mesomorph and ectomorph body types are measured in one variable due to sample size, Underweight and Acceptable, which captures the BMI measurements of less than 26 and is used as the comparison variable to measure the affect of body type on sentencing. Extensive research has been conducted to see if body type has any relationship with criminality. Hotten's (1969) study discovered a correlation between physique and criminal offense. His study showed the criminals are more likely to be smaller in height and weight. He also found that "recidivism decreased as both height and weight increased." Property crimes, such as burglary and larceny, decreased as height increased. Interestingly, however, in violent crimes like homicide, as height increased so did "homicidal tendencies." In other words, murderers tend to be taller. In another study conducted by Glueck and Glueck (1951), comparisons were made using the physique of two groups, non-delinquents and delinquents. They found that the delinquent groups were dominantly mesomorphs whereas the non-delinquent group did not have any predominance of any somatotype.

The Aliases variable measure the number of known aliases associated with a defendant. This is expected to have a positive sign since the more aliases the defendant the more his perceived character traits may appear shady to the jury. Harry (1986) conducted a study and found that those who use aliases were found to have more arrests and tattoos. Hartman (1951) found that alias users were more likely to be associated with crimes like pick pocketing and burglary. However, alias use has not always been seen as a disadvantage in sentencing decisions. Surprisingly, MacLin and MacLin (2004) found in their study that defendants had an alias advantage where the more aliases a defendant had the less likely they were to receive the maximum sentence.

To capture the effect of certain Georgia Litigation including the Three Strikes Law and the Seven Deadly Sins Law passed by the Georgia State government, the Prior sentences variable and the Tiered System of crimes are both included. The prior sentences variable measures the number of prior sentences that a criminal has served in the past. The more prior convictions a defendant has the more likely he would be to receive a harsher penalty as per the Three Strikes Law, which states that after the fourth felony, a prisoner should receive the maximum sentence. It is believed that the tiered system should capture the seven deadly sins law since it includes the different crimes that are involved in that litigation. The crime variables were categorized into six tiers so as to find the effect certain convictions have on a defendant's sentencing. Tier 1, titled Murder, includes all the Murder and Voluntary Manslaughter convictions of a defendant. This tier is expected to have the highest expected magnitude in predicting harsher penalties. Tier 2, called Sexual Assault/Children, includes crimes of a sexual nature or crimes involving children. For example, Tier 2 captures the convictions of Kidnapping, Rape, Child Molestation, Sodomy, and Cruelty to Children,

among many others. Tier 3, named Harmful, includes crimes that are violent or aggressive in nature. Aggravated Stalking, Aggravated Battery, Aggravated Assault and Family Violence Battery are among the offenses included in this category. Tier 4 called Theft/Robberies and includes crimes such as Burglary, Robbery, Theft by Taking, Atmpt Carjacking, and Armed Robbery. Tier 5, titled Reckless/Non-Violent, captures crimes like Conspiracy, Impersonating Another, Reckless Conduct, Influencing Witness, and Arson among many others. The final tier is Tier 6 or Weapons and Drugs. This tier is used as the comparison tier and includes variables like Possession of Cocaine, Possession of a Firearm during Crime, Selling/Distributing Cocaine, Selling/Distributing Narcotics Opiates, and many other weapon and drug violations. This categorization will allow for a clearer analysis of the conviction's affect on the defendant's sentencing.

The crime variables measure the number of counts a person is currently convicted of a crime. For example, the first criminal in the dataset receives a 2 for Armed Robbery, Murder, and Burglary because he is currently convicted of two counts of each crime. He receives a 0 for all other crimes, representing no conviction for any other crime. The number of crimes is vast and ranges from violent crimes like Murder and Rape to minor crimes like Theft by Shoplifting or Violation of a Motor Vehicle Law. The crime variables are expected to have a positive coefficient since the more crimes a defendant commits the more likely his sentence will be a harsher one. We can look to the legislation of the "Three Strikes Law" and "Seven Deadly Sins Law" to test this theory. Since the state of Georgia has made efforts to punish crimes based on number and seriousness, the sentences, as a result, should be harsher for these more violent and more frequent criminals.

The Current Conviction County is the county the criminal was convicted with the harshest sentence they received. This variable will be used to find statistics to capture the composition of the jury. For each county, the black population percentage, the female population percentage, and the percentage of religious adherents were found. These variables will be used as a proxy for measurement of possible jury composition. The total index crime rate per capita was also calculated for each conviction county. It is unknown what the sign would be for this variable. For instance, it could be argued that a higher crime rate in the county would convince jury members and the judge to sentence the defendant more harshly because they deal with more crimes per capita. On the other hand, it could be said that a lower crime rate would make the judge and jury judge more harshly the defendant because they do not deal with crimes on a regular basis.

After removing the criminals from the dataset who did not have a height and weight as well as those who did not have a measurable picture for the symmetry variable, the sample size for these findings is 423. Of these 423, 101 criminals are on death row, 163 are serving life without the chance of parole, and 159 are serving life with the chance of parole. There is also an interesting distribution of these criminals across county. Using a pivot table to show this distribution, the counties with a significant amount of primary convictions include Chatham, Cobb, DeKalb, Fulton, and Muscogee. These counties are similar to those found in the research of Georgia and their incarceration rates, using a pivot table, found in Appendix 1.

Descriptive Statistics

Table 2 below outlines that descriptive statistics for the variables in the data set. Roughly, sixty-nine percent of the criminals in the data are black. Additionally, the white

population has a larger average symmetry measure indicating that the white criminals are slightly more attractive. White criminals are on average older, thinner, have more tattoos, fewer scars, fewer aliases, and have been incarcerated for almost half of the number of months as compared to black criminals. Interestingly, black criminals have a higher probability of being obese as compared to white criminals. Finally white criminals are more likely to have lighter eyes and lighter hair.

Table 2: Descriptive Statistics

Variables	All: N = 423			Black: N = 291			White: N = 132		
	Minimum	Maximum	Mean	Minimum	Maximum	Mean	Minimum	Maximum	Mean
Symmetry Measure	87.291	99.872	97.887	87.291	99.872	97.606	90.262	99.824	98.506
AGE	20	84	42.927	20	84	42.450	22	79	43.977
BLACK	0	1	0.688	1	1	1.000	0	0	0.000
Height	60	79	70.007	61	77	69.959	60	79	70.114
WEIGHT	114	367	187.709	114	367	189.206	120	285	184.409
BMI	16.946	47.115	26.900	17.122	47.115	27.149	16.946	38.649	26.350
Underweight/Acceptable	0	1	0.475	0	1	0.471	0	1	0.485
Overweight	0	1	0.340	0	1	0.330	0	1	0.364
Obese	0	1	0.184	0	1	0.199	0	1	0.152
Eye Color	1	4	3.0500	1	4	3.3400	1	4	2.3900
Hair Color	1	7	6.1500	1	7	6.4400	1	7	5.5200
Visible Scars and Marks	0	1	0.208	0	1	0.220	0	1	0.182
Visible Tattoos	0	1	0.298	0	1	0.258	0	1	0.386
RGB	125.000	693.333	395.657	125.000	693.333	343.056	243.667	669.667	511.619
Number of Aliases	0	17	2.400	0	17	2.684	0	9	1.773
Incarceration	0	458.795	136.129	0.000	458.795	132.745	1.052	391.660	143.591
Medium	0	1	0.428	0	1	0.553	0	1	0.152
Light	0	1	0.296	0	1	0.162	0	1	0.591
Fair	0	1	0.080	0	1	0.007	0	1	0.242

Empirical Model

For the nature of this study, the Logit model was selected to conduct the econometrics in order to find evidence that these theories are viable. The Logit model is a form of a probability model. In its simplest form, a Binary Logit model addresses a question with only two possible answers. For example, a Binary Logit model would capture a response answering this question: Will the defendant receive the death penalty or not? The answer to this question is either yes or no and therefore there are only two possible responses. The

Binary Logit is unique because, even though its dependant variable takes on a 0/1 form, it allows the independent variables to be continuous.

The next econometric form utilized in this study is far different from the binary logit because it allows economists to have dependant variables that are not in a sequence or ordered like the previous models. This model is called a Multinomial Logit and helps to measure questions on differing sentencing options and is more accurate if there is no evidence of a sequence or order because it holds fewer assumptions. For a Multinomial Logit, one can compare the likelihood of many events not just two, as with the Binary Logit. For example, one could compare the likelihood of a defendant receiving life with the likelihood of receiving the death penalty as well as the likelihood of receiving life without the chance of parole with that of the death penalty. This allows several different outcomes, in this case Life, Life without parole, and Death, to be integrated into a single model.

The last form of regression that will be investigated is the Stepwise logistic regression. This regression checks the list of independent variables and selects those that are found to be most important to describe the dependent variable.¹⁶ In other words, it chooses the variables that have the most explanatory power for the model. This model will help show which variables in the dataset are the most valuable in explaining why a certain criminal would receive the Death penalty, Life without parole, and Life with the chance of parole.

The stochastic error in the model captures all things that are not taken into account in the model. These things may have been omitted because either they are intangible, immeasurable, or the information was not available. Some include high school education of

¹⁶ For more information, see Chapter Four: Results and Analysis, Evaluations of the Logistic Regression Model. http://scholar.lib.vt.edu/theses/available/etd-032799-154323/unrestricted/Chptr_4.PDF

the felon, family situation, home county, and other socioeconomic variables. Some other variables may include the personality of the criminal, whether the criminal showed remorse in the courtroom, the nature of the victim, whether or not the criminal had a public defender and many other variables that are either not available or not measurable.¹⁷

Results

Binomial Logistic Regression Results

Using the methods of Binary Logistic, Multinomial Logistic, and Stepwise Logistic, results were gathered on the determinants of sentencing decisions. For each section of analysis, the regressions were run using the whole sample, then split up to include only Black criminals and, then, only White criminals. This was done to capture more specific racial characteristics.

The first three regressions were binary logistic regressions, which measure the effect of a person receiving the Death Penalty versus Life without Parole and Life with the chance of Parole. Illustrated in the Table 3, for the black sample, the taller a man is, the darker their eyes, the more Tier 1, murder or manslaughter convictions, the more likely they are to receive the death penalty over life or life without parole. Also an average or above average individual, in the black sample, is more likely to receive the death penalty than their very attractive counterparts. On the other hand, if a black man has visible scars and marks, he is less likely to receive the death penalty as opposed to life with parole and life since that coefficient is negative. The average and above average individual, or the less attractive individual, appears to receive the harsher penalty as opposed to their more attractive

¹⁷ The Georgia Department of Corrections was contacted seeking possible socioeconomic data as well as other data on specific criminals and they replied with a negative.

counterpart. At the same time, someone who has visible scars and marks is given the more lenient sentence. However, it is not very clear that the jury and the judge would be able to determine the difference between Average and Above Average looking people. In this case, there might be a failure in the break points that separate Average and Above Average.

Since the econometric technique for this instance is a Binary Logistic, an R-squared value, used in an OLS model, cannot accurately predict the goodness of fit measure. Instead, the model assigns different Pseudo R-squares so we can estimate the goodness of fit for the following models. Research points to the Nagelkerke's R-squared. Researchers suggest that this statistic is the closest to the Ordinary Least Squares R-squared that this typically reported. This measurement can vary from 0 to 1. It is a modified form of the Cox and Snell R-squared, which is difficult to correctly interpret because its maximum can be less than 1. This statistic explains how much the dependent variables are successfully explained by the model. The higher the value, the more the data explains your model. For this binary logistic regression, the Nagelkerke R-squared is 0.651, which means that the independent variables explain about 65.1% of the variation in sentencing.

For the white sample, the model indicates that someone with a medium skin tone is more likely to receive the death penalty as opposed to their darker counterparts. The model suggests that the more aliases a person has the more likely they are to receive the death penalty as opposed to life or life without parole and the more Tier 1 convictions the more likely the defendant is to receive the death penalty. As for age and hair color, the older the person and the darker the hair color, the less likely they are to receive the death penalty. The Nagelkerke R-squared measure is higher for the white sample, at 78.5%.

TABLE 3: Binomial Logistic Results (1 = Death; 0 = Life without Parole and Life with the chance of parole)

Death Versus Life without Parole/Life			
Variables	Black Sample	White Sample	All Criminals
Age	.037 (.026)	-.089* (.053)	0.025 (0.019)
Black	----- -----	----- -----	-1.576*** (.599)
Height	.156* (.092)	.041 (.141)	.047 (.059)
Overweight	.233 (.557)	-.955 (.899)	-.226 (.404)
Obese	-.514 (.736)	-.528 (1.100)	-.442 (.510)
Eye Color	.680* (.403)	.460 (.383)	.474** (.209)
Hair Color	4.578 (18.218)	-.598* (.347)	.210 (.173)
Visible Scars/Marks	-1.165* (.696)	1.387 (1.122)	-.658 (.478)
Visible Tattoos	-.452 (.631)	-.562 (.741)	-.473 (.432)
Aliases	-.044 (.143)	.453* (.264)	-.023 (.094)
Priors	-.120 (.163)	.060 (.159)	-.026 (.086)
% Black	-.012 (.023)	-.009 (.040)	.000 (.017)
% Female	-.012 (.225)	.086 (.281)	-.068 (.127)
Religious Adherents	-.016 (.026)	.052 (.034)	.009 (.018)
Crime Rate	-.001** (.000)	.001 (.000)	-.001 (.000)
Tier 1	2.776*** (.440)	4.468*** (.972)	2.680*** (.310)
Tier 2	.231 (.171)	.517 (.343)	.239*** (.100)
Tier 3	-.178 (.212)	-.059 (.411)	-.135 (.153)
Tier 4	.204 (.141)	-.049 (.266)	.094 (.103)
Tier 5	-.342 (.415)	.243 (.363)	-.018 (.160)
Ugly	-.161 (1.577)	-3.958 (26.410)	-.979 (1.264)
Average	1.524** (.769)	-.572 (1.314)	.589 (.486)
Above Average	1.975*** (.796)	.596 (.825)	.923** (.460)
Fair	6.575 (228.561)	-4.220 (60.466)	.501 (.852)
Light	7.670 (228.560)	.946 (1.843)	1.388* (.777)
Medium	7.955 (228.560)	3.566*** (1.194)	1.465** (.644)
Constant	-57.079 (262.061)	-14.240 (16.410)	-8.198 (7.674)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

When including the entire sample of criminals in this regression, the model indicates that a black man is less likely to receive the death penalty as opposed to life or life without parole than their white counterpart. It is also found that the darker the eye color, the more Tier 1 and Tier 2 convictions, the more likely a defendant is to receive the death penalty. It was also found that an Above Average looking person is more likely to receive the death penalty than their very attractive counterpart and criminal with a Light skin tone or a Medium skin tone is more likely to receive the death penalty than their Darker counterparts. The Nagelkerke R square analysis gives this model a 64.8%.

The next set of binary logistic regressions compares the sentences of Death and Life without Parole to Life with the chance of parole. The results illustrated in the Table 4 indicate that, for the black sample, the older the individual, the more priors, the more Tier 1, 2, and 3 convictions, the more likely the defendant will receive the harsher penalty. A black man characterized as Average is also more likely to receive the harsher penalty compared to their very attractive counterpart. Interestingly, the positivity and significance of the Tiered crimes and the Priors variable shows that Georgia legislation, including the Three Strikes Law and the Seven Deadly Sins Law, has been effective in sentencing criminals more severely. The results, suggesting the impact of this legislation, were seen in the white sample as well as when all criminals were included. The Nagelkerke R-squared measure is 35.4%.

For the White sample, the model indicates that overweight criminals are more likely to receive the more lenient sentence compared to their physically fit or underweight counterparts. This suggests that superficiality has entered the decision making process for sentencing. It also might suggest that the judge and jury perceive the physically fit and underweight defendants as more dangerous and, therefore, give them the harsher penalty than

an overweight individual. Interestingly, the county variables of % Black and Religious Adherents, that are included to capture the composition of the jury, suggest that the higher percentage of Blacks in a population and the higher percentage of religious adherents, a defendant is more likely to receive the harsher penalty. Alternatively, an overweight individual is less likely to receive the harsher sentences as opposed to their physically fit or underweight counterparts. The Nagelkerke R-squared measure is 59%.

The next set of regressions omits the criminals who were sentenced to Death and, therefore, tries to capture the determinants for a criminal to receive parole. Table 5 illustrates these results. The model suggests, for the black sample, that a black man, who is older, has visible scars and marks, more prior sentences, characterized as average looking, living in a county with a higher crime rate, and more Tier 3 convictions will receive no parole. The goodness of fit, for this sample, is a 0.323. Interestingly, when running the same regression using the white sample, Average and Above Average are both significantly positive. This indicates that a White individual who is average and above average is more likely to receive parole than his more attractive counterpart. A white male who has visible tattoos is also more likely to receive parole. This indicates that there is a penalty for attractiveness when the question of parole comes into the sentencing decision. The taller a white man is, the darker his eyes, the more priors, the higher percentage of blacks in the population, the higher percentage of females in the population, the more religious adherents, and the more Tier 1, 2, and 4 convictions, the more likely he is to receive no chance of parole. For this sample, the R-squared is a 0.608. When the regression was run using the whole sample, unsurprisingly the more priors and the more tier 3 convictions, the individual is less likely to receive parole. A criminal from a county with a larger black population would also be less likely to receive

TABLE 4: Binary Logistic Results (1 = Death and Life without Parole; 0 = Life with the chance of parole)

Death/Life without Parole versus Life			
Variables	Black Sample	White Sample	All Criminals
Age	.026* (.015)	-.020 (.029)	.018 (.012)
Black	----- -----	----- -----	.072 (.374)
Height	.048 (.048)	.226** (.110)	.052 (.039)
Overweight	.356 (.331)	-1.787** (.780)	-.056 (.268)
Obese	.266 (.400)	-1.218 (.864)	-.084 (.328)
Eye Color	.009 (.141)	.578* (.314)	.135 (.114)
Hair Color	.128 (.103)	-.051 (.227)	.083 (.084)
Visible Scars/Marks	.499 (.387)	.690 (.740)	.256 (.309)
Visible Tattoos	.037 (.347)	-.567 (.722)	.047 (.272)
Aliases	-.002 (.061)	.249 (.209)	.033 (.053)
Priors	.348*** (.086)	.188 (.122)	.249*** (.060)
% Black	.016 (.016)	.079** (.034)	.026** (.013)
% Female	-.084 (.116)	.320 (.230)	-.036 (.093)
Religious Adherents	-.007 (.016)	.061* (.033)	-.001 (.013)
Crime Rate	-.001*** (.000)	-.001 (.000)	-.001*** (.000)
Tier 1	.935*** (.232)	1.956*** (.603)	1.027*** (.187)
Tier 2	.183* (.102)	.490** (.248)	.219*** (.087)
Tier 3	.263* (.157)	.376 (.422)	.287** (.137)
Tier 4	.024 (.084)	.713** (.309)	.088 (.072)
Tier 5	-.130 (.181)	-.114 (.217)	-.140 (.101)
Ugly	-.093 (.646)	-.378 (1.441)	-.470 (.577)
Average	.971*** (.369)	-2.222 (.887)	.420 (.302)
Above Average	.634* (.388)	-.786 (.756)	.159 (.305)
Fair	-.482 (1.390)	-8.182 (36.683)	-1.646*** (.578)
Light	-.328 (1.382)	-.732 (1.536)	-1.414*** (.527)
Medium	.673 (1.386)	.016 (.749)	-.681 (.458)
Constant	-1.752 (6.820)	-37.003 (14.867)	-3.598 (5.354)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

parole. Interestingly, a person classified as fair, light or medium is more likely to receive parole than their darker counterparts. The goodness of fit in this case is only 23.1%.

TABLE 5: Binary Logistic Results (1 = Life without Parole; 0 = Life with the chance of parole)

Live versus Live without Parole			
Variables	Black Sample	White Sample	All Criminals
Age	-.024* (.015)	-.003 (.036)	-.015 (.012)
Black	----- -----	----- -----	-.330 (.407)
Height	-.014 (.051)	-.284** (.142)	-.034 (.042)
Overweight	-.398 (.361)	1.408 (.987)	.039 (.291)
Obese	-.485 (.420)	1.056 (1.038)	-.107 (.345)
Eye Color	.100 (.146)	-.710** (.372)	-.045 (.118)
Hair Color	-.109 (.103)	-.290 (.332)	-.080 (.086)
Visible Scars/Marks	-.660* (.403)	-1.105 (.977)	-.335 (.327)
Visible Tattoos	-.157 (.370)	1.976* (1.087)	-.154 (.292)
Aliases	-.010 (.062)	.006 (.300)	-.040 (.054)
Priors	-.336*** (.087)	-.263* (.163)	-.224*** (.059)
% Black	-.016 (.017)	-.069 (.045)	-.026** (.014)
% Female	.043 (.130)	-.824** (.404)	.009 (.108)
Religious Adherents	.006 (.018)	-.062* (.039)	.003 (.014)
Crime Rate	.001** (.000)	.001 (.000)	.001** (.000)
Tier 1	-.339 (.256)	-1.571* (.988)	-.286 (.215)
Tier 2	-.106 (.101)	-.705** (.332)	-.121 (.089)
Tier 3	-.440*** (.177)	-.879 (.623)	-.433*** (.154)
Tier 4	.039 (.097)	-1.153*** (.424)	-.041 (.077)
Tier 5	.057 (.187)	.328 (.311)	.142 (.127)
Ugly	.217 (.677)	1.016 (1.659)	.454 (.579)
Average	-.978*** (.390)	3.093*** (1.176)	-.395 (.317)
Above Average	-.288 (.429)	2.542** (1.237)	.187 (.339)
Fair	.397 (1.373)	8.336 (36.696)	1.778*** (.604)
Light	.406 (1.372)	.636 (2.073)	1.741*** (.558)
Medium	-.656 (1.377)	1.096 (.952)	1.037** (.491)
Constant	.986 (7.569)	68.436 (25.248)	2.956 (6.140)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

Multinomial Regression Results

The next level of analysis will utilize the Multinomial Logistic regression method to find the determinants of someone receiving the death penalty, life without parole, or life. Once again, these regressions were segmented into the black only sample, the white only sample, and all criminals in the sample. The reference variable for the multinomial logistic regressions was Life without parole.¹⁸ Tables 6 and 7 illustrate the findings where Life was compared to Life without Parole and Death was compared to Life without parole. The model suggests that the more tier 3 convictions and the more prior sentences, the harsher the sentence for a black male. An average looking black man is more likely to receive life without parole rather than life when compared to their attractive counterpart. Surprisingly, for the higher crime rate in the conviction county, the model suggests a slight chance of a black male receiving the more lenient sentence. For the Death penalty compared to Life without parole, the results were rather different. A black male with visible scars and marks was less likely to receive the death penalty as opposed to life without parole. Skin shade was highly significant played a large role in predicting the sentencing for black males. A black male classified as fair or light has a greater chance of receiving the death penalty. For a black male described as fair or light, the model indicates that he is 13.339% or 14.402% more likely to receive the death penalty respectively. An above average black male is more likely to receive the death penalty. The more Tier 1 convictions for a black man the more likely he is to receive the death penalty. The Nagelkerke R-squared is 58.4%.

¹⁸ Although any of the three categories could be used as a reference group, we chose the Life without parole so that comparisons could be made with a harsher or lenient sentence conclusion.

The second part of this analysis is the white sample. An overweight white male is more likely to receive life as opposed to life without parole. Once again, this could be the jury at work making the decision that an overweight man is not as large of a threat to society as his physically fit counterpart. The taller a white man, with darker eyes, living in an area with a higher

TABLE 6: Multinomial Regression (Death versus Reference group)

Multinomial Logistic Regression: Reference= Life without Parole			
Variables	Life		
	Black Sample	White Sample	All Criminals
Age	-.022 (.015)	.014 (.032)	-.014 (.012)
Black	----- -----	----- -----	-.408 (.407)
Height	-.024 (.050)	-.289*** (.123)	-.036 (.041)
Overweight	-.361 (.355)	1.785** (.837)	.077 (.288)
Obese	-.432 (.411)	1.006 (.902)	-.049 (.339)
Eye Color	.085 (.144)	-.593* (.329)	-.069 (.119)
Hair Color	-.104 (.102)	-.006 (.248)	-.062 (.086)
Visible Scars/Marks	-.624* (.396)	-.522 (.855)	-.325 (.322)
Visible Tattoos	-.112 (.369)	.927 (.831)	-.129 (.288)
Aliases	-.007 (.061)	-.136 (.242)	-.039 (.054)
Priors	-.321*** (.085)	-.152 (.120)	-.224*** (.059)
% Black	-.019 (.016)	-.082** (.038)	-.028** (.013)
% Female	.068 (.127)	-.578** (.307)	.024 (.101)
Religious Adherents	.003 (.017)	-.052 (.037)	.001 (.014)
Crime Rate	.001** (.000)	.001 (.000)	.001** (.000)
Tier 1	-.325 (.276)	-.955 (.733)	-.298 (.226)
Tier 2	-.109 (.101)	-.396 (.260)	-.128 (.090)
Tier 3	-.385** (.167)	-.253 (.459)	-.395*** (.146)
Tier 4	.019 (.093)	-.729** (.330)	-.044 (.075)
Tier 5	.068 (.186)	.119 (.249)	.152 (.119)
Ugly	.133 (.670)	.360 (1.511)	.421 (.582)
Average	-.878** (.384)	2.184** (.962)	-.397 (.315)
Above Average	-.252 (.419)	1.235 (.869)	.137 (.335)
Fair	.421 (1.376)	21.074 (.000)	1.898*** (.609)
Light	.417 (1.371)	.813 (1.665)	1.819*** (.562)
Medium	-.650 (1.372)	.593 (.792)	1.046** (.489)
Intercept	.434 (7.447)	53.127 (19.352)	2.374 (5.811)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

percentage of blacks and females in the population, and the more Tier 4 convictions, is more likely to receive the harsher penalty of life without parole. An average looking white male, on the other hand, is more likely to receive the more lenient sentence of Life with a chance of parole. When comparing Death to Life without parole, a white male who is older and has darker hair is less likely to receive the death penalty. On the other hand, the more Tier 1 and 2 convictions, the model suggests a harsher penalty for a white male. Surprisingly, a white man classified with a medium skin tone is 3.872% more likely to receive the death penalty versus life without parole. The goodness of fit is one of the highest at 78.6%.

The last multinomial regression included all criminals. For life versus life without parole, the more prior convictions, the higher percent of blacks in the population, and the more Tier 3 convictions, the model suggests that there a criminal will receive the harsher sentence of life without parole. Individuals characterized with a fair, light, or medium skin tone, are more likely to receive the more lenient sentence as opposed to their darker counterparts. When comparing death to life without parole, a black man is less likely to receive the death penalty. Larger number of Tier 1 convictions leads to a more severe sentence. Surprisingly, the more Tier 3 convictions, which involve assault or battery, the less likely the defendant is to receive the death penalty. Someone with a light or medium skin tone is 2.097% and 1.8674% more likely to receive the death penalty as opposed to life without parole. An above average looking man is more likely to be sentenced to death than their very attractive counterpart, according to the model. The goodness of fit is 57.6%.

TABLE 7: Multinomial Regression (Life with Parole versus Reference group)

Multinomial Logistic Regression: Reference= Life without Parole			
Death			
Variables	Black Sample	White Sample	All Criminals
Age	.026 (.027)	-.092* (.056)	.018 (.020)
Black	----- -----	----- -----	-1.731*** (.636)
Height	.144 (.095)	-.052 (.155)	.035 (.062)
Overweight	.088 (.582)	-.329 (.943)	-.152 (.427)
Obese	-.708 (.761)	-.256 (1.163)	-.453 (.528)
Eye Color	.727* (.410)	.322 (.394)	.453 (.218)
Hair Color	11.105 (.000)	-.675* (.368)	.182 (.178)
Visible Scars/Marks	-1.337** (.704)	1.198 (1.265)	-.763 (.494)
Visible Tattoos	-.496 (.666)	-.184 (.804)	-.559 (.455)
Aliases	-.046 (.145)	.503 (.288)	-.040 (.096)
Priors	-.210 (.179)	.006 (.163)	-.093 (.090)
% Black	-.021 (.024)	-.033 (.044)	-.012 (.018)
% Female	.014 (.233)	-.155 (.347)	-.058 (.135)
Religious Adherents	-.016 (.028)	.035 (.037)	.008 (.019)
Crime Rate	-.001 (.000)	.001 (.000)	-.001 (.000)
Tier 1	2.585*** (.447)	4.499*** (1.038)	2.539*** (.321)
Tier 2	.186 (.175)	.499* (.313)	.197** (.102)
Tier 3	-.313 (.223)	-.164 (.424)	-.263* (.159)
Tier 4	.219 (.149)	-.279 (.288)	.075 (.107)
Tier 5	-.303 (.422)	.267 (.401)	.040 (.168)
Ugly	-.043 (1.633)	-13.615 (4305.107)	-.781 (1.295)
Average	1.089 (.792)	.041 (1.445)	.387 (.505)
Above Average	1.907** (.829)	1.139 (0.936)	.974** (.488)
Fair	13.339*** (.807)	4.183 (.000)	1.270 (.896)
Light	14.402*** (.682)	1.254 (1.986)	2.097*** (.815)
Medium	14.238 (.000)	3.872*** (1.238)	1.864*** (.672)
Intercept	-108.311 (13.189)	6.270 (19.834)	-6.578 (8.118)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

Stepwise Regression

The last stage of analysis for this study utilized the Stepwise regression method. Recall, this regression method checks the list of independent variables and selects those that are found to be most important to describe the dependent variable. Table 9 illustrates the variables for each sample selection that have the most explanatory power in determining sentences for criminals according to the models are shown. The top variable that has the most explanatory power in describing the dependent variables for each sample selection is the number of Tier 1 convictions, which include murders and voluntary manslaughter convictions. The number of prior convictions is another important variable that comes into the decision making process when all criminals are included and the black sample, according to the model. The medium skin tone also seems to come through in both the Black sample and the White sample. Tier 2 and 3 convictions are important when all criminals are included. However, Tier 2 convictions, those involving children or of a sexual nature, are more important when describing the independent variable in the white sample whereas Tier 3, those involving assault and battery, seem to be more important for the black sample.

TABLE 9: Stepwise Regression Results

<i>Stepwise Regression: Most Important Variables</i>			
Level of Importance	Black Sample	White Sample	All Criminals
1	Tier 1	Tier 1	Tier 1
2	Priors	Medium	Priors
3	Crime Rate	Tier 2	Tier 3
4	Eye Color		Crime Rate
5	Tier 3		Tier 2
6	Medium		
7	Average		
8	Above Average		

After the model determines the most important variables in describing the variation, regressions are run using only those variables. Table 10 presents the results for the regression run for the black sample. The first part compares Life and Life without parole. The more prior convictions and more Tier 3 convictions a black male has, the more likely he is to receive life without parole versus life with a chance of parole. A black man classified as having a medium skin tone and average looks is also more likely to receive the harsher penalty compared to their darker skinned and more attractive counterparts. When comparing the death penalty to life without parole, the more Tier 1 convictions indicates a higher chance of receiving the death penalty. Interestingly, the more Tier 3 convictions, the less likely a black man is to receive the death penalty. This is counterintuitive since Georgia legislation has tried to punish criminals more harshly in recent years and sentencing is supposed to punish more the violence and number of crimes of which a criminal is convicted. Of the superficial variables, a black man with darker eyes and above average looks is more likely to receive the death penalty versus life without parole. The Nagelkerke R-squared is 51.8%.

Table 11 illustrates the stepwise regression model for the white sample of criminals. Unlike the black sample, there are only a handful of variables that the regression deemed important enough in describing the dependent variable. For the first part, comparing life with life without parole, a medium skinned white male is more likely to receive the lenient sentence compared to someone with dark skin. Interestingly, when comparing death to life without parole, all three variables are significant. The model suggests that the more Tier 1 and 2 convictions a person holds, the more likely he is to receive the death penalty versus life without parole. It also suggests that a person characterized as having a medium skin tone is

2.090% more likely to receive the death penalty than someone characterized as having a dark skin tone. The goodness of fit is measured at 60.9%.

TABLE 10: Black Sample Stepwise Regression Results

Stepwise: Black Sample	
Life	
Variables	Results
Eye Color	-.054
Priors	-.317***
Crime Rate	-.001**
Tier 1	-.175
Tier 3	-.378***
Average	-.868***
Above Average	-.206
Medium	-1.033***
Intercept	.896
Death	
Eye Color	.888***
Priors	-.148
Crime Rate	-.001**
Tier 1	2.341***
Tier 3	-.311*
Average	.946
Above Average	1.646***
Medium	-.340
Intercept	-6.444
*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance	

TABLE 11: White Sample Stepwise Regression Results

Stepwise: White Sample	
Life	
Variables	Results
Tier 1	-.258
Tier 2	-.177
Medium	.779*
Intercept	-.195
Death	
Tier 1	3.248***
Tier 2	.421***
Medium	2.090***
Intercept	-6.098
*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance	

After including all the criminals in the stepwise regression function, the model deemed Priors, Crime Rate, Tiers 1, 2, and 3 convictions to be the most important in describing a person's sentence. Table 12 illustrates these results. When comparing Life and Life without parole, a criminal with more Tier 3 convictions is more likely to receive life as opposed to life without parole. Once again, this results appears counterintuitive. The more convictions a defendant has under his belt should lead to a harsher sentence because the judge and jury want to punish the more dangerous criminals to protect society. Similarly, the more Tier 3 convictions a criminal has the more likely he is to receive life without parole versus the death penalty. On the other hand, the more Tier 1 and 2 convictions lead to a harsher sentence for the criminal according to the model. The goodness of fit is 49.4%.

TABLE 12: White Sample Stepwise Regression Results

Life	
Variables	Results
Priors	-.212
Crime Rate	.001***
Tier 1	-.274
Tier 2	-.123
Tier 3	.343***
Intercept	.392
Death	
Priors	-.052
Crime Rate	-.001**
Tier 1	2.522***
Tier 2	.216**
Tier 3	-.241*
Intercept	-2.937
*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance	

Characteristics of a Criminal

After utilizing these regression methods to determine the variables that appear to go into a judge and jury's sentencing decision, regression techniques were also used to see if any defining characteristics appear that contribute to someone being a certain type of criminal. Dependent variables were created using types of convictions to identify the criminal as a Murderer, a Kidnapper, an Armed Robber, a Rapist, a Sexual Predator, or someone involved with Drugs or Weapons. The Murderer, Kidnapper, Armed Robber, and Rapist variables are binary in nature measuring whether the defendant had a conviction for this crime or not. The Sexual Predator variable includes all crimes that are associated with Tier 2 convictions. These include Child Molestation, Aggravated Sodomy, Rape, and Cruelty to Children among others. For Drugs and Weapons, this variable includes all Tier 6 crimes that include Possession of a Firearm, Possession of Cocaine, and Selling and Distributing Narcotics/Opiates among many others. The first round of regressions used the dummy variables, such as Fair or Average, to determine the characteristics. In the second round of regressions, no dummies but rather the continuous RGB and Symmetry measures were used. The regressions were also broken down between the Black Sample, White Sample, and All Criminals.

While very little of the variables were significant, some interesting points can be discussed. Table 13 illustrates findings for the Black Sample. Interestingly, an ugly obese black man is more likely to be involved with a drug or weapon violation. Older black men are more likely to be a sexual predator or rapist. On the other hand, younger black men are more likely to be murderers and drugs and weapons violators. A black man categorized as obese is less likely to be a sexual predator.

TABLE 13: Crime Characteristic Binary Logistic (Black Sample)

<i>Specific Crimes, with Dummies: Black Sample</i>						
Variables	Murderer	Kidnapper	Armed Robber	Rapist	Sexual Predator	Drugs and Weapons
Age	-.036*** (.013)	.021 (.015)	-.011 (.012)	.050*** (.018)	.036*** (.013)	-.045*** (.013)
Height	-.040 (.043)	-.026 (.048)	-.008 (.040)	.010 (.060)	.015 (.043)	-.039 (.042)
Overweight	.028 (.291)	-.303 (.330)	-.336 (.278)	-.146 (.407)	-.109 (.294)	.122 (.284)
Obese	.373 (.358)	-.594 (.419)	-.326 (.333)	-.439 (.525)	-.622* (.376)	.810** (.348)
Eye Color	.174 (.127)	.014 (.146)	.137 (.125)	-.218 (.170)	-.014 (.132)	.058 (.128)
Hair Color	.035 (.087)	-.018 (.102)	-.125 (.086)	.092 (.126)	-.015 (.093)	-.053 (.090)
Visible Scars/Marks	-.217 (.323)	.124 (.360)	.127 (.307)	.243 (.450)	.194 (.326)	.047 (.318)
Visible Tattoos	-.377 (.316)	.066 (.358)	.452 (.296)	.065 (.465)	.096 (.325)	.205 (.304)
Fair	-.465 (1.308)	19.511 (23092)	.474 (1.322)	20.070 (22602)	20.293 (22818)	20.773 (22032)
Light	-.550 (1.290)	19.636 (23092)	.134 (1.308)	19.593 (22602)	20.430 (22818)	20.688 (22032)
Medium	-1.011 (1.295)	20.460 (23092)	.158 (1.313)	20.186 (22602)	21.139 (22818)	21.097 (22032)
Ugly	-.319 (.605)	.188 (.727)	-.273 (.605)	-.655 (1.107)	.016 (.659)	1.436** (.657)
Average	.185 (.324)	.228 (.363)	.440 (.306)	.075 (.438)	.240 (.327)	.374 (.315)
Above Average	-.053 (.329)	.146 (.379)	.351 (.315)	.011 (.469)	.182 (.340)	-.022 (.325)
Constant	4.901 (3.357)	-20.091 (23092)	.816 (3.157)	-24.454 (22602)	-23.828 (22818)	-16.700 (22032)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

Table 14 report similar results for the black sample when no dummy variables were used. The older the black man, the more likely he is to be a rapist or sexual predator, whereas young black men are more likely to get involved with drugs, weapons, and murderer. As indicated by the model, as BMI increases a black man is less likely to be a kidnapper or sexual predator where as he is more likely to be involved with drugs and weapons. As a person's face becomes more symmetrical, they are less likely to be involved with drugs and weapons according to the model. The model also indicates that kidnappers are more likely to be slightly darker in skin tone.

TABLE 14: Crime Characteristic Binary Logistic (Black Sample: no dummy variables)

<i>Specific Crimes, no Dummies: Black Sample</i>						
Variables	Murderer	Kidnapper	Armed Robber	Rapist	Sexual Predator	Drugs and Weapons
Age	-.034*** (.013)	.018 (.014)	-.009 (.012)	.047*** (.017)	.032*** (.013)	-.047*** (.013)
Eye Color	.157 (.124)	.041 (.143)	.150 (.122)	-.173 (.165)	.016 (.128)	.073 (.125)
Hair Color	.043 (.086)	-.037 (.100)	-.117 (.085)	.069 (.121)	-.023 (.090)	-.066 (.088)
Visible Scars/Marks	-.230 (.319)	.161 (.355)	.095 (.302)	.247 (.444)	.223 (.320)	.051 (.312)
Visible Tattoos	-.334 (.308)	.020 (.351)	.447 (.288)	.025 (.454)	.004 (.315)	.179 (.295)
Symmetry Measure	-.032 (.060)	.003 (.067)	.010 (.054)	.047 (.086)	.010 (.060)	-.131** (.058)
RGB	-.002 (.001)	.003* (.002)	-.001 (.001)	-.001 (.002)	.002 (.002)	.001 (.001)
BMI	.044 (.030)	-.074** (.036)	-.034 (.028)	-.050 (.043)	-.068** (.031)	.063** (.029)
Constant	3.906 (6.001)	-1.391 (6.763)	.685 (5.484)	-6.935 (8.629)	-1.852 (6.026)	12.619 (5.815)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

Table 15 reports results for the white sample using dummy variables for skin tone and symmetry. Although there are not many significant variables, those that are significant are very interesting. An overweight or obese white male is less likely to be a sexual predator than his underweight or physically fit counterparts according to the model. White males with dark hair are more likely to be involved with drugs and weapons. As for white men who are characterized as ugly or average looking, they are less likely to commit murder.

TABLE 15: Crime Characteristic Binary Logistic (White Sample)

<i>Specific Crimes, with Dummies: White Sample</i>						
Variables	Murderer	Kidnapper	Armed Robber	Rapist	Sexual Predator	Drugs and Weapons
Age	-.012 (.026)	-.038 (.025)	.009 (.023)	.035 (.033)	-.020 (.023)	.020 (.024)
Height	.058 (.086)	-.042 (.074)	-.030 (.072)	.108 (.103)	-.017 (.066)	-.083 (.071)
Overweight	.723 (.583)	-.845 (.518)	-.007 (.467)	-1.055 (.691)	-1.038** (.458)	.233 (.481)
Obese	.422 (.736)	-1.007 (.722)	-1.923 (.856)	-.697 (.873)	-.995* (.605)	.440 (.619)
Eye Color	-.158 (.237)	.169 (.216)	-.020 (.205)	.354 (.288)	.140 (.197)	.117 (.205)
Hair Color	.184 (.189)	-.151 (.174)	.335 (.191)	-.086 (.217)	-.078 (.153)	.433** (.187)
Visible Scars/Marks	.230 (.673)	-.326 (.600)	1.081 (.526)	.576 (.718)	-.718 (.565)	-.327 (.593)
Visible Tattoos	-.141 (.537)	-.390 (.493)	1.015 (.465)	-.559 (.636)	-.240 (.442)	-.290 (.463)
Fair	21.087 (40192)	-21.943 (40192)	-19.998 (40192)	-19.212 (19062)	-22.631 (40192)	-.424 (41378)
Light	1.216 (1.189)	-.690 (.932)	.829 (.810)	.189 (.986)	-.935 (.807)	-.646 (.923)
Medium	.161 (.531)	.170 (.484)	.249 (.475)	.391 (.656)	-.241 (.431)	-.410 (.466)
Ugly	-1.933* (1.118)	-20.217 (19603)	1.917 (1.270)	-19.212 (19062)	-20.456 (19727)	-.285 (1.206)
Average	-1.161* (.689)	.431 (.640)	.452 (.658)	-.190 (.940)	.722 (.626)	-20.412 (9834)
Above Average	.299 (.643)	-.826 (.587)	.940 (.492)	.243 (.644)	.053 (.467)	.136 (.464)
Constant	-2.844 (6.042)	4.574 (5.243)	-1.794 (5.150)	-11.292 (7.352)	2.338 (4.736)	1.691 (5.043)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

When no dummy variables were used, see Table 16 below, the results were similar. White men who committed a murder are more likely to have a higher symmetry measure as suggested by the model. A white male with darker hair, visible scars, marks, and tattoos is more likely to commit armed robbery. As indicated by the model, sexual predators tend to have a darker skin tone but a lighter BMI. Rapists also tend to be on the lighter side.

TABLE 16: Crime Characteristic Binary Logistic (White Sample: no dummy variables)

<i>Specific Crimes, no Dummies: White Sample</i>						
Variables	Murderer	Kidnapper	Armed Robber	Rapist	Sexual Predator	Drugs and Weapons
Age	-.016 (.027)	-.032 (.024)	.008 (.022)	.043 (.030)	-.014 (.021)	.021 (.023)
Eye Color	-.128 (.236)	.095 (.205)	.007 (.193)	.292 (.268)	.107 (.189)	.166 (.194)
Hair Color	.164 (.188)	-.146 (.169)	.324* (.189)	-.054 (.210)	-.062 (.149)	.390 (.185)
Visible Scars/Marks	.165 (.686)	-.223 (.586)	1.012** (.493)	.489 (.697)	-.598 (.547)	-.350 (.571)
Visible Tattoos	-.191 (.519)	-.283 (.461)	.859** (.431)	-.591 (.625)	-.276 (.422)	-.360 (.448)
Symmetry Measure	.384*** (.134)	-.021 (.127)	-.150 (.124)	-.014 (.170)	-.030 (.118)	.180 (.166)
RGB	-.005 (.004)	.003 (.003)	-.002 (.003)	.002 (.004)	.005** (.003)	.005 (.003)
BMI	.051 (.066)	-.123** (.059)	-.094* (.052)	-.135* (.079)	-.130*** (.053)	.042 (.050)
Constant	-34.589 (13.007)	4.652 (12.528)	14.802 (12.007)	-.565 (16.883)	3.889 (11.548)	-25.578 (16.293)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

Finally the model was run using the entire sample, see Table 17 below. Murderers, according to the model, tend to be white and younger. Armed Robbers, as suggested by the regression, are more often Above Average or Average looking than Attractive, less likely to be obese but more likely to have visible scars, marks and tattoos. Rapists tend to be older. Sexual Predators tend not to be overweight, obese, and are less likely to have a fair or light skin tone than a darker one. Criminals involved with drugs and weapons are more likely to be black, obese, ugly, and younger.

TABLE 17: Crime Characteristic Binary Logit (Whole Sample)

<i>Specific Crimes, with Dummies: All Criminals</i>						
Variables	Murderer	Kidnapper	Armed Robber	Rapist	Sexual Predator	Drugs and Weapons
Age	-.027*** (.011)	.003 (.012)	-.010 (.010)	.042*** (.015)	.017 (.011)	-.031*** (.011)
Black	-1.510*** (.370)	.282 (.348)	.286 (.313)	.176 (.443)	.319 (.319)	.821*** (.327)
Height	-.013 (.037)	-.038 (.039)	-.011 (.034)	.025 (.050)	-.002 (.035)	-.046 (.035)
Overweight	.234 (.252)	-.523 (.272)	-.245 (.232)	-.425 (.342)	-.474** (.241)	.126 (.237)
Obese	.444 (.315)	-.653 (.354)	-.597** (.292)	-.534 (.439)	-.700** (.311)	.745*** (.288)
Eye Color	.097 (.111)	.093 (.118)	.060 (.102)	-.048 (.149)	.075 (.105)	.078 (.103)
Hair Color	.058 (.077)	-.042 (.085)	-.053 (.075)	.031 (.106)	-.018 (.077)	.032 (.077)
Visible Scars/Marks	-.124 (.284)	-.016 (.301)	.418* (.258)	.276 (.370)	-.055 (.272)	-.149 (.267)
Visible Tattoos	-.256 (.264)	-.139 (.279)	.633*** (.238)	-.145 (.369)	-.133 (.250)	.049 (.242)
Fair	.653 (.559)	-.805 (.570)	.614 (.495)	.399 (.719)	-1.114** (.506)	-.409 (.506)
Light	.567 (.504)	-.630 (.489)	.297 (.440)	-.013 (.655)	-.948** (.436)	-.482 (.454)
Medium	.090 (.447)	.102 (.415)	.283 (.382)	.453 (.571)	-.319 (.369)	-.140 (.391)
Ugly	-.671 (.527)	-.233 (.672)	.285 (.511)	-.940 (1.077)	-.317 (.605)	.974* (.532)
Average	-.030 (.291)	.232 (.306)	.486* (.268)	.080 (.384)	.349 (.279)	-.010 (.274)
Above Average	-.025 (.284)	-.132 (.305)	.522** (.258)	.116 (.373)	.162 (.268)	.005 (.263)
Constant	3.059 (2.674)	1.685 (2.792)	.106 (2.434)	-5.731 (3.584)	-.806 (2.517)	3.138 (2.494)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

When no dummy variables were used, Murderers were more likely to be white, have a higher BMI, a lighter skin tone, and be younger. Kidnappers are more likely to have a darker skin tone and a lower BMI. Similarly, Armed Robbers are more likely to have a lower BMI as well as visible tattoos. Rapists and Sexual Predators tended to be older, where as violators of drug and weapon laws tended to be younger. Those violating drugs and weapon laws are also more likely to have a higher BMI and be black. Sexual Predators and Rapists are more likely to have a lower BMI and Sexual Predators are more likely to have a darker skin tone.

TABLE 18: Crime Characteristic Binary Logit (Whole Sample: no dummy variables)

<i>Specific Crimes, no Dummies: All Criminals</i>						
Variables	Murderer	Kidnapper	Armed Robber	Rapist	Sexual Predator	Drugs and Weapons
Age	-.028*** (.011)	.003 (.012)	-.009 (.010)	.042*** (.015)	.017* (.011)	-.032*** (.011)
Eye Color	.105 (.109)	.082 (.115)	.080 (.100)	-.039 (.144)	.066 (.104)	.079 (.102)
Hair Color	.066 (.076)	-.053 (.084)	-.043 (.073)	.021 (.103)	-.019 (.076)	.013 (.076)
Visible Scars/Marks	-.155 (.280)	.058 (.297)	.388 (.254)	.279 (.364)	-.026 (.269)	-.142 (.263)
Visible Tattoos	-.272 (.260)	-.146 (.276)	.577*** (.233)	-.150 (.362)	-.139 (.247)	.081 (.238)
Symmetry Measure	.038 (.053)	-.010 (.059)	-.017 (.049)	.036 (.076)	-.006 (.053)	-.072 (.050)
RGB	-.002* (.001)	.003** (.001)	-.001 (.001)	.000 (.002)	.003** (.001)	.001 (.001)
BMI	.049** (.027)	-.087*** (.030)	-.049** (.024)	-.075** (.037)	-.083*** (.027)	.062*** (.024)
Black	-1.552*** (.370)	.477 (.362)	.294 (.317)	.189 (.463)	.371 (.326)	.759** (.328)
Constant	1.538 (5.321)	.444 (5.941)	3.176 (4.905)	-5.433 (7.652)	-.083 (5.299)	4.850 (5.017)

*** is .01 level of significance, ** is a .05 level of significance, * is .1 level of significance

Econometric Tests

Econometric measures were taken to account for Multicollinearity and Heteroscedasticity. For Multicollinearity, the Box-Tidwell Transformation test was performed. This analysis allows one to test linearity among the independent variables. To conduct the test, interaction terms, which are the products of each independent variable and its natural logarithm, are added to the model.¹⁹ If these additions are statistically significant, then there it can be deduced that the Logit is nonlinear. After conducting this test, it was concluded that Multicollinearity is not a issue in the model. In order to test for Heteroscedasticity, the variables were plotted against their residuals to see if there was any

¹⁹ <http://faculty.chass.ncsu.edu/garson/PA765/logistic.htm>

pattern. These scatter plot graphs indicated that there are no major problems with Heteroscedasticity in the model.²⁰

Conclusion

This study aimed to examine the role that an individual's physical characteristics might play in a judge or jury's sentencing decision. The overwhelming finding of the analysis is that superficial characteristics do seem to play a role in courtroom decisions. However, this is a complex one. In some instances, there seems to be a penalty for beauty. In these cases, the more attractive criminals receive the harsher sentence. At the same time, the less attractive criminals receive the more lenient sentence and a possible pity factor develops. The scarred, tattooed, overweight, obese, and unattractive criminals receive the more lenient sentence. Within this finding however, definite racial differences exist. For instance, a white man who is characterized as average looking is more likely to receive life as opposed to life without parole than an attractive white man. Thus, there exists an attractiveness penalty. However, in the case of a black male, an above average individual is more likely to receive the death penalty than an individual characterized as attractive. Thus, the less attractive individual received the harsher penalty indicating an ugliness penalty.

Another important finding was the significance of prior sentences and Tiers 1, 2, and 3. The statistical significance of these variables shows the researchers that Georgia legislation, for example the Three Strikes Law and the Seven Deadly Sins Law, has been successful in making sentences harsher for repeat and violent offenders. Since these were oftentimes the most significant and of the highest magnitude, it can be deduced that the

²⁰ Bias may have entered the dataset due to prisoner's deaths or executions because the prisoners included are currently incarcerated in Georgia.

criminals receiving the harshest penalties in prison may be being judged mostly on their misdeeds as opposed to their looks.

However one should not take this to mean that deeds alone tell the whole story. The very fact that superficial characteristics are significant shows that someone's physical appearance matters in determining their sentence for a judge or jury. There can be several reasons for the contrasting negative and positive signs on superficial characteristics. One could include personality and psychological variables that are absent in the model. Despite the absence of these variables, there is still much to be said about the model's strength. The innovation of this study is the use of objectively measured superficial characteristics and their empirical links to criminal outcomes.

Future Research

For future research, the data set should be expanded. More criminals serving different sentences in Georgia should be included in the model to see if these results are reflected in cases of petty crimes or less violent crimes. A boost to the sample of violent offenders would also help to make the model stronger in assessing superficiality's role in the sentencing of criminals. Additionally, inclusion of these crimes may increase the number female criminals. It would be fascinating to find out the effects physical attributes would have on sentencing decisions for female criminals.

After investigating new methods of regression, the Sequential Logistic Methods can also be utilized to capture a sequence of events where the dependent variable changes as the model progresses. For example, the first sequence might question whether or not the defendant committed murder. Then, the next sequence might look to answer whether the felon, if he did commit murder, would receive the death penalty or life in prison, with or

without parole. Then, the next sequence would measure, if he did not receive the death penalty, was he sentenced to life with parole or life without parole. In this form, the Sequential Logistic Method may lead to more answers about a population.

For the regression analysis, interaction terms may be included to investigate the combined effects of physical attributes on sentencing decisions. Two articles that should also be looked into are "What is Social Capital? The Determinants of Trust and Trustworthiness" by Edward L. Glaeser, David Laibson, Jose A. Scheinkman, and Christine L. Soutter, as well as "Why beautiful people are more intelligent" by Satoshi Kanazawa and Jody L. Kovar. These should be researched to find out more about how beauty and attractiveness determine the behavior or character of an individual.

APPENDIX 1: Pivot Table 1 – Conviction County and Sentence

Current Conviction County	Release Date			Grand Total
	Death	Life	Life, w/o parole	
APPLING	1		1	2
BACON			1	1
BALDWIN	5		1	6
BANKS		1		1
BARTOW	1			1
BEN HILL			2	2
BERRIEN			1	1
BIBB		4	2	6
BLECKLEY			1	1
BRANTLEY			1	1
BROOKS		1		1
BULLOCH		1	1	2
BURKE	1	1	2	4
BUTTS		1		1
CAMDEN	1		1	2
CATOOSA			1	1
CHARLTON	1			1
CHATHAM	5	5	6	16
CHATTOOGA		2		2
CHEROKEE			3	3
CLARKE		3	4	7
CLAYTON	4	2	4	10
COBB	7	3	5	15
COFFEE	1		1	2
COLQUITT		2	2	4
COOK			1	1
COWETA		4	2	6
CRISP	1	1		2
DAWSON	1	1		2
DECATUR		2		2
DEKALB	2	13	14	29
DODGE	1			1
DOOLY			1	1
DOUGHERTY	1	3	4	8
DOUGLAS	4	3	3	10
EARLY	1	1		2
EFFINGHAM		2	2	4

Current Conviction County	Death	Life	Life, w/o Parole	Grand Total
ELBERT	1	3		4
EMANUEL		2		2
EVANS		1		1
FAYETTE			1	1
FLOYD	4	1	1	6
FRANKLIN		2		2
FULTON	5	32	16	53
GLYNN	2	1	4	7
GORDON	1	1		2
GRADY		3		3
GREENE			1	1
GWINNETT	2	7	3	12
HABERSHAM			2	2
HALL	2	4	1	7
HARALSON			1	1
HARRIS	1		1	2
HART			1	1
HEARD		1		1
HENRY	1		3	4
HOUSTON	1	2	3	6
IRWIN			1	1
JACKSON	1	1	3	5
JEFF DAVIS			1	1
JEFFERSON	1		2	3
JENKINS		1	1	2
JONES	4	1	1	6
LAURENS	1	1	2	4
LEE	1		1	2
LIBERTY		1		1
LONG			1	1
LOWNDES		2	4	6
LUMPKIN	1			1
MACON	1			1
MADISON		1		1
MCDUFFIE		1		1
MCINTOSH		1	1	2
MERIWETHER		1		1
MONROE	1			1
MORGAN	1			1

Current Conviction County	Death	Life	Life, w/o parole	Grand Total
MURRAY	1			1
MUSCOGEE	5	6	7	18
NEWTON	3	2	4	9
OCONEE	1	1		2
PAULDING	1	1	2	4
PIERCE	1	1		2
PIKE	1		1	2
POLK			1	1
PUTNAM		4	2	6
RANDOLPH			1	1
RICHMOND	4	4	4	12
ROCKDALE			1	1
SPALDING	3	3	3	9
STEPHENS			1	1
TATTNALL			2	2
TELFAIR	1			1
TERRELL			1	1
THOMAS	1			1
TOOMBS	1		3	4
TOWNS	1	1		2
WALKER	4			4
WALTON	1	3	1	5
WARE		2	3	5
WAYNE	2	1		3
WHITE		1		1
WHITFIELD		2	3	5
Grand Total	101	159	163	423

APPENDIX 2: Population Statistics

TABLE 2A: Marital of George Department of Corrections Population

Population Statistics: Marital Status					
Aug-09			Aug-00		
Single	32,118	61.84%	Single	24,876	58.00%
Married	6,541	12.59%	Married	5,748	13.00%
Separated	2,941	5.66%	Separated	2,440	6.00%
Divorced	6,434	12.39%	Divorced	4,817	11.00%
Widowed	736	1.42%	Widowed	574	1.00%
Common Law	3,167	6.10%	Common Law	4,394	10.00%
Other	-	0.00%	Other	15	0.00%

TABLE 2B: Race of George Department of Corrections Population

Population Statistics: Race					
Aug-09			Aug-00		
White	19,617	37.05%	White Male	13,626	31.00%
Black	33,617	62.69%	Non White Male	27,457	63.00%
Indian	68	0.13%	White Female	1,066	2.00%
Asian	68	0.13%	Non White Female	1,557	4.00%

TABLE 2C: Number of Children of George Department of Corrections Population

Population Statistics: Number of Children					
Aug-09			Aug-00		
No Children	21,001	39.82%	No Children	1,397	5.00%
One Child	11,628	22.05%	One Child	9,872	36.00%
Two Children	9,078	17.21%	Two Children	7,313	27.00%
Three Children	5,654	10.72%	Three Children	4,447	16.00%
Four Children	2,846	5.40%	Four Children	2,182	8.00%
Five Children	1,307	2.48%	Five Children	1,024	4.00%
More Than 5 Children	1,228	2.33%	More Than 5 Children	974	4.00%
6	672	1.27%			
7	288	0.55%			
8	119	0.23%			
9	64	0.12%			
10	33	0.06%			
Over 10	52	0.10%			

TABLE 2D: Guardian Status of George Department of Corrections Population

Population Statistics: Self-reported Guardian Status Since Age 16					
Aug-09			Aug-00		
Orphanage	29	0.11%	Orphanage	68	0.00%
Father Only	7,784	3.00%	Father Only	1,120	3.00%
Both Parents	10,429	39.92%	Both Parents	17,853	42.00%
Mother Only	11,237	43.02%	Mother Only	17,151	40.00%
Other Female	654	2.50%	Other Female	1,009	2.00%
Other Male	108	0.41%	Other Male	145	0.00%
Step-Parents	243	0.93%	Step-Parents	683	2.00%
Foster Home	393	1.50%	Foster Home	478	1.00%
Grand Parents	2,245	8.59%	Grand Parents	3,379	8.00%
Other	-	0.00%	Other	886	2.00%

TABLE 2E: Employment Status of George Department of Corrections Population

Population Statistics: Employment Status					
Aug-09			Aug-00		
Full Time	23,817	51.98%	Full Time	20,731	51.00%
Part Time	3,336	7.28%	Part Time	3,229	8.00%
Unemployed < 6m	4,715	10.29%	Unemployed < 6m	5,218	13.00%
Unemployed > 6m	8,306	18.13%	Unemployed >6m	6,916	17.00%
Never Worked	3,482	7.60%	Never Worked	2,507	6.00%
Student	453	0.99%	Student	365	1.00%
Incapable	1,712	3.74%	Incapable	1,678	4.00%
Not Reported	7,447		Not Reported	3,062	

TABLE 2F: Prior Sentences of George Department of Corrections Population

Population Statistics: Number of Prior Convictions					
Aug-09			Aug-00		
0	31,182	58.54%	0	23,573	54.00%
1	9,222	17.31%	1	8,208	19.00%
2	5,116	9.60%	2	4,998	11.00%
3	3,146	5.91%	3	2,992	7.00%
4	1,967	3.69%	4	1,843	4.00%
5	1,109	2.08%	5	1,053	2.00%
More Than 5	1,526	2.86%	More than 5	1,039	2.00%

TABLE 2G: Length of Sentence of George Department of Corrections Population

Population Statistics: Length of Sentence					
Aug-09			Aug-00		
0 - 1	1,604	3.01%	0 - 1	469	1.00%
1.1 - 2	4,163	7.82%	1.1 - 2	1,057	2.00%
2.1 - 3	4,410	8.28%	2.1 - 3	1,950	5.00%
3.1 - 4	3,178	5.97%	3.1 - 4	2,146	5.00%
4.1 - 5	5,622	10.55%	4.1 - 5	1,628	4.00%
5.1 - 6	2,230	4.19%	5.1 - 6	5,057	12.00%
6.1 - 7	2,069	3.88%	6.1 - 7	1,463	3.00%
7.1 - 8	1,947	3.66%	7.1 - 8	1,544	4.00%
8.1 - 9	763	1.43%	8.1 - 9	1,582	4.00%
9.1 - 10	6,529	12.26%	9.1 - 10	487	1.00%
10.1 - 12	2,547	4.78%	10.1 - 12	6,843	16.00%
12.1 - 15	3,947	7.41%	12.1 - 15	2,583	6.00%
15.1 - 20	3,809	7.15%	15.1 - 20	4,289	10.00%
20.1 - Ov	3,025	5.68%	20.1 - Over	5,958	14.00%
Life	6,781	12.73%	Life	5,926	14.00%
Life With	534	1.00%	Life Without Parole	199	0.00%
Death	107	0.20%	Death	124	0.00%
Youthful	3	0.01%	Youthful Offenders	1	0.00%
Total Re	53,268	100.00%	Total Reported	43,306	100.00%

TABLE 2H: Level of Education of George Department of Corrections Population

Population Statistics: Self-Reported Education Level					
Aug-09			Aug-00		
No school at all	56	0.11%	Less Than Grade 7	1,318	3.00%
Grade 1	41	0.08%	Grade 7	1,242	3.00%
Grade 2	67	0.13%	Grade 8	3,711	9.00%
Grade 3	137	0.26%	Grade 9	6,402	15.00%
Grade 4	147	0.28%	Grade 10	8,539	20.00%
Grade 5	231	0.45%	Grade 11	7,661	18.00%
Grade 6	872	1.68%	Grade 12	8,672	20.00%
Grade 7	1,299	2.50%	More Than Grade 12	5,123	12.00%
Grade 8	4,933	9.51%			
Grade 9	8,119	15.65%			
Grade 10	10,737	20.69%			
Grade 11	9,444	18.20%			
Grade 12 or GED	8,940	17.23%			
Some tech school	905	1.74%			
Completed tech school	1,356	2.61%			
College, 1 year	1,356	2.61%			
College, 2 year	1,885	3.63%			
College, 3 year	522	1.01%			
Bachelor's degree	671	1.29%			
Master's degree	116	0.22%			
Ph.D. degree	27	0.05%			
Law degree	19	0.04%			
Some medical school	3	0.01%			
Medical degree	11	0.02%			

TABLE 21: Height of George Department of Corrections Population

Population Statistics: Height						
Aug-09						
Height	Men		Female		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
Under four	1	0.01%	1	0.03%	2	0.01%
4'01"	-	0.00%	3	0.09%	3	0.01%
4'02"	1	0.01%	-	0.00%	1	0.01%
4'03"	1	0.01%	-	0.00%	1	0.01%
4'05"	1	0.01%	-	0.00%	1	0.01%
4'06"	-	0.00%	2	0.06%	2	0.01%
4'08"	3	0.01%	6	0.17%	9	0.02%
4'09"	-	0.00%	8	0.23%	8	0.02%
4'10"	1	0.01%	10	0.28%	11	0.02%
4'11"	9	0.02%	69	1.96%	78	0.15%
5'00"	88	0.18%	141	4.00%	229	0.44%
5'01"	91	0.19%	188	5.34%	279	0.54%
5'02"	214	0.44%	373	10.59%	587	1.13%
5'03"	403	0.83%	386	10.96%	789	1.52%
5'04"	907	1.87%	530	15.05%	1,437	2.76%
5'05"	1,628	3.35%	436	12.38%	2,064	3.97%
5'06"	3,177	6.55%	466	13.23%	3,643	7.00%
5'07"	4,159	8.57%	400	11.36%	4,559	8.76%
5'08"	4,937	10.17%	182	5.17%	5,119	9.83%
5'09"	5,922	12.20%	154	4.37%	6,076	11.67%
5'10"	5,704	11.75%	64	1.82%	5,768	11.08%
5'11"	5,908	12.17%	57	1.62%	5,965	11.46%
6'00"	5,635	11.61%	18	0.51%	5,653	10.86%
6'01"	3,882	8.00%	15	0.43%	3,897	7.49%
6'02"	2,810	5.79%	9	0.26%	2,819	5.42%
6'03"	1,537	3.17%	2	0.06%	1,539	2.96%
6'04"	860	1.77%	1	0.03%	861	1.65%
6'05"	343	0.71%	-	0.00%	343	0.66%
6'06"	158	0.33%	-	0.00%	158	0.30%
6'07"	57	0.12%	-	0.00%	57	0.11%
6'08"	21	0.04%	-	0.00%	21	0.04%
6'09"	20	0.04%	-	0.00%	20	0.04%
6'10"	10	0.02%	-	0.00%	10	0.02%
6'11"	20	0.04%	-	0.00%	20	0.04%
Seven feet	21	0.04%	-	0.00%	21	0.04%

²¹ The population statistics for height and weight were unavailable for August 2000.

TABLE 2J: Weight of George Department of Corrections Population

Population Statistics: Weight						
Aug-09						
Weight	Men		Female		Total	
	Count	Percentage	Count	Percentage	Count	Percentage
Under 80 pounds	12	0.02%	2	0.06%	14	0.03%
80 - 89 pounds	2	0.01%	1	0.03%	3	0.01%
90 - 99 pounds	2	0.01%	7	0.20%	9	0.02%
100 - 109 pounds	15	0.03%	50	1.42%	65	0.12%
110 - 119 pounds	111	0.23%	120	3.41%	231	0.44%
120 - 129 pounds	459	0.95%	291	8.26%	750	1.44%
130 - 139 pounds	1,430	2.95%	380	10.79%	1,810	3.48%
140 - 149 pounds	3,296	6.79%	400	11.36%	3,696	7.10%
150 - 159 pounds	4,699	9.68%	406	11.53%	5,105	9.81%
160 - 169 pounds	6,635	13.67%	389	11.05%	7,024	13.49%
170 - 179 pounds	6,094	12.56%	282	8.01%	6,376	12.25%
180 - 189 pounds	6,630	13.66%	260	7.38%	6,890	13.24%
190 - 199 pounds	4,509	9.29%	188	5.34%	4,697	9.02%
200 - 209 pounds	4,043	8.33%	207	5.88%	4,250	8.17%
210 - 219 pounds	2,859	5.89%	105	2.98%	2,964	5.69%
220 - 229 pounds	2,441	5.03%	101	2.87%	2,542	4.88%
230 - 239 pounds	1,510	3.11%	88	2.50%	1,598	3.07%
240 - 249 pounds	1,233	2.54%	56	1.59%	1,289	2.48%
250 - 259 pounds	819	1.69%	51	1.45%	870	1.67%
260 - 269 pounds	585	1.21%	41	1.16%	626	1.20%
270 - 279 pounds	336	0.69%	20	0.57%	356	0.68%
280 - 289 pounds	290	0.60%	21	0.60%	311	0.60%
290 - 299 pounds	133	0.27%	11	0.31%	144	0.28%
300 - 309 pounds	125	0.26%	17	0.48%	142	0.27%
310 - 319 pounds	66	0.14%	10	0.28%	76	0.15%
320 - 329 pounds	64	0.13%	7	0.20%	71	0.14%
330 - 339 pounds	29	0.06%	-	0.00%	29	0.06%
340 - 349 pounds	19	0.04%	2	0.06%	21	0.04%
350 - 359 pounds	32	0.07%	6	0.17%	38	0.07%
360 - 369 pounds	20	0.04%	1	0.03%	21	0.04%
370 - 379 pounds	10	0.02%	-	0.00%	10	0.02%
380 - 389 pounds	3	0.01%	1	0.03%	4	0.01%
390 - 399 pounds	3	0.01%	-	0.00%	3	0.01%
400 pounds and over	16	0.03%	-	0.00%	16	0.03%

APPENDIX 3: PIVOT TABLE 2 – MAJOR OFFENSE AND SENTENCE

Major Offense	Release Date			Grand Total
	Death	Life	Life, w/o parole	
Aggrav Child Molestation			4	4
Aggrav Sexual Battery			1	1
Aggrav Sodomy			2	2
Armed Robbery	2	12	26	40
Burglary		1		1
Child Molestation			2	2
Kidnapping	1	12	18	31
Murder	97	110	90	297
Poss of Cocaine	1		1	2
Poss w int dis other drug		1		1
Rape		17	17	34
S/D Cocaine		4	1	5
S/D Cont Sub Public		1		1
S/D Narcotics Opiates		1		1
Viol Ga Cntrl Sbst Act			1	1
Grand Total	101	159	163	423

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