

Ugly Criminals

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*“I am too ugly to get a job”
A Miami man’s statement in 2003 as to why he
committed the robberies.*

I. Introduction

It has been shown that beauty is positively related to earnings in the labor market (Hamermesh and Biddle 1994, Biddle and Hamermesh 1998, Harper 2000, Hamermesh, Meng and Zhang 2002, Mobius and Rosenblat forthcoming). It has also been shown that better-looking people sort themselves into occupations and sectors within occupations where there exists an earnings premium on beauty (Hamermesh and Biddle 1994, Biddle and Hamermesh 1998). These findings provoke a question as to the relationship between beauty and criminal activity of individuals. Criminal activity is a labor market choice made by rational agents, where the decision to engage in crime is made by comparing the financial rewards from crime to those obtained from legal work, and by taking into account the probabilities of apprehension and conviction, and the severity of punishment (Becker 1968, Ehrlich 1973, Block and Heineke 1975, Mocan, Billups and Overland 2005). If beauty commands a positive earnings premium in the legal labor market, all else the same, sorting of less attractive people to the criminal sector is to be expected.

In this paper we provide evidence to indicate that beauty has an impact on the extent of criminal activity of individuals. Unattractive people commit more crime in comparison to average-looking people, and beautiful people commit less crime in comparison to average looking people. This relationship holds for being detained, arrested, or convicted as well as for a number of self-reported criminal activity measures. The link between beauty and criminal activity seems to be more robust and larger in

magnitude for females than males. We also find some evidence for sub-occupational sorting within criminality for females. That is, unattractive females are more likely to sort themselves into robbery and assault than theft because unattractiveness may serve as a benefit by increasing the ability to instill terror on the victims. Finally, we find some evidence to support that attractive females receive favorable treatment from the criminal justice system. No unfavorable treatment is detected for unattractive individuals.

II. Analytical Framework

Standard economic models of crime suggest individuals engage in crime, based on a comparison of the expected utility from criminal activity to the utility associated with legal work. Specifically, let the expected utility of the individual in the criminal sector be

$$E[U(W)] = (1-p) U(W_{cr}) - pU(W_a), \quad (1)$$

where W_{cr} is the earning in the criminal sector when criminal activity is successful, W_a stands for the earnings if criminal activity is unsuccessful (i.e. the person is apprehended), p stands for the probability of apprehension, U represents utility, and E is the expectations operator. $W_a < W_{cr}$ because there are monetary losses associated with apprehension and punishment, and psychic and reputational costs are monetized in W_a . The individual engages in crime if

$$(1-p(B))U(W_{cr}) - p(B)U(W_a) > U(W_l), \quad (2)$$

where W_l represents earnings in the legal sector, which are determined as follows:

$$W_l = \gamma B + \beta X, \quad (3)$$

where \mathbf{X} is a vector of standard human capital determinants of labor market earnings, and B stands for an indicator of beauty. If $\gamma > 0$, then beauty commands a premium in the labor market. Put differently, individuals who are not good looking, face an earnings penalty in the legal labor market. In that case, the right-hand side of the inequality in (2) will be smaller for these individuals, which makes them more likely to participate in the criminal sector in comparison to good looking individuals. Note that appearance may also enhance expected utility in the criminal sector. For example, beauty can increase criminal opportunities if good looks distill trust, which implies $dW_{cr}/dB > 0$. Also good looks may reduce the probability of apprehension and conviction ($dp(B)/dB < 0$) (Efran 1974, DeSantis and Kayson 1997). In that case, good looking people would have an advantage in both legal and criminal sectors, and the net impact of beauty on crime could be ambiguous. However, for most types of crimes, the effect of being attractive on criminal earnings (W_{cr}) is likely to be zero or small.¹

If the premium to utility (of beauty) in the criminal sector is zero or less than the premium in the labor market, this would result in a sorting of more attractive individuals into the labor market and less attractive ones into the criminal sector. The source of the return to attractiveness in the labor market is an empirical matter and has been investigated in the literature (Hamermesh and Biddle 1994, Biddle and Hamermesh 1998, Harper 2000, Hamermesh, Meng and Zhang 2002). Possible explanations tested in these studies include employer, customer discrimination, and statistical discrimination.

Furthermore, if the part of the premium to beauty in the labor market results from a differential treatment by the employers, one would expect a higher concentration of

¹ One can argue that in some types of crimes, such as financial fraud, attractiveness may be an advantage by helping the criminals gain trust of their victims. However, financial fraud is not among the crime types analyzed in this paper.

unattractive individuals in the self-employment sector.² To the extent that it is reasonable to assume that most criminals are self-employed, this would again increase the sorting of unattractive individuals into the criminal sector and attractive individuals into the legal labor market.³ Then the average level of beauty would be higher in the labor market than it is in the criminal sector. It must be noted that sorting into different sectors based on attractiveness is likely to be incomplete, i.e., both attractive and unattractive individuals are likely to be found in both sectors (Hamermesh and Biddle 1994). For example, unattractive individuals who are endowed with a relatively high level of human capital may choose the labor market where attractiveness is rewarded and/or unattractiveness is penalized. Likewise, attractive individuals who are endowed with a relatively low level of human capital may choose the criminal sector even though attractiveness brings little in the criminal sector compared to the labor market. However, it is possible that unattractive individuals might experience unfavorable treatment during the pre-labor market period of their lives, which may cause them to be endowed with less and less quality human capital when they reach adulthood. For example, physically attractive individuals may be liked better by their peers, teachers, and even possibly their parents (Cialdini 1984, Galluci and Meyer 1984, Feingold 1992). To sum up, individuals sort themselves into sectors where they are rewarded more for their attractiveness or penalized less for their unattractiveness.

Empirical crime supply functions take the following form (Grogger 1998, Levitt 1998, Corman and Mocan 2000, Mocan and Gittings 2005, Mocan and Rees 2005):

² In the context of the choice between criminal sector and labor market, customer discrimination would have the same effect as the employer discrimination.

³ For a more detailed discussion on the process of sorting into different sectors, see Biddle and Hamermesh (1998).

$$CR_i = f(X_i, A, W_l, K_i), \quad (4)$$

where CR_i stands for a measure of the extent of the criminal activity of the i^{th} individual, X_i represents the characteristics of the person such as age, gender, race and ethnicity and religious beliefs. A stands for deterrence variables such as the arrest rate and the size of the police force, W_l represents the extent of legal labor market opportunities available to the individual, such as the pertinent wage rate. K_i stands a vector of family and contextual variables that may influence criminal participation. Replacing W_l in (4) by its determinants depicted in (3) gives

$$CR_i = g(X_i, A, B_i, K_i), \quad (5)$$

We will estimate variations of equation (5) to investigate the impact of beauty on criminal participation.

III. Data

The data used in the analyses are drawn from the three waves of the National Longitudinal Study of Adolescent Health (Add Health).⁴ The first wave of Add Health was administered between September 1994 and April 1995 to 20,745 nationally

⁴ The Add Health project is a program project designed by J. Richard Udry (PI) and Peter Bearman, and funded by grant P01-HD31921 from the National Institute of Child Health and Human Development to the Carolina Population Center, University of North Carolina at Chapel Hill, with cooperative funding participation by the National Cancer Institute; the National Institute of Alcohol Abuse and Alcoholism; the National Institute on Deafness and Other Communication Disorders; the National Institute on Drug Abuse; the National Institute of General Medical Sciences; the National Institute of Mental Health; the National Institute of Nursing Research; the Office of AIDS Research, NIH; the Office of Behavior and Social Science Research, NIH; the Office of the Director, NIH; the Office of Research on Women's Health, NIH; the Office of Population Affairs, DHHS; the National Center for Health Statistics, Centers for Disease Control and Prevention, DHHS; the Office of Minority Health, Centers for Disease Control and Prevention, DHHS; the Office of Minority Health, Office of Public Health and Science, DHHS; the Office of the Assistant Secretary for Planning and Evaluation, DHHS; and the National Science Foundation. Persons interested in obtaining data files from The National Longitudinal Study of Adolescent Health should contact Add Health Project, Carolina Population Center, 123 West Franklin Street, Chapel Hill, NC 27516-2524 (email: addhealth@unc.edu).

representative set of adolescents in grades 7 through 12. An in-school questionnaire was given to every student who attended one of the sampled 132 U.S. schools on a particular day during the period between September 1994 and April 1995. A random sample of approximately 200 adolescents from each high school/feeder school pair was selected for in-home interviews. The adolescents are interviewed for the second time in 1996 for Wave II, and for the third time between August 2001 and April 2002 for wave III. We employ the data from Wave III, where the individuals are in the age range of 18 to 26. The number of individuals interviewed in Wave III is 15,197.

The respondents were asked whether they had committed any of the following acts in the 12 months prior to the interview date: robbery, burglary, assault, selling drugs, damaging property, and theft. Survey administrators took several steps to maintain data security and to minimize the potential for interviewer or parental influence. First, respondents were not provided with any printed questionnaires. Rather, all data were recorded on laptop computers. Second, for sensitive topics, such as delinquent behavior, the respondents listened to pre-recorded questions through earphones and entered their answers directly on the laptops.⁵ Mocan and Tekin (2004) shows that rates of risky behaviors reported in Add Health, such as crime and illicit drug use are comparable to those in other national sources.

At the end of the each interview, the interviewer filled out a short survey marking his/her opinions on several characteristics of the respondent. To gauge the level of beauty of the respondents, the interviewers were asked the following question: “How *physically* attractive is the respondent?” The possible answers include: 1) very unattractive 2)

⁵ For less sensitive questions, the interviewer read the questions aloud, and entered the respondent’s answers.

unattractive 3) about average 4) attractive 5) very attractive. Table 1 shows the distribution of beauty ratings among respondents in the third wave when the respondents are in the age range of 18-26. Among both males and females, about 7 percent of respondents were rated as being either very unattractive or unattractive by the interviewers. Roughly half of the full sample is rated as either attractive or very attractive. The proportion rated as attractive or very attractive is higher for the female sample than the male sample. This is consistent with the samples from other studies (e.g. Hamermesh and Biddle 1994). Furthermore, the rating of females seems to be more dispersed around the average category. This is also common in other studies and is consistent with the socio-psychological literature which suggests that women's appearances generate stronger reactions (both negative and positive) than men's (Hatfield and Sprecher 1986). The ratings in our sample are somewhat more skewed toward being more beautiful than both the Canadian and the U.S. samples used in Hamermesh and Biddle (1994). However, this is not a problem since the samples are drawn from different age groups and from different points in time, i.e., it is really not meaningful to expect very similar distributions.

The beauty question was asked in the first two waves as well. Evaluations were provided by different interviewers. Eight-five percent of the sample were assigned either the same exact rating (on a scale from 1 to 5) in at least two of the three surveys. Seventy-five percent of the individuals in the sample were either assigned the same rating in each of the three waves by different interviewers, or were given the same rating in any of the 2 of the 3 waves and were off by one in the other wave. This is a high degree of consistency across evaluators and time periods, especially because six years have lapsed

between the first wave and the third wave, and also because the individuals transitioned from childhood to adulthood during this time period.

Table 2 presents the descriptive statistics of the data obtained from the third wave when the respondents are in the age range of 18-26. The variables that measure the extent of criminal activity are listed in the top section of the table. The top three variables contain information about the behavior of the individual as well as the behavior of the criminal justice system. These are indicators for whether the individual was ever arrested, convicted, or detained in the past. Other indicators of criminal activity are self-reported involvement in robbery, burglary, assault, selling drugs, theft and damaging property. We also construct an aggregate crime indicator indicating whether the individual committed theft, burglary, robbery, assault or damaged property in the past 12 months. Later in the paper, we also investigate the link between looks and wages and scores on an aptitudes test to provide additional evidence why attractive individuals are more likely than unattractive ones to sort themselves into the labor market while the opposite is expected for sorting into the criminal sector.

A natural way to construct variables to represent beauty would be to choose a three-category distinction among above average (categories 4 and 6), average (category 3), and below average (categories 1 and 2). However, this classification would result in about half of our sample lumped into the above average category. Instead, we assign two dummy variables to capture the degree of beauty: *Very Attractive* and *Unattractive*. *Very Attractive* captures the individuals who received the highest rating of 5, and *Unattractive* includes those who received 1 or 2. The control group consists of those who have received a rating of 3 (about average) or 4 (attractive). To see the sensitivity of our

results to assigning category 4 or attractive individuals into the middle (average) category, we also present results from a four-category distinction which include separate dummies for very attractive (category 5), attractive (category 4), and below average (categories 1 and 2).

Personal characteristics of the individual are age, race and ethnicity, non-wage income, self-reported health status, whether he/she was born in the United States, and religious affiliation. These variable attempts to control for attributes of the individuals that may influence their propensity toward criminal behavior. We also control for a rich set of socio-economic background variables, which include family and parent attributes that are also potentially significant determinants of the behavior of the individual. Specifically, we control for such characteristics as the mother's education, whether the family was in welfare, whether the father is biological or stepfather, the age of the mother at birth, whether the father was in jail, and birth weight. We retained individuals with missing data on "control" variables by creating categories for those missing data.

The definitions and descriptive statistics of the variables are presented in Table 2. Eleven percent of the sample indicated that they had been arrested at least once and about 6 percent indicated that they had been convicted of a crime in a juvenile or adult court. A little less than 20 percent of the sample was ever questioned or detained by the police for suspicious activities. The percentage committed burglary or robbery are about 2 percent each. About nine percent said they had damaged property and 8 percent said they had assaulted somebody else. The percentage committed theft and sold illicit drugs are 3.3.percent and 7.4 percent, respectively. More than 17 percent of our sample indicated that they had committed burglary, theft, robbery, assault, or property damage in the past

12 months. The means for other covariates are presented at the bottom panel of Table 2 and are largely consistent with those usually found in other studies.

IV. Results

Table 3 presents the results for the association between looks and criminal behavior for females and males separately. The reported coefficients are obtained from linear probability models. Robust standard errors are in parentheses. Despite the small variation in some of our outcome measures, estimation of probit regressions generated almost identical marginal effects. The table reports the results from three specifications. Model (I) includes no controls variables. Model (II) includes personal characteristics of the individual in addition to the level of beauty. These are age, race, Hispanic ethnicity, nonwage income, health status, religious affiliation, and whether the person was born in the U.S. Model (III) of Table 3 is similar to Model 2, but it includes socio-economic background characteristics in addition to personal attributes. This will allow us to see the extent to which correlations between beauty and criminal behavior are affected by controls for observable characteristics. In each model only the coefficients of two beauty dummies (*Very Attractive* and *Unattractive*) are reported.

One concern is that each interviewer may have a different standard for beauty. To the extent that these standards are spuriously correlated with the respondents' criminal behavior, our estimates may be biased. To guard against any potential problems this

might cause, models II and III are estimated using interviewer-specific fixed effects in addition to the set of controls described above.⁶

The crimes that are analyzed are: damaging property, burglary, robbery, theft, assault, selling drugs, and the aggregate crime measure. As illustrated in Table 3, the estimated coefficients are of the expected sign in overwhelming majority of the cases. Another surprising finding is that adding many controls to the model does little to change the magnitudes of the coefficients of attractiveness. This provides some support for the exogeneity of beauty. For females, beauty does not seem to have a statistically significant impact on burglary or theft. On the other hand, beauty has an impact on other crimes. Being a very attractive female reduces the propensity to damage property by 1.1 percentage points and the propensity to assault somebody by 2 percentage points in comparison to being of average attractiveness. Very attractive individuals are 2.4 percentage points less likely to commit burglary, theft, robbery, assault, and property damage compared to those of average attractiveness. Being an unattractive female increases the propensity for robbery by 1.5 percentage points, the propensity to assault someone by 2.2 percentage points, and selling drugs by 2.9 percentage points. For males, we observe that the coefficients of *Very Attractive* are always negative, and the coefficients of *Unattractive* are always positive once the models include interviewer fixed-effects, although the effect is statistically significant in only two crimes. Being an unattractive male increases the propensity to commit robbery and theft by about 2 percentage points.

⁶ It is also possible that male and female interviewers rate respondents differently. This is handled by interviewer fixed effects. This is unlikely to be a problem in any case because more than 81 percent of interviewers are female.

Another interesting exercise would be to consider the sorting behavior within criminality, i.e., by sub-occupation. One can argue that there are certain sub-occupations, for example robbery or assault, where being unattractive can serve as an advantage by increasing the ability of the individual to instill terror on the victim, whereas it would have less of an impact for other crimes such as burglary. However, one would still expect to see an effect of looks on burglary because looks do have a positive effect on legal labor market. Looking at Table 3, we see some evidence of sorting behavior within crime types for females but no such evidence for males. Being an unattractive female increases the propensity for robbery and assault by more, both in terms of magnitude and significance, than it does for theft. Although we believe that these findings are quite interesting, they must be interpreted with caution given that these are secondary effects and the magnitudes are really small.

The results from the four-way classification of attractiveness are presented in Table 4. These results are mostly consistent with those in Table 3. An important finding in this Table is that in overwhelming majority of the crime measures, the direction of the effects of *very attractive* and *attractive* strengthens the hypothesis that attractive individuals sort themselves out of the criminal sector. For example, Very attractive individuals are 0.7 percentage points less likely to commit property damage than attractive individuals. They are also 1.6 percentage points less likely to commit assault than attractive ones. Consistent with Table 3, the effect of looks on criminal behavior is found to be weaker for males, although the directions of the effects are mostly consistent with our predictions.

Next, we turn our focus on the link between looks and variables that reflect the individual's own criminal behavior as well as the behavior of the criminal justice system. These models do not include deterrence variables such as the arrest rates or the size of the police force because we have no information on the geographic location of the individuals in the data. However, the extent of the beauty of the individual and the level of deterrence in his/her locality are uncorrelated. Therefore, the omission of deterrence variables does not bias the estimated coefficients of beauty variables. We present these results in Table 5. Being a very attractive female is negatively associated with ever being detained, being ever arrested and being convicted in comparison to the comparison category (average looking). The coefficients of being unattractive are very small for females and are not significantly different from zero. An obvious problem with these models is that the choice to supply crime and treatment by the criminal justice system and law enforcement officers are combined. Therefore, these results may suggest two things. Beautiful females are less likely to commit crimes than others and this is why they are less likely to get involved with the criminal justice system. Alternatively (or in addition), they are treated more favorably by the law enforcement agencies and the judicial system (e.g. judges, prosecutors, and the jurors). It is interesting to note that there is research that shows that criminals who have their physical appearance enhanced surgically are less likely to return to prison (Lewison 1974). For males, the coefficients of being very attractive are mostly negative, and the coefficients of being unattractive are always positive, but they are not different from zero. The effects are also economically much smaller for males.

In order to isolate the effects of beauty on the decision to supply crime and treatment received by the criminal justice system and the law enforcement officers, we estimate a two-part model. Specifically, we estimate the models for conviction, arrest, and detain as a function of beauty, conditional upon criminal activity. This would help us find out whether, among individuals who commit crime, those who are attractive (unattractive) receive favorable (unfavorable) treatment. Since we do not know what type of offense these individuals were detained, arrested, or convicted of, we condition on our aggregate crime measure. The results from these models are reported in Table 6. As expected, in every model, there is a strong positive link between in the individual's criminal activity and his/her likelihood of getting detained, arrested, or convicted. This is true for both males and females. In terms of the effect of looks, the pattern observed in Table 5 is still present even after controlling for crime in these models, although the effects become smaller in magnitude. These findings suggest that even among those who commit crime, females who are attractive are less likely to get detained, arrested, or convicted than those of average attractiveness. The results also suggest that there is no effect of being unattractive on getting detained, arrested, or convicted in comparison to those who are of average attractive.

As an alternative analysis, we used all three beauty ratings assigned to the individuals in three waves of the survey, and added up the three ratings. Thus, an individual's total beauty rating after three evaluations can range from 3 (being rated 1 in each case) to 15 (being rated 5 in each case). We classified individuals into three categories: Very attractive (if total rating is equal to or greater than 14), Unattractive (if the total rating is less than or equal to 9) and Average (if total rating is between 10 and

13). In this classification, 2.5 percent of the males fall into very attractive category, 23% fall into very unattractive category. Eight percent of females fall into the very attractive category, and 23 percent fall into the very unattractive category.

The results of this specification are reported in Table 7. They are consistent with those reported in Table 3 but here beauty has no impact on robbery for females, and it has no impact on theft for males. In this specification, very attractive females are about 2 percentage points less likely to damage property in comparison to average-looking ones, and unattractive females are 1.4 percentage points more likely to damage property. Unattractive females are about 2 percentage points more likely to assault somebody, and 1 percentage point more likely to sell drugs. Very attractive females are 0.5 percentage points less likely to burglarize, although this coefficient is significant at the 11 percent level.

For males, unattractive individuals are about 1 percentage point more likely to commit robbery, and 1.7 percentage points more likely to sell drugs in comparison to average looking males. Very attractive males are 4 percentage points less likely to sell drugs.

The results presented in Tables 3, 4 and 7 indicate that unattractive individuals are more likely to commit crimes, and attractive individuals are less likely to commit crimes in comparison to average-looking individuals. The results are robust to a variety of specifications. Beauty seems to be measured rather consistently as there is a high degree of agreement between beauty ratings provided for individuals by different evaluators over three evaluations, where the first and last one were six years apart. Note that

measurement error in beauty variable would make it more difficult to obtain significant coefficients.

Extensions

The measure of beauty is unlikely to be effected by the extent of the criminal activity of the individual. Although it can be argued that committing property crime would increase income, which would in turn allow the individual to enhance his/her looks through the consumption of beauty products, Hamermesh and Bidle (1994) show that such reverse causality is not crucial even in the context of wages and beauty; so it should be even less important in case of crime and beauty. Furthermore, in our case any such reverse causality would bias the result in the opposite direction detected in the paper.

Could beauty be picking up some other effect that is correlated with criminal activity? For example, if interviewers consistently rated poorer individuals as less attractive, then beauty would be acting as a proxy for poverty. Given that poverty is correlated with criminal activity, we might be picking up the impact of poverty on crime. Note that we control for a very large number of individual and socio-economic background variables, including personal unearned income, mother's education, whether the individual's family was on welfare, whether the father was ever jailed. Also note that adding all the personal and family attributes listed in Table 2 did not alter the results, indicating that unobserved factors are not influencing the relationship between beauty and crime. Furthermore, we included two additional variables to the models which may be correlated with both beauty and poverty. They are the measure of obesity (BMI) and

the interviewer's evaluation of how well groomed the individual is. Inclusion of these variables did not alter the results in any meaningful way.

For the sorting mechanism to be effective or to make sense, there should be a labor market premium to beauty as discussed in the introduction. Although earlier papers have demonstrated this effect, it is important to investigate if it exists in this data set as well. We estimated models where the logarithm of hourly wages of the individuals are regressed on the same large set of explanatory variables and the beauty dummy variables. The results obtained from the third wave and the sample of all three waves with non-missing beauty ratings are displayed in Table 8. The coefficients are always consistent with sorting mechanism, and are always significant. More specifically, for females, the analysis of individuals in wave III indicates that being very attractive is associated with a wage premium of 7 percent and being unattractive is associated with a negative wage premium of 4 percent. In the sample of individuals who received beauty ratings in all three waves, beauty premium is 5 percent for females, and being unattractive is associated with a reduction in wages by 7 percent. For males, being very attractive commands a wage premium of 11 percent, and being unattractive is associated with a wage reduction of 4.5 percent in the wave III sample. In the sample of individuals with non-missing beauty rating in all three years, the wage premium to being very attractive is 11 percent and the penalty for being unattractive is 7 percent. Thus, these results confirm that the findings of previous research (Hamermesh and Biddle 1994, Biddle and Hamermesh 1998) also hold in this sample of young adults as well.

The positive impact of beauty on wages reported earlier and also identified in these data may reflect in part some unobserved factor that may be correlated with beauty.

For example, it has been shown that good looking people have higher test scores, and it has been hypothesized that this could be because they receive more attention at school (Bull and Rumsey 1988). Interestingly, good looking people receive more attention even from babies (Samuels and Elwy 1985). During the third wave of the survey (when the individuals are in the age range of 18-26), they were given the adult version of the Peabody Vocabulary Test. The results from the models where the test scores are explained by beauty and all other personal and family characteristics are reported in Table 9. As Table 9 illustrates, very attractive females in Wave III score 3.2 percentage points better in comparison to average-looking females, and unattractive females score 2.4 percentage points lower. In case of males, very attractive ones receive about 4 percentage points higher, and unattractive ones score 1.9 percentage points lower than average-looking males, although the latter impact is not significantly different from zero. The results from the sample of all three waves (lower panel of table 9) are similar: the coefficients of being very attractive are positive and the ones for being unattractive are negative for both males and females, and they are all significant.

Table 9 also reports the results of regressions where the impact of beauty on the probability of being expelled from high school is analyzed. For both males and females, attractiveness is negatively associated with being expelled and being unattractive increases the probability of being expelled.

V. Conclusion

There is a large literature on the sorting behavior of individuals across different industries and sectors depending on the relative returns to some particular characteristics

that they possess. This paper extends this literature by providing empirical support for the sorting behavior across labor market and criminal sector based on physical attractiveness. It has been shown in the literature and in this paper that beauty commands a wage premium in the labor market. If crime is thought as a labor market activity where the individuals make decisions based on expected payoffs from the criminal sector and the legal labor market, then on the margin less attractive individuals should engage in criminal activity more frequently because they face a wage penalty in the legal labor market because of their looks. A potential factor that may mitigate this effect is the possibility of preferential treatment of good-looking individuals by the judicial system.

In this paper we use data from the Add Health (a nationally representative data set of U.S. young adults, designed to provide information about risky behavior) to investigate the relationship between attractiveness and criminal activity of young adults, aged 18 to 26. Beauty ratings are assigned by interviewers, and they are rather consistent with the ratings assigned by different interviewers in earlier waves of these longitudinal data. Being very attractive is associated with being detained, arrested or convicted for females. Being very attractive reduces criminal activity and being unattractive increases it for a number of self-reported crimes, ranging from damaging property to selling drugs, for both males and females. The results are found to be more robust and larger in magnitudes for females than they are for males.

We also find some evidence for sub-occupational sorting within criminality for females. That is, unattractive females are more likely to sort themselves into robbery and assault than theft because unattractiveness may serve as a benefit by increasing the ability to instill terror on the victims. Finally, we find some evidence to support that attractive

females receive favorable treatment from the criminal justice system. No unfavorable treatment is detected for unattractive individuals.

For less attractive individuals to sort themselves into the criminal sector they should face an earnings penalty in the legal labor market based on their looks. Consistent with prior research, we find that being very attractive is positively associated with wages and being unattractive is associated with a wage penalty.

It has been conjectured that looks influence the attention received at school. This would impact the learning experience of unattractive students, adversely influencing their quantity and quality of schooling. We find that being attractive is associated with higher scores taken as young adults, and being unattractive is associated with lower test scores. We also find that attractiveness is negatively associated with being expelled from high schools. Taken together, these results suggest a handicap based by unattractive individuals.

Table 1
The Distribution of Looks
Among the Young Adults (ages 18-26) in Wave III

Category	Full Sample	Males	Females
1) Very unattractive	1.94	1.37	2.44
2) Unattractive	5.01	5.22	4.81
3) About average	45.87	51.82	40.55
4) Attractive	35.96	33.66	38.00
5) Very attractive	11.23	7.92	14.19
<i>N:</i>	15179	7159	8,020

Table 2
Definitions and Descriptive Statistics

Variable Name	Definition	Mean	Standard Error
<i>Outcome Variables</i>			
Arrest (N=15,071)	=1 if ever been arrested or taken into custody by the police, =0 otherwise	0.110	0.313
Convict (N=15,152)	=1 if ever been convicted of crime in a juvenile or an adult court, =0 otherwise	0.061	0.238
Detain (N=15,020)	=1 if ever been stopped or detained by the police for questioning about the activities, =0 otherwise.	0.193	0.395
Damage (N=15,006)	=1 if deliberately damaged property that belonged to someone else in the past 12 months, =0 otherwise	0.087	0.282
Burglary (N=15,052)	=1 if went into a house or building to steal something in the past 12 months, =0 otherwise	0.019	0.135
Robbery (15,049)	=1 if used or threatened to use a weapon to get something from someone else in the past 12 months, =0 otherwise	0.020	0.141
Theft (N=15,041)	=1 if stole something worth more than 50 dollars in the past 12 months, =0 otherwise	0.033	0.180
Assault (N=15,150)	=1 if pulled a knife on someone, shot someone, or badly hurt someone in the past 12 months, =0 otherwise	0.080	0.272
Sold Drugs (14,994)	=1 if sold marijuana or other drugs in the past 12 months, =0 otherwise	0.074	0.261
Crime (N=15,069)	=1 if committed burglary, theft, robbery, assault or damaged property into past 12 months, =0 otherwise	0.174	0.379
<i>Labor Market and Human Capital</i>			
<i>Outcomes</i>			
Wage (9,641)	=hourly wage rate	10.646	7.008
PPVT percentile (N=14,634)	=Percentile ranking from the Add Health Peabody Picture Vocabulary test score	50.000	29.667
Expelled from school (15,164)	=1 if ever expelled from school, =0 otherwise	0.073	0.261
<i>Explanatory Variables</i>			
Age18 ^a	=1 if 18 years old, =0 otherwise	0.010	0.098
Age19	=1 if 19 years old, =0 otherwise	0.095	0.293
Age20	=1 if 20 years old, =0 otherwise	0.132	0.339

Age21	=1 if 21 years old, =0 otherwise	0.161	0.367
Age22	=1 if 22 years old, =0 otherwise	0.190	0.392
Age23	=1 if 23 years old, =0 otherwise	0.191	0.393
Age24	=1 if 24 years old, =0 otherwise	0.161	0.368
Age25	=1 if 25 years old, =0 otherwise	0.052	0.221
Age26+	=1 if 26 years old or older, =0 otherwise	0.009	0.093
Hispanic	=1 if hispanic ethnicity, =0 otherwise	0.163	0.369
Hispanic missing	=1 if ethnicity is missing, =0 otherwise	0.002	0.042
White	=1 if white, =0 otherwise	0.648	0.478
Black	=1 if Black, =0 otherwise	0.226	0.418
Other race ^a	=1 if other race, =0 otherwise	0.110	0.313
Race missing	=1 if race is missing, =0 otherwise	0.016	0.127
Nonwage1	=1 if nonwage income is negative or zero dollars, =0 otherwise	0.529	0.499
Nonwage2	=1 if nonwage income is between 0 and 5,000 dollars, =0 otherwise	0.298	0.458
Nonwage3	=1 if nonwage income is between 5,000 and 10,000 dollars, =0 otherwise	0.051	0.220
Nonwage4 ^a	=1 if nonwage income is more than 10,000 dollars, =0 otherwise	0.122	0.327
Nonwage missing	=1 if nonwage income is missing, =0 otherwise	0.069	0.254
Healthy	=1 if in good or better health, =0 otherwise	0.954	0.210
Healthy missing	=1 if health is missing, =0 otherwise	0.0001	0.011
Usborn	=1 if born in the U.S., =0 otherwise	0.919	0.272
Usbornmiss	=1 if Usborn is missing, =0 otherwise	0.0001	0.014
Catholic	=1 if religion is Catholic, =0 otherwise	0.251	0.433
Protestant	=1 if religion is Protestant, =0 otherwise	0.398	0.489
Noreligion	=1 if believes in no religion, =0 otherwise	0.202	0.401
Other religion ^a	=1 if believes in other religion, =0 otherwise	0.134	0.341
Religion missing	=1 if religion is missing, =0 otherwise	0.016	0.125
Jailed Father	=1 if father was ever jailed, =0 otherwise	0.137	0.344
Jailed Father missing	=1 if Jailed Father is missing, =0 otherwise	0.070	0.256
Mother High-school – ^a	=1 if mother has less than high-school degree, =0 otherwise	0.144	0.351
Mother High-school	=1 if mother has high-school degree, =0 otherwise	0.316	0.465
Mother High-school+	=1 if mother had more than high-school degree, =0 otherwise	0.436	0.496
Mother education missing	=1 if mother's education is missing, =0 otherwise	0.104	0.305
Parental welfare	=1 if parents were receiving welfare during Wave 1, =0 otherwise	0.075	0.265

Parental welfare missing	=1 if parental welfare is missing, =0 otherwise	0.141	0.348
Biological Father	=1 if biological father was present during Wave 1, =0 otherwise	0.582	0.493
Step Father	=1 if step father was present during Wave 1, =0 otherwise	0.109	0.311
Father absent	=1 if the father is absent during Wave 1, =0 otherwise	0.306	0.461
Father information is missing ^a	=1 if the father information is missing during Wave 1, =0 otherwise	0.003	0.057
Mother's age at birth 1 ^a	=1 if mother's age at birth was less than 19, =0 otherwise	0.076	0.265
Mother's age at birth 2	=1 if mother's age at birth was between 20 and 30, =0 otherwise	0.514	0.500
Mother's age at birth 3	=1 if mother's age at birth was between 31 and 40, =0 otherwise	0.133	0.339
Mother's age at birth 4	=1 if mother's age at birth was 41 or more, =0 otherwise	0.006	0.079
Mother's age at birth missing	=1 if mother's age at birth was missing, =0 otherwise	0.271	0.445
Birthweight1	=1 if birth weight was less than 1,500 grams, =0 otherwise	0.018	0.134
Birthweight2	=1 if birth weight was between 1,500 and 2,500 grams, =0 otherwise	0.074	0.262
Birthweight3 ^a	=1 if birth weight was more than 2,500 grams, =0 otherwise	0.725	0.447
Birthweight missing	=1 if birth weight is missing, =0 otherwise	0.183	0.386
Obese	=1 if BMI is 30 or more, =0 otherwise	0.212	0.409
Obese missing	=1 if BMI is missing, =0 otherwise	0.053	0.225
Groom	=1 if marked to be very well-groomed by the interviewer, =0 otherwise	0.100	0.300
Groom missing	=1 if groom is missing, =0 otherwise	0.00007	0.008
Number of observations		15,179	

^a Omitted category.

Table 3
The Effect of Beauty on Crime, Wave III

		FEMALES						
		Damaging Property	Burglary	Robbery	Theft	Assault	Crime	Selling Drugs
I	Very Attractive	-0.013** (0.006)	-0.005* (0.002)	-0.0003 (0.003)	0.001 (0.005)	-0.023*** (0.005)	-0.031*** (0.009)	-0.004 (0.006)
	Unattractive	-0.005 (0.009)	0.007 (0.006)	0.017** (0.007)	0.001 (0.006)	0.031*** (0.011)	0.019 (0.014)	0.029*** (0.011)
	Control Variables	No	No	No	No	No	No	No
	Interviewer Fixed Effects	No	No	No	No	No	No	No
	Number of Observations	7959	7976	7974	7974	8003	7966	7960
II	Very Attractive	-0.012* (0.006)	-0.004 (0.003)	-0.0004 (0.003)	0.003 (0.005)	-0.021*** (0.005)	-0.026*** (0.009)	-0.005 (0.006)
	Unattractive	-0.006 (0.009)	0.008 (0.006)	0.015** (0.007)	0.003 (0.007)	0.022** (0.011)	0.012 (0.014)	0.029*** (0.011)
	Control Variables	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes
	Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	Very Attractive	-0.011* (0.006)	-0.004 (0.003)	-0.0002 (0.003)	0.003 (0.005)	-0.020*** (0.005)	-0.024*** (0.009)	-0.005 (0.006)
III	Unattractive	-0.006 (0.009)	0.008 (0.006)	0.015** (0.007)	0.003 (0.007)	0.022** (0.011)	0.011 (0.014)	0.029*** (0.011)
	Control Variables	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES
	Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 3 concluded

		MALES						
		Damaging Property	Burglary	Robbery	Theft	Assault	Crime	Selling Drugs
I	Very Attractive	-0.006 (0.015)	0.001 (0.007)	-0.011* (0.006)	-0.004 (0.009)	-0.009 (0.014)	-0.009 (0.019)	-0.022* (0.013)
	Unattractive	0.013 (0.017)	0.009 (0.009)	0.023** (0.011)	0.031** (0.013)	0.023 (0.017)	0.036 (0.022)	0.017 (0.016)
	Control Variables	No	No	No	No	No	No	No
	Interviewer Fixed Effects	No	No	No	No	No	No	No
	Number of Observations	7047	7076	7075	7067	7147	7103	7034
II	Very Attractive	-0.002 (0.016)	-0.002 (0.008)	-0.012* (0.007)	-0.006 (0.010)	-0.012 (0.014)	-0.012 (0.020)	-0.023 (0.014)
	Unattractive	0.011 (0.019)	0.001 (0.009)	0.023** (0.011)	0.025* (0.013)	0.010 (0.018)	0.019 (0.023)	0.005 (0.017)
	Control Variables	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes
	Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	III	Very Attractive	-0.0005 (0.016)	-0.001 (0.008)	-0.010 (0.007)	-0.006 (0.009)	-0.007 (0.014)	-0.006 (0.020)
Unattractive		0.011 (0.019)	0.000 (0.009)	0.023** (0.011)	0.024* (0.013)	0.005 (0.018)	0.017 (0.023)	0.004 (0.017)
Control Variables		Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES
Interviewer Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors are in parentheses.

Table 4
The Effect of Beauty on Crime (Four-Way Classification), Wave III

		FEMALES						
		Damaging Property	Burglary	Robbery	Theft	Assault	Crime	Selling Drugs
I	Very Attractive	-0.017** (0.007)	-0.007** (0.003)	-0.001 (0.003)	-0.002 (0.005)	-0.030*** (0.006)	-0.043*** (0.009)	-0.006 (0.006)
	Attractive	-0.008 (0.005)	-0.005** (0.003)	-0.001 (0.002)	-0.007* (0.003)	-0.015*** (0.005)	-0.025*** (0.008)	-0.003 (0.005)
	Unattractive	-0.009 (0.009)	0.005 (0.006)	0.016** (0.007)	-0.002 (0.007)	0.024** (0.011)	0.007 (0.015)	0.028*** (0.011)
	Control Variables	No	No	No	No	No	No	No
	Interviewer Fixed Effects	No	No	No	No	No	No	No
	Number of Observations	7959	7976	7974	7974	8003	7966	7960
II	Very Attractive	-0.017** (0.007)	-0.007** (0.003)	-0.0007 (0.004)	-0.0002 (0.005)	-0.026*** (0.006)	-0.036*** (0.010)	-0.007 (0.007)
	Attractive	-0.010* (0.006)	-0.005* (0.003)	0.000 (0.003)	-0.006* (0.004)	-0.010* (0.005)	-0.019** (0.008)	-0.002 (0.005)
	Unattractive	-0.011 (0.009)	0.005 (0.006)	0.015** (0.007)	0.0002 (0.007)	0.018 (0.011)	0.003 (0.015)	0.028** (0.011)
	Control Variables	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes
	Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	III	Very Attractive	-0.016** (0.007)	-0.007** (0.003)	0.001 (0.004)	-0.0003 (0.005)	-0.025*** (0.006)	-0.034*** (0.010)
Attractive		-0.009* (0.006)	-0.005* (0.003)	0.000 (0.003)	-0.006* (0.004)	-0.009* (0.005)	-0.018** (0.008)	-0.003 (0.005)
Unattractive		-0.011 (0.009)	0.005 (0.006)	0.016** (0.007)	0.0001 (0.007)	0.018 (0.011)	0.003 (0.015)	0.028** (0.011)
Control Variables		Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES
Interviewer Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 4 concluded

		MALES						
		Damaging Property	Burglary	Robbery	Theft	Assault	Crime	Selling Drugs
I	Very Attractive	-0.004 (0.015)	-0.001 (0.008)	-0.012* (0.007)	-0.004 (0.009)	-0.011 (0.014)	-0.008 (0.020)	-0.027** (0.014)
	Attractive	0.005 (0.009)	-0.004 (0.004)	-0.003 (0.004)	-0.001 (0.006)	-0.003 (0.009)	0.001 (0.011)	-0.013 (0.008)
	Unattractive	0.015 (0.018)	0.007 (0.009)	0.022** (0.011)	0.031** (0.013)	0.021 (0.017)	0.036 (0.022)	0.012 (0.017)
	Control Variables	No	No	No	No	No	No	No
	Interviewer Fixed Effects	No	No	No	No	No	No	No
Number of Observations		7047	7076	7075	7067	7147	7103	7034
II	Very Attractive	-0.002 (0.017)	-0.004 (0.008)	-0.012* (0.007)	-0.007 (0.010)	-0.016 (0.015)	-0.014 (0.021)	-0.028* (0.015)
	Attractive	0.000 (0.010)	-0.004 (0.005)	-0.002 (0.005)	-0.003 (0.006)	-0.007 (0.009)	-0.005 (0.012)	-0.012 (0.009)
	Unattractive	0.011 (0.019)	-0.001 (0.010)	0.023* (0.012)	0.024* (0.013)	0.007 (0.018)	0.017 (0.024)	0.000 (0.017)
	Control Variables	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes
	Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
III	Very Attractive	-0.001 (0.017)	-0.003 (0.008)	-0.011 (0.007)	-0.007 (0.010)	-0.010 (0.015)	-0.008 (0.021)	-0.026* (0.015)
	Attractive	-0.001 (0.010)	-0.004 (0.005)	-0.002 (0.005)	-0.003 (0.006)	-0.005 (0.009)	-0.005 (0.012)	-0.013 (0.009)
	Unattractive	0.011 (0.019)	-0.001 (0.010)	0.023* (0.012)	0.023* (0.013)	0.003 (0.018)	0.015 (0.024)	-0.001 (0.017)
	Control Variables	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES
	Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors are in parentheses.

Table 5
The Effect of Beauty on Crime and Treatment by the Criminal Justice System, Wave III

	FEMALES			MALES			
	Detained	Arrested	Convicted	Detained	Arrested	Convicted	
I	Very Attractive	-0.025*** (0.009)	-0.019*** (0.005)	-0.012*** (0.003)	-0.016 (0.020)	-0.011 (0.017)	-0.008 (0.013)
	Unattractive	-0.007 (0.013)	-0.004 (0.009)	-0.002 (0.006)	0.026 (0.023)	0.026 (0.020)	0.016 (0.016)
	Control Variables	No	No	No	No	No	No
	Interviewer Fixed Effects	No	No	No	No	No	No
	Number of Observations	7966	7978	8015	7054	7093	7137
II	Very Attractive	-0.022** (0.010)	-0.018*** (0.006)	-0.010*** (0.004)	-0.006 (0.021)	-0.004 (0.018)	-0.005 (0.014)
	Unattractive	-0.006 (0.014)	0.001 (0.009)	0.0004 (0.006)	0.030 (0.024)	0.029 (0.021)	0.013 (0.017)
	Control Variables	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes
	Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
	Very Attractive	-0.021** (0.010)	-0.016*** (0.006)	-0.009** (0.004)	-0.001 (0.021)	0.003 (0.018)	0.0005 (0.014)
III	Unattractive	-0.006 (0.014)	0.001 (0.009)	0.0004 (0.006)	0.028 (0.024)	0.023 (0.021)	0.008 (0.017)
	Control Variables	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES
	Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

(Table 5 concluded)
Four-Way Classification

	FEMALES			MALES			
	Detained	Arrested	Convicted	Detained	Arrested	Convicted	
I	Very Attractive	-0.027*** (0.010)	-0.020*** (0.006)	-0.012*** (0.004)	-0.014 (0.021)	-0.009 (0.017)	-0.007 (0.014)
	Attractive	-0.006 (0.008)	-0.001 (0.005)	-0.000 (0.004)	0.005 (0.012)	0.007 (0.010)	0.003 (0.008)
	Unattractive	-0.010 (0.014)	-0.004 (0.009)	-0.002 (0.006)	0.028 (0.023)	0.028 (0.020)	0.017 (0.016)
	Control Variables	No	No	No	No	No	No
	Interviewer Fixed Effects	No	No	No	No	No	No
	Number of Observations	7966	7978	8015	7054	7093	7137
II	Very Attractive	-0.026** (0.010)	-0.018*** (0.006)	-0.009** (0.004)	-0.005 (0.021)	0.002 (0.019)	-0.003 (0.014)
	Attractive	-0.008 (0.008)	-0.000 (0.006)	0.002 (0.004)	0.004 (0.013)	0.013 (0.011)	0.005 (0.009)
	Unattractive	-0.010 (0.014)	0.001 (0.010)	0.001 (0.007)	0.032 (0.024)	0.034 (0.021)	0.015 (0.017)
	Control Variables	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes
	Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
	III	Very Attractive	-0.025** (0.011)	-0.016** (0.007)	-0.008* (0.004)	0.001 (0.021)	0.010 (0.019)
Attractive		-0.008 (0.008)	0.001 (0.006)	0.003 (0.004)	0.004 (0.013)	0.016 (0.011)	0.007 (0.008)
Unattractive		-0.010 (0.014)	0.001 (0.010)	0.002 (0.007)	0.030 (0.024)	0.029 (0.021)	0.010 (0.017)
Control Variables		Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES
Interviewer Fixed Effects		Yes	Yes	Yes	Yes	Yes	Yes

Note: Robust standard errors are in parentheses.

Table 6
The Effect of Beauty Conditional on Crime, Wave III

	FEMALES			MALES		
	Detained	Arrested	Convicted	Detained	Arrested	Convicted
Very Attractive	-0.016*	-0.013**	-0.007**	0.002	0.005	0.002
	(0.010)	(0.006)	(0.004)	(0.020)	(0.018)	(0.014)
Unattractive	-0.006	0.000	0.000	0.021	0.017	0.003
	(0.014)	(0.009)	(0.006)	(0.023)	(0.020)	(0.017)
Crime	0.143***	0.099***	0.048***	0.232***	0.174***	0.112***
	(0.016)	(0.013)	(0.009)	(0.014)	(0.012)	(0.010)
Control Variables	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES
Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	7920	7927	7961	7009	7043	7082

Four-Way Classification

	FEMALES			MALES		
	Detained	Arrested	Convicted	Detained	Arrested	Convicted
Very Attractive	-0.020*	-0.012*	-0.005	0.004	0.012	0.005
	(0.011)	(0.006)	(0.004)	(0.021)	(0.018)	(0.014)
Attractive	-0.006	0.003	0.004	0.004	0.016	0.007
	(0.008)	(0.006)	(0.004)	(0.012)	(0.011)	(0.008)
Unattractive	-0.009	0.002	0.002	0.023	0.022	0.005
	(0.015)	(0.010)	(0.007)	(0.024)	(0.021)	(0.017)
Crime	0.143***	0.100***	0.048***	0.232***	0.174***	0.112***
	(0.016)	(0.013)	(0.009)	(0.014)	(0.012)	(0.010)
Control Variables	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES	Personal Attr. and SES
Interviewer Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	7920	7927	7961	7009	7043	7082

Note: Robust standard errors are in parentheses.

Table 7
The Effect of Beauty on Crime, Waves I-III (Individuals with no missing beauty information)^a

		FEMALES					
		Damaging Property	Burglary	Robbery	Theft	Assault	Selling Drugs
I	Very Attractive	-0.022*** (0.007)	-0.006* (0.003)	-0.005 (0.003)	-0.005 (0.006)	-0.002 (0.008)	-0.008 (0.008)
	Unattractive	0.014** (0.007)	0.002 (0.003)	0.006* (0.004)	0.001 (0.005)	0.025*** (0.007)	0.011* (0.006)
	Control Variables	No	No	No	No	No	No
II	Very Attractive	-0.019*** (0.007)	-0.005 (0.003)	-0.004 (0.003)	-0.004 (0.006)	0.001 (0.009)	-0.007 (0.008)
	Unattractive	0.015** (0.007)	0.001 (0.003)	0.005 (0.004)	0.0004 (0.005)	0.020*** (0.007)	0.011* (0.006)
	Control Variables	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes
III	Very Attractive	-0.020*** (0.007)	-0.005 (0.003)	-0.003 (0.003)	-0.004 (0.006)	0.001 (0.009)	-0.007 (0.008)
	Unattractive	0.014* (0.007)	0.001 (0.003)	0.005 (0.004)	0.0003 (0.004)	0.018*** (0.007)	0.011* (0.006)
	Control Variables	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes

(Table 7 concluded)

		MALES					
		Damaging Property	Burglary	Robbery	Theft	Assault	Selling Drugs
I	Very Attractive	0.001 (0.031)	-0.003 (0.015)	0.003 (0.015)	-0.02 (0.015)	0.007 (0.029)	-0.045* (0.023)
	Unattractive	-0.009 (0.010)	-0.003 (0.005)	0.011** (0.005)	0.002 (0.006)	0.017* (0.010)	0.017* (0.010)
	Control Variables	No	No	No	No	No	No
II	Very Attractive	0.013 (0.032)	-0.0004 (0.015)	0.005 (0.015)	-0.016 (0.015)	0.011 (0.029)	-0.041* (0.023)
	Unattractive	-0.007 (0.010)	-0.003 (0.005)	0.009* (0.005)	0.001 (0.006)	0.014 (0.010)	0.015 (0.010)
	Control Variables	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes	Personal Attributes
III	Very Attractive	0.010 (0.031)	-0.0003 (0.015)	0.003 (0.015)	-0.016 (0.015)	0.009 (0.029)	-0.040* (0.023)
	Unattractive	-0.005 (0.010)	-0.003 (0.005)	0.009* (0.005)	0.001 (0.006)	0.010 (0.010)	0.017* (0.010)
	Control Variables	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes

a: These models do not contain interviewer fixed effects, because being attractive and unattractive are determined by the sum of all three ratings assigned by different interviewers in three different waves.

Note: Robust standard errors are in parentheses.

Table 8
The Effect of Beauty on Wage Rate

Data set: Wave III		
	FEMALES	MALES
	Log wages	Log wages
Very Attractive	0.066*** (0.014)	0.108*** (0.024)
Unattractive	-0.043** (0.020)	-0.045* (0.025)
Control Variables	Personal & Family Attributes	Personal & Family Attributes
Interviewer Fixed Effects	Yes	Yes
Number of observations	4,904	4,748

Data set: Waves I-III using individuals with no missing beauty information ^b

	FEMALES	MALES
	Log wages	Log wages
Very Attractive	0.048*** (0.019)	0.106*** (0.040)
Unattractive	-0.075*** (0.013)	-0.072*** (0.014)
Control Variables	Personal & Family Attributes	Personal & Family Attributes
Number of observations	3,730	3,521

b: These models do not contain interviewer fixed effects, because being attractive and unattractive are determined by the sum of all three ratings assigned by different interviewers in three different waves.

Note: Robust standard errors are in parentheses.

Table 9
The Effect of Beauty on Human Capital Accumulation

Data set: Wave III				
	FEMALES		MALES	
	Test Score	Expelled	Test Score	Expelled
Very Attractive	3.161*** (0.906)	-0.006 (0.006)	3.951*** (1.168)	-0.028** (0.012)
Unattractive	-2.381* (1.216)	0.028** (0.012)	-1.857 (1.328)	0.024 (0.017)
Control Variables	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes
Interviewer Fixed Effects	Yes	Yes	Yes	Yes
Number of observations	7,763	8,022	6,889	7,160

Data set: Waves I-III using individuals with no missing beauty information ^c

	FEMALES		MALES	
	Test Score	Expelled	Test Score	Expelled
Very Attractive	2.340* (1.292)	-0.004 (0.008)	4.694** (2.374)	-0.058*** (0.017)
Unattractive	-3.900*** (0.850)	0.030*** (0.007)	-3.726*** (0.791)	0.035*** (0.010)
Control Variables	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes	Personal & Family Attributes
Number of observations	5,954	6,131	5,209	5,404

c: These models do not contain interviewer fixed effects, because being attractive and unattractive are determined by the sum of all three ratings assigned by different interviewers in three different waves.

Note: Robust standard errors are in parentheses.

References

- Becker, Gary S., "Crime and Punishment: An Economic Approach," Journal of Political Economy, 1968, 76:169-217.
- Biddle, Jeff E. and Daniel S. Hamermesh, "Beauty, Productivity, and Discrimination: Lawyers' Looks and Lucre," Journal of Labor Economics, 1998, vol. 16, No. 1.
- Block, M. and M. Heineke, "A Labor Theoretic Analysis of the Criminal Choice," The American Economic Review, 1975, 314-25.
- Bull and Rumsey, "The Social Psychology of Facial Appearance" Springer-Verlag, New York, 1988.
- Corman, Hope and H. Naci Mocan, "A Time-Series Analysis of Crime, Deterrence, and Drug Abuse in New York City," American Economic Review, Vol. 90, No. 3, June 2000, pp. 584-604.
- Ehrlich, Isaac. "Participation in Illegitimate Activities: A Theoretical and Empirical Investigation," Journal of Political Economy, 1973, V81, 521-565.
- Gould, Eric D., David B. Mustard and Bruce A. Weinberg, "Crime Rates and Local Labor Market Opportunities in the United States: 1977-1997," The Review of Economics and Statistics, vol. 84, no. 1 (2002).
- Grogger, Jeffrey T., "Market Wages and Youth Crime," Journal of Labor Economics, Vol. 16, No. 4, October 1998, pp. 756-791.
- Hamermesh, Daniel S. and Jeff E. Biddle, "Beauty and the Labor Market," The American Economic Review, 1994, vol. 84, No. 5.
- Hamermesh, Daniel S, Xin Meng, and Junsen Zhan, "Dress for Success – Does Primping Pay?" Labour Economics, 2002, 9:361-373.
- Harper, Barry, "Beauty, Stature and the Labour Market: A British Cohort Study," Oxford Bulletin of Economics and Statistics, 2000, 62, Special Issue.
- Hatfield, Elaine, and Susan Sprecher, Mirror, Mirror...: The Importance of Looks in Everyday Life, Albany, NY: State University of New York Press, 1986.
- Levitt, Steven D.; "The Effect of Prison Population Size on Crime Rates: Evidence from Prison Overcrowding Litigation." The Quarterly Journal of Economics, vol 3, No 2, p319-351, May 1996.
- Levitt, Steven, "Juvenile Crime and Punishment," Journal of Political Economy, 1998; 106(6): 1156-85.

- Lewis, E. "Twenty years of prison surgery: An evaluation," Canadian Journal of Otolaryngology, 1974. 3: 42-50.
- Mobius, Markus M., and Tanya S. Rosenblat, "Why Beauty Matters," *American Economic Review*, forthcoming.
- Mocan, H. Naci, Steve Billups and Jody Overland, " A Dynamic Model of Differential Human Capital and Criminal Activity," forthcoming in Economica, 2005.
- Mocan, H. Naci, and Daniel Rees, "Economic Conditions, Deterrence and Juvenile Crime," forthcoming in American Law and Economics Review, 2005.
- Mocan, H. Naci, and R. Kaj Gittings, "Getting Off Death Row: Commuted Sentences and the Deterrent Effect of Capital Punishment," Journal of Law and Economics, 46(2), pp. 453-78, 2003.
- Mocan, H. Naci, and Erdal Tekin, "Guns, Drugs, and Juvenile Crime: Evidence from a Panel of Siblings and Twins," NBER Working Paper No. 9824, July 2003.
- Mocan, H. Naci, and Erdal Tekin, "Beauty and Human Capital Accumulation," Manuscript, June 2005.
- Raphael, Steven and Rudolf Winter-Ebmer , "Identifying the Effect of Unemployment on Crime," Journal of Law and Economics, 44(1): 259-284 , 2001.
- Samuels CA and Elwy R Aesthetic perception of faces during infancy," British Journal of Psychology 1985, 3:221-228