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Abstract

This paper aims to reassess Burhan et al.'s (2014, *Intelligence*, 47, 12–22) findings on the impact of intelligence (IQ) on the crime rates at a cross-country level. People who belong to the intellectual group, characterized by IQ at the 95th percentile of a normal distribution were found to have a tremendous impact in terms of crime rate reduction, compared to those with average ability (50th percentile IQ). This was proven using the ordinary least squares (OLS). Other than that, people of non-intellectual class (5th percentile IQ) were found to be least important in reducing crime. However, in their study, many independent variables were stated as not significantly related to the crime rates, which contradicts with other literature. It is questionable if the presence of serious outliers in the samples causes the objectionable finding. In this study, we analyzed the impact of IQ classes on the rate of eight different types of crimes, namely homicide, rape, kidnapping, robbery, assault, burglary, property crimes, and vehicle theft. Analysis was carried out using the Tukey's Bisquare robust M-estimator that mitigates the effects of outliers in the samples. In conclusion, we have proved that those from the intellectual class have more significant role than people of average ability and non-intellectual class in reducing the crime rates. Thus, educational policies for the gifted are recommended in order for them to become active participants of the future transformation of their societies, by enhancing functionality and quality of the institutions across nations, and thereby, reducing crimes.

Keywords: intelligence; intellectuals; non-intellectuals; crime rates; leadership

JEL Classifications: I25, J24, K42, Z13

1. Background of the Study

Previous empirical studies had established a negative relationship between the human levels of intelligence (IQ) and the rates of criminal offences across individuals (e.g., Beaver et al., 2013; Diamond, Morris, & Barnes, 2012; Levine, 2011; McDaniel, 2006). The demonstrated negative relationship is owing to the fact that people with lower IQs tend to have poorer cognitive skills in making decisions, competing for resources, and learning from experience. This increases their likelihood of engaging in the antisocial behaviors (Kandel et al., 1988; Levine, 2011). In contrast, high IQ individuals were found to be more patient and perceptive, and therefore, they focus more on the long-term rewards (Jones, 2008; Potrafke, 2012; Shamosh & Gray, 2008). Moreover, they are less likely to engage themselves in criminal activities considering that they are able to generate more income through legal labour markets (Altindag, 2012; Becker, 1968; Machin & Meghir, 2004; Mocan, Billups, & Overland, 2005). As consequence, the significant negative relationship between IQ and crime rates has been well established at the individual level, across the U.S. states (e.g., Bartels, Ryan, Urban, & Glass, 2010; Kura, 2013; McDaniel, 2006; Pesta, McDaniel, & Bertsch, 2010; Templer & Rushton, 2011) and also at a cross-country level (e.g., Beaver & Wright, 2011; Rindermann, Sailer, & Thompson, 2009; Rushton & Templer, 2009).

However, while the negative connection between a person's IQ and crime rates has been well-corroborated in the some literature, Burhan, Kurniawan, Sidek, and

Mohamad (2014) found otherwise. Their perception was that individuals of a society did not contribute equally to this phenomenon. From their regression analysis, Burhan et al. (2014) showed that, IQ of those in the 95th percentile of the normal distribution of population IQ, namely the intellectual class have more significant role in terms of reducing the crime rates compared to those of average ability (50th percentile IQ) and non-intellectual class (5th percentile IQ). This was demonstrated when the social and demographic parameters that affects the IQ classes were unified. The named social and demographic factors are such: alcohol consumption, drug consumption, income per capita, income inequality, police rate, education attainment, unemployment rate, urbanization, and young to old population ratio. Burhan et al.'s (2014) empirical findings found to be contradicting to the long-established view in the literature that believes crimes are mostly associated with people of the lower social classes and socioeconomic backgrounds (e.g., Herrnstein & Murray, 1994). Burhan et al. suggested that the intellectual class includes the rich, leaders, and politicians who have the utmost superior authority in regulating law enforcement and socioeconomic policies. Therefore, any measures taken to raise the IQ of this group rather than non-intellectual class will have a more distinguishable outcome in terms of reduction in crime rates. This is owing to the fact that intellectual class contributes significantly to functionality and for the enhancement of quality of institutions across nations.

On the other hand, Burhan et al. (2014) found that most of the independent variables had no significant association to most of the categories of crime. These regressions were estimated using the ordinary least square (OLS) technique. Notably, these findings are in contrast to those reported by previous studies at both the individual and the U.S. states levels that had empirically found presence of significant relationships between the crime rates and their important predictors. Hence, Burhan et al. have therefore suggested that the discrepancy could be due to a large variation in data quality across countries. In particular, they wrote that (p. 20):

> "Like most previous studies, the criminal involvement rate data employed in this study rely on self-reports or official records of arrest and conviction that quantify the rate of crimes. This measurement strategy has been widely validated in terms of its reliability; however, it might suffer from

weaknesses. For example, official crime reports record only those crimes that lead to an arrest and conviction of the offenders, whereas many crimes go unnoticed and unsolved by law enforcement and are thus unrecorded in official reports (Mott, 1999; Smith & Marshall, 1981; Walsh, 2005). Moreover, the likelihood of crime victims reporting their victimization to police may vary within and across countries, in relation to differences in sociocultural aspects, geographical location, and characteristics of crimes and victims across regions (Goudriaan, 2006; Ménard, 2003)."

With reference to Burhan et al., we perceive that presence of outliers in the dataset is what led to the variation in the quality of crime rate data. An outlier is defined as an observation value that falls far off from the other observations, owing to the inconsistency or variability in the measurement. Occasionally, an outlier data is omitted from the sample because it lies outside the overall distribution pattern (Cook, 1977; Dixon, 1960; Grubbs, 1969; Maddala & Lahiri, 2009, pp. 88–94; Moore, McCabe, & Craig, 2014). However, the OLS estimated regression models are not robust because they are very sensitive to outliers. Thus, it leads to an inefficient and a biased estimate when outliers are present. Therefore, in this paper, we attempted to re-estimate the data using the robust regression method under the command of 'ROBUSTREG' with Bi-square weight option. This method, formulated by Beaton and Tukey (1974), has an advantage of being able to mitigate the biasing effects of outliers in the regression. Other than that, if necessary, it also removes the outliers from the observations. With this, we will be able to produce a more efficient and unbiased estimates that facilitates better and accurate comparison of β-coefficients between the 95th, 50th, and 5th percentile IQ on the crime rates.

2. Model Specifications

Burhan et al. (2014) studied the impact of level of IQ on the seven types of crimes, namely homicide, rape, kidnapping, robbery, assault, burglary, property crimes, and vehicle theft. Additionally, we incorporated the rate of kidnapping as the eighth dependent variable, considering the fact that it is being reported as a serious type of violent crime (FBI, 2016).[1] Adopting from Burhan et al., we estimated our linear regression model as follows:

$$\begin{aligned}\mathrm{CRIME_i} = \beta_0 + \beta_1\ (\mathrm{IQ})_i + \beta_2(\mathrm{ALCOHOL})_\mathrm{i} + \beta_3\ (\mathrm{DRUG})_\mathrm{i} + \beta_4\ (\mathrm{GDP})_\mathrm{i} + \beta_5\ (\mathrm{GINI})_\mathrm{i} \\ + \beta_6\ (\mathrm{POLICE})_\mathrm{i} + \beta_7\ (\mathrm{SCHOOLING})_\mathrm{i} + \beta_8\ (\mathrm{UNEMPLOY})_\mathrm{i} \\ + \beta_9\ (\mathrm{URBAN})_\mathrm{i} + \beta_{10}\ (\mathrm{YOUNG})_\mathrm{i} + e_\mathrm{i}\end{aligned}$$

CRIME is a dependent variable based on a set of eight different types of crime that represents the crime rates (per year, per 100,000 inhabitants), as defined in Table 1, with country samples shown in Table 2. The data between 1995-2011 period were obtained from the United Nations Office on Drugs and Crime (UNODC, 2016) database, and were averaged.

[Insert Table 1 here]

[Insert Table 2 here]

Further, IQ is our independent variable of interest which was divided into a set of social classes, specifically the 95th, 50th, and 5th percentiles, expressed as IQ95th, IQ50th, and IQ5th, correspondingly. Into details, the IQ data were obtained from Rindermann et al. (2009), who presented the scores of cognitive ability for 90 countries for the 95th, 50th, and 5th percentiles of the normal distribution of population IQs. Rindermann et al. employed the data from the Programme for International Student Assessment (PISA) (2000–2006), the Trends in International Mathematics and Science Study (TIMSS) (1995–2007), and the Progress in International Reading Literacy Study (PIRLS) (2001–2006), where the data were converted into the IQ scale, with country samples as depicted in Table 3.

[Insert Table 3 here]

The effect of IQ is controlled for nine demographic and socioeconomic factors for the period 1995–2011. Specifically, ALCOHOL represents the alcohol consumption per capita (in liters) per year. Harmfully, over consumption of alcohol causes motor

[1] Burhan et al. (2014) adopted Altindag's (2012) regression model of crime, which does not include 'kidnapping' as dependent variable.

impairment, and leads to more aggressive and violent behavior (Carpenter & Dobkin, 2010; Markowitz, 2005; Yamamura, 2009). This data was extracted from the World Health Organization (WHO, 2016) database. Also, DRUG implies the percentage of cannabis consumers among the population aged 15–64 for at least once in a year and the data were obtained from the World Drug Report (UNODC, 2016). Other than that, GDP refers to the gross domestic product (GDP) per capita, whereby lower per capita income is expected to raise the likelihood of crimes (Rushton & Whitney, 2002; Yamamura, 2009). The data were gathered from World Development Indicator (WDI) (World Bank, 2015) database. Besides, GINI is the Gini coefficient, which is a proxy for the national level of income inequality and the data were retrieved from the WDI (World Bank, 2015) database. Previous studies, such as Hsieh and Pugh (1993), Neapolitan (1999), Lee and Bankston (1999), and Fajnzlber, Lederman, and Loayza (2002) reported that income inequality plays an important role in raising the crime rates of a country. Additionally, POLICE denotes the number of police officers per 100,000 populations. Greater numbers of personnel in national police forces is anticipated to decrease the tremendous crime rates, as found by Yamamura (2009), Di Tella and Schargrodsky (2004), and Halicioglu, Andrés, and Yamamura (2012) as per data obtained from the INTERPOL (2015) database. As well, SCHOOLING refers to the mean of schooling years of adults (aged 25 and above) which acts a resemblance of the education level of the society. The data are retrieved from the Barro and Lee (2010) dataset. As verified by Machin, Marie, and Vujić (2011) and Lochner and Moretti (2004), formal education is expected to decrease the likelihood of criminal activities. Further, UNEMPLOY denoted the unemployment rate, which refers to the percentage of the labor force whom are out of job and seeking for an employment as per statistical data from the WDI (World Bank, 2015). Exceptionally higher crimes rates is expected with increasing rate of unemployment, which is evident from the previous studies, such as Halicioglu et al. (2012), Andresen (2012), and Saridakis and Spengler (2012). Next, URBAN refers to the percentage of urban dwellers from the total population. Urban dwellers are people who live in urban areas as delineated by national statistical offices. A higher density of urban population is anticipated to lead to a more intense competition for resources especially in overcrowded urban areas. Further, this would induce higher poverty and increased criminal activities within the urban settings (e.g., Altindag, 2012; Halicioglu et al., 2012), according to the WDI (World Bank, 2015) database. On top of that, YOUNG denotes the ratio of percentage of the population aged 15–39 to those aged 40 and above. According to Altindag (2012), younger population is highly more vulnerable to be engaged in criminality compared to the older population, appreciable from data retrieved from United States Census Bureau (USCB, 2016) database.

3. Results

Table 4 presents a correlation matrix for crime rates and the independent variables. Based on data in Table 4, IQs were found to have significant correlations with homicide, property crimes, and burglary out of the eight types of crimes that were studied. Into details, the rate of homicidal crime had negative correlations with the IQ percentiles: $IQ95^{th}$ (r=-.605), $IQ50^{th}$ (r=-.666), and $IQ5^{th}$ (r=-.648). On the other hand, the three IQ percentiles had positive association with property crimes and burglary.

[Insert Table 4 here]

Next, Table 5 presents the correlation matrix for all independent variables employed in the models. There were exceptionally high correlations between $IQ95^{th}$, $IQ50^{th}$, and $IQ5^{th}$ variables with r=.912–.978. In particular, the variance inflation factors (VIF) that were reported for $IQ50^{th}$ and the other two IQ variables were greater than 15. Thus, $IQ95^{th}$, $IQ50^{th}$, and $IQ5^{th}$ were put in three separate regressions to avoid multicollinearity problem. Besides that, correlations among other independent variables revealed values less than r=.80, with VIF values smaller than 5, indicating the absence of multicollinearity. Refer to Table A1 in Appendix A for more details on the VIF values.

[Insert Table 5 here]

Tables 6 to 13 depicts the summaries of regression analyses for the impact of IQ on each of the eight categories of crimes while controlling the nine independent variables, with the significance threshold of at least p<.10. Regression coefficients are unstandardized, which are estimated by robust regression (ROBUSTREG) method with

Bi-square weight option. This is formulated to reduce the biasing effects of extreme outliers (Beaton & Tukey, 1974; Gross, 1976; Hampel, Ronchetti, Rousseeuw, & Stahel, 2011, p. 151). Besides, across the Models 4–6 of Tables 6–9, the numbers of included observations (*n*) are less than the numbers of population observations (*N*). This indicates that the datasets obtained for homicide, rape, kidnapping, and robbery contain some outliers. Furthermore, across these tables, there are substantial increase in the Adjusted R^2 and significance of F-statistics of the regressions before (Models 1–3) and after using the Tukey's Bisquare robust M-estimator (Models 4–6) recorded. With this, it can be concluded that robust estimator is more efficient than OLS in terms of processing data with outliers.

The rest of this paper will be focusing on the results of robust regression, as presented in the Tables 6–13. Relatively, only a few significant associations were found between the eight different types of crimes and IQ. According to Table 6, only IQ95th and IQ50th had substantial potential on reducing homicide, while the IQ5th were found to be insignificant even at the level of 90%. Other than that, the β-coefficient for IQ95th (Model 4; β=-.308; p<.01) was relatively larger than that of IQ50th (Model 5; β=-.206; p<.01), which is contrary to the order based on the correlation values. Table 7 shows that IQ95th in Models 4 had a significant effect on rape (β=-.308) with the p-value< .10 while the other two classes of IQ were deemed as weak predictors of rape. While, in Tables 8 and 9, all IQ variables were rendered as significant in terms of reduction in the rates of kidnapping and robbery at the 95% level. Apart from that, across the Models 4-6 in Tables 8 and 9, there were large differences in β-coefficients between IQ95th and IQ5th for kidnapping (IQ95th: β=-.212; IQ5th: β=-.140) and robbery (IQ95th: β=-4.99; IQ5th: β=-3.01). Moreover, with regulation of all the nine confounds, we found that all IQ classes were non-significant determinants of other types of violent crime, specifically burglary (Table 10), assault (Table 11), property crimes (Table 12), and vehicle theft (Table 13).

[Insert Table 6 here]

[Insert Table 7 here]

[Insert Table 8 here]

[Insert Table 9 here]

[Insert Table 10 here]

[Insert Table 11 here]

[Insert Table 12 here]

[Insert Table 13 here]

Additionally, some of the remarkable crime indicators that were not variables of interest in this study were used with the aims of to control the effect of IQ, which further increases the accuracy and reliability of this study. We found that ALCOHOL had positive association with homicide and robbery, but was negative with vehicle theft. On the other hand, DRUG leads to significant increase in the rate of crimes such as rape, burglary, property crimes, and vehicle theft. Besides, GDP had negative association to kidnapping while having positive outcome in term of homicide and burglary. Furthermore, GINI increases the rate of homicide and rape. In advantage, POLICE had significant effect in reducing homicide, rape, and property crimes. While SCHOOLING had no significant association to all regressions, we found that URBAN had the highest impact among all. It was positively associated to homicide, rape, kidnapping, robbery, assault, and property crimes. Finally, both YOUNG and UNEMPLOY were negatively associated with crimes, in contrast to previous findings in literature. Into details, we found that YOUNG was negatively related to rape, robbery, and property crimes, while UNEMPLOY was negatively related to both homicide and rape.

4. Discussion

This study reassessed Burhan et al.'s (2014) findings on the impact of social classes of IQ on crime rates at a cross-country level. We employed Tukey's Bisquare robust M-estimator as it was very useful in mitigating the effect of outliers in the samples. However, in the robust regressions where IQ had significant association to crimes, there were small changes in the number of included observations (n) from the total observations (N). As for categories of crime where IQ had no positive relation, no difference elicited among observation numbers between OLS and robust regression analyses. This indicates that removing serious outliers allowed the independent variables to optimally affect the crime rates, and thereby raising the R^2 of the model.

Outcome of this study affirmed that IQ has significant association to homicide, rape, kidnapping and robbery while having no relation to burglary, assault, property crimes and vehicle theft. Consistently, in a descending order, the Federal Bureau of Investigation (FBI) of the U.S. had ranked homicide, rape, robbery and aggravated assault as the most severe crime among the category of violent crimes. This is followed by the property crimes of burglary, larceny-theft, and motor vehicle theft (FBI, 2016). Therefore, although IQ had negligible association to assault and less-severe types of crime, we demonstrated strong relationship to the three most serious crimes (i.e., homicide, rape, and robbery). These crimes listed by the FBI were significantly associated with at least 95th percentile IQ, after regulating the nine criminal indicators. Furthermore, the significant effect of IQ in reducing kidnapping is an extensive finding that has not been studied by Burhan et al. (2014).

Among the three social classes of IQ, the intellectual class was found to play a remarkable role in reducing the crime rates of a nation compared to those of average ability and non-intellectual class. For categories of crime where IQ had significant effect, the β-coefficient or effect size of the 95th percentile was always larger than that of 50th and 5th percentiles, in that order. This proves that raising level of cognitive skills of the intellectual class has a momentous effect in terms of violent crime rate reduction, generally.

One would suggest that non-intellectual class should have been more significant in the regression than the intellectual class. This is owing to the fact that most of undesirable social illnesses, such as HIV/AIDS and homicides had involved the people of non-intellectual class (Rindermann et al., 2009). Nevertheless, the findings from our study can be justified in terms of successful leadership across the globe. In particular, we suggest the two phases that occurred within this process. Firstly, it is well acknowledged that countries with higher average IQ will experience a higher level of socioeconomic development. As outcomes of their more-positive cultures, high IQ societies are associated not only with higher economic growth and productivity (Jones & Schneider, 2006, 2010), but also with greater institutional quality such as less corruption, less inequality of gender, enhanced financial development, more democratic regime and political freedom, more efficient bureaucracies, and better rule of law (Lynn & Vanhanen, 2012; Potrafke, 2012; Salahodjaev, 2015; Salahodjaev & Azam, 2015). Secondly, it is evident that the brightest 5% of the high IQ societies could perform better than the brightest 5% of low IQ societies. This brightest group, namely intellectual class is comprised mostly of aristocrats and top leaders who are responsible in determining leadership success of a nation. For an example, in a previous study by Simonton (2006), it was well demonstrated that IQ of the US presidents has a significantly positive association with their leadership performance. The intellectual class has the highest authority in policy decisions, and therefore, IQ of this class is fundamental to the government competencies, and functionality and quality of legal, police and military institutions across generation (Rindermann, 2012; Rindermann et al., 2009; Rindermann, Kodila-Tedika, & Christainsen, 2015). Along with the same line, the intellectual class with higher IQ is cognitively more competent, and thus is more capable to formulate effective solutions in order to curb the violent crimes and other social ills in the society (Burhan et al., 2014).

Next, the well-being of a nation is envisaged not only from the high achievement of technology and the nation's overall revenue, but also in terms of safety and security, especially freedom from violence and crimes. In our study, intellectual class was represented by the students' cognitive ability scores at the 5%, 50%, and 95% achievement levels of normal distribution. As the students were not a part of adult or working population, therefore, this group was not involved in any political and government affairs that reduces crime rates. However, this variable has been widely employed by previous studies in predicting the effects of cognitive skills on socioeconomic development of a county (e.g., Coyle, Rindermann, & Hancock, 2016; Jones & Potrafke, 2014; Rindermann & Thompson, 2011). This is owing to the reason that cognitive ability of a teenage population will not flutter easily in a few decades or later when they are adults. Thus, it is rational to employ the students' IQ scores to predict socioeconomic development run by the adults of the country.

Concentrating on the brightest students is very significant in reducing violent crimes across countries, therefore, other than providing the first class quality of education for all, we also suggest that schools should develop exceptional leadership skills among their gifted students. This is to ensure that the current young generation with the brightest minds will become well-respected leaders of the future through their competent leadership and governance of their countries. Besides, high IQ people are generally known to have more positive behaviours, such that they are less vulnerable to corruption and are more patient to receive greater rewards of long-term cooperation (Jones, 2008; Potrafke, 2012; Shamosh & Gray, 2008). However, occasionally high IQ people of the intellectual class do mistreat their own abilities to become engaged in high-profile criminal activities (e.g., cybercrime, copyright infringement, embezzlement, forgery, fraud, identity theft, insider trading, labor racketeering, money laundering, and Ponzi schemes). Hence, in addition to the leadership skills, a first-class education curriculum delivered in schools should inculcate noble values, ethics, and positive attitude in high IQ students. This in future would discourage the brilliant minds from engaging in white-collar crimes that are associated with highly cognitive skills but to serve the best of their talents for the benefit of the whole society. This is consistent with the prominent term 'Creative Minority' coined by a historian, Arnold Toynbee, who argues that growth of civilization is driven by creative minorities, that is the smartest small proportion of the society who are creative and discover solutions to the challenges, while at the same time they inspire others to keep up with their cultural lead (Hall, 2014; Toynbee, 1987). Therefore, in conclusion, intellectual class should be those intelligent men of integrity with talent and remarkable visions so that they could aspire to be the outstanding leader who serves and secures the well-being, happiness, safety and security of the people they lead.

[Insert Table A1 here]

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Table 1

Definitions of criminal indicators.

Variable	Definition
Assault	Physical attack against the body of another person resulting in serious bodily injury. This excludes indecent/sexual assault; threats and slapping/punching. Assault leading to death is excluded.
Burglary	The gaining of unauthorized access to a part of a building/dwelling or other premises; including by use of force; with the intent to steal goods (breaking and entering). This includes theft from a house; apartment or other dwelling place; factory; shop or office; from a military establishment; or by using false keys. It excludes theft from a car; from a container; from a vending machine; from a parking meter and from fenced meadow/compound.
Homicide	Unlawful death purposefully inflicted on a person by another person.
Kidnapping	Unlawfully detaining a person or persons against their will (including through the use of force; threat; fraud or enticement) for the purpose of demanding for their liberation an illicit gain or any other economic gain or other material benefit; or in order to oblige someone to do or not to do something. This exclude disputes over child custody.
Property Crimes	Depriving a person or organization of property without force with the intent to keep it. This excludes burglary; robbery; and theft of a motor vehicle, which are recorded separately.
Rape	Sexual intercourse without valid consent.
Robbery	The theft of property from a person; overcoming resistance by force or threat of force. This includes muggings (bag-snatching) and theft with violence, but excludes pick pocketing and extortion.
Vehicle Theft	The removal of a motor vehicle without the consent of the owner of the vehicle. This includes all land vehicles with an engine that run on the road, including cars, motorcycles, buses, lorries, construction and agricultural vehicles.

Note: Reproduced from the United Nations Office on Drugs and Crime (UNODC, 2016).

Table 2

Countries with the ten highest and ten lowest crime rates for eight types of crime.

	Crime rates per 100,000 population averaged from 2003 to 2011							
	Assault (*N*=54)	Burglary (*N*=49)	Homicide (*N*=58)	Kidnapping (*N*=47)	Property Crimes (*N*=55)	Rape (*N*=51)	Robbery (*N*=54)	Vehicle Theft (*N*=33)
10 Highest Ranking Countries	Sweden: 861.4	Denmark: 1643	Colombia: 40.03	Australia: 15.04	Netherlands: 4391	Sweden 49.52	Belgium: 1879	Italy: 256.4
	Israel: 683.3	N. Zealand: 1394	S. Africa: 37.64	Turkey: 13.23	Sweden: 4326	USA: 30.17	Spain: 1069	Canada: 235.3
	Belgium: 683.3	Austria: 1277	Belize: 31.90	Kuwait: 12.83	Denmark: 3339	Belgium: 29.14	Argentina: 915	USA: 233.87
	S. Korea: 627.7	Australia: 1248	Trinidad T.: 29.81	Canada: 12.55	Uruguay: 2971	N. Zealand: 26.81	Mexico: 568	Sweden: 224.8
	Finland: 619.6	Sweden: 1128	Brazil: 22.19	Belgium: 9.72	N. Zealand: 2854	Iceland: 23.64	Brazil: 505	France: 213.5
	Germany: 608.6	Netherlands: 1010	Ghana: 15.67	N. Zealand: 7.13	Norway: 2801	Peru: 23.60	Chile: 503	Norway: 189.7
	Luxembourg: 463.9	Belgium: 890.4	Russia: 13.97	Luxembourg: 6.74	Germany: 2552	Trinidad T.: 19.93	Trinidad T.: 370	Israel: 175.1
	Netherlands: 386.7	Iceland: 856.2	Mexico: 13.61	Israel: 4.99	Australia: 2442	Chile: 19.04	Uruguay: 324	Czech R.: 174.2
	Argentina: 356.4	Slovenia: 840.3	Peru: 10.07	Portugal: 4.62	Finland: 2364	Norway: 18.70	France: 193	Belgium: 160.1
	Brazil: 349.63	Switzerland: 831.1	Lithuania: 8.82	Netherlands: 4.37	Malta: 2187	Israel: 17.35	Portugal: 191	Spain: 106.2
10 Lowest Ranking Countries	Croatia: 24.50	Turkey: 155.0	Germany: .95	Hungary: .151	Peru: 184.8	Malta: 3.18	Singapore: 18.22	Switzerland: 33.29
	Iceland: 20.18	Mexico: 150.3	Slovenia: .89	Slovakia: .131	Colombia: 182.4	Cyprus: 3.10	Australia: 17.38	Russia: 31.16
	Uruguay: 19.50	Brazil: 129.65	Malta: .88	Poland: .125	Turkey: 161.9	Singapore: 3.03	Iceland: 14.58	Thailand: 28.14
	Malaysia: 18.88	Malaysia: 98.23	Denmark: .87	Czech Rep.: .114	Iran: 156.7	Hungary: 2.62	Jordan: 13.09	Slovenia: 27.92
	Singapore: 16.38	Colombia: 66.90	Switzerland: .83	Estonia: .107	Jordan: 147.6	Turkey: 2.18	Romania: 13.08	Peru: 26.71
	Cyprus: 15.04	Romania: 63.70	Norway: .73	Uruguay: .090	Cyprus: 137.7	Greece: 1.83	S. Korea: 11.06	Croatia: 23.90
	Indonesia: 14.32	Estonia: 37.15	Austria: .62	Austria: .071	Malaysia: 135.6	Jordan: 1.73	Cyprus: 9.53	Chile: 16.67
	Lithuania: 9.67	Indonesia: 24.00	Japan: .50	Finland: .029	Mexico: 97.12	Canada: 1.64	Indonesia: 4.38	Colombia: 15.15
	Estonia: 9.27	Singapore: 22.90	Slovakia:0.43	Thailand: .019	Thailand: 87.35	Japan: 1.40	Japan: 3.90	Romania: 9.21
	Poland: 1.44	Peru: 19.80	Iceland: .43	Singapore: .011	Indonesia: 10.48	Indonesia: 1.01	Thailand: 0.99	Singapore: 1.79

Note: Reproduced from the United Nations Office on Drugs and Crime (UNODC, 2016). Countries are sorted sequentially according to their numerical values.

Table 3

Countries with the ten highest and ten lowest rankings for IQ percentile groups.

	IQ95th	IQ50th	IQ5th
10 Highest Ranking Countries	Singapore: 127.22 S. Korea: 125.25 Japan: 124.3 N. Zealand: 122.65 Australia: 121.94 UK: 121.92 Finland: 120.92 Estonia: 120.75 Canada: 120.32 USA: 120.3	S. Korea: 106.37 Singapore: 104.56 Japan: 104.55 Finland: 102.91 Estonia: 102.26 Netherlands: 101.89 Canada: 101.75 Australia: 101.12 Sweden; 100.14 N. Zealand: 100.11	S. Korea: 86.11 Finland: 84.96 Estonia: 84.4 Japan: 82.85 Netherlands: 82.74 Canada: 79.59 Sweden: 79.21 Australia: 79.06 Czech R.: 78.92 Singapore: 78.86
10 Lowest Ranking Countries	Mexico: 105.47 Brazil: 104.65 Iran: 104.46 Colombia: 101.38 Indonesia: 100.93 S. Africa: 100.06 Kuwait: 97.77 Peru: 97.00 Belize: 89.95 Ghana: 89.38	Iran: 82.83 Indonesia: 81.75 Brazil: 81.59 Argentina: 81.5 Colombia: 80.61 Kuwait: 75.72 Peru: 74.03 Belize: 63.55 S. Africa: 63.26 Ghana: 61.25	Iran: 60.64 Brazil: 58.43 Colombia: 58.15 Trinidad T.: 57.61 Argentina: 54.72 Kuwait: 53.1 Peru: 49.77 Belize: 40.93 S. Africa: 35.69 Ghana: 32.86

Note: Reproduced from Rindermann, Sailer, and Thompson (2009). Countries are sorted sequentially according to their numerical values; $N = 58$.

Table 4

Correlation (r) between crime rates and independent variables.

Variable	Homicide (*N*=58)	Rape (*N*=51)	Robbery (*N*=54)	Property crimes (*N*=55)	Burglary (*N*=49)	Assault (*N*=54)	Vehicle theft (*N*=33)	Kidnapping (*N*=47)
IQ95th	-.605**	.034	-.182	.482**	.341*	.232	.299	-.010
IQ50th	-.666**	.025	-.151	.480**	.343*	.238	.297	-.009
IQ5th	-.648**	.003	-.180	.438**	.318*	.209	.239	-.031
ALCOHOL	-.276*	-.048	.063	.363**	.369**	.145	.039	-.167
DRUG	-.029	.163	.112	.364**	.403**	.119	.722**	.296*
GDP	-.454**	.270	-.014	.563**	.581**	.315*	.500**	.357*
GINI	.750**	.062	.205	-.410**	-.449**	-.192	-.292	-.144
POLICE	.098	-.309*	.189	-.216	-.296*	-.269*	-.207	-.073
SCHOOLING	-.376**	.339*	-.056	.518**	.426**	.295*	.536**	.035
UNEMPLOY	.369**	-.214	.191	-.228	-.304*	-.044	.014	-.233
URBAN	-.352**	.238	.209	.389**	.246	.351**	.271	.326*
YOUNG	.498**	-.103	-.018	-.567**	-.432**	-.175	-.393*	.105

Note: * p<.05, ** p<.01.

Table 5

Correlation matrix for all independent variables in the crime models.

	Variable	1	2	3	4	5	6	7	8	9	10	11	12
1	IQ95th	1.000											
2	IQ50th	.978**	1.000										
3	IQ5th	.912**	.972**	1.000									
4	ALCOHOL	.544**	.578**	.599**	1.000								
5	DRUG	.212	.174	.132	.313*	1.000							
6	GDP	.618**	.611**	.559**	.386**	.353**	1.000						
7	GINI	-.531**	-.561**	-.543**	-.458**	-.168	-.506**	1.000					
8	POLICE	-.204	-.281*	-.357**	-.233	-.036	-.142	.251	1.000				
9	SCHOOLING	.652**	.616**	.551**	.532**	.472**	.518**	-.431**	-.402**	1.000			
10	UNEMPLOY	-.193	-.199	-.195	.096	.093	-.455**	.136	.088	-.088	1.000		
11	URBAN	.236	.218	.134	-.105	.124	.343*	-.065	-.017	.215	-.186	1.000	
12	YOUNG	-.762**	-.777**	-.739**	-.751**	-.259	-.524**	.523**	.255	-.550**	.030	-.071	1.000

Note: *p<.05, ** p<.01. The correlation matrix is based on the dataset employed in the analysis of 'homicide', with N=58.

Table 6
Summary of the regression analyses for IQ and homicide.

Independent Variables	Dependent Variable: Homicide					
	Method: Ordinary Least Squares			Method: Bisquare Robust M-estimator		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ALCOHOL	.343	.390	.495	.307***	.267**	.217
	(.330)	(.322)	(.322)	(.108)	(.114)	(.149)
DRUG	-.124	-.181	-.204	.043	.053	.077
	(.184)	(.183)	(.186)	(.059)	(.065)	(.086)
GDP	5.573	5.364	5.324	-4.559***	-4.391***	-5.209***
	(3.52)	(3.392)	(3.381)	(1.147)	(1.203)	(1.563)
GINI	.669***	.626***	.633***	.240***	.196***	.213***
	(.108)	(.108)	(.107)	(.035)	(.038)	(.050)
POLICE	.001	-.000	-.002	-.006***	-.005***	-.002
	(.005)	(.005)	(.005)	(.002)	(.002)	(.002)
SCHOOLING	.492	.375	.139	.033	-.110	-.261
	(.726)	(.684)	(.663)	(.237)	(.242)	(.306)
UNEMPLOY	.242	.136	.125	-.179**	-.177**	-.243**
	(.226)	(.224)	(.225)	(.074)	(.080)	(.104)
URBAN	-.122**	-.116**	-.127**	.041**	.028	.027
	(.051)	(.050)	(.049)	(.016)	(.018)	(.023)
YOUNG	.012	.006	.017	-.015	-.010	.005
	(.034)	(.034)	(.032)	(.011)	(.012)	(.015)
IQ95th	-.444**			-.308***		
	(.181)			(.059)		
IQ50th		-.427***			-.206***	
		(.148)			(.053)	
IQ5th			-.343***			-.042
			(.117)			(.054)
N	58	58	58	58	58	58
n	58	58	58	51	51	53
R^2	.711	.721	.721	.820	.772	.650
Adj. R^2	.643	.658	.660	.775	.715	.566
F-statistics	11.27***	11.98***	12.04***	18.25***	13.54***	7.785***

Note. Regression coefficients are unstandardized betas. Standard errors are in parentheses. *N* is the number of population observations; *n* is the number of included observations; *** *p*<.01, ***p*<.05, **p*<.10

Table 7

Summary of the regression analyses for IQ and rape.

Independent Variables	Dependent Variable: Rape					
	Method: Ordinary Least Squares			Method: Bisquare Robust M-estimator		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ALCOHOL	-.912* (.529)	-.785 (.532)	-.657 (.552)	-.354 (.302)	-.316 (.296)	-.308 (.288)
DRUG	-.114 (.407)	-.116 (.410)	-.063 (.414)	.568** (.233)	.592** (.228)	.704*** (.216)
GDP	8.508 (6.309)	8.500 (6.346)	7.875 (6.423)	.796 (3.604)	.743 (3.524)	.332 (3.351)
GINI	.266 (.176)	.245 (.179)	.258 (.181)	.344*** (.101)	.337*** (.099)	.344*** (.094)
POLICE	-.013 (.009)	-.016* (.009)	-.020** (.009)	-.020*** (.005)	-.021*** (.005)	-.022*** (.005)
SCHOOLING	3.029** (1.221)	2.597** (1.168)	2.124* (1.150)	1.279 (.698)	1.071 (.648)	.832 (.600)
UNEMPLOY	-.308 (.476)	-.313 (.478)	-.327 (.485)	-.682** (.272)	-.698** (.265)	-.729*** (.253)
URBAN	.051 (.078)	.056 (.079)	.041 (.079)	.132*** (.044)	.121*** (.044)	.105** (.041)
YOUNG	-.099* (.057)	-.094 (.056)	-.071 (.054)	-.056* (.032)	-.051 (.031)	-.042 (.028)
IQ95th	-.680** (.295)			-.308* (.168)		
IQ50th		-.578** (.261)			-.238 (.145)	
IQ5th			-.406* (.215)			-.138 (.112)
N	51	51	51	51	51	51
n	51	51	51	49	49	49
R^2	.402	.397	.378	.705	.714	.749
Adj. R^2	.253	.246	.223	.628	.639	.682
F-statistics	2.690**	2.633**	2.431**	9.096***	9.502***	11.310***

Note. Regression coefficients are unstandardized betas. Standard errors are in parentheses. *N* is the number of population observations; *n* is the number of included observations; *** *p*<.01, ***p*<.05, **p*<.10

Table 8
Summary of the regression analyses for IQ and kidnapping.

Independent Variables	Dependent Variable: Kidnapping					
	Method: Ordinary Least Squares			Method: Bisquare Robust M-estimator		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ALCOHOL	-.278 (.242)	-.251 (.239)	-.220 (.242)	-.035 (.159)	.028 (.150)	.086 (.150)
DRUG	.290* (.163)	.293* (.163)	.305* (.161)	.096 (.108)	.085 (.103)	.106 (.099)
GDP	5.515* (2.753)	5.460* (2.748)	5.332* (2.728)	5.033*** (1.811)	4.761*** (1.731)	4.220** (1.684)
GINI	-.108 (.082)	-.111 (.083)	-.107 (.082)	-.087 (.053)	-.091* (.052)	-.079 (.051)
POLICE	-.005 (.004)	-.006 (.004)	-.006 (.004)	-.002 (.003)	-.003 (.002)	-.004 (.002)
SCHOOLING	-.345 (.551)	-.430 (.514)	-.517 (.492)	-.026 (.362)	-.182 (.323)	-.282 (.304)
UNEMPLOY	-.055 (.201)	-.055 (.201)	-.056 (.201)	-.121 (.132)	-.120 (.126)	-.132 (.124)
URBAN	.047 (.035)	.048 (.035)	.046 (.035)	.044* (.023)	.043* (.022)	.039* (.021)
YOUNG	.008 (.025)	.009 (.024)	.013 (.022)	.004 (.016)	.007 (.015)	.010 (.014)
IQ95th	-.109 (.137)			-.212** (.090)		
IQ50th		-.090 (.120)			-.175** (.076)	
IQ5th			-.064 (.095)			-.140** (.059)
N	47	47	47	47	47	47
n	47	47	47	45	45	45
R^2	.407	.406	.405	.548	.543	.500
Adj. R^2	.243	.241	.239	.415	.408	.353
F-statistics	2.476**	2.464**	2.446**	4.123***	4.034***	3.402***

Note. Regression coefficients are unstandardized betas. Standard errors are in parentheses. *N* is the number of population observations; *n* is the number of included observations; ***p<.01, **p<.05, *p<.10

Table 9

Summary of the regression analyses for IQ and robbery.

Independent Variables	Dependent Variable: Robbery					
	Method: Ordinary Least Squares			Method: Bisquare Robust M-estimator		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ALCOHOL	15.94	20.05	23.81	6.646**	7.110**	8.649***
	(18.16)	(18.65)	(18.83)	(2.558)	(2.627)	(2.984)
DRUG	-2.454	-.657	.200	2.207	2.300	2.772
	(13.02)	(13.48)	(13.43)	(1.834)	(1.899)	(2.128)
GDP	177.3	146.5	136.1	15.57	15.97	-2.430
	(225.3)	(232.5)	(232.3)	(31.73)	(32.75)	(36.83)
GINI	9.289	9.212	9.436	4.565***	4.410***	4.781***
	(6.338)	(6.580)	(6.584)	(.893)	(.927)	(1.044)
POLICE	.431	.295	.201	.006	-.025	-.004
	(.328)	(.333)	(.339)	(.046)	(.047)	(6.349)
SCHOOLING	13.86	-9.092	-20.66	-.388	-3.344	-7.432
	(42.45)	(41.54)	(40.05)	(5.979)	(5.851)	(2.763)
UNEMPLOY	17.90	18.16	17.69	2.548	2.315	1.929
	(16.80)	(17.36)	(17.43)	(2.366)	(2.445)	(2.763)
URBAN	6.082**	5.991**	5.617*	1.255***	1.104***	1.287***
	(2.763)	(2.860)	(2.849)	(.389)	(.403)	(.451)
YOUNG	-2.775	-1.949	-1.453	-.498*	-.412	-0.393
	(1.997)	(2.036)	(1.916)	(.281)	(.287)	(.304)
$IQ95^{th}$	-24.68**			-4.990***		
	(10.32)			(1.454)		
$IQ50^{th}$		-15.12			-3.891***	
		(9.236)			(1.301)	
$IQ5^{th}$			-11.65			-3.010**
			(7.453)			(1.181)
N	54	54	54	54	54	54
n	54	54	54	46	46	47
R^2	.293	.248	.244	.632	.608	.571
Adj. R^2	.136	.079	.074	.527	.496	.452
F-statistics	1.834*	1.452	1.422	4.123***	5.434***	4.800***

Note. Regression coefficients are unstandardized betas. Standard errors are in parentheses. *N* is the number of population observations; *n* is the number of included observations; *** p<.01, **p<.05, *p<.10

Table 10

Summary of the regression analyses for IQ and burglary.

Independent Variables	Dependent Variable: Burglary					
	Method: Ordinary Least Squares			Method: Bisquare Robust M-estimator		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ALCOHOL	14.19 (19.04)	17.17 (18.78)	21.57 (19.05)	10.85 (19.63)	13.37 (19.53)	18.04 (19.94)
DRUG	24.96** (11.94)	23.84* (12.10)	24.68** (11.78)	23.60* (13.96)	23.31 (13.97)	25.22* (14.00)
GDP	549.0* (280.8)	563.0* (286.5)	541.7* (272.9)	583.2** (279.2)	592.5** (277.7)	559.1* (277.5)
GINI	-11.21 (8.494)	-11.93 (8.423)	-12.12 (8.448)	-9.015 (8.756)	-9.466 (8.753)	-9.485 (8.841)
POLICE	-.450 (.349)	-.539 (.336)	-.649* (.339)	-.397 (.359)	-.487 (.349)	-.584 (.355)
SCHOOLING	-24.15 (47.22)	-31.26 (44.84)	-43.27 (43.89)	-21.49 (48.68)	-30.42 (46.60)	-43.13 (45.94)
UNEMPLOY	-23.89 (20.97)	-24.67 (20.75)	-24.09 (20.75)	-19.87 (21.61)	-20.50 (21.56)	-20.51 (21.72)
URBAN	3.407 (3.362)	3.719 (3.341)	3.387 (3.320)	2.552 (3.465)	2.785 (3.472)	2.492 (3.475)
YOUNG	-.884 (2.846)	-1.155 (2.799)	-.410 (2.649)	-1.335 (2.934)	-1.573 (2.908)	-.829 (2.773)
$IQ95^{th}$	-17.99 (11.87)			-18.27 (12.24)		
$IQ50^{th}$		-18.40* (10.26)			-17.84 (10.67)	
$IQ5^{th}$			-14.13* (8.044)			-13.44 (8.419)
N	49	49	49	49	49	49
n	49	49	49	49	49	49
R^2	.474	.483	.483	.525	.537	.536
Adj. R^2	.381	.395	.393	.400	.416	.414
F-statistics	3.954***	4.131***	4.107***	4.195***	4.415***	4.395***

Note. Regression coefficients are unstandardized betas. Standard errors are in parentheses. *N* is the number of population observations; *n* is the number of included observations; *** $p<.01$, ** $p<.05$, * $p<.10$

Table 11

Summary of the regression analyses for IQ and assault.

Independent Variables	Dependent Variable: Assault					
	Method: Ordinary Least Squares			Method: Bisquare Robust M-estimator		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ALCOHOL	4.123 (12.52)	4.182 (12.46)	4.580 (12.54)	12.03 (12.18)	11.80 (12.14)	11.41 (12.30)
DRUG	-3.309 (8.958)	-3.448 (8.988)	-3.692 (8.919)	1.528 (8.709)	1.344 (8.759)	.734 (8.745)
GDP	191.5 (156.3)	193.2 (156.2)	196.5 (155.6)	167.4 (152.0)	170.2 (152.2)	178.1 (152.6)
GINI	-.440 (4.549)	-.489 (4.571)	-.561 (4.558)	.090 (4.422)	.040 (4.454)	-.171 (4.469)
POLICE	-.334 (.227)	-.336 (.223)	-.347 (.226)	-.315 (.221)	-.311 (.218)	-.317 (.222)
SCHOOLING	9.563 (29.36)	9.840 (27.82)	9.887 (26.75)	-8.620 (28.54)	-7.475 (27.11)	-5.613 (26.23)
UNEMPLOY	10.88 (11.61)	10.83 (11.62)	10.65 (11.63)	6.751 (11.29)	6.784 (11.32)	6.858 (11.40)
URBAN	3.725* (1.912)	3.741* (1.917)	3.736* (1.903)	3.523* (1.859)	3.546* (1.868)	3.588* (1.867)
YOUNG	.600 (1.381)	.560 (1.364)	.507 (1.280)	1.235 (1.343)	1.182 (1.329)	1.034 (1.255)
IQ95th	-.400 (7.140)			1.021 (6.942)		
IQ50th		-.714 (6.184)			.482 (6.027)	
IQ5th			-1.284 (4.973)			-.661 (4.876)
N	54	54	54	54	54	54
n	54	54	54	54	54	54
R^2	.259	.243	.244	.245	.245	.245
Adj. R^2	.071	.071	.072	.069	.069	.069
F-statistics	1.403	1.404	1.411	1.396	1.396	1.393

Note. Regression coefficients are unstandardized betas. Standard errors are in parentheses. *N* is the number of population observations; *n* is the number of included observations; *** p<.01, ** p<.05, * p<.10

Table 12

Summary of the regression analyses for IQ and property crimes.

Independent Variables	Dependent Variable: Property Crimes					
	Method: Ordinary Least Squares			Method: Bisquare Robust M-estimator		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ALCOHOL	-53.98 (48.34)	-48.38 (48.01)	-41.74 (48.64)	-22.37 (38.28)	-13.13 (36.35)	-3.365 (31.02)
DRUG	45.88 (34.38)	45.06 (34.48)	48.03 (34.59)	53.07* (27.22)	54.22** (26.11)	57.18** (22.25)
GDP	499.9 (598.5)	497.7 (597.6)	445.6 (599.1)	711.2 (473.9)	741.9 (452.4)	715.6 (382.9)
GINI	-17.92 (16.81)	-18.86 (16.90)	-17.69 (16.97)	-13.53 (13.31)	-13.10 (12.79)	-12.07 (10.71)
POLICE	-.715 (.808)	-.891 (.805)	-1.008 (.831)	-1.638** (.640)	-1.829*** (.609)	-1.939*** (.564)
SCHOOLING	96.19 (110.0)	77.83 (104.9)	53.16 (102.3)	44.30 (87.12)	27.29 (79.41)	7.287 (64.84)
UNEMPLOY	-29.63 (43.85)	-30.78 (43.85)	-31.88 (44.26)	-25.94 (34.72)	-26.24 (33.20)	-27.50 (27.85)
URBAN	16.50** (7.355)	16.72** (7.369)	15.92** (7.382)	11.53* (5.824)	11.16* (5.579)	10.61* (4.688)
YOUNG	-14.57*** (5.042)	-14.51*** (5.005)	-13.21*** (4.781)	-9.754** (3.993)	-9.383** (3.789)	-8.686** (3.097)
IQ95th	-34.20 (26.83)			-21.21 (21.25)		
IQ50th		-30.14 (23.40)			-20.78 (17.71)	
IQ5th			-18.91 (19.17)			-17.81 (12.04)
N	55	55	55	55	55	55
n	55	55	55	55	55	55
R^2	.558	.558	.551	.674	.706	.721
Adj. R^2	.457	.457	.449	.600	.639	.657
F-statistics	5.546***	5.554***	5.404***	9.110***	10.56***	11.35***

Note. Regression coefficients are unstandardized betas. Standard errors are in parentheses. *N* is the number of population observations; *n* is the number of included observations; *** p<.01, ** p<.05, * p<.10

Table 13

Summary of the regression analyses for IQ and vehicle theft.

Independent Variables	Dependent Variable: Vehicle Theft					
	Method: Ordinary Least Squares			Method: Bisquare Robust M-estimator		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
ALCOHOL	-14.10*** (4.655)	-13.80*** (4.802)	-13.55** (4.946)	-11.21** (4.328)	-11.04** (4.487)	-13.57** (5.132)
DRUG	12.07*** (2.299)	12.15*** (2.297)	12.22*** (2.282)	11.69*** (2.386)	11.68*** (2.359)	12.25*** (2.367)
GDP	17.59 (57.88)	15.30 (58.27)	10.94 (55.60)	50.17 (53.07)	51.43 (50.04)	6.466 (57.69)
GINI	-2.500 (1.750)	-2.635 (1.750)	-2.692 (1.757)	-1.615 (1.761)	-1.632 (1.716)	-2.409 (1.823)
POLICE	-.036 (.065)	-.046 (.062)	-.053 (.063)	-.044 (.067)	-.045 (.065)	-.048 (.065)
SCHOOLING	5.400 (10.16)	4.016 (9.956)	3.127 (10.04)	6.238 (10.69)	6.019 (10.41)	4.211 (10.42)
UNEMPLOY	1.281 (3.064)	1.277 (3.081)	1.215 (3.100)	2.215 (3.094)	2.175 (3.102)	1.039 (3.217)
URBAN	.295 (.567)	.350 (.585)	.349 (.586)	.149 (.592)	.170 (.606)	.269 (.609)
YOUNG	-1.338* (.724)	-1.316* (.726)	-1.304* (.722)	-.777 (.588)	-.790 (.590)	-1.337* (.749)
IQ95th	-1.655 (2.366)			-.324 (2.224)		
IQ50th		-1.346 (2.258)			-.434 (2.239)	
IQ5th			-1.089 (1.877)			-1.044 (1.945)
N	33	33	33	33	33	33
n	33	33	33	33	33	33
R^2	.765	.763	.763	.763	.764	.781
Adj. R^2	.660	.658	.657	.671	.672	.681
F-statistics	7.200***	7.144***	7.136***	7.136***	7.144***	7.826***

Note. Regression coefficients are unstandardized betas. Standard errors are in parentheses. *N* is the number of population observations; *n* is the number of included observations; *** p<.01, **p<.05, *p<.10

Appendix A: Table A1

Variance Inflation Factor (VIF) for all independent variables in the crime models.

	Variable	1	2	3	4	5	6	7	8	9	10	11	12
1	$IQ95^{th}$	-											
2	$IQ50^{th}$	23.56	-										
3	$IQ5^{th}$	5.93	17.83	-									
4	ALCOHOL	1.42	1.50	1.56	-								
5	DRUG	1.05	1.03	1.02	1.11	-							
6	GDP	1.62	1.60	1.45	1.18	1.14	-						
7	GINI	1.34	1.41	1.39	1.25	1.01	1.29	-					
8	POLICE	1.04	1.09	1.15	1.06	1.00	1.02	1.06	-				
9	SCHOOLING	1.03	1.61	1.44	1.39	1.29	1.37	1.17	1.19	-			
10	UNEMPLOY	1.74	1.04	1.04	1.01	1.01	1.26	1.02	1.01	1.01	-		
11	URBAN	1.04	1.05	1.02	1.01	1.02	1.13	1.00	1.00	1.05	1.04	-	
12	YOUNG	1.06	2.52	2.20	2.30	1.07	1.38	1.38	1.07	1.43	1.00	1.01	-

Note: VIF is the variance inflation factor that is calculated by using the following formula: VIF=1/(1-R^2). The calculation is based on the dataset employed in the analysis of 'homicide', with N=58. Values for R^2 are not shown in the table.