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Abstract

The present study examines whether crime rates can be reduced by increasing the IQ of people with high, average, and low IQ. Previous studies have shown that as a determinant of the national level of income per capita growth and technological achievement, the IQ of the intellectual class (those at the 95th percentile of the Bell curve distribution of population intelligence) is more important than the IQ of those with average ability at the 50th percentile. Extending these findings, our study incorporates the non-intellectual class (IQ at the 5th percentile) to examine the role of IQ classes in determining crime rates across countries. We conducted hierarchical multiple regression analyses with IQ, seven types of crimes, and nine control variables: urbanization, alcohol consumption, unemployment rate, young to old population ratio, income inequality, education attainment, drug consumption, police rate, and income per capita. Regardless of types of crimes, we found evidence that raising IQ will lessen crime rates, with raises in the 95th percentile group having the most number of significant impacts, followed by the 50th and then the 5th percentile groups. Furthermore, none of the nine control factors was stronger than the 95th percentile group in predicting crime rates. We conclude that the intellectual class influences rates of more types of crime than the non-intellectual class does. The intellectual class has the highest authority in

determining law enforcement and development policies. Therefore, increasing the IQ of politicians and leaders from this class than other social classes will have a more significant influence in reducing crime rates, through enhanced functionality and quality of institutions across countries.

Keywords: Bell curve, crimes, intellectual class, national IQ, non-intellectual class.

JEL Classifications: I25, J24, K42, Z13

1. Introduction

Intelligence (IQ) or cognitive ability is a significant predictor of various essential life outcomes across domains (Kuncel, Ones, & Sackett, 2011). Intellectually competent individuals learn faster and are better at acquiring information, knowledge, and skills related to their occupations. Thus, these individuals are more efficient and innovative problem solvers, with their IQ resulting in enhanced job performance (Byington & Felps, 2010; Ree, Carretta, & Teachout, 1995; Salgado, Anderson, Moscoso, Bertua, & De Fruyt, 2003a; Schmidt & Hunter, 2004). Therefore, at a cross-country level, IQ has been shown to be a significant determinant of important socioeconomic indicators: gross domestic product (GDP) per capita (Hanushek & Kimko, 2000; Jones & Schneider, 2010; Lynn & Vanhanen, 2002, 2006; Zajenkowski, Stolarski, & Meisenberg, 2013), GDP per capita growth (Burhan, Mohamad, Kurniawan, & Sidek, 2014a; Jones & Schneider, 2006; Meisenberg, 2012; Ram, 2007; Weede & Kämpf, 2002), technological achievement (Burhan et al., 2014b; Gelade, 2008; Lynn, 2012; Rindermann, 2012), and quality of institutions (Jones & Potrafke, 2014; Kanyama, 2014).

Despite considerable evidence that IQ is related to economic development, the question remains as to whether all individuals play an equal role within this process. With regard to the normal distribution (or Bell curve) of population IQ (Herrnstein & Murray, 1994), empirical evidence shows that individuals with IQs in the furthest right-hand portion of the curve have a greater impact on GDP per capita, GDP per capita growth, and technological achievement, than can individuals of average IQ (e.g., Gelade, 2008; Hanushek & Woessmann, 2008, 2012; Park, Lubinski, & Benbow, 2008; Pritchett & Viarengo, 2009;

Rindermann, Sailer, & Thompson, 2009; Rindermann & Thompson, 2011; Weiss, 2009). The "intellectual class" at the 95th percentile for IQ is significantly smaller than the group with average IQ, but this class contributes more to the growth of national income and technological progress than do those of average ability. However, Rindermann et al. (2009) have shown that the intellectual class is important only for raising national income and technological progress, and not for reducing crime rates. Unlike previous research, Rindermann et al. examined the impact of IQ on crime, and in particular homicide rate, focusing on the non-intellectual group (with an IQ at the 5th percentile) along with the 95th and 50th percentile-level groups.[1] Among these three groups, raising the IQ of the 5th percentile group had the highest impact on reducing homicide rates. Thus, crime has been mostly attributed to the non-intellectual class, consistent with the poor socioeconomic status of this group.

The well-being of individuals in a society is expected to result from not only greater monetary wealth or technological advancement but also the removal of socioeconomic barriers. Raising people's trust in the quality of government institutions such as law enforcement agencies will enhance happiness (Hudson, 2006), and the prevalence of crime will reduce levels of happiness (e.g., Davies & Hinks, 2010; Moller, 2005; Powdthavee, 2007). It has been broadly verified that having a lower IQ increases the probability of a person breaking the law (Neisser et al., 1996) and having a longer criminal career (McGloin & Pratt, 2003; Piquero & White, 2003). In the past, researchers have claimed that the relationship between low IQ and criminal behavior occurred because criminals with lower IQs are more likely to be detected and captured by authorities (Murchison, 1926; Sutherland, 1931). However, this theory was later refuted by empirical evidence (e.g., Herrnstein & Murray, 1994; Lochner & Moretti, 2004; Moffitt & Silva, 1988). In fact, there is evidence that crime is motivated by a perception of net relative gains for breaking the law, after weighing the expected costs and benefits of engaging in criminal activities (Becker, 1968). Therefore, given that people can produce earnings through both illegal activities and legal labor markets, people with perceived better legal employment prospects are less likely to engage in illegal pursuits (Altindag, 2012; Machin & Meghir, 2004; Mocan, Billups, &

[1] IQ stratum was determined on the basis of the normal distribution of IQ scores for each country. For example (see Table 3), the IQ scores in Singapore at 95th, 50th, and 5th percentiles were recorded at 127.22, 104.56, and 78.86, respectively. In addition, although the 95th percentile IQ is highest for Singapore, the average IQ (at 50th percentile) is lower in Singapore (104.56) than in South Korea (106.37).

Overland, 2005). A person with a high IQ is also generally more perceptive, patient, and able to work towards long-term rewards (Jones, 2008; Potrafke, 2012; Shamosh & Gray, 2008). Research has shown that having a high IQ is a protective factor against criminal involvement, even when individuals come from disordered social backgrounds (Kandel et al., 1988; Levine, 2011). In contrast, individuals with lower IQs generally have a poorer ability to make decisions, compete for resources, and learn from experience. This raises the probability of engaging in antisocial behavior (Levine, 2011). All of these factors explain the negative correlations found between IQ and crime rates across individuals (e.g., Beaver et al., 2013; Diamond, Morris, & Barnes, 2012; Levine, 2011; McDaniel, 2006), states (e.g., Bartels, Ryan, Urban, & Glass, 2010; Kura, 2013; McDaniel, 2006; Pesta, McDaniel, & Bertsch, 2010; Templer & Rushton, 2011), and countries (Beaver & Wright, 2011; Rushton & Templer, 2009).

2. Aim

Much research has focused on discovering the causes of crime and modeling prevention and intervention programs that can lessen criminal activities (Beaver et al., 2013). However, sub-classifications of crime have not been adequately studied, and are of importance because some categories of crime may be more strongly associated with IQ than other categories are (McDaniel, 2006). Furthermore, to investigate precisely this phenomenon, it is essential to measure other factors associated with crime, since failing to control for IQ will produce flawed and biased estimates (Beaver & Wright, 2011; Rushton & Templer, 2009). In accordance with Rindermann et al. (2009), our study investigated the impact on national crime rates of three classes of IQ: intellectual (95^{th} percentile), average (50^{th} percentile), and non-intellectual (5^{th} percentile). Adopting standard models of crime from Altindag (2012), our study differs from previous empirical literature on the IQ–crime relationship in two respects. First, we employ the rates of seven types of crime as dependent variables: homicide, assault, rape, robbery, property crimes, burglary, and vehicle theft. Second, as motivated by Altindag (2012) and other previous studies, we control for nine variables that can influence the effect of IQ on crimes: percentage urban population, percentage of population that consumes drugs, per capita alcohol consumption, the ratio of young to old in the population, income inequality index, societal level of education, rate of police officers, unemployment rate, and per capita income.

3. Method

We adopted Altindag's (2012) linear model of crime, which consists of seven criminal indicators: homicide, assault, rape, robbery, property crimes, burglary, and vehicle theft.[2] These dependent variables were predicted by seven independent variables: percentage urban population, percentage of population that consumes drugs, per capita alcohol consumption, the ratio of young to old in the population, rate of police officers, unemployment rate, and per capita income. Further, based on the empirical literature, we included two additional independent variables that might influence crime rates: average years of education in the population and the income inequality (Gini) index. Our estimation model is structured as follows:

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

where CRIME is a dependent variable based on a set of seven crime categories that proxy for crime rates (per year, per 100,000 inhabitants, averaged for the 1995–2011 period) as defined in Table 1, with country samples listed in Table 2. The data were obtained from the United Nations Office on Drugs and Crime (UNODC, 2013) database.

[Insert Table 1 here]

[Insert Table 2 here]

Our independent variable of interest, IQ, is a set of social classes of IQ at the 95th, 50th, and 5th percentiles, named IQ95th, IQ50th, and IQ5^{th,} respectively. Data for IQ were obtained from Rindermann et al. (2009). Based on the normal distribution of population IQs, these authors presented cognitive ability scores for 90 countries for the 95th, 50th, and 5th percentiles, using data from the Trends in International Mathematics and Science Study (TIMSS) (1995–2007), the Programme for International Student Assessment (PISA) (2000–

[2] Altindag (2012) also employed "larceny" as the eighth criminal indicator. He defined and calculated "larceny" as the difference between the property crime rate and the sum of the burglary rate and motor vehicle theft rate. However, we found that using this method would result in negative values for several countries, particularly Cyprus, Serbia/Yugoslavia, and Trinidad and Tobago. Therefore, we chose not to employ this method and excluded "larceny" from our analysis.

2006), and the Progress in International Reading Literacy Study (PIRLS) (2001–2006).[3] They transformed the data into an IQ scale, as shown in Table 3.

[Insert Table 3 here]

The following nine demographic and socioeconomic factors within the period from 1995 to 2011 were controlled for in the assessment of the impact of IQ:

i. URBAN: This variable is the percentage of urban dwellers out of the total population. Urban dwellers refer to people living in urban areas as defined by national statistical offices. Other than Altindag (2012), Halicioglu, Andrés, and Yamamura (2012) have employed this variable in their study of determinants of crime. It is anticipated that a more highly dense urban population leads to more concentrated competition for resources in congested metropolitan areas, and thus higher urban poverty and increased criminality within urban settings. The data are obtained from the WDI (World Bank, 2013) database.

ii. DRUG: In his study of European countries, Altindag (2012) employs the rate of crimes related to drugs per 100,000 individuals. However, due to the unavailability of data for non-European countries, we employ the percentage of the youth and adult population (aged 15–64) who have used cannabis at least once in the past survey year. The data are obtained from the World Drug Report 2011 (UNODC, 2013).

iii. ALCOHOL: This variable refers to alcohol consumption per capita per annum, in liters. Excessive alcohol consumption is associated with motor impairment, and thus, more aggressive and violent behavior (Carpenter & Dobkin, 2010; Markowitz, 2005). This control variable has also been employed by Yamamura (2009) in his study of factors associated with crime. The data are obtained from the World Health Organization (WHO, 2013) database.

iv. YOUNG: This variable is the ratio of young to old in the population. The younger population is more susceptible to becoming involved in criminal activities than the older population. In accordance with Altindag (2012), we employ the ratio of the population aged 15–39 to the population aged 40 or older, multiplied by 100. Data regarding ages for national populations were obtained and calculated from the United States Census Bureau (USCB, 2013) database.

[3] A similar dataset was employed by Rindermann and Thompson (2011).

v. GINI: We employ the Gini coefficient, a proxy for the level of national income inequality. The data are obtained from the WDI (World Bank, 2013). Previous studies found that income inequality was robust in raising the crime rates across countries (e.g., Fajnzlber, Lederman, & Loayza, 2002; Hsieh & Pugh, 1993; Lee & Bankston, 1999; Neapolitan, 1999).

vi. SCHOOLING: We employ the average years of schooling of adults (aged 25 and older) as a proxy for the level of educational attainment. The data are obtained from the Barro and Lee (2010) dataset. Previous studies have shown that raising the average years of schooling reduced the probability of crime (e.g., Lochner & Moretti, 2004; Machin, Marie, & Vujić, 2011).

vii. POLICE: This variable refers to the size of national police forces, that is, the number of police officers per 100,000 people, which is expected to reduce crime rates. This control variable has also been employed by Di Tella and Schargrodsky (2004), Yamamura (2009), and Halicioglu et al. (2012) in their study of deterrents of crime. The data are retrieved from the INTERPOL (2014) database.

viii. UNEMPLOY: This variable is the total unemployed as a percentage of the total labor force. Unemployment refers to the share of the labor force that is without work but available for and seeking employment. The data are obtained from the WDI (World Bank, 2013). Higher unemployment rates have been empirically found to induce more crimes (Andresen, 2012; Halicioglu, Andrés, & Yamamura, 2012; Saridakis & Spengler, 2012).

ix. GDP: This variable is the gross domestic product (GDP) per capita. Like unemployment rate, lower per capita income is also anticipated to raise the probability of crimes. Real per capita income has also been employed by Yamamura (2009) and Rushton and Whitney (2002) in their study of the income–crime relationship. The data are obtained from WDI (World Bank, 2013).

4. Results

Table 4 presents a correlation matrix for the variables. Out of the seven types of crime, IQ has significant correlations with only homicide, property crimes, and burglary. As found by Rindermann et al. (2009), homicide rate has a stronger correlation with $IQ5^{th}$ (r = -.574), followed by $IQ50^{th}$ (r = -.567) and then $IQ95^{th}$ (r = -.528). On the other hand, both

$IQ50^{th}$ and $IQ5^{th}$ are positively correlated with property crimes and burglary, while $IQ95^{th}$ has non-significant relationships with these two types of crime. Other types of crime have non-significant correlations with all classes of IQ. This evidence suggests that IQ is differentially related to various types of crimes.

[Insert Table 4 here]

Tables 5–11 present summaries of regression analyses showing the effect of IQ on each of the seven types of crimes, controlling for the aforementioned nine factors, with a significance threshold of .05. There were relatively few significant results for IQ at $p < .05$ across the seven types of crime. According to Table 5, IQ had significant negative effects on only homicide, with the largest β coefficient and R^2 values for $IQ50^{th}$ (Model 3; $\beta = -.666$; $R^2 = .443$), followed by $IQ5^{th}$ (Model 4; $\beta = -.648$; $R^2 = .420$) and $IQ95^{th}$ (Model 2; $\beta = -.605$; $R^2 = .366$). This order differs from the order based on correlation values. The inclusion of IQs into a full model with nine control variables raised R^2 from .67 (Model 1) to .71–.72 (Models 5, 6, and 7), where all classes of IQs were still significant predictors at the 95% level.

Furthermore, Table 6 shows that IQ has a non-significant effect on rape (Models 2, 3, and 4), but $IQ95^{th}$ (Model 5; $\beta = -.552$) and $IQ50^{th}$ (Model 6; $\beta = -.538$) have a negative effect on rape when the nine control factors are included in the model. Inclusion of these controls increases R^2 from .323 (Model 1) to about .40 (Models 5 and 6). These findings suggest that certain other factors must be present for $IQ95^{th}$ and $IQ50^{th}$ to have an impact on reducing rape at the cross-country level. Similarly, $IQ95^{th}$ has an impact on reducing robbery rate only when the control variables are included in the model (Model 5; $\beta = -.566$; Table 7), while $IQ50^{th}$ and $IQ5^{th}$ have a non-significant effect on robbery in all regression models. Furthermore, all classes of IQ were weak predictors of other types of crime—assault (Table 8), property crimes (Table 9), burglary (Table 10), and vehicle theft (Table 11), as their effects were non-significant on controlling for the nine confounds.

[Insert Table 5 here]

[Insert Table 6 here]

[Insert Table 7 here]

[Insert Table 8 here]

[Insert Table 9 here]

[Insert Table 10 here]

[Insert Table 11 here]

Factors other than IQ were not the variables of interest, but were used as control variables for the effect of IQ. ALCOHOL and YOUNG had negative associations with vehicle theft and property crimes, respectively. DRUG had independent positive associations with burglary and vehicle theft, while GINI had an independent positive association with homicide rate. Furthermore, URBAN was related to increased robbery and property crimes, but reduced homicide rates. POLICE had a significant effect only on reducing rape. Finally, we found positive associations between SCHOOLING and rape, which was in contrast to the negative relationship between schooling and crime in the literature.

The strength of the effect of each IQ stratum on crime rates could be summarized by measuring the number of times each variable had a significant effect at $p < .05$ across the seven types of crime, based on the full regression models (Models 5–7, Tables 5–11). As summarized in Table 12, $IQ95^{th}$ had a significant effect three times in seven regression models. Therefore, it can predict more types of crime than can $IQ50^{th}$ and $IQ5^{th}$, in that order. We also found that the predictive power of $IQ95^{th}$ was equivalent to that of URBAN. URBAN was stronger than $IQ50^{th}$ in predicting crimes across countries, while both URBAN and DRUG were stronger predictors than $IQ5^{th}$. All other factors were as weak predictors as $IQ5^{th}$ or non-significant in all regressions. In particular, the ALCOHOL, YOUNG, and GINI variables had significant effects in only one out of seven regressions; SCHOOLING and POLICE were rarely significant; and UNEMPLOY and GDP were non-significant in all regressions.

[Insert Table 12 here]

5. Discussion

Our results suggest that IQ is differentially associated with various types of crime. In particular, we found that IQ has a significant impact on only homicide, rape, and robbery.

Even after controlling for nine crime-related factors, our findings confirm the significant negative association between IQ and homicide rate found by most previous studies (e.g., Bartels et al., 2010; Kura, 2013; Rindermann et al., 2009; Rushton & Templer, 2009; Templer & Rushton, 2011). Furthermore, we can confirm Rushton and Templer's (2009) findings on the positive impact of average IQ on reducing rapes at a cross-country level, although our results contrast with those of Bartels et al. (2010) and Templer and Rushton (2011), who did not find any significant association between average IQ and rape rates across the US states. Our results also differ from those of Bartels et al. (2010) and Templer and Rushton (2011) as they found a significant negative association between average IQ and assault, burglary, and property crime rates within the US, which we did not find at a cross-country level.

Our findings suggest that employing control variables in a model were very useful before confirming the effect of IQ classes on crime rates. For example, when these controls were not included, increasing IQ appears to raise the rate of property crimes and burglary. However, after inclusion of all nine controls, IQ had non-significant negative effects on these types of crime. Similarly, IQ had a significant effect on rape and robbery rates only after the nine factors were controlled for. Moreover, our findings on IQ–homicide relationships differed from Rindermann et al.'s (2009) only after we included the control variables into the regression models.

In comparing the effect of differential IQ classes, we found that although raising the intelligence of $IQ50^{th}$ has the highest impact on reducing homicide rate (β = -.460), the beta coefficient does not substantially differ from that of $IQ95^{th}$ (β = -.397) and $IQ5^{th}$ (β = -.414). These three coefficients fall within a small range (-.40 to -.46). Moreover, the difference in the impact of $IQ95^{th}$ (β = -.552) and $IQ50^{th}$ (β = -.538) on rape rates was very small (.014). We found that these ranges of standardized IQ betas were considerably smaller than the beta coefficients for the impact of IQ on technological progress (β = .036–.272) and economic growth (β = .649–.783) calculated by Burhan et al. (2014b) in standard growth models, using the same IQ dataset.

The present study provides evidence that the intellectual class (95^{th} percentile group) is more important than the average-IQ and non-intellectual classes in terms of reducing crime rates across countries. $IQ95^{th}$, $IQ50^{th}$, and $IQ5^{th}$ had significant results in three, two, and one of the seven regressions, respectively. Considering the moderate number of significant

results, the impact of the $IQ95^{th}$ variable (intellectual class) was not extremely strong; however, none of the other nine control factors was stronger than $IQ95^{th}$ in predicting crime rates. Further, the average-ability and non-intellectual classes were weaker predictors than even a few of the control variables.

On the surface, it is difficult to interpret the evidence that the intellectual class is the strongest predictor of crime rates, because most violent crimes involve people in the non-intellectual class and especially those from poor socioeconomic backgrounds. However, our findings can be understood in terms of successful leadership in a country. The intellectual class represents aristocrats or top leaders who have the highest authority in policy decisions, and therefore, the IQ of this upper class is crucial to government competence, which is associated with institutional quality and functionality. For instance, Simonton (2006) showed that cognitive ability has a significantly positive impact on the performance of US presidents, with correlations ranging from .33 to .56. Highly intelligent individuals are also more innovative and productive and make fewer errors, because they are superior in dealing with complex circumstances that require strong cognitive abilities (Gottfredson, 2003; Kuncel, Hezlett, & Ones, 2004; Salgado, Anderson, Moscoso et al., 2003b; Schmidt & Hunter, 2004). Therefore, intelligent leadership is important in providing effective solutions for coping with countries' drawbacks, such as mountainous geography, unfavorable climates, absence of oceans, and earthquakes, as found in New Zealand, Singapore, Switzerland, and Taiwan (Rindermann, 2012). Politicians who are cognitively competent lead to increases in national intelligence and enhanced institutional quality and functionality across generations, including the administration of government, attorneys and courts, police and military, and educational institutions (Rindermann, 2012; Rindermann et al., 2009). Therefore, the intellectual class has the greatest impact in reducing the level of crimes through the enhanced functionality and quality of these sociodevelopmental and legal institutions across countries. Given previous findings on the positive impact of increasing IQ of the intellectual class as opposed to other social classes, it seems desirable that the education system focuses on improving the IQ of the top percentile group (Burhan et al., 2014b; Pritchett & Viarengo, 2009) to improve the competence of future leaders and policymakers and thereby the quality and functionality of civic and economic institutions.

The impact of IQ on crime rates was not as strong as the cross-country IQ–income relationship found in the literature, where IQ alone could explain more than 50% of the

variation in GDP per capita (Lynn & Vanhanen, 2002, 2006). We suggest two explanations for our findings on the IQ–crime relationship. First, particularly for multi-racial countries, the segregation of criminals by race within a country was unequal to racial proportions in the national population. For example, the 2010 Census showed that the US population was 308.7 million, with 13% identified as black; however, statistics showed a far higher proportion of black individuals being convicted of crimes, with about 38% of total sentenced prisoners being black (Rastogi, Johnson, Hoeffel, & Drewery, 2011). In line with this, owing to differences in IQ across races (e.g., Herrnstein & Murray, 1994; Hunt, 2011; Rushton & Jensen, 2005; Sternberg, Grigorenko, & Kidd, 2005), the crime rates within a country might not be best reflected by the IQ distribution, particularly within the non-intellectual population. Second, it has been widely accepted that men on average have a significantly higher IQ level than women do, by a range of 3–5 points (Irwing, 2012; Irwing & Lynn, 2005; Jackson & Rushton, 2006; Keith, Reynolds, Patel, & Ridley, 2008; Lynn, 1994, 1999; Lynn & Irwing, 2004; Nyborg, 2005). However, statistics showed that males had an imprisonment rate 14 times higher than the rate for females (Carson & Golinelli, 2013). Therefore, this may challenge previous theories and findings regarding the negative relationship between IQ and crime across the literature.

Finally, there were a couple of limitations in our study. First, the IQ data employed were obtained from the distribution of students' cognitive scores at the 95%, 50%, and 5% achievement levels; we did not observe individuals directly and then analyze their impact on criminal involvement. However, this type of indirect procedure has been defended in previous studies, for instance, Hanushek and Woessmann (2008, 2012) and Rindermann and Thompson (2011). Second, our study did not consider the variation in IQ distribution across different races within a country. Therefore, future studies on the relationship between IQ and crime should control for the effect of this racial distribution, especially when using data on cross-national IQ. Third, 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). Therefore, in the near future, we hope that studies will be able to devise solutions for these drawbacks.

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Table 1

Definitions of Criminal Indicators.

Variable	Definition
Homicide	Unlawful death purposefully inflicted on a person by another person.
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.
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.
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.
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.
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, 2013).

Table 2

Countries with the Ten Highest and Ten Lowest Crime Rates for Seven Types of Crime.

	Crime rates per 100,000 population averaged from 2003 to 2011						
	Homicide (*N*=58)	**Assault (*N*=54)**	**Rape (*N*=51)**	**Robbery (*N*=54)**	**Property Crimes (*N*=55)**	**Burglary (*N*=49)**	**Vehicle Theft (*N*=33)**
10 Highest Ranking Countries	Colombia: 40.03 S. Africa: 37.64 Belize: 31.90 Trinidad T.: 29.81 Brazil: 22.19 Ghana: 15.67 Russia: 13.97 Mexico: 13.61 Peru: 10.07 Lithuania: 8.82	Sweden: 861.42 Israel: 683.30 Belgium: 683.30 S. Korea: 627.72 Finland: 619.59 Germany: 608.62 Luxembourg: 463.92 Netherlands: 386.73 Argentina: 356.41 Brazil: 349.63	Sweden 49.52 USA: 30.17 Belgium: 29.14 N. Zealand: 26.81 Iceland: 23.64 Peru: 23.60 Trinidad T.: 19.93 Chile: 19.04 Norway: 18.70 Israel: 17.35	Belgium: 1879.05 Spain: 1069.15 Argentina: 915.47 Mexico: 568.22 Brazil: 505.23 Chile: 502.81 Trinidad T.: 370.19 Uruguay: 323.85 France: 192.96 Portugal: 191.47	Netherlands: 4390.79 Sweden: 4325.94 Denmark: 3339.07 Uruguay: 2971.01 N. Zealand: 2854.25 Norway: 2801.19 Germany: 2551.53 Australia: 2441.59 Finland: 2364.15 Malta: 2186.80	Denmark: 1642.80 N. Zealand: 1394.09 Austria: 1276.70 Australia: 1247.39 Sweden: 1128.10 Netherlands: 1010.43 Belgium: 890.43 Iceland: 856.20 Slovenia: 840.31 Switzerland: 831.11	Italy: 256.41 Canada: 235.27 USA: 233.87 Sweden: 224.77 France: 213.53 Norway: 189.70 Israel: 175.06 Czech R.: 174.20 Belgium: 160.09 Spain: 106.24
10 Lowest Ranking Countries	Germany: .95 Slovenia: .89 Malta: .88 Denmark: .87 Switzerland: .83 Norway: .73 Austria: .62 Japan: .50 Slovakia:0.43 Iceland: .43	Croatia: 24.50 Iceland: 20.18 Uruguay: 19.50 Malaysia: 18.88 Singapore: 16.38 Cyprus: 15.04 Indonesia: 14.32 Lithuania: 9.67 Estonia: 9.27 Poland: 1.44	Malta: 3.18 Cyprus: 3.10 Singapore: 3.03 Hungary: 2.62 Turkey: 2.18 Greece: 1.83 Jordan: 1.73 Canada: 1.64 Japan: 1.40 Indonesia: 1.01	Singapore: 18.22 Australia: 17.38 Iceland: 14.58 Jordan: 13.09 Romania: 13.08 S. Korea: 11.06 Cyprus: 9.53 Indonesia: 4.38 Japan: 3.90 Thailand: 0.99	Peru: 184.81 Colombia: 182.38 Turkey: 161.86 Iran: 156.67 Jordan: 147.55 Cyprus: 137.68 Malaysia: 135.57 Mexico: 97.12 Thailand: 87.35 Indonesia: 10.48	Turkey: 155.03 Mexico: 150.25 Brazil: 129.65 Malaysia: 98.23 Colombia: 66.90 Romania: 63.70 Estonia: 37.15 Indonesia: 24.00 Singapore: 22.90 Peru: 19.80	Switzerland: 33.29 Russia: 31.16 Thailand: 28.14 Slovenia: 27.92 Peru: 26.71 Croatia: 23.90 Chile: 16.67 Colombia: 15.15 Romania: 9.21 Singapore: 1.79

Note. 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. Countries are sorted sequentially according to their numerical values; $N = 58$.

Table 4

Correlation Matrix for All Variables (N=31).

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	$IQ95^{th}$	-																	
2	$IQ50^{th}$	.969*	-																
3	$IQ5^{th}$	.893*	.970*	-															
4	Homicide	-.528*	-.567*	-.574*	-														
5	Assault	.202	.217	.162	-.193	-													
6	Rape	-.150	-.157	-.185	.046	.672*	-												
7	Robbery	-.143	-.069	-.092	.020	.345	.310	-											
8	Property Crimes	.349	.384*	.373*	-.338	.609*	.504*	.065	-										
9	Burglary	.340	.398*	.414*	-.406*	.531*	.430*	.202	.683*	-									
10	Vehicle Theft	.286	.293	.247	-.234	.533*	.526*	.171	.527*	.448*	-								
11	URBAN	.221	.242	.185	-.293	.388*	.221	.242	.377*	.119	.270	-							
12	DRUG	.184	.190	.179	-.157	.187	.038	.156	.180	.293	.663*	.104	-						
13	ALCOHOL	.278	.393*	.397*	-.425*	-.041	-.281	.070	.123	.351	.060	-.272	.276	-					
14	YOUNG	-.462*	-.552*	-.592*	.624*	-.252	.038	-.067	-.520*	-.555*	-.342	-.021	-.212	-.550*	-				
15	GINI	-.488*	-.563*	-.603*	.628*	-.230	.035	.104	-.350	-.443*	-.307	.230	-.143	-.448*	.502*	-			
16	SCHOOLING	.503*	.503*	.471*	-.514*	.437*	.266	-.063	.412*	.325	.633*	.169	.454*	.266	-.405*	-.438*	-		
17	POLICE	-.033	-.130	-.213	.201	-.258	-.263	.115	-.199	-.334	-.255	.009	-.056	-.175	.313	.225	-.496*	-	
18	UNEMPLOY	-.337	-.298	-.229	.161	-.061	-.161	.195	-.346	-.278	-.044	-.220	.135	.135	.122	.139	-.238	-.008	-
19	GDP	.648*	.644*	.564*	-.320	.335	.268	.071	.509*	.512*	.468*	.291	.195	.018	-.448*	-.334	.461*	-.134	-.490*

Note. Standardized correlations; *$p < .05$

Table 5

Summary of the Regression Analyses for IQ and Homicide (N=58).

Independent Variable	Homicide						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
URBAN	-.259*				-.231*	-.219*	-.236*
DRUG	-.017				-.080	-.104	-.113
ALCOHOL	.185				.157	.177	.220
YOUNG	.271				.053	.026	.080
GINI	.672*				.641*	.601*	.607*
SCHOOLING	-.022				.111	.089	.049
POLICE	.003				.033	.012	-.018
UNEMPLOY	.120				.114	.070	.065
GDP	.147				.202	.186	.180
IQ95th		-.605*			-.397*		
IQ50th			-.666*			-.460*	
IQ5th				-.648*			-.414*
***R*^{2}**	.674	.366	.443	.420	.711	.721	.721

Note. Regression coefficients are standardized β. All variables have a mean of zero and a standard deviation of one; *$p < .05$

Table 6

Summary of the Regression Analyses for IQ and Rape (N=51).

Independent Variable	Rape						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
URBAN	.050				.092	.102	.074
DRUG	.043				-.044	-.045	-.025
ALCOHOL	-.342				-.356	-.307	-.257
YOUNG	-.140				-.431	-.409	-.310
GINI	.269				.229	.211	.222
SCHOOLING	.327				.517*	.443*	.363
POLICE	-.253				-.195	-.254	-.304*
UNEMPLOY	-.100				-.099	-.100	-.105
GDP	.169				.272	.272	.252
IQ95th		.034			-.552*		
IQ50th			.025			-.538*	
IQ5th				.003			-.421
R^2	.323	.001	.001	.000	.402	.397	.378

Note. Regression coefficients are standardized β. All variables have a mean of zero and a standard deviation of one; *$p < .05$

Table 7

Summary of the Regression Analyses for IQ and Robbery (N=54).

Independent Variable	Robbery						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
URBAN	.294				.329*	.323*	.305
DRUG	.066				-.015	.005	.016
ALCOHOL	.245				.198	.244	.286
YOUNG	-.043				-.374	-.266	-.203
GINI	.262				.226	.225	.230
SCHOOLING	-.142				.084	-.032	-.089
POLICE	.136				.204	.143	.102
UNEMPLOY	.171				.143	.149	.144
GDP	.023				.092	.072	.063
IQ95th		-.182			-.566*		
IQ50th			-.151			-.395	
IQ5th				-.180			-.339
R^2	.204	.033	.023	.032	.293	.248	.244

Note. Regression coefficients are standardized β. All variables have a mean of zero and a standard deviation of one; *$p < .05$

Table 8

Summary of the Regression Analyses for IQ and Property Crimes (N=55).

Independent Variable	Property Crimes						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
URBAN	.241*				.255*	.258*	.246*
DRUG	.200				.172	.168	.178
ALCOHOL	-.165				-.188	-.168	-.146
YOUNG	-.470*				-.601*	-.599*	-.546*
GINI	-.114				-.134	-.140	-.131
SCHOOLING	.071				.157	.131	.094
POLICE	-.106				-.089	-.112	-.128
UNEMPLOY	-.082				-.088	-.090	-.092
GDP	.087				.116	.117	.107
IQ95th		.482*			-.232		
IQ50th			.480*			-.235	
IQ5th				.438*			-.163
$\boldsymbol{R^2}$	.541	.233	.230	.192	.557	.557	.551

Note. Regression coefficients are standardized β. All variables have a mean of zero and a standard deviation of one; *$p < .05$

Table 9

Summary of the Regression Analyses for IQ and Burglary (N=49).

Independent Variable	Burglary						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
URBAN	.113				.136	.147	.137
DRUG	.331*				.301*	.290	.295*
ALCOHOL	.157				.144	.165	.198
YOUNG	.012				-.137	-.166	-.114
GINI	-.225				-.235	-.248	-.253
SCHOOLING	-.136				-.049	-.066	-.105
POLICE	-.185				-.145	-.169	-.204
UNEMPLOY	-.201				-.227	-.233	-.230
GDP	.161				.191	.199	.192
IQ95th		.341*			-.260		
IQ50th			.343*			-.320	
IQ5th				.318*			-.282
R^2	.455	.116	.118	.101	.474	.483	.483

Note. Regression coefficients are standardized β. All variables have a mean of zero and a standard deviation of one; *$p < .05$

Table 10

Summary of the Regression Analyses for IQ and Assault (N=54).

Independent Variable	Assault						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
URBAN	.292				.299	.294	.294
DRUG	-.056				-.063	-.059	-.063
ALCOHOL	.089				.134	.089	.095
YOUNG	.092				.142	.083	.071
GINI	-.011				.016	-.013	-.016
SCHOOLING	.103				-.050	.107	.110
POLICE	-.226				-.190	-.225	-.231
UNEMPLOY	.248				.282	.246	.241
GDP	.232				.226	.235	.238
IQ95th		.334*			.234		
IQ50th			.239			-.017	
IQ5th				.210			-.046
R^2	.243	.111	.057	.044	.259	.243	.244

Note. Regression coefficients are standardized β. All variables have a mean of zero and a standard deviation of one; *$p < .05$

Table 11

Summary of the Regression Analyses for IQ and Vehicle Theft (N=33).

Independent Variable	Vehicle Theft						
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
URBAN	.004				.012	.022	.024
DRUG	.658*				.644*	.648*	.652*
ALCOHOL	-.591*				-.574*	-.562*	-.551*
YOUNG	-.377				-.434	-.422	-.414
GINI	-.233				-.224	-.235	-.241
SCHOOLING	.085				.120	.095	.078
POLICE	-.093				-.059	-.079	-.095
UNEMPLOY	.078				.069	.070	.067
GDP	.051				.098	.095	.084
IQ95th		.299			-.133		
IQ50th			.297			-.117	
IQ5th				.239			-.109
$\boldsymbol{R^2}$	.759	.090	.088	.057	.765	.763	.763

Note. Regression coefficients are standardized β. All variables have a mean of zero and a standard deviation of one; *$p < .05$

Table 12

The Number of Significant Regressions for Each Independent Variable.

Independent Variables	Number of Regressions		
	Basic Model with IQ95th (*N*=7)	Basic Model with IQ50th (*N*=7)	Basic Model with IQ5th (*N*=7)
IQ	3	2	1
URBAN	3	3	2
DRUG	2	1	2
ALCOHOL	1	1	1
YOUNG	1	1	1
GINI	1	1	1
SCHOOLING	1	1	0
POLICE	0	0	1
UNEMPLOY	0	0	0
GDP	0	0	0

Note. $p < .05$