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Crime among Dutch immigrant groups is predictable from country-level variables

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Abstract

Immigrants can be classified into groups based on their country of origin. Group-level data concerning immigrant crime by country of origin was obtained from a 2005 Dutch-language report and were from 2002. There are data for 57 countries of origin.

The crime rates were correlated with country of origin predictor variables: national IQ, prevalence of Islam and general socioeconomic factor (S). For males aged 12-17 and 18-24, the mean correlation with IQ, Islam, and S was, respectively, -.51, .37, and -.42. When subsamples split into 1st and 2nd generations were used, the mean correlation was -.74, .34, and -.40. A general crime factor among young persons was extracted. The correlations with the predictors for this variable were -.80, .34, and -.43. The results were similar when weighing the observations by the population of each immigrant group in the Netherlands. The results were also similar when using crime rates controlled for differences in household income.

Some groups increased their crime rates from the 1st to 2nd generation, while for others the reverse happened.

Key words: group differences, country of origin, intelligence, IQ, cognitive ability, Islam, crime, the Netherlands, immigrants, spatial transferability, national IQ

1. Introduction

Previous studies have found that immigrant crime susceptibility and other socially important traits are strongly predictable from their own or their parents' countries of origin e.g. (1–4). To my knowledge, no study has examined whether relative performance among immigrant groups in the Netherlands is predictable from country-level variables yet.

Generally, results have been interpreted in line with the *spatial transferability hypothesis*, namely, that when people move, they tend to retain their mean levels of psychological traits. This itself does not lead to any predictions regarding socioeconomic outcomes for immigrants, but when combined with the general hypothesis that differences in socioeconomic outcomes are caused in part by psychological differences between people, we get a predictive framework for studies of immigrant performance.

I was contacted by a Dutch researcher who had read my previous papers on the performance of immigrants (1–4). I asked him if he could find some Dutch data, and he found the 2005 report *Verdacht van criminaliteit: Allochtonen en autochtonen nader bekeken* (Suspects of crime: A closer look at immigrants and natives; report available in the supplementary materials; 5). The table on page 117 (unnamed) lists number of persons suspected of crime by age group (12-17, 18-24, 25-44, 45-79) and gender, as well as the total of all ages and both genders. Table 2.13 on page 128 lists crime suspects in percents broken down by age groups (same as before) as well as generation (first and second).

All the data are from 2002. An English language summary and description can be found beginning at page 83. Due to the way the data were collected (by merging various internal records), some crime types are not included: economic crime, environmental crime or benefit fraud and others (p. 84). Immigrant generations are defined as follows:

> A person of foreign origin is someone with at least one parent born abroad. A first-generation person of foreign origin is someone born abroad with at least one parent born abroad. A second-generation person of foreign origin is someone born in the Netherlands with at least one parent born abroad. A person of Dutch origin is a person whose parents were both born in the Netherlands. (p. 85).

The countries covered in the non-generational table include all groups numbering at least 4,000 persons. Some additional non-national groups are found in the data, e.g. South America, but because no national data exists for these macro-origins, it was not included in this study.

Congo is mentioned without any specifier, it was assumed to be the larger of the two possible countries: Democratic Republic of the Congo, not Republic of the Congo. The first has a population about 16 times larger than the second making it likely that if one of the countries is the source of over 4,000 immigrants in the Netherlands, it is that one.

2. Zero-order correlations with national predictors

In line with previous studies, I correlated the crime data with country-level variables of interest. The following three predictors were chosen:

- Lynn and Vanhanen's 2012 national IQs with changes by Jason Malloy (see comments in datafile) (6)
- Islam prevalence by country, 2010, provided by Pew Research (7)
- The International general socioeconomic factor from Kirkegaard (2014) (8)

National IQ was chosen because cognitive ability is known to be negatively related to crime within populations, with a correlation of about -.2. (9–11). This correlation does not disappear after controlling for socioeconomic status, but it is reduced to about .10 in a within sibling analysis, which may suggest that the link to crime is indirect and thru some other trait that covaries with cognitive ability in the population (e.g. self-control, stronger future orientation) but less so within sibling pairs (9). However, some of this reduction in the correlation is probably due to increased measurement error when comparing siblings (9).

Islam prevalence was chosen due to the attention being given to this alleged cause. There are multiple ways in which Islam may be related to crime, e.g. cultural/religious conflict or because it is statistically associated with other beliefs or traits that are criminogenic.

The international general socioeconomic factor (S) was chosen as a measure of the socioeconomic performance of the home country. Within countries and between individuals, crime is known to be statistically associated with socioeconomic measures, although causality is disputed (12,13).

The zero-order correlations of crime variables and predictors are shown in Table 1. The variable names refer to the age group, gender group and generation group. E.g. *12_17_1gen* is persons aged 12 to 17 who are first-generation immigrants.

Subgroup	**IQ**	**Islam**	**Int. S**
12_17men	-0.49	0.31	-0.43
12_17women	-0.43	0.13	-0.40
18_24men	-0.53	0.43	-0.41
18_24women	-0.53	0.05	-0.58
25_44men	-0.52	0.20	-0.52
25_44women	-0.55	0.11	-0.65
45_79men	-0.50	0.12	-0.54
45_79women	-0.47	0.12	-0.57
All	-0.59	0.24	-0.61
12_17_1gen	-0.73	0.17	-0.45
18_24_1gen	-0.74	0.29	-0.45
25_44_1gen	-0.63	0.11	-0.47
45_79_1gen	-0.50	-0.04	-0.21
All_1gen	-0.66	0.12	-0.48
12_17_2gen	-0.75	0.39	-0.34
18_24_2gen	-0.75	0.50	-0.37
25_44_2gen	-0.83	0.48	-0.43
45_79_2gen	0.05	0.20	-0.13
All_2gen	-0.81	0.54	-0.49
YoungPersonsCrimeFactor	-0.80	0.34	-0.43

Table 1: Zero-order correlations of predictors with crime variables. The generational correlations have N's 15-21 (most 20-21), while the non-generational have N's 45-55. The sample sizes can be found in the appendix.

We see large variations between the subsamples. A clear outlier is 45_79_2gen where IQ has a slight positive relationship to crime. This is however a small sample of immigrants and a not very criminal group, so it is presumably a sampling error.

The main groups of interest are the 12 to 17 and 18 to 24 year old males, as most crime is committed by members of these (14). For these groups, all predictors seem to have some validity. If we look at the variables broken down by generation, we see similar results.

A factor analysis was conducted on the four variables mentioned above at the request of a reviewer (Davide Piffer). This factor was stable across methods of extraction and scoring. The factor extraction was done in order to boost the sample size and thereby average out sampling error while avoiding generation specific effects. The factor scores were correlated with the predictors as well and can be seen in Table 1 (*YoungPersonsCrimeFactor*). The correlations for this factor were similar to the generational subsamples.

2.1. Weighted correlations

The immigrant groups are not equal sized. One can take this into account by weighting the observations by the sample size or some mathematical transformation of it. In line with a similar study, I used the square root (15).

The report did not contain sample sizes for the groups broken down by generation, so weighted correlations could not be calculated for these. The results are shown in Table 2.

Subgroup	IQ	Islam	Int. S
12_17men	-0.48	0.36	-0.42
12_17women	-0.41	0.04	-0.43
18_24men	-0.48	0.47	-0.36
18_24women	-0.51	-0.04	-0.53
25_44men	-0.47	0.18	-0.49
25_44women	-0.41	-0.03	-0.57
45_79men	-0.44	0.05	-0.50
45_79women	-0.37	-0.13	-0.38
All	-0.51	0.12	-0.57

Table 2: Weighted correlations for predictors and crime variables.

Results were similar to those without using weights.

2.2. Controlling for socioeconomic outcomes

If one is willing to disregard committing the sociologist's fallacy[1] (16,17), one could control for various

1 “Among sociologists, in particular, there is a tendency to interpret the correlation between a social variable and phenotype as a causal relation, without even considering the possibility that genetic influences might be behind the correlation, making it completely bogus.” (16). Controlling for income/social status when comparing crime rates assumes that income/social status is a purely environmental variable not caused by immigrant characteristics, whereas in all likelihood immigrant characteristics cause both crime and income.

socioeconomic variables and see if immigrant groups still differ in ways that are predictable by country of origin variables. The Dutch report provides statistics where a number of socioeconomic metrics are controlled, that is, they provide the crime rate within various socioeconomic categories for each country of origin. In general, it is found that differences, often large, persist even when socioeconomic variables have been controlled. Table 2.14 shows crime rates by type of household, 2.15 by household income, 2.16 by age and social welfare recipient status, and 2.17 by proportion of immigrants in the neighborhood. All of these tables also break down the numbers by immigrant generation (first and second). These tables only contain data for a limited number of countries (21 out of 57) that have sufficient sample size to break down the numbers in this way. Three of the tables still contain empty fields where there isn't sufficient data to give a number. The table that breaks down the numbers by income groups did not have missing data and was chosen for that reason.

Table 3 shows the predictor correlations.

Subgroup	IQ	Islam	Int. S
1g, less than 9.5€	-0.61	0.07	-0.31
1g, 9.5 to 12.5€	-0.76	0.14	-0.41
1g, 12.5 to 20€	-0.69	0.28	-0.58
1g, 20€ to 27.5€	-0.77	0.52	-0.81
1g, above 27.5€	-0.65	0.36	-0.62
1g, total	-0.66	0.12	-0.48
2g, less than 9.5€	-0.81	0.50	-0.45
2g, 9.5 to 12.5€	-0.77	0.42	-0.49
2g, 12.5 to 20€	-0.72	0.66	-0.40
2g, 20€ to 27.5€	-0.80	0.29	-0.48
2g, above 27.5€	-0.79	0.31	-0.47
2g, total	-0.81	0.54	-0.49

Table 3: Correlations of crime rates with country of origin predictors. By generation and income group. Euros are in thousands per month. Unweighted. N's 15-21, most 20-21.

The results are unchanged. The immigrant groups still differ in crime rates in highly predictive ways. Note however that the absolute differences between groups are smaller when income has been controlled, as is expected.

3. Differences between first and second-generation

The data may also be used to examine whether there are differences between first and second-generations in crime rates. I can think of two ways to examine the generational differences. The first is to examine correlations within and between the generations and the second is to compare the crime rates across generations.

3.1. Intercorrelations within and across generations

It is possible that the groups that are crime-prone in one generation are not so in the next. To examine

this, one can correlate the variables within and between generations. I limited the analysis to the primary groups of interests, namely young males. This leaves us with 4 variables with which we can calculate 2 correlations within generations and 4 between generations. The results are shown in Table 4.

	12_17_1gen	18_24_1gen	12_17_2gen	18_24_2gen
12_17_1gen	1.00			
18_24_1gen	0.85	1.00		
12_17_2gen	0.69	0.83	1.00	
18_24_2gen	0.70	0.70	0.83	1.00

Table 4: Correlations within and across generations.

The correlations were stronger within generations (.85 and .83) than between (.69, .70, .70, .83). Although sample sizes are fairly small, this indicates generational effects.

3.2. Crime rates of first vs. second-generation

In Danish reports concerning immigrant performance, it has been noted that the second-generation is more criminal than the first (18). Figure 1 shows the percent of men by age group who have committed at least one crime that year in Denmark.

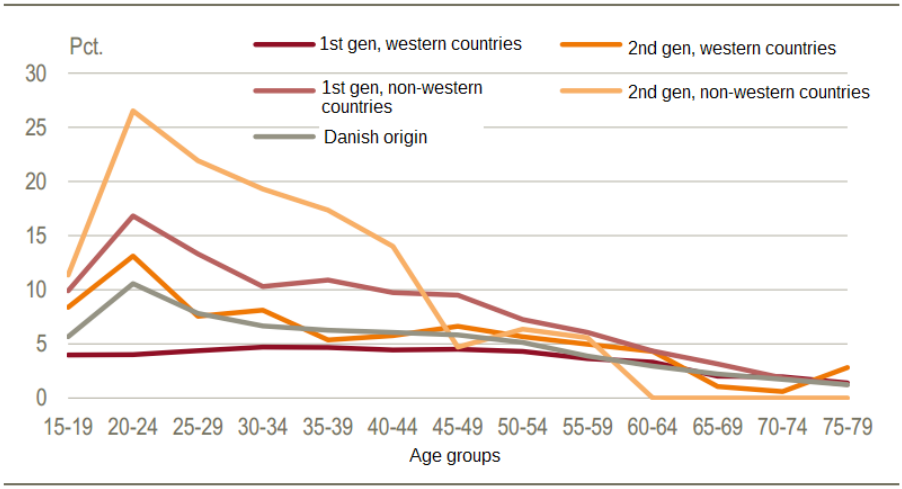

Figure 1: Crime rates for males by age group in Denmark, 2013 (18). Translated from Danish original.

However, these analyses did not control for population composition changes from the first to the second-generation, that is, which countries people have their origin in. In order to avoid error from that source, one can look up particular countries of origin and the crime rates among first and second-generations. To avoid sampling error, it is best to examine only the largest groups.

Turkish immigrants are the largest group in Denmark.[2] The per capita number of men found guilty of a crime by age and generation is shown in Table 5.

2 Turks constitute about 1.1% of the total population and about 10% of the total immigrant population. The total immigrant population constitute about 11.6% of the total population of Denmark, but see (19,20). Numbers from *FOLK2: Population 1. January by sex, age, ancestry, country of origin and citizenship.* http://www.statistikbanken.dk/statbank5a/SelectVarVal/Define.asp?MainTable=FOLK2&PLanguage=1&PXSId=0&wsid=cftree

Age group	1st gen	2nd gen
15-19	0.10	0.13
20-29	0.17	0.29

Table 5: Per capita crime rates of men with Turkish origin in Denmark, 2012. Sample sizes are: 230 and 1811 for first-generation, and 2762 and 3866 for second-generation. Data from Statistics Denmark, databases: FOLK1 and STRAFNA1.

As can be seen, the second-generation is more crime-prone than the first, especially for the 20-29 year olds.

Based on this finding, one might expect the same to hold in the Netherlands. Table 6 shows the crime rates for the two youngest age groups by generation.

Origin	12_17_1gen	18_24_1gen	12_17_2gen	18_24_2gen
Netherlands Antilles	9.2	10.1	4.4	5
Australia	1	0.5	1.8	3.6
Austria	0.7	3.4	2.9	3.1
Belgium	2.6	3.2	1.8	3.2
Canada	0.9	1.6	1.4	3.4
China	0.9	1.4	0.9	0.8
Cabo Verde	5.5	6.8	5	6.6
Germany	1.8	2.1	1.8	3.2
Spain	2.2	2.1	3.1	3.3
France	1.4	2.4	1.7	2.2
United Kingdom	1.8	2.5	2	3
Hong Kong SAR China	0	1.2	1.1	1.3
Hungary	3.5	1.9	2.1	5
Indonesia	1.8	1.6	1.7	2.4
Italy	3.9	2.4	2.9	4.1
Morocco	6.2	9.6	6.9	10.7
Poland	2.7	2.4	1.5	2.6
USSR	2.5	6.8	3.6	2.1
Suriname	4.2	7	4.4	6.5
Turkey	2.6	3.6	3.1	5.6
United States	1.3	1.2	2.8	2.3
Former Yugoslavia	2.9	5	6	5.3

Table 6: Crime rates in the Netherlands by age group, generation and country of origin.

The pattern from the Danish data is not found consistently in the Dutch data. Some groups increase their crime rate (e.g. Australia), some stay about the same (e.g. Suriname) and some decrease (e.g. Netherlands Antilles). However, crime among immigrants from Turkey does increase like in Denmark, so perhaps there is something special about that group.

Another way to examine this issue, is to calculate the mean crime rates by age and generation groups. They are shown in Table 7.

12_17_1gen	18_24_1gen	12_17_2gen	18_24_2gen
2.71	3.58	2.86	3.88

Table 7: Mean crime rate by generation and age group.

The crime rates are somewhat higher in the second-generation, but not as much as seen in the Danish data.

4. Discussion and conclusion

Generally the results conform to the previously seen patterns, but Islam prevalence in the home country was a notably weaker predictor in the Netherlands than in Denmark and Norway. This is due to crime-prone immigrants from the (former) Dutch colonies (Suriname and the Netherlands Antilles) which are not Muslim. Immigrants from these groups are not present in large numbers in the Nordic countries.

Further research is needed to find data concerning other important socioeconomic variables to examine whether a general socioeconomic factor exists among immigrant groups in the Netherlands as it does in Denmark and Norway (1,2).

The report mentions several other things of interest. First, even though the source report is 10 years old, it mentions that 8 years prior to that, in 1997, it had been noted that immigrants were overrepresented in the crime statistics (p. 83). Unfortunately, no numbers are given here, so it is not possible to conduct a longitudinal study. Still, it shows that this overrepresentation is not a new phenomenon. Any proposed explanation of the facts must be able to explain the persistence of the differences.

Second, The classification of second-generation immigrants is important because there can be two kinds: those with two foreign-born parents and those with one foreign-born parent and one native-born. Given some reasonable assumptions, both culture and genetic models predict that those with two foreign-born parents should perform worse than those with only one foreign-born parent. This in fact was found, as the report writes:

> “There are also clear differences between first-generation immigrants and those from the second-generation where one or both parents were born abroad. In almost all immigrant groups the second-generation with two parents born abroad have higher percentages of suspects than the second-generation with one parent born abroad.” (p. 88).

The numbers for this can be found in Table 2.22 on page 137. For instance, among persons from (former) Yugoslavia aged 18-24, those with one foreign-born parent have a crime rate of 3.3, while those with two have 6.9. The same pattern can be seen for Morocco (7.8 vs. 10.9) and the Netherlands Antilles (3.7 vs. 7.0), but also for e.g. Belgium (3.0 vs 5.1). Strangely, for Turkey it is not seen (6.6 vs. 5.6). Perhaps a sampling error.

Third, the report writes:

> “How can we explain the differences?
>
> Literature on ethnic differences in crime tends to focus more attention on the prevalence (the extent of occurrence) of ethnic differences in criminal behaviour than on the question whether

> the causes of such behaviour are the same among the various ethnic groups (Loeber and Farrington, 2004). These authors state that whoever is interested in the putative causes of ethnic differences should also study the prevalence of risk factors in each ethnic group. Attention should also be given to the question whether the effect of an accumulation of risk factors and the 'dose-response relationship' (the higher the number of risk factors, the greater the risk of delinquency) vary between migrant groups." (p. 90)
>
> "Origin and crime
>
> Although certain subgroups within particular immigrant groups perform relatively badly, obviously it would be unwise to make generalised conclusions about the relationship between origin and crime, and such conclusions are often not correct. More insight into the underlying processes and mechanisms among the various groups is required. At the very least it would be especially relevant to try and find out why some immigrant groups (such as Asians) 'do well' as far as criminal behaviour is concerned — sometimes even better than persons of Dutch origin —and to what extent we can learn any lessons from this. What are their formulae for success, and can these be applied and used in today's problem groups?" (p. 91)

The spatial transferability hypothesis along with the general hypothesis that individual and group differences in psychological traits cause outcome differences is a candidate for the kind of explanation the authors of the report call for. The causes of crime within each group are postulated to be the same: psychological traits that lead to criminal behavior. It is well known that low cognitive ability is a predictor (9–11), but also psychopathy (21), low agreeableness, high extraversion, high neuroticism, low self-control and others, see the review in (22). It is also known that crime-proneness is transmitted both through genes (about 50%) and to a smaller degree through the shared environment (about 10%) (23). If any of these traits have different *genotypic* mean levels between populations (i.e. frequency of the underlying genes), this is expected to give rise to group differences that persist when people migrate and that are consistent over time.

4.1. Limitations

The study relies on crime suspects, not on persons found guilty. If police target certain communities, i.e., they engage in ethnic/racial profiling, there will be bias in the data. It is unclear what the net direction of police bias would be. Members of the police are presumably mostly of Dutch origin, so if they have an outgroup bias, the immigrants most different from the Dutch would receive extra attention. On the other hand, if the police try to avoid naming immigrants as suspects to avoid political outcry, this would result in bias against their own group.

Differential police presence in areas may also cause suspects per capita to be a biased indicator of crime rates. Some immigrant areas probably have a weaker police presence per capita which could reduce the suspect rates for persons living in those areas. Many immigrants are also unwilling to denounce members of their community to the police, either for fear of retaliation or out of ethnic/religious solidarity. This bias would lead to underreporting of crime in such communities. For these reasons, it would be interesting to examine self-report and verdict based data as has been done for

US data (24).

The generational analyses were based on small samples, both with regards to the number of countries included and the samples for each age group. This is expected to reduce the correlations.

Not all types of crime were included and so if the non-included types show different patterns than the included ones, the patterns may be somewhat different.

The data are from 2002. Things may have changed since.

Supplementary material and acknowledgments

The source code can be found at the *Open Science Framework repository*. The peer-review history can be found in the submission thread on the journal forum.

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References

1. Kirkegaard EOW. Crime, income, educational attainment and employment among immigrant groups in Norway and Finland. Open Differ Psychol [Internet]. 2014 Oct 9 [cited 2014 Oct 13]; Available from: http://openpsych.net/ODP/2014/10/crime-income-educational-attainment-and-employment-among-immigrant-groups-in-norway-and-finland/

2. Kirkegaard EOW, Fuerst J. Educational attainment, income, use of social benefits, crime rate and the general socioeconomic factor among 71 immigrant groups in Denmark. Open Differ Psychol [Internet]. 2014 May 12 [cited 2014 Oct 13]; Available from: http://openpsych.net/ODP/2014/05/educational-attainment-income-use-of-social-benefits-crime-rate-and-the-general-socioeconomic-factor-among-71-immmigrant-groups-in-denmark/

3. Fuerst J, Kirkegaard EOW. Do National IQs Predict U.S. Immigrant Cognitive Ability and Outcomes? An Analysis of the National Longitudinal Survey of Freshman. Open Differ Psychol [Internet]. 2014 Apr 18 [cited 2014 Oct 13]; Available from: http://openpsych.net/ODP/2014/04/do-national-iqs-predict-u-s-immigrant-cognitive-ability-and-outcomes-an-analysis-of-the-national-longitudinal-survey-of-freshman/

4. Kirkegaard EOW. Immigrant GPA in Danish primary school is predictable from country-level variables. Open Differ Psychol [Internet]. 2015 Jun 4 [cited 2015 Aug 7]; Available from: http://openpsych.net/ODP/2015/06/immigrant-gpa-in-danish-primary-school-is-predictable-from-country-level-variables/

5. Blom M, Oudhof J, Bijl RV, Bakker BF. Verdacht van criminaliteit: Allochtonen en autochtonen nader bekeken. Cahiers [Internet]. 2005 [cited 2015 Aug 7]; Available from: http://www.narcis.nl/publication/RecordID/oai:tudelft.nl:uuid%3A099b3cc7-2616-4050-992b-28ac8d4c6c4b

6. Lynn R, Vanhanen T. Intelligence: A Unifying Construct for the Social Sciences. 1st ed. Ulster Institute for Social Research; 2012. 552 p.

7. Pew Research Center. Table: Muslim Population by Country [Internet]. Pew Research Center;

2011 [cited 2015 Aug 7]. Available from: http://www.pewforum.org/2011/01/27/table-muslim-population-by-country/

8. Kirkegaard EOW. The international general socioeconomic factor: Factor analyzing international rankings. Open Differ Psychol [Internet]. 2014 Sep 8 [cited 2014 Oct 13]; Available from: http://openpsych.net/ODP/2014/09/the-international-general-socioeconomic-factor-factor-analyzing-international-rankings/

9. Frisell T, Pawitan Y, Långström N. Is the Association between General Cognitive Ability and Violent Crime Caused by Family-Level Confounders? PLoS ONE [Internet]. 2012 Jul 24 [cited 2015 Jun 23];7(7). Available from: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3404054/

10. Herrnstein RJ, Murray C. The Bell Curve: Intelligence and Class Structure in American Life. New York: Free Press; 1994.

11. Schwartz JA, Savolainen J, Aaltonen M, Merikukka M, Paananen R, Gissler M. Intelligence and criminal behavior in a total birth cohort: An examination of functional form, dimensions of intelligence, and the nature of offending. Intelligence. 2015 Jul;51:109–18.

12. Sariaslan A, Långström N, D'Onofrio B, Hallqvist J, Franck J, Lichtenstein P. The impact of neighbourhood deprivation on adolescent violent criminality and substance misuse: A longitudinal, quasi-experimental study of the total Swedish population. Int J Epidemiol. 2013 Aug 1;42(4):1057–66.

13. Walsh A, Taylor CY, Yun I. The role of intelligence and temperament in interpreting the SES–crime relationship. Nurture Biosoc Debate Criminol Orig Crim Behav Crim. 2014;91–109.

14. Beaver KM, Nedelec JL. A Biosocial Explanation for Male-Female Differences in Criminal Involvement. Nurture Biosoc Debate Criminol Orig Crim Behav Crim. 2014;25.

15. Fuerst J, Kirkegaard EOW. Admixture in the Americas: Regional and national differences. In preparation;

16. Sesardić N. Making sense of heritability [Internet]. Cambridge, UK; New York: Cambridge University Press; 2005 [cited 2015 Aug 14]. Available from: http://public.eblib.com/choice/publicfullrecord.aspx?p=241083

17. Jensen AR. Educability and group differences. New York: Harper & Row; 1973.

18. Indvandrere i Danmark 2014. København: Danmarks Statistik; 2014.

19. Kirkegaard EOW, Tranberg B. Increasing inequality in general intelligence and socioeconomic status as a result of immigration in Denmark 1980-2014 |. 2015 Mar 4 [cited 2015 Apr 23]; Available from: http://openpsych.net/ODP/2015/03/increasing-inequality-in-general-intelligence-and-socioeconomic-status-as-a-result-of-immigration-in-denmark-1980-2014/

20. Nyborg H. The decay of Western civilization: Double relaxed Darwinian Selection. Personal Individ Differ. 2012 Jul;53(2):118–25.

21. Beaver KM, Boutwell BB, Barnes JC, Vaughn MG, DeLisi M. The Association Between Psychopathic Personality Traits and Criminal Justice Outcomes Results From a Nationally

Representative Sample of Males and Females. Crime Delinquency. 2015 Mar 2;0011128715573617.

22. Morizot J. 10 The Contribution of Temperament and Personality Traits to Criminal and Antisocial Behavior Development and Desistance. In: The Development of Criminal and Antisocial Behavior [Internet]. Springer; 2015 [cited 2015 Aug 7]. p. 137–65. Available from: http://link.springer.com/chapter/10.1007/978-3-319-08720-7_10

23. Beaver KM, Schwartz JA, Gajos JM. 8 A Review of the Genetic and Gene–Environment Interplay Contributors to Antisocial Phenotypes. In: The Development of Criminal and Antisocial Behavior [Internet]. Springer; 2015 [cited 2015 Aug 7]. p. 109–22. Available from: http://link.springer.com/chapter/10.1007/978-3-319-08720-7_8

24. New Century Foundation. The Color of Crime: Race, Crime, and Justice in America [Internet]. New Century Foundation; 2005. Available from: http://www.colorofcrime.com/2005/10/the-color-of-crime-2005/

Appendix

Sample sizes for Table 1. These are pairwise complete cases.

Subgroup	IQ	Islam	Int. S
12_17men	55	54	46
12_17women	55	54	46
18_24men	55	54	46
18_24women	55	54	46
25_44men	55	54	46
25_44women	55	54	46
45_79men	54	53	45
45_79women	54	53	45
All	55	54	46
12_17_1gen	21	20	16
18_24_1gen	21	20	16
25_44_1gen	21	20	16
45_79_1gen	21	20	16
All_1gen	21	20	16
12_17_2gen	21	20	16
18_24_2gen	21	20	16
25_44_2gen	21	20	16
45_79_2gen	19	18	15
All_2gen	21	20	16
YoungPersonsCrimeFactor	21	20	16