Do more immigrants equal more crime? Drawing a bridge between first generation immigrant concentration and recorded crime rates.

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Abstract

Immigration and its relationship with crime have long been discussed and researched in a variety of manners. There has been focus on a wide spectrum of research questions concerning the issue, such as public perceptions, immigrant perceptions, crime rates and immigration trends. The present article considers the crime rates in the areas of the UK with the highest concentrations of first-generation immigrants. The areas were gathered using census data and crime rates from police recorded statistics. The first-generation immigrants were categorised by their area of origin: Europe, Africa and Asia. Quantitative analysis showed that the areas containing the highest concentration of first-generation immigrants saw a drop in crime compared to the areas with the second highest concentrations. Results also showed that certain immigrant groups combined in high concentrations make for lower crime rates. Such findings suggest that there may be a cultural aspect at play, and begs further research.

Key words

immigration, crime, quantitative study, culture

Introduction

Often the discussion of immigration and crime is conducted in a political environment, or is at the very least politicised in some way. This is problematic for those who wish to study the relationship between the two meaningfully with a view of attracting the attention of those who may contribute to and act on the research evidence. Of those are Ignatans and Zielinski (2015) who originally produced and presented the basis for the work discussed in this article with a view to influence actual policing practice. The researchers intended to be of those who contribute to the body of knowledge already established in a manner that informs progressive steps in the direction that the evidence suggests, regardless of how political it is assumed to be. It is not politics, it is practical academia.

There exists general consensus as to some basic facts about the immigrant-crime nexus. Immigration does not appear to be linked particularly strongly with an increase in crime; in fact, the reverse is often seen to be true. For example, areas in the US with higher concentrations of recent immigrants were found to have reduced levels of homicide and robbery (Lyons, Vélez & Santoro, 2013). Using police recorded data in Chicago, Sampson (2006) found that first-generation Mexican immigrants to the USA to be 45% less likely to commit a violent offence than third-generation Americans, the most commonly chosen option in US censuses (Gallup, 2001). This may demonstrate a difference between the most common first-generation immigrants and the common American public. Additionally, Vélez (2009) investigated the level of recent immigrants in areas classified as being of low, high and extreme economic disadvantage, based on census data, and the homicide rates of the areas, based on police recorded statistics. Areas of a low disadvantage

appeared not to benefit at all from high concentrations of recent immigration, with the homicide rate rising as the concentration of immigrants did across these areas. Areas of extreme disadvantage showed the opposite, with their homicide rate lowering the higher the influx of immigration they saw. This Vélez ascribes to there being opportunity available for the recently arrived immigrants to contribute to a failing area, as opposed to arriving in an area of low disadvantage where development is not immediately necessary or is a more complex undertaking. Research from Los Angeles, using police data, provided similar results in that more recent Latino immigration, as identified by census data, had some pacifying impact on Latino violence (Feldmeyer, 2009), suggesting that more immigrants from culturally similar regions to those already occupying the area reduces the rates of violence.

A somewhat similar picture is painted in the European literature. In the UK, the impact of two waves of immigration on crime was examined – asylum seekers of the 1990s and EU8 workers from 2004 onwards (Bell et al., 2013). There appeared to be very little impact on crime by the wave of EU8 workers, although the wave of asylum seekers saw an increase in property crime. The authors considered economic situation as a potential explanation for the property crime increase, in that the asylum seekers were economically disadvantaged due to their status compared to the EU workers. On the other hand, of the cities in England with the highest and lowest levels of immigration between 2001-2011, those with the highest were more likely to see a decrease in violent crime and those with the lowest, an increase (Ignatans & Matthews, in press). The influx of immigration in that period was most significantly associated with a reduction in common assault and robbery, with the greatest impact

on these attributable to European immigrants. In Spain, assessing the impact of immigration over a similar timescale to the previous study, the origin of the immigrant population proved to be important, with Spanish-speaking immigrants having a much more preferable impact on crime than those of other origins (Alonso-Borrego et al., 2012). This may be ascribed to the 'Latino Paradox' as was identified in Sampson's previously discussed research, that Latino immigrants have a reducing effect on crime rates. It may also be linked to cultural similarity between the host and immigrant populations. The Spanish-speaking immigrants undoubtedly would have a less difficult experience integrating and living in a new country with a new culture if the culture reflects their own. This easier experience may contribute to that immigrant group's lower estimated crime rates. Finally, Nunziata's (2015) large-scale European study of the effect of immigration on crime concluded that there is indeed a positive relationship between the two, though it becomes non-significant when controlling for unobservable regional factors, which lead the author to conclude that these factors may be more influential than the characteristics of newcomers.

Although Sampson's (2006) theory that immigration into US cities has a positive effect due to a dissolution of a criminogenic 'street culture' has become increasingly popular, perhaps culture in this sense is too broad a construct to be helpful for policy purposes. For it to do so, one would have to be intimately aware of the workings of culture and how that influenced behaviour, and then be able to predict how that culture might respond to others. Perhaps a more useful approach is that of Alonso-Borrego (2012) and Ignatans & Matthews (in press), whose research found that immigration from areas with similar cultures to the host has a benign impact on crime. In this sense, culture is a more tangible entity, as culture is generally easier to identify in the broader sense than to deconstruct.

The popular economic argument, as seen in Bell et al.'s study (2010), is present in other research that has not been featured in this brief breakdown of the literature (Bircan & Hooghe, 2011; Bell & Machin, 2013; Jaitman & Machin, 2013), though may not be applicable given the research that is to follow. Finally, immigrant concentration appears to have a favourable impact on crime, as in Feldmeyer's (2009) study, among others (Martinez Jr & Stowell, 2012; Wadsworth, 2010). This may be similar to the cultural argument however, in that a high concentration of immigrants would result in their living in a familiar culture, if where they live is populated largely by people of similar backgrounds and areas of origin. Should similarity of cultures be regarded as a crucial factor in the immigration-crime nexus, the next logical question would be to ask how immigrants are policed given their different expectations of policing? There seems to be multiple studies conducted across the globe that have investigated how well immigrants trust the police, indicating the immigrants' feelings towards whatever policing strategy they are subjected to. Chinese immigrants in Chicago were found not to be particularly critical of police (Wu, Sun & Smith, 2011), in Britain first-generation immigrants were found to lower levels of trust in the police than the host population (Los et al., 2017), as reflected in Belgium, where Moroccan and Turkish immigrants also had much less trust of the police than the Belgians (Van Craen, 2012). The depth of the research in the area is seemingly fathomless, and so such a brief snapshot will be used to demonstrate that indeed, immigrant relationships with policing are not entirely predictable, and may depend very much upon the host nation, its culture, the culture

of the immigrants and, most importantly, the policing strategy. Such potential fluctuation would lead one to focus on the only aspect influenceable – policing.

In Australia, procedural justice was tested as a method of improving immigrant trust in police (Murphy & Mazerolle, 2016). Procedural justice is the following of four key principles, neutrality, respect, fairness and voice (Skogan & Frydl, 2004). The testing of the practice in 'random breath testing', a common police procedure in Australia whereby police randomly test drivers for alcohol levels, found that immigrants and natives both responded with higher reported levels of trust. However, the script given to the police in the experimental group was seven times longer than their normal procedure, leading one to consider whether such action is worth the countless extra hours of police attention if it were to be adopted in other policing scenarios. In counties across the USA, Latinos were surveyed, most of which immigrants, asking their trust of police (Theodore & Habans, 2016). It was found that Latino immigrants were less likely to trust and cooperate with police due to their worry that the police would investigate their citizenship. The response to this to increase trust and cooperation, and therefore build a safer community, is clearly for police to not be involved in policing immigration. As before, this seems untenable. For the police to sacrifice carrying out their duty in order to improve how they are viewed would be to sacrifice the very concept of policing. Both these positions are addressed by Skogan (2009) as main barriers to policing immigrant communities – a lack of trust due to unfair treatment and a lack of trust due to enforcement of immigration laws. It seems as though a policing strategy tailored to areas containing a high concentration of immigrants would need to tackle the problem of trust and be aware of the importance of culture, without overworking or undermining the police as they currently are.

It is within this context that the present research was carried out. For practical purposes, the issue of concentration of immigrants of similar and diverse origins is crucial. The impact of concentration of first-generation immigrants from different countries of origin on crime rates in the UK was examined and reported on below.

Methodology

Data were gathered on first-generation immigrants, consistent with other studies in this area, using UK census data from 2011 which allows examination of one's place of birth as opposed to one's ethnicity – a characteristic not indicative of immigration status but often viewed in such light. Recorded crime rate statistics were gathered from police recorded data for 2011 (Home Office, 2011).

Recorded crime data were selected for a number of factors. Such data allow a focus on the offender, not the victim, as is also crucial in research on immigrant concentration and crime. Recorded crime data are also well-suited for analysis of general crime trends. However, police data also present many drawbacks and difficulties. The police practice of recording crime changed in 2002 with the introduction of the National Crime Recording Standard. This change has since made comparing police data pre- and post-2002 difficult. Most worrying though, is that the police's admission of 'massaging' crime figures led to the data they produce being stripped of the 'national statistics' status – a gold standard (Travis, 2014) – which results in numerous impacts on the resulting figures. Police data, then, must be interpreted carefully.

Further consideration of police data leads one to arguments that the legal definitions of offences and the statistical understanding of them are not sufficiently married and that external factors also have significant impact on police data, such as medical improvements leading to potential homicides turning into lesser offences (Blumstein & Wallman, 2000). Still, despite its setbacks, police data provide the most suitable data for present purposes, particularly for offences often missed by victimisation surveys, and a focus on the offender and their area, as is essential when assessing immigrant concentration's effect on crime trends.

Crime types were examined and grouped as 'violent' if they were to directly impact the victim (e.g. assault, wounding), 'property' if the victim was likely to suffer financial loss in absentia and 'vehicle' largely being thefts of motor vehicles or possessions in them as well as criminal damage to vehicles. These categories were used as representations of that crime type, allowing for better analysis of trends. Firstgeneration immigrants were grouped as European, African and Asian, depending on their place of birth. Immigrant concentration in the UK was determined within Middle Level Super Output Areas (MSOAs). MSOAs are a collection of Census Output Areas (the most disaggregated level for census estimates, made from adjacent postcodes and designed to have similar demographic characteristics and social homogeneity). Like Census Output Areas, MSOAs are designed to be of similar population sizes (a mean population of 7910 (ONS, 2014)), that allow for more appropriate statistical analyses across the UK in the case of the present study.

Analysis

MSOAs were divided into deciles and ordered by the percentage population of each group of first-generation immigrants relevant to the graph. In these deciles, the proportion of violent, property and vehicle offences were also analysed, alongside the proportion of each group of first-generation immigrants (European, African, Asian) attributed to each decile. One immigrant category is shown per graph for easier visual understanding.

Perhaps a little further explanation of the graphs is necessary here. The immigrant line in each graph is interesting in itself because it shows how immigrants cluster in particular areas. If an immigrant group were distributed evenly across areas the line would be straight. To the extent to which they depart from linearity immigrants are concentrated in particular areas. It is obvious that the Asian population is most concentrated in particular areas and the relative concentration of the different groups could be quantified as Gini coefficients but that is not the central purpose of this paper. The aspect of the graphs to which the reader is directed is (looking at Figure 1 for illustration) that as the proportion of European immigrants in an area increases, crime does too until the concentration is high, at which point the relationship reverses, with more immigrants being associated with less crime. This pattern is repeated for immigrants of African origin but not for immigrants of Asian origin.

Figure 1

Proportional distribution of first generation European immigrants and recorded violent, property and vehicle crimes in England and Wales, 2011. Sources: UK Census 2011, Office for National Statistics.

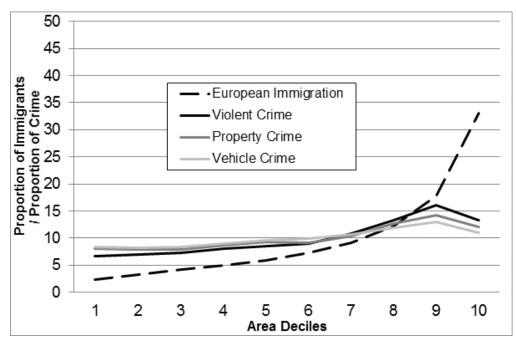


Figure 2

Proportional distribution of first generation African immigrants and recorded violent, property and vehicle crimes in England and Wales, 2011. Sources: UK Census 2011, Office for National Statistics.

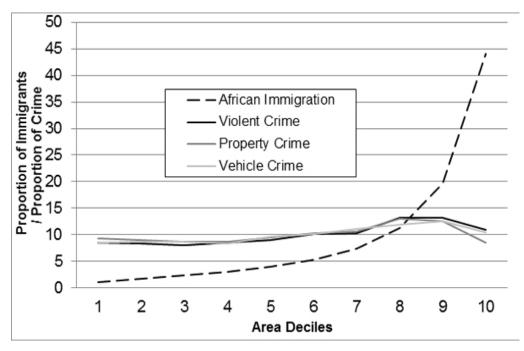
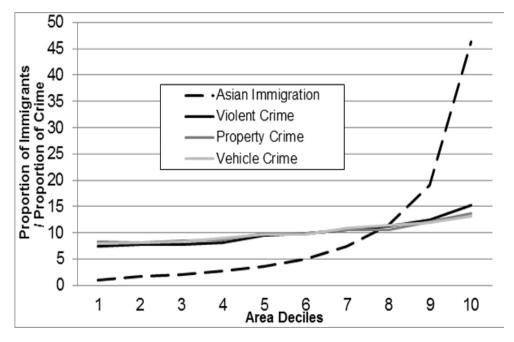


Figure 3

Proportional distribution of first generation Asian immigrants and recorded violent, property and vehicle crimes in England and Wales, 2011. Sources: UK Census 2011, Office for National Statistics.



Let us now clarify the picture outlined above with more detail. First, the graphs demonstrate the strong concentration of each immigrant group. 33% of European immigrants (Figure 1) in the UK occupy 10% of the MSOAs, 44% of African immigrants (Figure 2) occupy 10%, and 47% of Asian immigrants (Figure 3) occupy 10%. Each immigrant group sees a sharp increase around the 8th decile of their proportion in those areas, indicating that immigrant groups across the UK are by no means distributed evenly and that most areas have little to none. Each graph also includes the proportion of violent, property and vehicle crime in the deciles. All types of crime remained consistently low, below or around 10% per decile, for all immigrant groups up to the 7th decile, showing no particular proclivity for any crime type of any immigrant group. For European and African immigrants, the 8th and 9th deciles saw a sharp increase of all crime types, but then a sudden decrease in the 10th decile.

However, for Asian immigrants, the increase in all crime types continued to steadily increase until the 9th and 10th deciles, where crime spikes. This may seem as though concentration of Asian immigrants is therefore uniformly indicative of increased crime rates, though it is worth noting that when considering the *proportion* of Asian immigrants and the *proportion* of crime, the greatest difference occurs when the proportion of Asian immigrants is at its highest (Table 1.). This is also true of European and African immigrants. In short, the concentration of immigrants seems to have a more positive impact on all crime types in the areas of most immigration.

Table 1

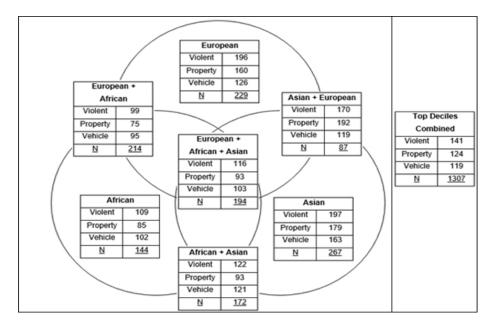
Proportion of first generation European, African and Asian immigrants versus the proportion of crime in 9th and 10th area deciles by immigration, 2011. Sources: UK Census 2011, Office for National Statistics.

	European		African		Asian	
	9 th Decile	10 th	9 th Decile	10 th	9 th Decile	10 th
		Decile		Decile		Decile
Violent	1.103447	2.48955	1.489531	4.039594	1.5184	3.031393
Crime						
Property	1.254948	2.744857	1.560526	5.17796	1.572494	3.400587
Crime						
Vehicle	1.375589	3.007701	1.560329	4.225034	1.594958	3.524715
Crime						

The second stage of analysis uses only the areas that fell under top deciles by each immigrant group population, i.e. the 10% of areas containing most European, African and Asian immigrants respectively. The areas shared by immigrant groups (e.g. areas which were in the top decile for European immigrants and African immigrants) are displayed as separate categories and named after all populations that were prevalent in those areas in such a way (European and African; Asian and African; European and Asian; European, Asian and African). The total number of all areas that fell under either criterion was 1307. The average rates of violent, property and vehicle crimes for the areas in each category were calculated and indexed against the absolute average crime rates across England and Wales (N=7201) which were treated as 100. The average rates for all areas in the top deciles (N=1307) are also displayed.

Figure 4

Recorded violent, property and vehicle crimes in areas that fall under the top decile by either European, African and Asian first generation immigration. England and Wales average indexed as 100. Sources: UK Census 2011, Office for National Statistics.



As is visible in Figure 4, the areas with the lowest average crime rates across the board are those shared by European and African immigrants, which is also the most common type of mixed area, with 214 MLSOAs falling into this category. Of the mixed areas, "European + Asian" has the highest crime rates and is by far the least common mix, with just 87 MLSOAs falling into the 10th decile by both of these immigration categories. Interestingly, when two or more immigrant groups are prevalent in an area, the resulting rates of crime in those areas tend to fluctuate somewhere in-between the rates of the areas populated by the same groups

separately. For example, the Violent, Property and Vehicle crime rates in areas labelled as "African + Asian" are higher than those of areas labelled just as "African" but lower than those of just "Asian". However, this rule does not seem to apply to the mix of European and African immigrants, where areas with such immigrant mix saw lower rates of crime than either European or African areas separately. In addition, crime rates for all crime types in such areas were much lower than the overall average. This drop in crime rates should be viewed as very favourable and academically intriguing, and the examination of the relationship between the two could be logically considered as a strong factor in the decline worth investigating further. Areas with European and Asian immigrants being the least common and having the highest of crime rates would also suggest that the relationship between the two populations may be criminally unfavourable and again would make for compelling further research.

Conclusion

It is a common perception that immigration is linked with increased crime rates. Most literature on the topic, however, refutes that simple view. The present research is no exception. First-generation immigrants from Europe, Africa and Asia were analysed using UK census data to establish the areas in which they are most concentrated. Police data were used to establish recorded crime statistics in those areas. This showed that proportionately, the areas with the most first-generation immigrants with a particular area of origin saw lower crime rates than areas with fewer first-generation immigrants. Sharp increases in crime rates in the 8th and 9th deciles of areas by the levels of first-generation immigrant populations and the sudden decline (excluding areas with Asian immigration, though proportionately still boasting low

crime rates) in the 10th may lead one to speculate as to what triggers the change from 7th to 8th deciles, and that from 9th to 10th. Perhaps the implied homogeneity of such areas leads to more harmonious living environments, but only for the highest concentrations of first-generation immigrants, suggesting that there may be a level of proportion that has optimal effects on crime.

The combination of high levels of European and African immigrants, however, saw the lowest crime rates of any group, singular or mixed, and was the most common type of area with more than one prevalent immigrant population. The theory of proportion outlined above would still be applicable, but practically one may be more inclined to suggest that the combination of those immigrant populations in the UK could have a positive impact on the host population as well as each other, enough to encourage such a mix to occur more frequently. This is at this stage speculation and requires more research. The areas with the highest levels of both European and Asian first-generation immigrants were by far the least prevalent and saw the highest crime rates. One may speculate that some aspect(s) of the two populations' lifestyle causes tension. This is assuming, as in the previous case, that the factors involved in the impact on crime rates are the same that impact how common a mix of the two immigrant groups is. Though again, this is merely the subject of speculation and certainly invites more research in the area.

How the different immigrant groups coexist and the impact that has on crime rates, as mentioned above, may be a particular concern with regard to policing practice. In the areas where there are high concentrations of immigrant groups that seem to have some connection to higher crime rates, the approach to policing may benefit from considering the potentially problematic conflict. The work of Alonso-Borrego (2012) indicated that contrasting cultures are more likely to see higher crime rates. This idea may be coupled well with the work of Los et al. (2017), that demonstrates the differences in victim judgements of offence seriousness from first generation immigrants. The differences seem to be culturally based, at least in part, where they are found. Reporting of crimes to police was also examined and found to differ across immigrant groups. These differences in the relationship certain immigrants have with crime may be of interest for operational policing. How one might effectively police these areas, consisting of people from conflicting backgrounds, each with their own culturally different relationship with crime, would be different from policing an area with few immigrants. The present authors would advocate some form of culturally aware policing, with police who have a good (preferably personal) understanding of the culture of the people they are to be policing. This approach would consider the needs of the people being policed, which would be important for areas with a high concentration of one group of first generation immigrants and even more so for those with a mix.

Clearly, how concentration of first-generation immigrants in the UK affects crime rates is complex, as demonstrated here. Even more complex is the effect of the firstgeneration immigrants of different origins on each other and how that in turn affects crime rates, even more dramatically than singularly, in both directions. The picture painted in this article, alongside the previous work briefly summarised, is not a complete one, but also not without practical implications. As the academic cliché goes, further research is necessary.

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References

Alonso-Borrego, C., Garoupa, N., & Vazquez, P. (2012). Does Immigration Cause Crime? Evidence from Spain. *American Law and Economics Review, 14* (1), 165-191. doi: 10.1093/aler/ahr019.

Bell, B. & Machin, S. (2013). Immigrant Enclaves and Crime. *Journal of Regional Science*, 53 (1), 118-141. doi: 10.1111/jors.12003.

Bell, B., Machin, S., & Fasani, F. (2013). Crime and immigration: evidence from large immigrant waves. *Review of Economics and Statistics, 21* (3), 1278-1290. doi: 10.1162/REST_a_00337.

Bircan, T. & Hooghe, M. (2011). Immigration, diversity and crime: an analysis of Belgian national crime statistics, 2001-6. *European Journal of Criminology, 8* (3), 198-212. doi: 10.1177/1477370811403443.

Blumstein, A. & Wallman, J. (2000). *The Crime Drop in America.* Cambridge: Cambridge University Press.

Feldmeyer, B. (2009). Immigration and violence: The offsetting effects of immigrant concentration on Latino violence. *Social Science Research, 38* (3), 717-731. doi: 10.1016/j.ssresearch.2009.03.003.

Gallup. (2001). *Majority of Americans Identify Themselves as Third Generation Americans*. Retrieved from http://www.gallup.com/poll/4621/majority-americans-identify-themselves-third-generation-americans.aspx.

Home Office. (2011). *Crime in England and Wales 2010 to 2011.* Retrieved from https://www.gov.uk/government/statistics/crime-in-england-and-wales-2010-to-2011.

Ignatans, D. & Matthews, R. (in press). Immigration and the Crime Drop. *European Journal of Crime, Criminal Law and Criminal Justice*. Retrieved from http://eprints.hud.ac.uk/id/eprint/31245.

Ignatans, D. and Zielinski, K. (2015) 'The 'before, after and in between' of immigration. Criminal interactions of foreign born in England and Wales.' *Crime Surveys Users Conference*. Jisc, Brettenham House, London. 11 December.

Jaitman, L. & Machin, S. (2013). Crime and immigration: new evidence from England and Wales. *IZA Journal of Migration, 2* (19), 1-47. doi: 10.1186/2193-9039-2-19.

Los, G., Ignatans, D., & Pease, K. (2017). First-generation immigrant judgements of offence seriousness: evidence from the crime survey for England and Wales. *Crime Prevention and Community Safety, 19* (2), 151-161. doi: 10.1057/s41300-017-0019-2.

Lyons, C.J., Vélez, M.B., & Santoro, W.A. (2013). Neighborhood Immigration, Violence, and City-Level Immigrant Political Opportunities. *American Sociological Review, 78* (4), 604-632. doi: 10.1177/0003122413491964.

Martinez Jr, R. & Stowell, J.I. (2012). Extending Immigration and Crime Studies: National Implications and Local Settings. *The Annals of the American Academy of Political and Social Science, 641* (1), 174-191. doi: 10.1177/0002716212437363.

Murphy, K. & Mazerolle, L. (2016). Policing immigrants: Using a randomized control trial of procedural justice policing to promote trust and cooperation. *Australian and New Zealand Journal of Criminology*, 0 (0), 1-20. doi: 10.1177/0004865816673691.

Nunziata, L. (2015). Immigration and crime: evidence from victimization data. *Journal of Population Economics*, 28 (3), 697-736. doi: 10.1007/s00148-015-0543-2.

Sampson, R. (2006, March 11). Open Doors Don't Invite Criminals. *The New York Times.* Retrieved from http://www.nytimes.com/2006/03/11/opinion/open-doors-dont-invite-criminals.html

Office for National Statistics. (2014). *Annual Small Area Population Estimates: 2013.* Retrieved from

https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/bulletins/annualsmallareapopulationestimates/2014-10-23.

Skogan, W. (2009). Concern About Crime and Confidence in the Police. *Police Quarterly*, *12* (3), 301-318. doi: 10.1177/1098611109339893.

Skogan, W. & Frydl, K. (2004). *Evidence on Policing :Fairness and Effectiveness in U. S. Law Enforcement*. Retrieved from http://ebookcentral.proquest.com/lib/hud/detail.action?docID=3376394.

Theodore, N. & Habans, R. (2016). Policing Immigrant Communities: Latino perceptions of police involvement in immigration enforcement. *Journal of Ethnic and Migration Studies, 42* (6), 970-988. doi: 10.1080/1369183X.2015.1126090.

Travis, A. (2014, January 15). Police crime figures lose official status over claims of fiddling. *The Guardian*. Retrieved from https://www.theguardian.com/uk-news/2014/jan/15/police-crime-figures-status-claims-fiddling.

Van Craen, M. (2012). Determinants of Ethnic Minority Confidence in the Police. *Journal of Ethnic and Migration Studies, 38* (7), 1029-1047. doi: 10.1080/1369183X.2012.681447.

Vélez, M.B. (2009). Contextualizing the Immigration and Crime Effect: An Analysis of Homicide in Chicago Neighborhoods. *Homicide Studies, 13* (3), 325-335. doi: 10.1177/1088767909337238.

Wadsworth, T. (2010). Is Immigration Responsible for the Crime Drop? An Assessment of the Influence of Immigration on Changes in Violent Crime Between 1990 and 2000. *Social Science Quarterly, 91* (2), 531-553. doi: 10.1111/j.1540-6237.2010.00706.x.

Wu, Y., Sun, I.Y., & Smith, B.W. (2011). Race, Immigration, and Policing: Chinese Immigrants' Satisfaction with Police. *Justice Quarterly, 28* (5), 745-774. doi: 10.1080/07418825.2010.535009.