so well developed that variation in crime only reflects risk factors related to individual behavioural propensity and continuity. More specifically, the findings point to the paramount importance of educational attainment in crime causation. If not possible even sooner, efforts aimed at preventing criminal careers should be targeted at young people at risk of dropping out of compulsory or secondary education, or who are already school drop-outs. Although the relationship between low educational attainment and delinquency is a complex one, with both selection and causation mechanisms at play, it is safe to say that dropping out of school and delinquency go together (Maguin and Loeber, 1996). At least in the Finnish context, in which the overall educational level has been rising steadily, those without qualifications are in an increasingly weak position in the labour market. This may in turn contribute to the increasing risk of marginalization and social exclusion for those remaining outside further education.

## Note

We thank Ville Hinkkanen and Reino Sirén for creating the data file and the two anonymous reviewers for their helpful comments.

1. We replicated this analysis using number of prior crimes rather than crime-type specific variables as a measure. This was done in order to assess whether those on more persistent criminal careers would have a particularly elevated risk compared to those with only one offence. This proved to be true. Those with several offences in the past had a particularly high crime probability. However, the results for the effects of SES variables were similar in both analyses, so we decided to keep the original crime-type specific controls.

## References

- Agnew R (1992) Foundation for a general strain theory of crime and delinquency. *Criminology* 30(1): 47–87. Agnew R, Matthews S, Bucher J, Welcher A and Keyes C (2008) Socioeconomic status, economic problems, and delinquency. *Youth & Society* 40(2): 159–181.
- Bäckman O and Nilsson A (2011) Pathways to social exclusion a life-course study. *European Sociological Review* 26: 107–123.
- Bjerk D (2007) Measuring the relationship between youth criminal participation and household economic resources. *Journal of Quantitative Criminology* 23(1): 23–39.
- Cernkovich S, Giordano P and Pugh M (1985) Chronic offenders: The missing cases in self-report delinquency research. *Journal of Criminal Law & Criminology* 76(3): 705–732.
- Christoffersen M, Soothill K and Francis B (2007) Violent life events and social disadvantage: A systematic study of the social back-ground of various kinds of lethal violence, other violent crime, suicide, and suicide attempts. *Journal of Scandinavian Studies in Criminology and Crime Prevention* 8(2): 157–184.
- Christoffersen M, Soothill K and Francis B (2008) Risk factors for a first-time drink-driving conviction among young men: A birth cohort study of all men born in Denmark in 1966. *Journal of Substance Abuse Treatment* 34(4): 415–425.
- Elonheimo H, Sourander A, Niemelä S and Helenius H (2010) Generic and crime type specific correlates of youth crime. A Finnish population-based study. *Social Psychiatry and Physiatric Epidemiology* 00 (accessed 18 April 2011).
- Esping-Andersen G (1999) Social Foundations of Postindustrial Economies. Oxford: Oxford University Press.
- Farnworth M, Thornberry T, Krohn M and Lizotte A (1994) Measurement in the study of class and delinquency: Integrating theory and research. *Journal of Research in Crime and Delinquency* 31(1): 32–61.

- Farrington D, Jolliffe D, Hawkins J, Catalan R, Hill K and Kosterman R (2003) Comparing delinquency careers in court records and self-reports. *Criminology* 41(3): 933–958.
- Galloway T and Skarðhamar T (2009) *Does Parental Income Matter for Onset of Offending?* Statistics Norway Discussion Paper No. 558. Oslo: Statistics Norway.
- Gottfredson M and Hirschi T (1990) *A General Theory of Crime*. Stanford, CA: Stanford University Press. Halleröd B and Westberg A (2006) Youth problem: What's the problem?: A longitudinal study of incomes and economic hardships among Swedish youth. *Acta Sociologica* 49(1): 83–102.
- Herttua K, Mäkelä P and Martikainen P (2008) Changes in alcohol-related mortality and its socioeconomic differences after a large reduction in alcohol prices: A natural experiment based on register data. *American Journal of Epidemiology* 168(10): 1110–1118.
- Keltikangas-Järvinen L (2008) Käyttäytymistieteet ja yliopiston kolmas tehtävä [Behavioural sciences and the third role of the university]. *Tieteessä tapahtuu* 26(5): 37–40.
- Kivinen O, Hedman J and Kaipainen P (2007) From elite university to mass higher education. Educational expansion, equality of opportunity and returns to university education. *Acta Sociologica* 50(3): 231–247.
- Kivivuori J (2007) *Delinquent Behaviour in Nordic Capital Cities*. Scandinavian Research Council for Criminology & National Research Institute of Legal Policy, Publication 227. Helsinki: National Research Institute of Legal Policy.
- Kivivuori J and Lehti M (2006) The social composition of homicide in Finland, 1960–2000. *Acta Sociologica* 49(1): 67–82.
- Kivivuori J and Salmi V (2009) The challenge of special needs education in school-based delinquency research. *Journal of Scandinavian Studies in Criminology and Crime Prevention* 10(1): 2–17.
- Kyvsgaard B (2003) *The Criminal Career. The Danish Longitudinal Study*. Cambridge University Press: Cambridge.
- Lahelma E, Laaksonen M, Martikainen P, Rahkonen O and Sarlio-Lähteenkorva S (2006) Multiple measures of socioeconomic circumstances and common mental disorders. *Social Science & Medicine* 63(5): 1383–1399.
- Lappi-Seppälä T (2007) Penal policy in Scandinavia. In: Tonry M (ed.) *Crime, Punishment, and Politics in Comparative Perspective. Crime and Justice A Review of Research* 36. Chicago, IL: University of Chicago Press, 217–296.
- Laub J and Sampson R (2003) *Shared Beginnings, Divergent Lives. Delinquent Boys to Age 70.* Cambridge, MA: Harvard University Press.
- Lorant V, Deliege D, Eaton W, Robert A, Philippot P and Ansseau M (2003) Socioeconomic inequalities in depression: A meta-analysis. *American Journal of Epidemiology* 157(2): 98–112.
- Maguin E and Loeber R (1996) Academic performance and delinquency. In: Tonry M (ed.) *Crime and Justice A Review of Research* 20. Chicago, IL: Chicago University Press, 145–264.
- Merton R (1938) Social structure and anomie. American Sociological Review 3(5): 672-682.
- Murray J, Farrington D and Eisner M (2009) Drawing conclusions about causes from systematic reviews of risk factors: The Cambridge quality checklists. *Journal of Experimental Criminology* 5(1): 1–23.
- Nagin D and Tremblay R (2001) Parental and early childhood predictors of persistent physical aggression in boys from kindergarten to high school. *Archives of General Psychiatry* 58(4): 389–394.
- Nilsson A and Estrada F (2009) Criminality and Life-Chances. A Longitudinal Study of Crime, Childhood Circumstances and Living Conditions up to Age 48. Stockholm University, Department of Criminology Report Series 2009: 3. Stockholm: Stockholm University.
- Pisa (2007) PISA 2006: Science Competencies for Tomorrow's World Volume 1. OECD.
- Remes H, Martikainen P and Valkonen T (2010) Mortality inequalities by parental education among children and young adults in Finland 1990–2004. *Journal of Epidemiology and Community Health* 64(2): 130–135.

180 Acta Sociologica 54(2)

Riala K, Isohanni I, Jokelainen J, Taanila A, Isohanni M and Räsänen P (2003) Low educational performance is associated with drunk driving: A 31-year follow-up of the northern Finland 1966 birth cohort. *Alcohol & Alcoholism* 38(3): 219–323.

- Ring J (1999) *Hem och skola, kamrater och brott.* Stockholm: Kriminologiska Institutionen, Stockholms Universitet.
- Ring J and Svensson R (2007) Social class and criminality among young people: A study considering the effects of school achievement as a mediating factor on the basis of Swedish register and self-report data. *Journal of Scandinavian Studies in Criminology and Crime Prevention* 8(2): 210–233.
- Salmi V and Kivivuori J (2006) The association between social capital and juvenile crime: The role of individual and structural factors. *European Journal of Criminology* 3(2): 123–148.
- Savolainen J (2009) Work, family, and criminal desistance: Adult social bonds in a Nordic welfare state. *British Journal of Criminology* 49(3): 285–304.
- Skarðhamar T (2009) Family dissolution and children's criminal careers. *European Journal of Criminology* 6(3): 203–223.
- Skarðhamar T and Telle K (2009) *Life After Prison. The Relationship Between Re-Incarceration and Employment.* Statistics Norway Discussion Paper No. 558. Oslo: Statistics Norway.
- Sourander A, Elonheimo H, Niemelä S, Nuutila A-M, Helenius H, Sillanmäki L, et al. (2006) Childhood predictors of male criminality: A prospective population-based follow-up study from age 8 to late adolescence. *Journal of the American Academy of Child & Adolescent Psychiatry* 45(5): 578–586.
- Statistics Finland (2009) *Peruskoulun koulupudokkaat lukuvuosina 1999/2000–2007/2008* [Compulsory school drop-outs during years 1999/2000–2007/2008]. Available at: http://www.stat.fi/til/kkesk/2007/kkesk\_2007\_2009-03-11\_tau\_005.html
- Tittle C, Villemez W and Smith D (1978) The myth of social class and criminality: An empirical assessment of the empirical evidence. *American Sociological Review* 43(5): 643–656.
- Valkonen T, Martikainen P, Jalovaara M, Koskinen S, Martelin T and Mäkelä P (2000) Changes in socio-economic inequalities in mortality during an economic boom and recession among middle-aged men and women in Finland. *European Journal of Public Health* 10: 274–280.
- Wei E, Loeber R and Stouthamer-Loeber M (2002) How many of the offspring born to teenage fathers are produced by repeat serious delinquents? *Criminal Behaviour and Mental Health* 12(1): 83–98.
- Vold G, Bernard T and Snipes J (1998) Theoretical Criminology. Oxford: Oxford University Press.
- Wright B, Caspi A, Moffitt T, Miech R and Silva P (1999a) Reconsidering the relationship between ses and delinquency: Causation but not correlation. *Criminology* 37(1): 175–194.
- Wright B, Caspi A, Moffitt T and Silva P (1999b) Low self-control, social bonds, and crime: Social causation, social selection, or both? *Criminology* 37(3): 479–514.

**Mikko Aaltonen** is currently working on his doctoral thesis at the Department of Social Studies, University of Helsinki. His thesis is on socio-economic differences and intergenerational transmission in violent offending and victimization in Finland. He recently co-authored an article published in *Criminology*, a leading international journal in criminology.

Janne Kivivuori is Research Director at the National Research Institute of Legal Policy and Adjunct Professor (Docent) in sociology at the University of Helsinki. His work has centred on studies of juvenile delinquency and homicide. His recent work has appeared in, among others, *Acta Sociologica*, *British Journal of Criminology*, *European Journal of Criminology* and *Journal of Scandinavian Studies in Criminology and Crime Prevention*.

**Pekka Martikainen** is Professor of Demography at the Department of Social Studies, University of Helsinki. He obtained his PhD at the London School of Economics and Political Science in 1994.

He has written on socio-demographic differences in mortality, and on the effects on mortality of the death of a spouse, of unemployment and of living arrangements. His current research interests include changes and causes of socio-economic differences in cause-specific mortality, and sources and use of care in ageing populations. He has also been involved in cross-national comparisons of health inequalities.