The mortality experience of middle class offenders- a 35 year follow-up

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Background

Most long term studies focus on recidivism or desistance as outcome.
However, there has been a recent burgeoning interest in examining the mortality experience of offenders as outcome.

There have been various studies of general offenders showing increased mortality in the short term compared to the general population, but few long term studies, and none on middle class offenders.

This study combines a long term follow-up of a group of middle class offenders with a careful examination of the hazard of mortality after release compared with a matched sample from the general population

It is also worth noting that mortality can cause reconviction risk to be underestimated in long term studies if not taken into account.

Criminological theory and offender mortality

Piquero, Farrington, Shepherd and Auty (2012) identify two reasons from theory as to why mortality might be higher in an offender sample compared to a non-offender sample.

First, Gottfredson and Hirschi's General Theory of Crime (1990) suggests that low self control is the single most important factor in offending. An offender is more likely to live for the moment, leading a risky lifestyle and therefore having increased risk of mortality.

Secondly, Moffitt's theory of developmental taxonomy distinguishes chronic offending from adolescent –limited offending, with the former exhibiting anti-social behaviour including violence and a hostile personality, and placing them at greater risk of early mortality.

There is also short term risk on release from prison. (Next slide)

Previous work- Prison studies

An increasing number of studies looked at short term mortality (within six months) after release from prison. (e.g. Seaman et al,1998; Bird and Hutchinson, 2003; Farrell and Marsden, 2008) One explanation for increased short term mortality is that drug-using offenders can overdose on release by mistake, as drug tolerance built up before prison has been lost.

Previous work – long-term offender studies

Cambridge study (Farrington and West, 1993; Piquero et al, 2012)

411 working class boys born in London in 1953 – Mortality up to late 1950s tracked via family and through death certificates. 13.4% of offenders died by the end of 2010 compared to 3.6% of non-offenders. Relative risk of 3.8.

Glueck's study. (Laub and Valiant, 2000). Persistent juvenile offenders (N=500) and a matched control group N=500). Mainly working class. 42% of offenders had died by age 65, compared to 27% of non-offenders. Relative risk of 1.6.

Dutch study. (Nieuwbeerta and Piquero, 2008). 4615 offenders convicted in 1977 taken from administrative records, followed up to 2003. 17% of sample died compared to an anticipated 9.7% for the general population (males). Relative risk of 1.8.

Discussion of previous work

Sample: Previous work has primarily focused on specific samples (working class London or Massachusetts working class males)

The Dutch study has inappropriate controls (general population). Offenders are more likely to be disadvantaged and controls should reflect that.

We cannot be sure that the results from the Cambridge and Glueck samples would generalise to middle class offenders, who may be more like the general population in life expectancy.

Failure to look at risk over time: Comparison of death rates available at fixed points, but no real focus on changing hazard of dying over time.

Locality: Offender studies have also failed to take into account that offenders more likely to come from specific high-crime localities, and that these locations are more likely to have low life-expectancy.

eg life expectancy at birth : Kensington, London 85.1 Lewisham, London 77.1 Glasgow city 71.6 (Guardian online -19 Oct 2011)

Research questions

Do middle class offenders have an enhanced mortality risk compared to members of the general population after controlling for gender, age and locality?

If so, does the excess risk fade over time, or does offending still raise the mortality risk in the medium (after 10 years) and long term (after 20 years)?

Our data

A consecutive series of 340 offenders who had developed a Curriculum Vitae and who were all seeking white-collar employment between 1 January 1970 and 31 March 1973.

Most had completed a prison sentence for a variety of offences and had just been released.

They were all interviewed between 1970 and 1973 (the target date).

Criminal history tracing: 317 offenders for reconviction traced up to end of 2008 on Offenders Index (Soothill ,Humphreys, Francis, British Journal of Criminology, 2012)

We, however, are concerned about mortality experience after the target date.

Tracing death records in the UK.

This is not an easy process, as the central death index can only be searched for medical research studies.

We instead used `ancestry.co.uk`. Given date of birth and full name, we can find dates of death.

Of the 340 offenders,

- 302 were found on ancestry.co.uk

- 38 were not present (no birth, marriage or death)

The matched control sample

- We controlled for gender, date of birth (to nearest six months) and place of birth (area of city, town, rural area).

- So far, offender's place of birth (not collected at interview) was identified from the `ancestry` records for 220 offenders.

- A male control born in the same place on the same date of birth (to nearest six months) was then selected from ancestry.co.uk

- The control was then followed up on `ancestry.co.uk`, and the date of death recorded where found, If the date of death was prior to the date of offender interview, then the control was rejected and a new control selected.

- We match by locality as this gives us a method of (imperfectly) controlling for social class.

We do not know if the controls are offenders or not, but they represent matched cases from the general population.

Preliminary results

Matched case-control pairs = 220

Cases:	101 deaths by end of 2011.
Controls:	56 deaths by end of 2011.

Relative risk of mortality if in offender group compared to matched controls =101/56 = 1.80

This relative risk is almost identical to that found by Nieuwbeerta and Piquero, and by Valiant and Laub.

Hazard function plots

How does the hazard of mortality change over time from the target date?
(the yearly hazard is the risk of dying in a specific year given survival up to that point)

We examine the hazard in five year periods for the offenders and controls.

No. of years since target date	Offender yearly hazard	Control group yearly hazard.
<5 years	.0055	.0009
5 and less than 10 years	.0096	.0027
10 and less than 15 years	.0111	.0075
15 and less than 20 years	.0162	.0118
20 and less than 25 years	.0302	.0126
25 and less than 30 years	.0265	.0146

Hazard of mortality for offenders and age and locality matched controls

Hazard is higher for offenders throughout the lifecourse.

How does the relative risk change?

We look at ratio of hazards.

Yearly hazard of mortality since interview
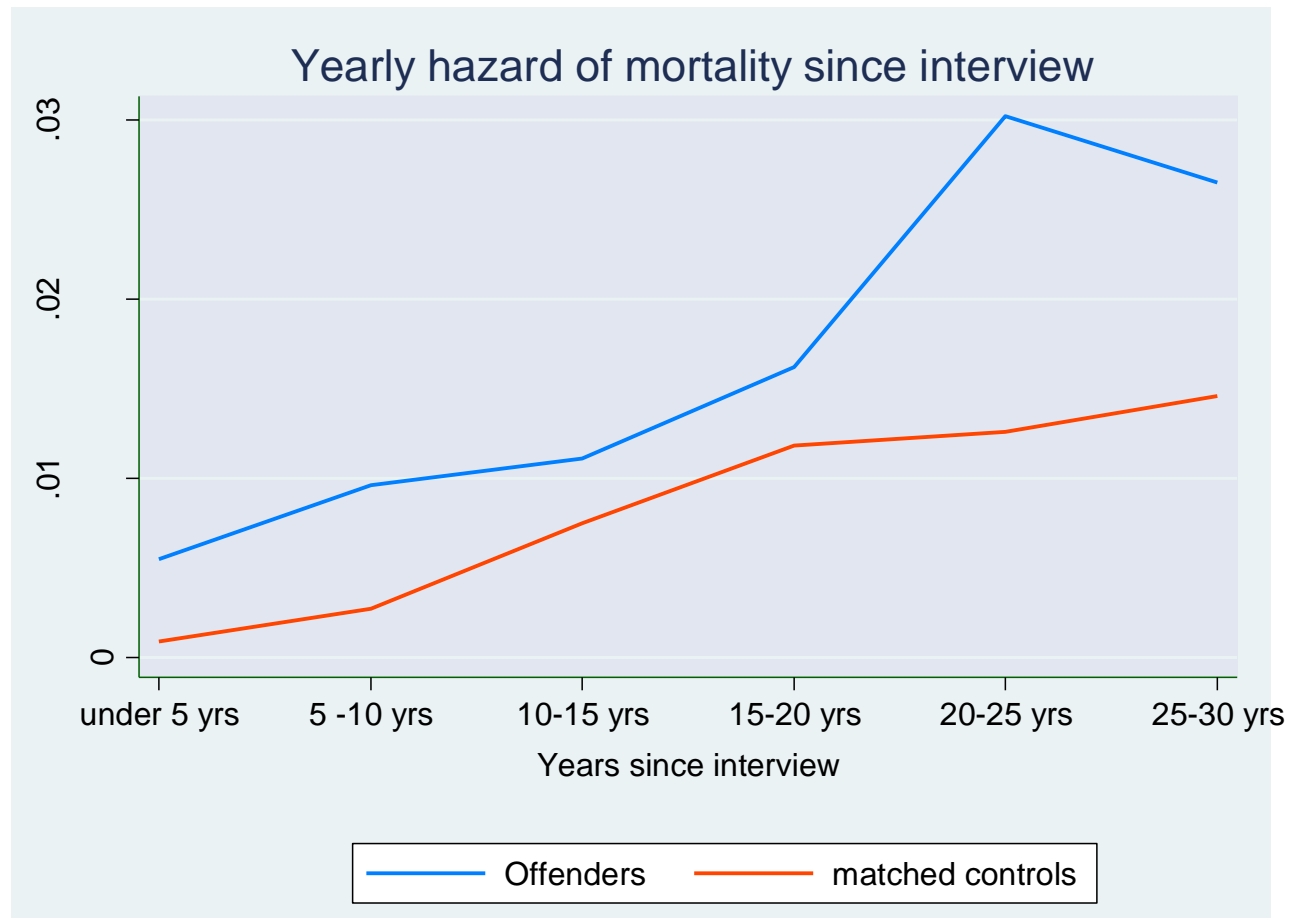
Relative risk of mortality after interview

Relative risk of mortality for the first five years after contact is 6.0, then declines to 3.5 in the next period. In the 10-15 and 15-20 year period the relative risk reaches a low of around 1.4

Small increases after 20 years are probably due to small numbers.

Years since interview
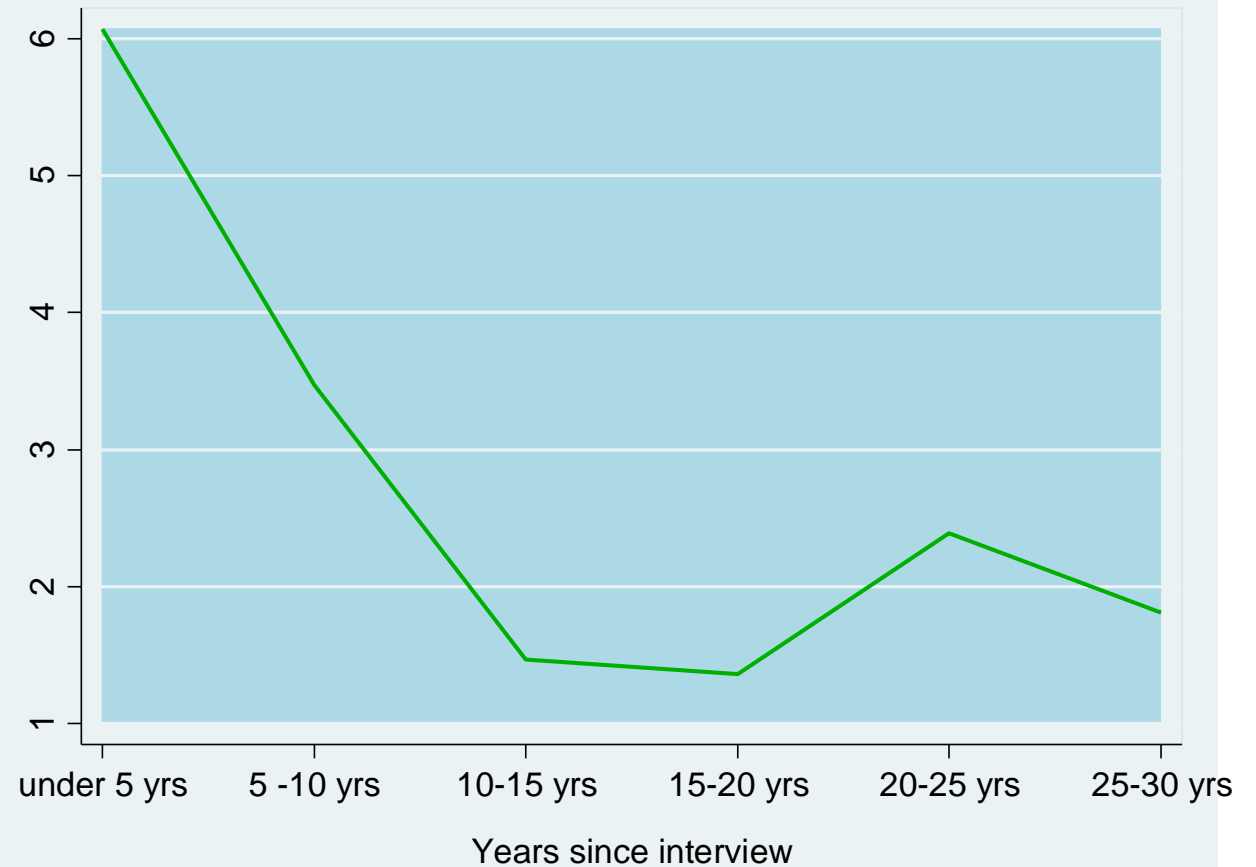
Conclusions

- A raised hazard for middle class **offenders** compared to thegeneral population matched on locality is evident throughout the life course.

- Evidence of both short and long term effects. The short term effects are particularly high, with a relative risk of 6.0 in the first five years.

- Note that these are preliminary results, and we hope to trace more offenders and their matched controls.

- We would also want to control for prior criminal history to examine whether those committing more offences are more at risk than those committing one or two.

Acknowledgements

References

Piquero, A. R., Farrington, D. P., Shepherd, J. P. and Auty, K. (2012) Offending and early deaths in the Cambridge Study in Delinquent Development. *Justice Quarterly. In press*

Not used…

The hazard rate analysis.

We used a Cox discrete time model, which allowed us to control for age in thre analysis,

We define $p_i(t)$ to be the hazard of death at time t after conviction for person i.

This is the probability of dying in time (t-1,t] given that the person has survived up to time t-1.

We model $p_i(t)$ through the following binomial model:

$$\ln\left(\frac{p_i(t)}{1 - p_i(t)}\right) = \alpha_{\{itk\}} + \beta.\text{age} \quad (k = offender, control)$$

This says that each person has a separate baseline hazard, and the log odds of the hazard changes linearly with age