



## Studying specialization and Escalation using the Offenders Index

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# Introduction

- Probably the two most common assumptions about offenders amongst the general population is that offenders specialise in certain offences, and that offenders, unless stopped, will escalate their offending – that is , they will go on to commit worse offences as they get older.
- However, criminologists have struggled to determine whether specialisation and escalation exist, and have come to widely varying conclusions on these topics. What is clear is that information on a large numbers of offenders is needed which has been collected over a long period of time.
- We first address general issues relating to criminal career data.
- We then address conceptual issues relating to specialization and escalation and how we address these issues.
- We then present some results from some recent analyses using the Offenders Index.

# Criminal Career data

## Criminal histories and Criminal careers

To measure specialisation and escalation, we need to analyse the criminal histories of offending for a collection of offenders.

There are two possible routes:

**Self report studies** – ask individuals about their offending behaviour, and track them through time in a prospective longitudinal panel survey.

Problem is that attrition causes the most active offenders to drop out of the panel survey. Also telescoping – remembering offending events at the wrong time. Offenders are also not truthful. Expensive to collect over long periods of time.

### Official histories

Larger sample sizes are possible. Analysis based on arrests ( US, German studies) or convictions ( US, UK studies). However unconvicted offending is not analysed.

## The Offenders Index data set

We use the **England and Wales Offenders Index** – a Home Office research data set, which is a court based record of the criminal histories of all offenders in England and Wales from 1963 to the current day.

The complete data set is rarely analysed. We analyse data from the Offenders Index Cohort study

There are six birth cohorts born in 1953, 1958, 1963, 1968, 1973 and 1978. Each **birth cohort** is an approximate **1 in 13 sample of all offenders in that birth year** and looks at all offenders born in four selected weeks.

The index stores dates of conviction, the offence code of the conviction and the disposal or sentence.

The Home Office estimate that one in three males born in England and Wales in 1953 will have a criminal record and be on the Offenders Index by the age of 40.

## Advantages with the data set

- It provides an excellent long term data set on offending over a 36 year period.
- The definition of offending is remarkably consistent over that time, with only minor changes to what constitutes a standard list offence. Can deal with minor changes **by removing** all offences which **become standard list** or **stop being standard list** over the 30 year period.
- The six birth cohorts enable analyses to be carried out on generational changes.
- Available in anonymised form, from the Data Archive.
- Large number of cases and convictions. For 1952 cohort, 51,911 offences in 33054 convictions for 11068 offenders ( 8851 males, 2217 females).

## Problems with the data set.

- ◆ It does not contain information on death, or immigration, or emigration. An individual might have left the country (perhaps to Scotland), but this would be viewed as a period of not offending in the dataset.
- ◆ The dataset is formed by **record matching**, taking court records and matching them on name and data of birth to form criminal histories. Although this procedure compares well with police records (Francis and Crosland, 2002; Home Office) it can introduce inaccuracies.
- ◆ It does not contain all offences, but only **standard list offences** – minor offending such as speeding and public order offences are omitted.
- ◆ It does not include police disposals such as cautions and warnings and fixed penalty fines.

## Example 1: Specialisation

# What is specialization?

At least two views:

Paternoster et al (1998) “Specialization is the extent to which an offender **tends to repeat the same specific offence** or offence type on successive events”

Gottfredson and Hirshi (1990) “Versatility is where offenders commit a variety of criminal acts, with no strong inclination to pursue a certain criminal act or pattern of criminal acts to the exclusion of others”. Specialization for G&H is thus is the opposite of versatility – where offenders have a strong inclination to exclude certain criminal acts.

The definitions are subtly different – Paternoster talks about staying within the same type of offence and refers to successive events, whereas Gottfredson and Hirshi offer a far broader definition.

Paternoster’s view is really driven by methodology and the use of the forward specialization coefficient.

# Specialization in offending

A number of approaches have been proposed.

- a) **Forward specialization coefficients** – for a large group of offenders construct a two-way table of counts (a transition matrix) of offenders between offence type at event  $t-1$  and event  $t$  ( event could be court appearance, or arrest etc). Measure the divergence from randomness in staying in the same offence category.
- b) **Diversity indices** (e.g. Piquero et al,1999; Sullivan et al ;2006). Measures the degree of versatility in the offence history of an individual over a fixed period of time.
- c) **Regression approach**. Does prior offending of a specific type predict future offending of the same type? If so, then there is evidence of specialization. (Deane, Armstrong and Felson, 2005)

## Criticisms of specialization approaches.

- a) Forward specialisation calculations have no calendar time concept – adjacent court appearances can be separated by a couple of weeks or by years. Also principal offence problem -need to classify a court appearance or arrest for rape and violence as either a sexual or violent offence.
- b) Diversity indices depend on number of categories chosen. They produce individual scores and score distributions but difference from randomness is often not examined.
- c) Regression approach relies on choice of other variables also used to predict future offending of a specific type.

Do these measure what we want to measure?

## ***An alternative concept – lifestyle specialization***

The idea is that offenders will engage in certain activities from the menu of available offences but not others.

Their “menu choice” may in addition change over the life course.

Moves away from the idea of the versatility of “cafeteria-style” delinquency” (Klein, 1971) where offence choice is “random”, to recognition that some metaphorical diners are vegetarian, some only eat burgers etc.

Thus some burglars will avoid people – burgle commercial premises and empty houses – and will be unlikely to engage in violence but may also handle stolen property. Other burglars might well relish the chance of confrontation when burgling houses and will become involved in violence and sexual offending.

There is some justification for this from interview studies and biographies of offenders. Can we find evidence in data?

## Lifestyle specialization and methodology

We use **latent transition analysis** to analyse the Offenders Index. This will identify distinct offending patterns (or offending lifestyles) of offenders, and will also estimate transitions between these patterns as the offenders age.

We take three five year age groups of offenders (10-15, 16-20, and 21-25)

We can measure the diversity of each offending lifestyle to see how specialised each is.

Thus our analysis allows offenders to change specialisation over their lifetime at specific points in time.

We leave out the technical detail and go to the results, looking at female offending in the six cohorts.

## The offending latent classes and diversity

We identify five latent classes of female offending. One is a non-offending group. The other four have varying amounts of diversity.

**Shoplifting** - only engaged in shoplifting

**Theft and shoplifting** - stealing from others and also from shops

**Theft/Receiving and fraud** – fraudulent behaviour at work, receiving, theft.

**Versatile** – drugs, shoplifting, theft, violence, receiving, damage

We can calculate the average diversity for each latent class.

	Average diversity
Theft/receiving and fraud	0.185
Theft and shoplifting	0.121
Versatile	0.664
Shoplifting	0.085

The shoplifting group is most specialised, followed by the theft and shoplifting group.

## The female class size proportions by age for the four conviction latent classes

For those females who offended between ages 10 and 25, we can look at the the proportions.

We see the proportion of offenders engaged in theft and shoplifting declines as age increases. Also the poportion of those engaging in fraud increases.

Is there a transition from one group to the other?

	Age group			Diversity
	10-15	16-20	21-25	
Theft/receiving and fraud	0.003	0.293	0.511	0.185
Theft and shoplifting	0.716	0.391	0.096	0.121
Versatile/ frequent	0.027	0.082	0.119	0.664
Shoplifting	0.254	0.234	0.273	0.085

Proportion of all offenders aged 10-25	0.335	0.719	0.436
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## Female conviction transitions for those ever convicted Age group 1 to age group 2

Age 16-20

		Theft/receiving and fraud	Theft and shoplifting	Versatile/frequent	Non-offending	shoplifting
Age 10-15	Theft/receiving and fraud	1.00	0.00	0.00	0.00	0.00
	Theft and shoplifting	0.03	0.83	0.12	0.02	0.00
	Versatile/frequent	0.04	0.22	0.56	0.18	0.01
	Non-offending	0.30	0.00	0.04	0.41	0.25
	Shoplifting	0.00	0.94	0.02	0.01	0.02

Calculated from offending sample.

Some **stability** observed in the four **offending** groups. Changes in proportions come from **non-offenders** joining the **shoplifting** and **theft/receiving** groups. Very little desistance observed.

## Female conviction transitions for those convicted 10-25 Age group 2 to age group 3

Age 21-25

		Theft/receiving and fraud	Theft and shoplifting	Versatile/frequent	Non-offending	shoplifting
Age 16-20	Theft/receiving and fraud	0.14	0.10	0.00	0.73	0.02
	Theft and shoplifting	0.03	0.07	0.01	0.87	0.01
	Versatile/frequent	0.08	0.01	0.58	0.29	0.05
	Non-offending	0.61	0.00	0.05	0.00	0.34
	Shoplifting	0.04	0.00	0.02	0.87	0.07

Calculated from offending sample.

Again, either stability or desistance are the most likely outcomes for the four offending classes. However, some evidence of escalation among some female offenders.

## Specialisation for female offenders – policy results

Evidence of short term specialisation for many offenders.

Most versatile offenders do not seem to graduate from less serious offences

Many offenders appear to limit themselves to a small range of property offences.

There is evidence that shoplifters graduate to shoplifting and theft as they progress in their criminal career.

## Example 2: escalation.

# Escalation in England and Wales

We refer to escalation as the **tendency to commit more serious offences as a career progresses**. (not the tendency to increase frequency of offending).

There are a number of issues which need to be addressed in examining escalation:

## a) The assessment of crime seriousness scale

Do we use expert judgement or a measure developed from data?

## b) Temporal scales in crime escalation

Some researchers have looked at change in seriousness with age, others have used change of seriousness with conviction or arrest.

## c) Statistical methodology

Multi-level longitudinal models seem to be the way forward.

## The Offence seriousness scale

We use a measure of offence seriousness developed from sentencing data, taking both non-custodial and custodial sentences into account,

Examples of the range of the seriousness score.

Type of crime	score
Murder	10.0
Rape of female 16+	8.1
Robbery	5.7
Shoplifting	3.6
Driving while disqualified	2.1
Selling food not complying with food safety	1.1

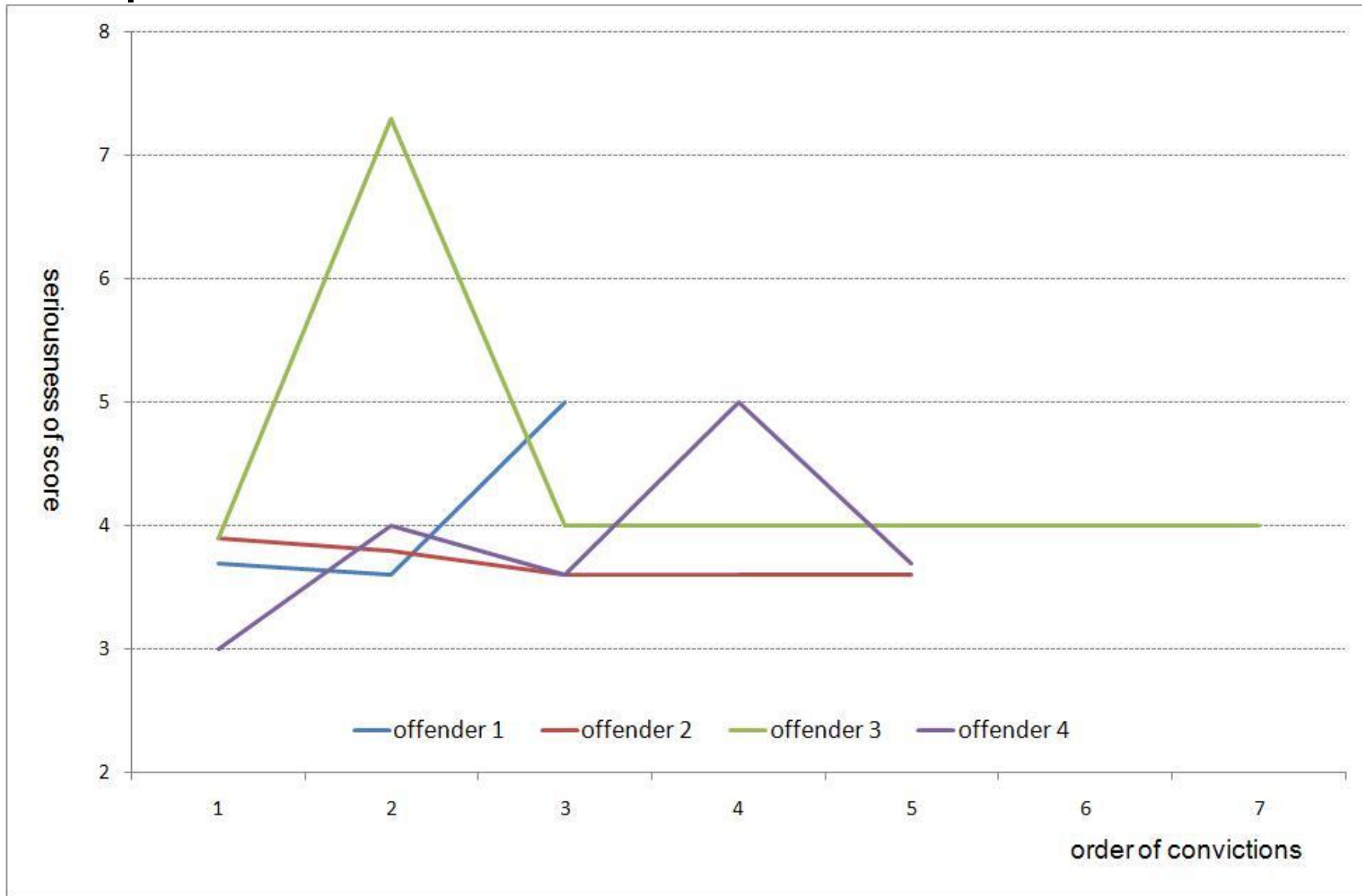
# The temporal scale

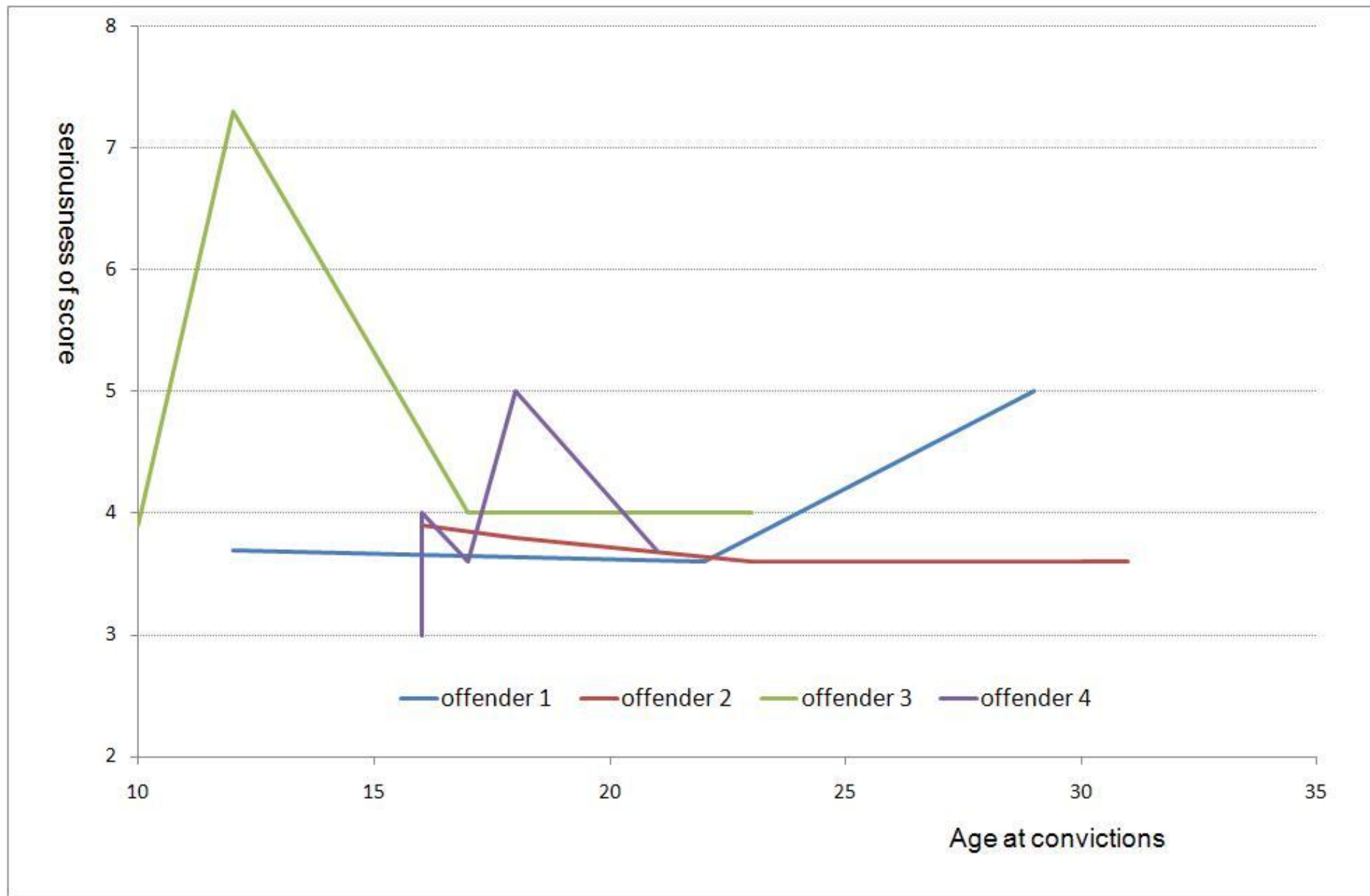
There are two ways of assessing change over time in the literature:

1. Change by conviction number ( or order of conviction)
2. Change over age

In fact, these are two separate scales. The first measures experience while the second measures maturation. While previous research has looked at one or the other, we propose a methodology to consider both.

## Examples from the Offenders Index





## Statistical methods

- Most approaches have taken a crime switching table approach, looking at the offence category at time  $t$  and compared it to the offence category at time  $t + 1$ .
- Other approaches have taken a descriptive approach, plotting mean severity score by age or conviction number.

We use a **multi-level model**, modelling the crime seriousness of a conviction, with gender, number of offences at conviction, **age of offender** and **conviction number** as covariates, and taking into account two sources of variability:

- Between convictions within offender
- Between offenders.

We allow for a random slope and random intercept for order of conviction.

## Some exciting results (Offenders index 1953 cohort - 2 convictions or more)

Fixed Effects:	Estimate of effect	S.E
Intercept	4.758	0.0545*
Order of conviction	0.009	0.0030*
Sex(female)	-0.144	0.0185*
Age at conviction < 18	-0.045	0.0034*
Age at conviction 18+	-0.015	0.0007*
log(No. of offences)	0.266	0.0091*
Random Effects :		
Offender intercept	0.233	
Order of conviction slope	0.020	
Residual	0.616	

Seriousness increases with experience

Seriousness decreases with maturity.

..but less strongly once offender becomes adult.

## Some policy implications

- Age at conviction ([maturation](#)) and number of convictions ([experience](#)) are pulling in different directions. De-escalation with increasing maturation, escalation with increasing experience;
- A large number of convictions over a short period of time for an offender is more likely to lead to escalation;
- Where there are long periods without a conviction, then maturation wins out over experience;
- Offenders younger than age 18, with more than 5 convictions a year or offenders 18 or over with 2 or more convictions a year are likely to show escalation.
- Substantial offender variability exists.

# Summary

- The Offenders Index is an excellent resource if the aim is to understand criminological processes.
- It is particularly useful for examining patterning, time to reoffending, and risk factors to later serious offending.
- The number of cases is large, and this means that the database does contain less common offences.
- Need to be aware that a conviction record is not a complete record of all criminal activity.

## References

Francis, B., Liu, J. And Soothill, K. (2009) Criminal lifestyle specialization: Female offending in England and Wales. Submitted to *International Criminal Justice Review*. Under revision.

Liu, J, Francis B and Soothill, K (2009) A Longitudinal Study of Escalation in Crime Seriousness. Submitted to *Journal of Quantitative Criminology*. Under revision.