



## Summary

The analysis assessed the impact of entering a Koestler Award during 2009 on re-offending. The one year proven re-offending rate<sup>1</sup> for 290 offenders who entered for an Award was 30%, compared with 29% for a matched control group of similar offenders. Statistical significance testing has shown that this difference is not significant<sup>2</sup>; suggesting that at this stage there is insufficient evidence to draw a conclusion about the impact of entering a Koestler Award on re-offending. However, the results of the analysis do not mean that entering for a Koestler Award failed to impact on re-offending.

**How these results should be interpreted:** There is insufficient evidence at this stage to draw a conclusion about the impact of entering a Koestler Award on re-offending.

**How these results should not be interpreted:** This analysis shows that entering the Koestler Awards increased proven re-offending by 1 percentage points, or by any other amount.

## Introduction

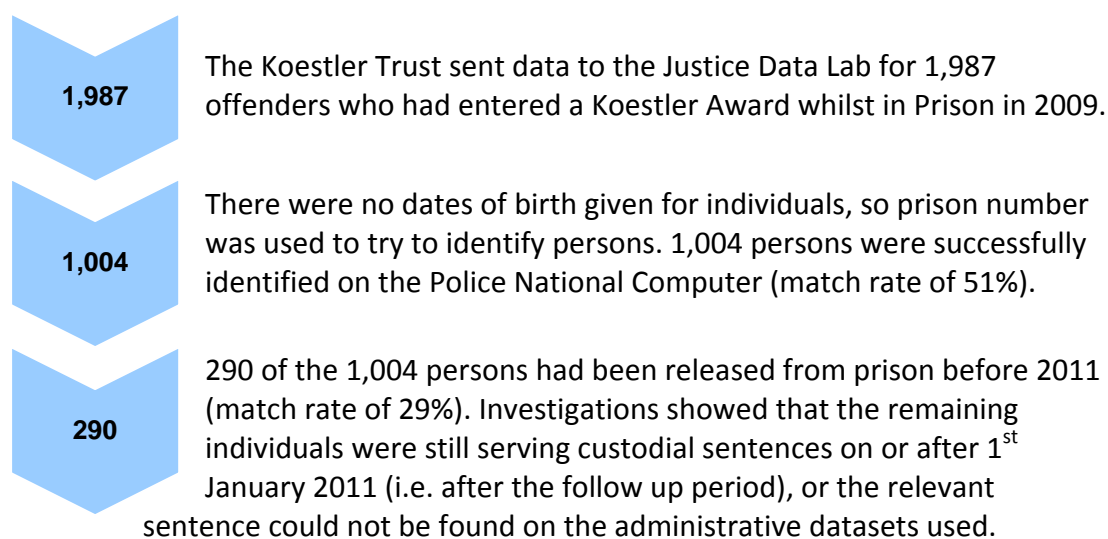
The Koestler Trust has run arts Awards for over 50 years, with the aim of helping offenders lead more positive lives, by motivating them to participate and achieve in the arts. Entries to the Koestler Awards are accepted for original work in 60 artforms by offenders in a wide range of settings across the country. Every entrant receives a certificate, most receive written feedback, and around a third win Awards, some with cash prizes. Information on participants who entered the Awards in 2009 was shared with the Justice Data Lab to examine the impact of entering the Awards on proven re-offending.

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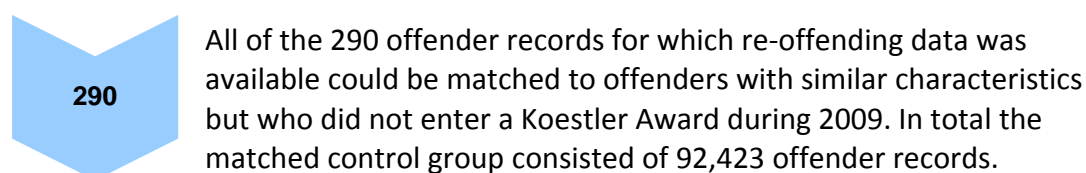
<sup>1</sup> The **one year proven re-offending rate** is defined as the proportion of offenders in a cohort who commit an offence in a one year follow-up period which received a court conviction, caution, reprimand or warning during the one year follow-up or in a further six month waiting period. The one year follow-up period begins when offenders leave custody or start their probation sentence.

<sup>2</sup> The difference was non-significant,  $p = 0.84$ . Statistical significance testing is described on page 4 of this report.

## Processing the Data



## Creating a Matched Control Group



Annex A provides information on the similarity between the treatment and control groups. Further data on the matching process is available upon request.

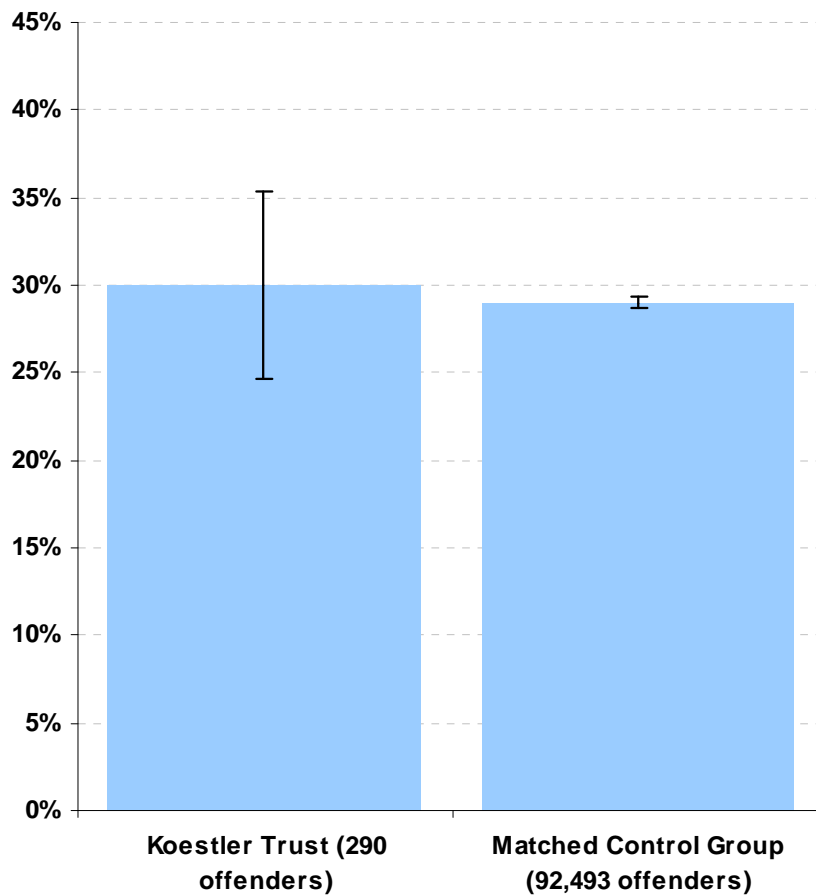
## Results

The one year proven re-offending rate for the 290 offenders who entered a Koestler Award was 30%. This compares to 29% for a matched control group of similar offenders. However this difference in re-offending is not statistically significant. This information is displayed in Figure 1 on the next page.

Figure 1 below presents 95% confidence intervals for the re-offending rates of both groups. For this analysis we can be confident that the true difference in proven re-offending between the groups is somewhere between -6 and 5 percentage points. However, because this difference crosses 0, we cannot be sure either way that entering a Koestler Award led to a reduction or an increase in re-offending and thus cannot draw a firm conclusion about its impact.

It is important to show confidence intervals because both the treatment and matched control groups are samples of larger populations; the proven re-offending rate is therefore an estimate for each population based on a sample, rather than an actual rate.

Figure 1: The one year proven re-offending rate for offenders who entered a Koestler Award in 2009 and a matched control group.



The precision of the estimated difference could be improved if the size of the group entering for a Koestler Award used in the analysis was increased.

### Caveats and Limitations

The statistical methods used in this analysis are based on data collected for administrative purposes. While these include details of each offenders' previous criminal, benefit and employment history alongside more basic offender characteristics such as age, gender and ethnicity, it is possible that other important contextual information that may help explain the results has not been accounted for. It is possible that underlying characteristics about the individuals included in the analysis which were not captured by the data (e.g. attendance at other interventions or services targeted at offenders) may have impacted re-offending behaviour.

Many organisations that work with offenders will look to target specific needs of individuals; for example improving housing, or employability. However, how the organisations select those individuals to work with could lead to selection bias,

which can impact on the direction of the results. For example; individuals may self select into a service, because they are highly motivated to address one or more of their needs. This would result in a positive selection bias, meaning that for these persons we would generally expect a better re-offending outcome as they are more motivated. Alternatively, some organisations might specifically target persons who are known to have more complex needs and whose attitudes to addressing their needs are more challenging. This would result in a negative selection bias, meaning that for these persons we would generally expect a poorer re-offending outcome as they are not motivated. However, factors which would lead to selection bias in either direction are not represented in our underlying data, and cannot be reflected in our modelling. This means that all results should be interpreted with care, as selection bias cannot be accounted for in analyses.

Furthermore, only 290 of the 1,987 offenders originally shared with the Justice Data Lab were in the final treatment group. The section “Processing the Data” outlines key steps taken to obtain the final group used in the analysis. In many analyses, the creation of matched control group will mean that some individuals, who will usually have particular characteristics – for example a particular ethnicity, or have committed a certain type of offence, will need to be removed to ensure that the modelling will work. Steps will always be taken at this stage to preserve as many individuals as possible, but due to the intricacies of statistical modelling some attrition at this stage will often result. As such, the final treatment group may not be representative of all offenders who have entered for a Koestler Award. In all analyses from the Justice Data Lab, persons who have ever been convicted of sex offences will be removed, as these individuals are known to have very different patterns of re-offending.

The re-offending rates included in this analysis **should not** be compared to the national average, nor any other reports or publications which include reoffending rates – including those assessing the impact of other interventions. The re-offending rates included in this report are specific to the characteristics of those persons entering the Koestler Awards and who could be matched. Any other comparison would not be comparing like for like.

For a full description of the methodology, including the matching process, see [www.justice.gov.uk/downloads/justice-data-lab/justice-data-lab-methodology.pdf](http://www.justice.gov.uk/downloads/justice-data-lab/justice-data-lab-methodology.pdf).

### **Assessing Statistical Significance**

This analysis uses statistical testing to assess whether any differences in the observed re-offending rates are due to chance, or if the intervention is likely to have led to a real change in behaviour. The outcome of the statistical testing is a value between 0 and 1, called a ‘p-value’, indicating the certainty that a real difference in re-offending between the two groups has been observed. A value closer to 0 indicates that the difference in the observed re-offending rates is not merely due to chance. For example, a p-value of 0.01 suggests there is only a 1 per cent likelihood that any observed difference in re-offending has been caused by chance.

For the purposes of the analysis presented in this report, we have taken a p-value of up to 0.05 as indicative of a real difference in re-offending rates between the treatment and control groups.

The confidence intervals in the figure are helpful in judging whether something is significant at the 0.05 level. If the confidence intervals for the two groups do not overlap, this indicates that there is a real difference between the re-offending rates.

## Annex

**Table 1: Characteristics of offenders in the treatment and control groups**

	Treatment Group	Matched Control Group	Standardised Difference
<b>Number in group</b>	<b>290</b>	<b>92,493</b>	
<b>Ethnicity</b>			
White	83%	83%	0
Black	12%	12%	-1
Asian	2%	2%	0
Other	1%	1%	0
Unknown	1%	1%	1
<b>Nationality</b>			
UK Citizen	95%	95%	0
Foreign National	4%	4%	0
Unknown Nationality	1%	1%	-1
<b>Gender</b>			
Proportion that were male	91%	91%	0
<b>Age</b>			
Mean age at Index Offence	34	33	4
<b>Index Offence<sup>1</sup></b>			
Violent offences including robbery	36%	37%	-1
Burglary	13%	13%	0
Theft and handling	5%	5%	0
Fraud and Forgery	5%	5%	0
Drugs	15%	16%	-2
Other	26%	25%	3
<b>Length of Custodial Sentence</b>			
6 months or less	2%	2%	1
6 months to 12 months	3%	3%	1
12 months to 4 years	63%	65%	-2
4 years to 10 years	27%	26%	2
More than 10 years	4%	4%	1
<b>Criminal History<sup>2</sup></b>			
Mean Copas Rate	-1.34	-1.32	-2
Mean total previous offences	23	22	2
Mean previous criminal convictions	8	8	1
Mean previous custodial sentences	3	3	1
Mean previous court orders	3	3	1
<b>Employment and Benefit History</b>			
In P45 employment (year prior to conviction)	31%	31%	0
In P45 employment (month prior to conviction)	15%	14%	2
Claiming Out of Work Benefits (year prior to conviction) <sup>3</sup>	56%	56%	0
Claiming Job Seekers Allowance (year prior to conviction)	33%	33%	-1
Claiming Incapacity Benefit (year prior to conviction)	27%	26%	0

Claiming Income Support (year prior to conviction)	22%	22%	0
<b>Notes:</b>			
1 Index Offence is based on OGRS categories. Further details on make-up of categories available upon request.			
2 All excluding Penalty Notices for Disorder. All prior to Index Offence.			
3 Out of Work Benefits include people on Jobseeker's Allowance (JSA), Employment and Support Allowance (ESA), Incapacity Benefits (IB) and Income Support (IS) but it does not count people whose primary benefit is Carer's Allowance (CA).			
All figures (except mean copas rate) are rounded to the nearest whole number, this may mean that percentages do not sum to 100%.			
<b>Standardised Difference Key</b>			
<b>Green - the two groups were well matched on this variable (-5% to 5%)</b>			
<b>Amber - the two groups were reasonably matched on this variable (6% to 10% or -6% to -10%)</b>			
<b>Red - the two groups were poorly matched on this variable (greater than 10% or less than -10%)</b>			

Table 1 shows that the two groups were well matched on all variables found to have associations with receiving treatment and/or re-offending. All of the standardised differences are highlighted green because they were between -5% and 5%, indicating close matches on these characteristics.

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