



## Summary

This analysis assessed the impact on re-offending of receiving yoga and meditation materials, provided by The Prison Phoenix Trust to offenders in custody. The one year proven re-offending rate<sup>1</sup> for 59 offenders who received yoga and meditation materials from The Prison Phoenix Trust was 44%, compared with 32% 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 receiving yoga and meditation materials provided by The Prison Phoenix Trust on re-offending. However, the results of the analysis do not mean that receiving yoga and meditation materials from The Prison Phoenix Trust failed to impact on re-offending.

**What you can say:** There is insufficient evidence at this stage to draw a conclusion about the impact of receiving yoga and meditation materials provided by The Prison Phoenix Trust on re-offending.

**What you cannot say:** This analysis shows that receiving yoga and meditation materials provided by The Prison Phoenix Trust increased proven re-offending by 12 percentage points, or by any other amount.

## Introduction

The Prison Phoenix Trust is a charity that works in the UK and The Republic of Ireland in prisons, young offender institutions, immigration removal centres, secure hospitals and probation hostels to encourage individuals in the development of their spiritual welfare, through the practices of meditation and yoga, working with silence and the breath.

The Prison Phoenix Trust's work involves encouraging prisoners to practise yoga and meditation in their cells and in classes. Prisoners have the opportunity to correspond with volunteer letter writers, who have a yoga and meditation practice of their own. The writers support prisoners through correspondence, newsletters and free resource books and a CD. All these materials show how to practice yoga and

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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 was proven through receipt of 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,  $p = 0.08$ . Statistical significance testing is described on page 7 of this report.

meditation in a prison cell. Prisoners have to request the materials by writing a letter to The Prison Phoenix Trust or by filling in a book request form.

Prisoners are introduced to The Prison Phoenix Trust's offerings in three ways. The first way is through a workshop where a representative of The Prison Phoenix Trust visits a prison along with a local yoga teacher to provide a class for interested prisoners and staff, so they can experience it for themselves. The prisoners then have the opportunity to sign up for a regular class (if the prison chooses to run one) and to order books and a CD containing a guided yoga and meditation session. The Prison Phoenix Trust also contributes a regular column to "Inside Time", showing how to do specific yoga exercises that concentrate on a particular area, such as a bad back or stiff neck, along with an invitation to write to them. Another way prisoners are introduced to The Prison Phoenix Trust's offerings is through word of mouth. Prisoners who feel they have had a positive experience from the practice often talk about it to their colleagues, and The Prison Phoenix Trust regularly receives letters from people interested in taking up the practice. Many prisoners are also inspired by the quarterly Prison Phoenix Trust newsletter, which has a mix of prisoner letters, suggestions of how to meditate, and yoga exercises.

The Prison Phoenix Trust has provided feedback that the majority of the individuals they work with have complex needs such as language or physical restrictions. The Prison Phoenix Trust provides their books in various languages, as well as for people who cannot read at all, and can recommend yoga practices for people with specific ailments and disabilities.

This analysis relates to individuals who have corresponded at least three times with The Prison Phoenix Trust in prisons across England and Wales. These individuals have received one or more yoga and meditation books/CDs, and one or more letters from The Prison Phoenix Trust between 2002 and 2010. The essence of the letters from The Prison Phoenix Trust to prisoners is encouraging the prisoners to use meditation and yoga to address the difficulties they are facing for example, anxiety and sleeplessness. The letter writers are trained to reflect back how the yoga practice and meditation is helping, enabling the prisoner to see that they have the ability to make positive changes.

Individuals have been excluded from this analysis that The Prison Phoenix Trust still believe are in prison or individuals that have only been sent one or two letters on the basis that The Prison Phoenix Trust felt this would not be sufficiently consistent to provide evidence of an intervention.

## Processing the Data

227

The Prison Phoenix Trust sent data to the Justice Data Lab for 227 offenders who received yoga and meditation materials and/or letters at least three times in custody during 2002 to 2010.

208

208 of the 227 offenders were matched to the Police National Computer, a match rate of 92%. Initials for forename were provided for 2 (0.9%) of the unmatched offenders; these individuals could not be matched as forename is a requirement for matching.

59

59 offenders had an identifiable custodial sentence where they were released from custody between 2002 and 2011.

Analysis of the unmatched data revealed the following:

- There were 60 individuals who did not appear to have a custodial sentence as the most recent proven offence before receiving yoga and meditation materials from The Prison Phoenix Trust; this included persons who appeared to have received community sentences, fines, conditional discharges, cautions or youth sentences.
- There were 21 individuals who had a custodial sentence as the most recent proven offence before receiving yoga and meditation materials from The Prison Phoenix Trust, but who were not included in the analysis. All of these individuals did not appear to receive yoga and meditation materials from The Prison Phoenix Trust until after release from custody.
- There were 4 individuals who were not included in the analysis as they received indeterminate custodial sentences.
- There were 12 individuals that could not be included in the analysis as their index offence appeared to be of a sexual nature (11 of these had a custodial sentence as the most recent disposal before correspondence with The Prison Phoenix Trust).
- There were 6 individuals that could not be included in the analysis as they had a previous sexual offence (2 of these had a custodial sentence as the most recent disposal before correspondence with The Prison Phoenix Trust).
- There were 6 individuals that were not included in the analysis as they were juvenile offenders (3 of these had a custodial sentence as the most recent disposal before correspondence with The Prison Phoenix Trust).
- Sentences could not be found on the administrative datasets for the 40 remaining individuals. Some of these individuals may have been released from custody after 2011, a period for which re-offending data is not currently available.

## Creating a Matched Control Group

59

All of the 59 offender records for which re-offending data was available, could be matched to offenders with similar characteristics, but who did not receive yoga and meditation materials from The Prison Phoenix Trust. In total the matched control group consisted of 242,529 offender records.

The Annex 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 59 offenders who received yoga and meditation materials from The Prison Phoenix Trust was 44%. This compares to 32% for a matched control group of similar offenders. This information is displayed in Figure 1 on the next page.

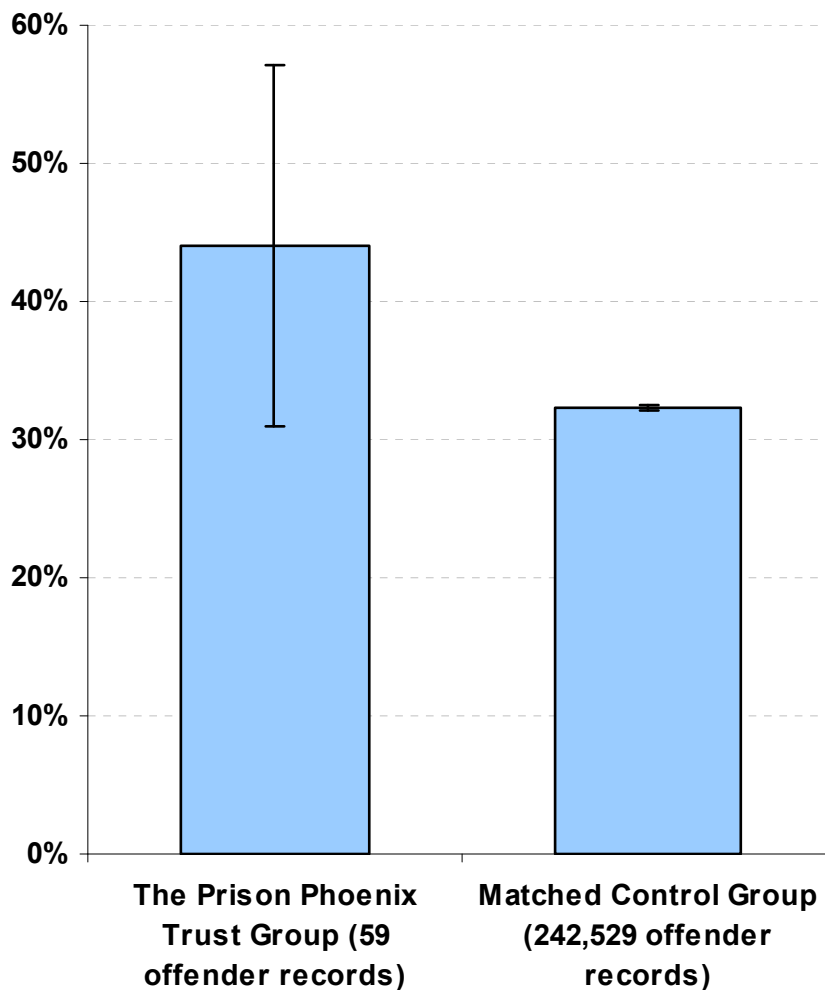
Figure 1 on the next page presents the 95 per cent confidence intervals for the re-offending rates of both groups, i.e. the range in which we can be 95 per cent sure that the true re-offending rate for the groups lie. For this analysis we can be confident that the true difference in re-offending between the two groups is between a 2 percentage point reduction, and a 25 percentage point increase. However, because this difference crosses 0, we cannot be sure either way that receiving yoga and meditation materials provided by The Prison Phoenix Trust 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 re-offending rate is therefore an estimate for each population based on a sample, rather than the actual rate.

In this case the confidence intervals are particularly wide; this is to be expected when the size of the treatment group (in this case, individuals that received yoga and meditation materials from The Prison Phoenix Trust) is very small. The precision of this estimate could be improved if the size of The Prison Phoenix Trust group used in the analysis was increased. It is recommended that the analysis is repeated on a larger sample<sup>3</sup>, including previous years of information, and when additional years of data become available.

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<sup>3</sup> For the difference of the one year proven re-offending rates to be statistically significant for this report, a minimum size of 239 individuals receiving yoga and meditation materials from The Prison Phoenix Trust would need to be in the matched treatment group.

Figure 1: The best estimates for the one year proven re-offending rate for offenders who received yoga and meditation materials provided by The Prison Phoenix Trust in custody, and a matched control group



### Additional proven re-offending measures

#### Frequency of re-offending

The frequency of one year proven re-offending for 59 offenders who received yoga and meditation materials from The Prison Phoenix Trust was 1.69 offences per individual, compared with 1.12 per individual in the matched control group. Statistical significance testing has shown that this difference in the re-offending rates is not statistically significant<sup>4</sup>.

This result is in line with the findings around the indicator of one year proven re-offending; the subject of this report. The same caveats and limitations apply to these findings, which are described below.

<sup>4</sup> The p-value for this significance test was 0.14. Statistical significance testing is described on page 7 of this report.

## **Caveats and Limitations**

The statistical methods used in this analysis are based on data collected for administrative purposes. While these include details of each offender's 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 also possible that there are additional underlying characteristics about the individuals included in the analysis which were not captured by the data, for example attendance on other interventions targeted at offenders, that may have impacted re-offending behaviour.

In particular, the individuals in this analysis have corresponded with The Prison Phoenix Trust three or more times. Their persistent correspondence suggests that they are individuals who are particularly concerned about their mood, wellbeing and also may be approaching this as a coping mechanism for prison life. These are factors that we are not able to statistically control for but it is likely that there are characteristics about these individuals that we cannot account for. The control group against which re-offending rates for those receiving yoga and meditation materials from The Prison Phoenix Trust have been compared with will therefore include offenders both with and without the specific needs that The Prison Phoenix Trust are seeking to address.

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. In this instance individuals request the yoga and meditation materials by writing a letter to The Prison Phoenix Trust or by filling in a book request form, therefore this will lead to a positive selection bias.

Furthermore, only 59 of the 227 offenders originally shared with the MoJ 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 a 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 received yoga and meditation materials from The Prison Phoenix Trust. 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 re-offending 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 who received yoga and meditation materials from The Prison Phoenix Trust, and 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 <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>59</b>	<b>242,529</b>	
<b>Ethnicity</b>			
White	83%	83%	<b>0</b>
Black and Asian	17%	17%	<b>0</b>
<b>Nationality</b>			
UK Citizen	92%	91%	<b>1</b>
Foreign National	8%	9%	<b>-1</b>
<b>Gender</b>			
Proportion that were male	71%	72%	<b>-1</b>
<b>Age</b>			
Mean age at Index Offence	32	32	<b>1</b>
Mean age at first contact with CJS	20	20	<b>0</b>
<b>Index Offence<sup>1</sup></b>			
Violent offences including robbery	44%	44%	<b>1</b>
Burglary	15%	15%	<b>1</b>
Theft and handling	14%	14%	<b>-2</b>
Drug related <sup>2</sup>	17%	17%	<b>1</b>
Other <sup>3</sup>	10%	10%	<b>-1</b>
<b>Length of Custodial Sentence</b>			
12 months or less	12%	13%	<b>-5</b>
12 months to 4 years	49%	49%	<b>1</b>
4 years to 10 years	39%	38%	<b>2</b>
<b>Criminal History<sup>4</sup></b>			
Mean Copas Rate	-1.02	-1.02	<b>1</b>
Mean total previous offences	21	21	<b>1</b>
Mean previous criminal convictions	9	9	<b>0</b>
Mean previous custodial sentences	2	2	<b>0</b>
Mean previous court orders	2	2	<b>0</b>
<b>Notes:</b>			
1 Index Offence is based on OGRS categories. Further details on make-up of categories available upon request.			
2 Drug related offences including importation, exportation, possession, and supply of drugs.			
3 Other offences include fraud and forgery and criminal or malicious damage.			
4 All excluding Penalty Notices for Disorder. All prior to Index Offence.			
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 mean differences are highlighted green because they were between -5% and 5%, indicating close matches on these characteristics.

In addition to the variables listed in Table 1 it would have been helpful for us to have taken into account the employment and benefit history for both the group that The Prison Phoenix Trust worked with, and the matched control group. This information is currently not available routinely to the Justice Data Lab for individuals with a release date from custody in 2011. Therefore, the employment and benefit information has been dropped for all individuals in this report.

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General information about the official statistics system of the United Kingdom is available from [www.statistics.gov.uk](http://www.statistics.gov.uk)

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