



**This analysis looked at the reoffending behaviour of 34 men who took part in Life Cycle UK's 'Bike Back' programme at HMP Bristol. The overall results show that more people would need to have completed the programme and be available for analysis in order to determine the way in which the programme affects a person's reoffending behaviour, but this should not be taken to mean that the programme fails to affect it.**

Life Cycle UK's Bike Back project aims to improve offenders' workplace abilities and confidence by teaching them cycle mechanic skills through refurbishment of unwanted and broken bicycles. People included in this dataset worked on the project from 2 weeks up to 5 months while in custody at HMP Bristol.

This analysis of the Bike Back programme measured proven reoffences in a one year period for a 'treatment group' of 34 offenders who received support from the 'Bike Back' programme at HMP Bristol between 2012 and 2015, and a much larger 'comparison group' of similar offenders who did not take part. These measurements were used to estimate the impact that the programme would be expected to have on the reoffending behaviour of **any people who are similar to those in the analysis.**

The 34 people who were eligible to be included in the main analysis were from a group of 93 records submitted to the Justice Data Lab. The effects of the programme on those who were not analysed may be different to the effects on those who were.

### Overall measurements of the treatment and comparison groups

For those in the **treatment** group, the equivalent of:

↑ **41** out of 100 people committed a proven reoffence within a one-year period (a rate of 41%). This is **1 person more** than in the comparison group, per 100 people.

⚖️ ↑ **188** proven reoffences were committed per 100 people during the year (a frequency of 1.9 offences per person). This is **28 more offences** than the comparison group, per 100 people.

For those in the **comparison** group, the equivalent of:


**40** out of 100 people committed a proven reoffence within a one-year period (a rate of 40%).


**160** proven reoffences were committed per 100 people during the year (a frequency of 1.6 offences per person).

📅 Time to first reoffence has not been included as a headline result, as the low number of reoffenders used to calculate the measure (14 people) could provide misleading results.

## Overall estimates of the impact of the intervention

For any **100** typical people who receive the intervention, compared with any **100** similar people who do not receive it:

 The number of people who commit a proven reoffence during one year after release could be **lower by as many as 16 people, or higher by as many as 19 people.**

 The number of proven reoffences committed during the year could be **lower by 104 or higher by 160 offences.**

More people would need to be available for analysis in order to determine the direction of the difference in the number of people who commit a proven reoffence during one year after release. It is estimated that a treatment group of 38,645 people would be needed.

### **What you can say about the one-year reoffending rate:**

✓ "This analysis provides evidence that, for every 100 participants, Life Cycle UK's 'Bike Back' programme may decrease the number of proven reoffenders during a one-year period by up to 16 people, or may increase it by up to 19 people."

### **What you cannot say about the one-year reoffending rate:**

✗ "This analysis shows that the Life Cycle UK's 'Bike Back' programme increases the one-year proven reoffending rate of its participants."

### **What you can say about the one-year reoffending frequency:**

✓ "This analysis provides evidence that, for every 100 participants, Life Cycle UK's 'Bike Back' programme may decrease the number of proven reoffences during a one-year period by up to 104 reoffences, or increase it by up to 160 reoffences."

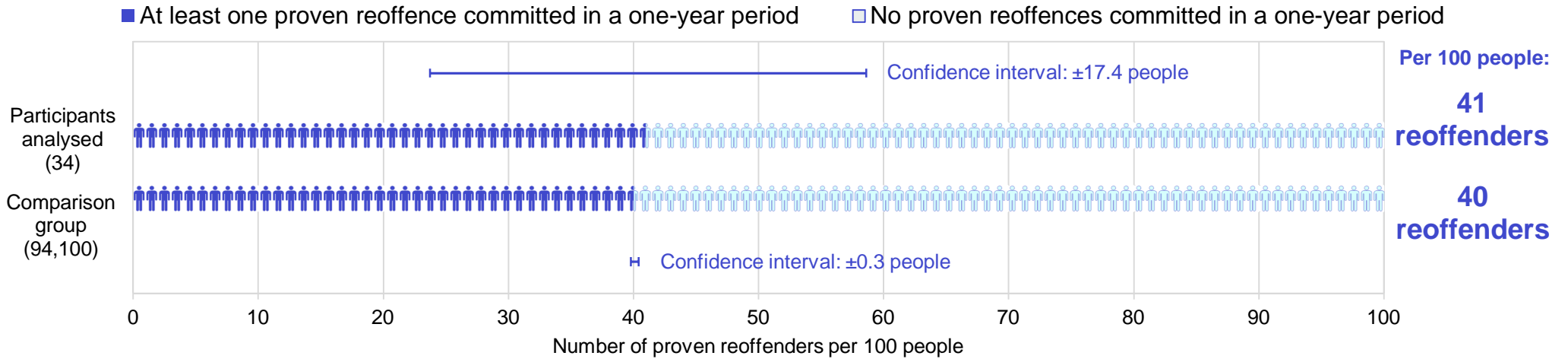
### **What you cannot say about the one-year reoffending frequency:**

✗ "This analysis shows that the Life Cycle UK's 'Bike Back' programme increases the frequency of reoffending."

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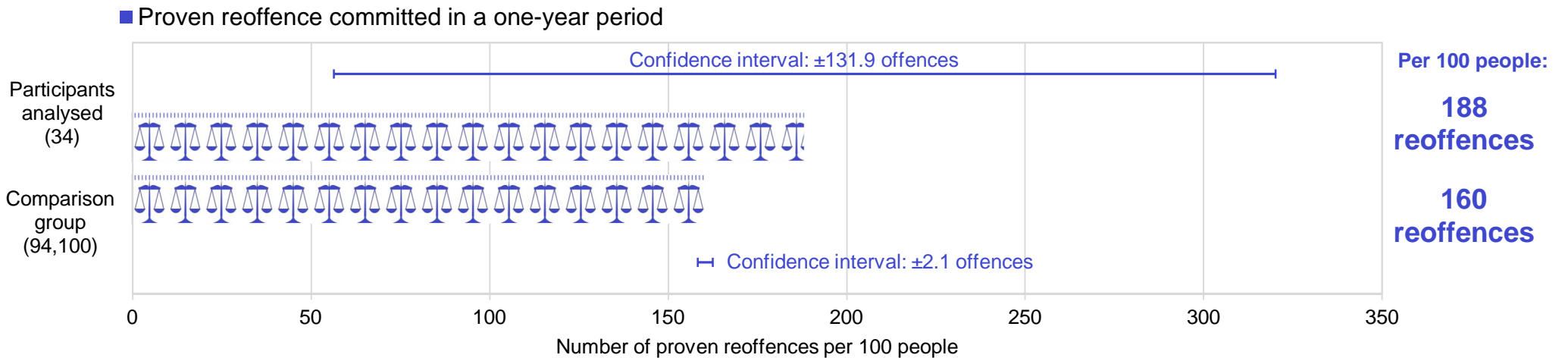
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## One-year proven reoffending rate after participation in the Bike Back programme



Non-significant difference between groups

## One-year proven reoffending frequency after participation in the Bike Back programme



Non-significant difference between groups

## Life Cycle UK's 'Bike Back' programme: in their own words

“Our Bike Back project teaches cycle mechanic skills (through the refurbishment of unwanted and broken bicycles) to small groups of prisoners at HMP Bristol - aiming to improve their workplace skills and confidence. Many of those we work with have never had a paid job and/or do not believe they have the capacity to learn the skills needed to do a "normal" job. Our bike workshop runs five days per week and gives prisoners a taste of what it is like to get into a normal work routine, how to behave in a workplace and how to work as part of a team. We also offer prisoners the chance to learn new, hands-on skills in bike mechanics. Our workshop is run by a highly experienced bike mechanic who teaches small groups of prisoners the skills needed to refurbish broken bikes. Bike mechanics requires you to use your head as well as your hands and is thus quite different from other workshops that may offer mindless or monotonous tasks. We aim to help prisoners realise that they have the capacity to learn new skills - and improve their confidence and self-esteem.

Prisoners were referred to our workshop by prison / probation officers at HMP Bristol. Prisoners could also request a place at our workshop themselves, subject to space. We work with prisoners who are inside for a wide variety of reasons, but all follow the same programme of work.”

## **Life Cycle UK's response to the Justice Data Lab analysis**

“Bike Back is a small scale intervention, and the feedback we receive from individual prisoners about how the scheme positively impacts their confidence, self-esteem and employability skills is outstanding. It is a shame that our dataset was too small to find out if our bicycle recycling scheme has a statistically significant effect on reducing re-offending rates, but we will continue to collect data in the hope of obtaining a robust result in future years.”

## The results in detail

Two analyses were conducted in total. Each analysis controlled for offender demographics and criminal history and the following risks and needs: accommodation, employment history, education, drug and alcohol use, mental health, thinking skills and attitudes towards offending.

### Analyses

- 1. National analysis:** treatment group matched to offenders across England and Wales using demographics, criminal history and individual risks and needs.
- 2. Regional analysis:** treatment group matched to offenders in the South West of England using demographics, criminal history and individual risks and needs.

### The headline results in this report refer to the national analysis

Size of treatment and comparison groups for reoffending rate and frequency analyses provided below (the 'time to first reoffence' analyses focus on those who reoffend only):

Analysis	Controlled for region	Treatment Group Size	Reoffenders in treatment group	Comparison Group Size	Reoffenders in comparison group
National		34	14	94,100	43,576
Regional	X	34	14	7,669	3,543

In each analysis, the **three headline measures** of one year reoffending were analysed (see results in Tables 1-3):

1. Rate of reoffending
2. Frequency of reoffending
3. Time to first reoffence

There were no statistically significant results across any of the measures.

Further measures regarding the court outcomes of any reoffences and of reoffences resulting in custody have not been included in this report. This is because the numbers within each category were too small to make reliable estimates for these measures.

Tables 1-3 show the overall measures of reoffending. Rates are expressed as percentages and frequencies are expressed per person. The average time to first reoffence includes reoffenders only.

*Table 1: Proportion of people who committed a proven reoffence in a one year period after completing the Bike Back programme, compared with matched comparison groups*

Analysis	Number in treatment group	Number in comparison group	One year proven reoffending rate				
			Treatment group rate (%)	Comparison group rate (%)	Estimated difference (% points)	Significant difference?	p-value
<b>National</b>	34	94,100	41.2	40.1	-16 to +19	No	0.90
<b>Regional</b>	34	7,669	41.2	37.8	-14 to +21	No	0.70

*Table 2: Number of proven reoffences committed in a one year period by people who completed the Bike Back programme, compared with matched comparison groups*

Analysis	Number in treatment group	Number in comparison group	One year proven reoffending frequency (offences per person)				
			Treatment group frequency	Comparison group frequency	Estimated difference	Significant difference?	p-value
<b>National</b>	34	94,100	1.9	1.6	-1.0 to +1.6	No	0.67
<b>Regional</b>	34	7,669	1.9	1.4	-0.8 to +1.8	No	0.47

*Table 3: Average time to first proven reoffence in a one year period for people who completed the Bike Back programme and who committed a proven reoffence, compared with matched comparison groups*

The time to first reoffence between participants and the comparison group is based on a group of only 14 participants. A larger group of reoffenders (usually a minimum of 30) would be required to calculate a meaningful estimate of the time to first reoffence, and to more confidently determine any effect of the Bike Back programme on this measure.

Area	Number in treatment group	Number in comparison group	Average time to first proven reoffence within a one year period, for reoffenders only (days)				
			Treatment group time	Comparison group time	Estimated difference	Significant difference?	p-value
<b>National</b>	14	43,576	131.9	121.9	-46 to +66	No	0.71
<b>Regional</b>	14	3,543	131.9	125.4	-50 to +63	No	0.81



## Profile of the treatment group

Life Cycle UK's 'Bike Back' programme is delivered entirely within HMP Bristol and all those included in the analysis were either on remand or had received a custodial sentence. Offenders were referred to the service by prison/probation officers at HMP Bristol, or requested a place themselves, space permitting. Information on those who were included in the treatment group for the analysis is below, compared with the characteristics of those who could not be included in the analysis.

### Participants included in analysis (34 offenders – national analysis)

- 100% male
- 94% white, 6% black
- 100% UK nationals
- Aged 18 to 56 at the time of index offence (mean age 33 years)
- Sentence type:
  - Non-custodial sentence 12%
  - Custodial sentence
    - Up to 6 months 12%
    - 6 – 12 months 6%
    - 1 – 4 years 65%
    - 4 – 10 years 6%

### Participants not included in analysis (25 offenders with available data)

- 100% male
- 84% white, 8% black, 8% other/unknown ethnicity
- 96% UK nationals, 4% non-UK nationals

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Information on index offences is not available for this group, as they could not be linked to a suitable sentence.

For the **34 people** without any records in the re-offending database, no personal information is available.

Information on individual risks and needs was available for 28 people in the national treatment group (82%), recorded near to the time of their original conviction. Among these people, it is estimated that:

- 82% had some or significant problems with problem solving skills
- 61% had some or significant problems with employment history
- 43% had some or significant psychological problems
- 36% had no fixed abode.

## Matching the treatment and comparison groups

Each of the two analyses matched a comparison group to the relevant treatment group. A summary of the matching quality is as follows:

- In the national analysis, most variables were well matched. The groups were reasonably well matched on previous offence court outcomes and type, and sentence length (1-4 years).
- In the regional analysis, most variables were well matched. The groups were reasonably well matched on several variables, including sentence length, previous offence court outcomes and type, and accommodation status.

**The national results should be referred to in preference to the regional results, due to a closer match across a greater number of variables .**

Further details of group characteristics and matching quality, including risks and needs recorded by the Offender Assessment System (OASys), can be found in the Excel annex accompanying this report.

This report is also supplemented by a general annex, which answers frequently asked questions about Justice Data Lab analyses and explains the caveats associated with them.

## Numbers of people in the treatment and comparison groups

93 records were submitted for analysis by Life Cycle UK

93

30 people (32%) were excluded because they could not be identified on the Police National Computer (PNC)

63

24 people (26%) were excluded because they did not have a record in the reoffending database that corresponded to their time period of participation in the Bike Back programme. It is estimated that 7 of these people had not been released from prison for a full year when the latest reoffending information was recorded

39

5 people (5%) were excluded because they had committed at least one proven sexual offence before starting the programme, so their reoffending patterns are expected to be different to others.

34

The treatment group contained 37% of the participants originally submitted.

34

**National treatment group**

(Comparison group:  
94,100 records)

34

**Regional treatment group**

(Comparison group:  
7,669 records)

## Contact points

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