
Beat The Street

2023 Technical report on the potential WELLBY value of Beat The Street.

State of Life
London



Introduction

Beat the Street (BtS) is a community programme that encourages people to become more active by completing a series of challenges where they have to walk around the town along certain routes by tapping their phone on specific waypoints¹.

Intelligent Health (IH), the organisation running BtS, wanted to understand the social and economic impact of the Beat the Street initiative and so worked with State of Life, advisors to [HM Treasury on measuring and valuing wellbeing](#), to analyse the data collected throughout 2022 via a survey of 1,992 BtS participants.

The WELLBY

The WELLBY is a simple measure of wellbeing impacts. It is calculated by asking people the question on life satisfaction: “On a scale of 0 to 10, where 0 is “not at all” and 10 is “completely”, overall, how satisfied are you with your life nowadays?”. 1 WELLBY is equal to one person moving 1 point on this 10-point scale for one year as a result of the programme. The UK Treasury in its [HM Treasury Green Book supplementary guidance on wellbeing](#) recommends that 1 WELLBY has a standard monetary value of £13,000 (with a range of £10,000-£16,000] to UK society.

The data

In 2022, Beat the Street was delivered across 19 towns and cities and 160,598 people took part. 67,933 of these were adults. Change in life satisfaction was measured in 7 of these areas (Clacton and Jaywick, Dudley, Islington, Lambeth, Llanelli, Shrewsbury and Stockton) by means of a survey. Survey data were collected for 1,992 adults.

76% of the respondents are female. 35% come from the 30% most deprived local areas, meaning the sample is geared slightly towards disadvantaged respondents. Over 70% of the respondents are aged 49 or less. Only less than 5% come from a non-white ethnic background. 5% have a disability and ca. 23% have a long-term health condition. All these characteristics were confirmed by IH staff to be reflective of the composition of the total population of BtS participants.

These individuals were contacted to provide information about their life satisfaction and level of physical activity at two points in time six weeks apart - one immediately before starting Beat the Street and one immediately after concluding it. The difference between

¹ More details on how Beat the Street works are in [Harris \(2019\)](#).

the after and before values of life satisfaction (the *change in life satisfaction*) can serve as an estimate of the effect on life satisfaction associated with Beat the Street.

Sport England defines three categories of physical activity levels, based on the number of minutes of physical activity performed by the respondent in the past week that was intense enough to raise their breathing rate. The three categories are: 1 = Inactive (0-29 minutes), 2 = Fairly active (30-149 minutes) and 3 = Active (150 minutes or more).

The other variables collected in the survey are age (in 10-year bands), gender, the index of multiple deprivation (IMD) decile corresponding to the respondent's home postcode, disability (yes/no), a range of long-term health conditions, ethnicity (census classification) and area (one of the 7 areas mentioned above).

The effect of Beat the Street on life satisfaction

Overall, there was a 0.31*** point increase in life satisfaction following Beat the Street. The effect size for specific subgroups of the sample is presented in [Figures 1-4 here](#) and Table 1 below².

Adults living in more deprived communities experienced a greater increase in life satisfaction than adults living in more affluent communities. Respondents from Index of Multiple Deprivation deciles 1-3 experienced a 0.38*** point increase in life satisfaction, compared with a 0.27*** point increase for adults living in Index of Multiple Deprivation deciles 4-7 and 0.32*** points for deciles 8-10 (the least deprived).

Out of all categories considered, the highest changes in life satisfaction were experienced by white non-British respondents (0.50***), and geographically by participants in Lambeth (0.50***) and Stockton (0.58***). A negative (but not statistically significant) change in life satisfaction can be observed in Clacton and Jaywick (-0.17), and the effect size is also considerably lower than average in Shropshire (0.08) and for all male respondents (0.15*).

The highest increases in physical activity were experienced by the respondents aged 60 or above (0.24***). The lowest increases in physical activity (all not statistically significant) were observed for respondents with a disability (0.05), ethnic groups other than white (0.06), and geographically in Clacton and Jaywick (0.02) and Lambeth (0.05).

² Here and in the rest of this report, stars indicate statistical significance: *p<0.1, **p<0.05, ***p<0.01;

Table 1. Change in life satisfaction and physical activity after vs. before Beat the Street

Subgroup	Change in Life Satisfaction	Change in Physical Activity level ³	Respondents in subgroup
Full sample average	0.31***	0.14***	1992
High deprivation (IMD deciles 1-3)	0.38***	0.14***	698
Medium deprivation (IMD deciles 4-7)	0.27***	0.12***	721
Low deprivation (IMD deciles 8-10)	0.32***	0.17***	507
Age 19-39	0.32***	0.11***	702
Age 40-59	0.34***	0.13***	1041
Age 60 or above	0.23**	0.24***	234
Female	0.36***	0.13***	1512
Male	0.15*	0.15***	459
White British	0.29***	0.14***	1707
Other white ethnic groups	0.50***	0.11	149
Ethnic groups that are not white	0.29	0.06	90
Have a disability	0.24	0.05	106
Have a long-term health condition	0.38***	0.13***	452
Clacton and Jaywick	-0.17	0.02	113
Dudley	0.24***	0.17***	493
Islington	0.46***	0.17**	119
Lambeth	0.58***	0.05	149
Llanelli (Carmarthenshire)	0.35***	0.15***	256
Shrewsbury (Shropshire)	0.08	0.09	329
Stockton-on-Tees	0.50***	0.18***	533

Comparing to national data

As a comparator data set we use Sport England's Active Lives Survey. It contains both the ONS life satisfaction variable and the measure of physical activity according to the Sport England definition. In fact, the Active Lives Survey is curated by Sport England, and is the number one source for producing national statistics on physical activity and sport participation in England.

By comparing our data to the Active Lives data we can check that the Beat the Street survey data are plausible and in line with the levels of activity exhibited by the general population, so as to increase the trustworthiness of these results. This can be seen in Table 2 below.

³ Given the categories of physical activity defined at the end of page 1, a value of 1 for the change in physical activity represents a change from Inactive to Fairly Active or from Fairly Active to Active; 2 represents a change from Inactive to Active; changes in the opposite direction are denoted by -1 and -2 respectively.

*** Here and in the rest of this report, stars indicate statistical significance: *p<0.1, **p<0.05, ***p<0.01;

We use the latest available wave of the Active Lives data - November 2021 to November 2022. The relevant statistics are presented in [this report by Sport England..](#)

Table 2. Life satisfaction and physical activity after/before Beat the Street vs. national data

Outcome variable	Before Beat the Street	After Beat the Street	Active Lives
Life satisfaction (0 to 10)	7.10	7.41	6.9
% Inactive (0-29 min of phys. act. / week)	24.6%	18.8%	25.8%
% Fairly Active (30 - 149 min / week)	14.2%	12.0%	11.1%
% Active (150+ min / week)	61.2%	69.2%	63.1%

Thus we can see that BtS participants start out close to the national data, but are on average marginally less active but more satisfied than respondents in the England-wide national data (Active Lives). However, after finishing BtS, they end up more active and considerably more satisfied on average than respondents in the national data. This is an encouraging piece of evidence. An illustration of this is provided in [Figure 5](#).

All detailed analysis results, including descriptive statistics and tests for statistical significance, can be accessed here: [X Beat the Street 2023 output.xlsx](#)

Comparing to other programmes and factors that drive wellbeing

For comparison, the average wellbeing effect of Beat the Street - 0.31 - is about as strong as living together in a couple (as opposed to being single) and having access to green space within easy walking distance. It is also about as strong as weekly church attendance or weekly engagement in physical activity, and twice as strong as weekly volunteering⁴.

One can also draw on the results of previous evaluations of similar interventions in the sport, volunteering, and youth sectors that State of Life conducted. For example, participating in parkrun was shown to have a comparable effect on life satisfaction - between 0.27 and 0.6.

Swimming (in the last 12 months) has a life satisfaction effect coefficient between 0.13 and 0.19 depending on the data set used, while doing racquet sports has a lower coefficient of around 0.08 at most. Playing 11-a-side grassroots football has a correlation with happiness (a similar measure to life satisfaction) of about 0.25.

⁴ Based on analysis of large national datasets, summarised in the WELLBY Value Guide - contact State of Life for access.

Note on the validity/robustness of the impact estimates

Our main estimates of the effect of Beat the Street on life satisfaction and physical activity are based on a before-after comparison of the average levels of our key outcomes (life satisfaction and physical activity). Before-after comparisons are referred to as having a rather low level of validity according to most scientific evidence scales and guidelines on impact evaluation. However, this study uses matched pairs (meaning that the same individuals have provided the before and the after data), which is more robust than simple before and after collective data that pertain to different cohorts.

In practical terms, State of Life can certify that the evidence produced here in favour of a positive effect of Beat the Street is stronger than what can be found in most social impact or value assessments in the sport and youth sector. A majority of such assessments are fundamentally data-lacking, or even if some data is available, it is not of the right kind to allow identification on an effect estimate (for example, data is collected only from participants with no counterfactual).

Technically speaking, the finding of this report represents an association rather than a causal effect. However, we believe there is not enough evidence to expect a strong change in life satisfaction simply due to the passage of time or due to other factors, and therefore this association is more likely to have a considerable causal element rather than occur for a different reason or just as a coincidence.

The social and economic value of Beat the Street

Life satisfaction increased by 0.31 points following Beat the Street programmes delivered in 2022.

Limitations and assumptions behind the social value estimates

We do not know how long this life satisfaction increase is expected to last. Previous published research has shown, however, that 61% and 72% of inactive participants had become active at 1 and 2-years following the intervention, respectively ([Harris, 2019](#)). Besides the fact that Harris (2019) does not analyse life satisfaction, that study may also suffer from selection bias, as it relies on interviewing people who participated in Beat the Street 2 or 3 years in a row, but does not include those who participated in the baseline year and no more. It is reasonable to believe that those people who decided to continue participating in BtS are by nature the most physically active.

Further research of a longitudinal nature would therefore be welcome to provide better evidence on the duration of the impact of BtS on wellbeing as well as on physical activity. More specifically, Beat the Street participants (and preferably also a control group of non-participants) need to be tracked for a longer period of time, to see whether the increase in life satisfaction persists or tapers off over time (and when).

Before that is done, we can only make an assumption to cover this information gap. In the absence of better evidence, a conservative approach would be to assume that the increase in life satisfaction lasts as long as Beat the Street participation - 6 weeks (because in reality the effect is likely to persist for a while afterwards). Under this assumption, the social and economic value of Beat the Street would be £463 per person.

Calculations of the “bottom-line” social value metrics

Wellbeing benefit per person = $0.31 \times £13,000 \times 0.115 \text{ years} = £463$

The total value of the gross social benefit of Beat the Street for the 67,933 adults who engaged with the programme in 2022 would then be estimated to be $67,933 \times £463 =$ around £31 million.

The total cost for operating Beat the Street in 2022 was £2,072,709. Of this, 50% (£1,036,355) can be allocated to adult participation, and the remaining 50% - to child participation. Children constitute over 50% of the total participants in 2022, and our estimated wellbeing benefit can only be applied with confidence to adults (because only adults answered the survey). This implies that the net social benefit of BtS in 2022 is ca. £30 million, and the benefit-cost ratio (BCR) is 30.3 (meaning BtS generates at least £30 in social value for each pound spent).

Comparison with other programmes

For comparison, the BCR of parkrun was estimated to be between 30 and 120, depending on the methodology and assumptions used. It is worth noting the costs of parkrun are unusually low as the model relies on accessing free public space and is largely run by volunteers. The BCR of the London Youth Rowing programme, conducted in schools in inner city lower socioeconomic areas and targeting particular students, was estimated at 40. Sport England has estimated the overall BCR of Sport and Physical activity to be 3.28 ([see report](#)).

Going outside the sport sector, the Church Community Transformation programme, run by the charity Tearfund in African countries, was estimated to have a BCR of 28 to 1 ([see report](#)). The Prevention and Enablement Model run by Active Essex, consisting of physical activities for users of adult social care, showed a BCR of 58 to 1 ([see report](#)).

Cost-effectiveness analysis and comparison with the NHS

The total amount of WELLBYs generated by BtS in 2022 under the assumptions above is $0.31 \times 0.115 \times 67,933 = 2,422$. [Frijters and Krekel \(2021\)](#) have developed a conversion factor to compare QALYs to WELLBYs, namely 1 QALY = 6 WELLBYs⁵. This implies that the equivalent QALY effect of BtS in 2022 is 404 QALYs, and the cost spent to generate each QALY is $\text{£}1,036,355 / 404 = \text{£}2,565$, meaning that Beat the Street is potentially almost 6 times as cost-effective as the NHS, which has an average cost of £15,000 to produce 1 QALY, according to Frijters and Krekel (2021).

⁵ Frijters and Krekel (2021) specify that this conversion factor applies to interventions that extend the length of life. Interventions that do not extend the length of life but rather improve the health state of already existing years of life should use a different (lower) QALY to WELLBY conversion factor.

Figures and charts

Fig. 1. For whom does Beat the Street impact Life Satisfaction the most?

Comparison of pre and post [n=1,992]

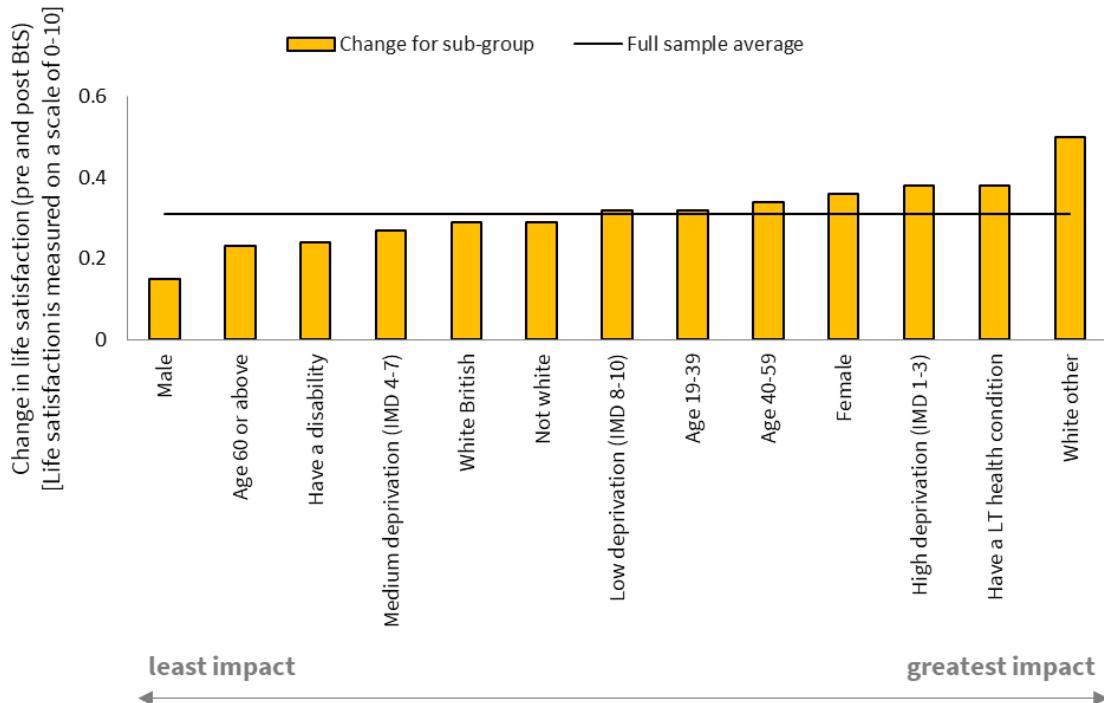


Fig. 2. Where does Beat the Street impact Life Satisfaction the most?

Comparison of pre and post [n=1,992]

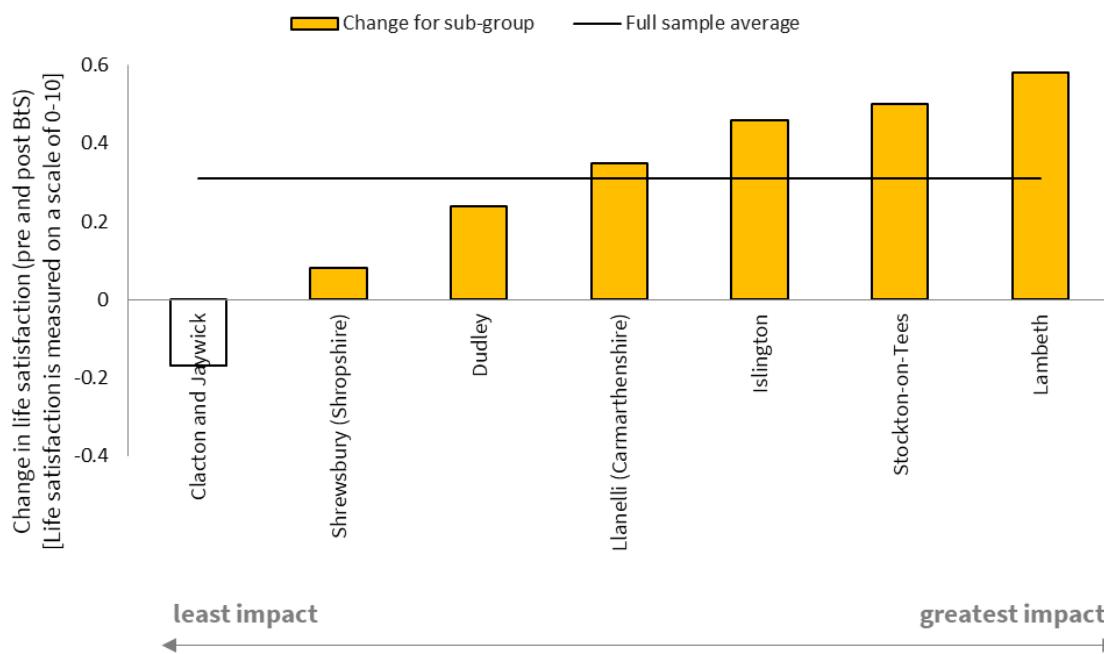


Fig. 3. For whom does Beat the Street impact Physical Activity the most?

Comparison of pre and post [n=1,992]

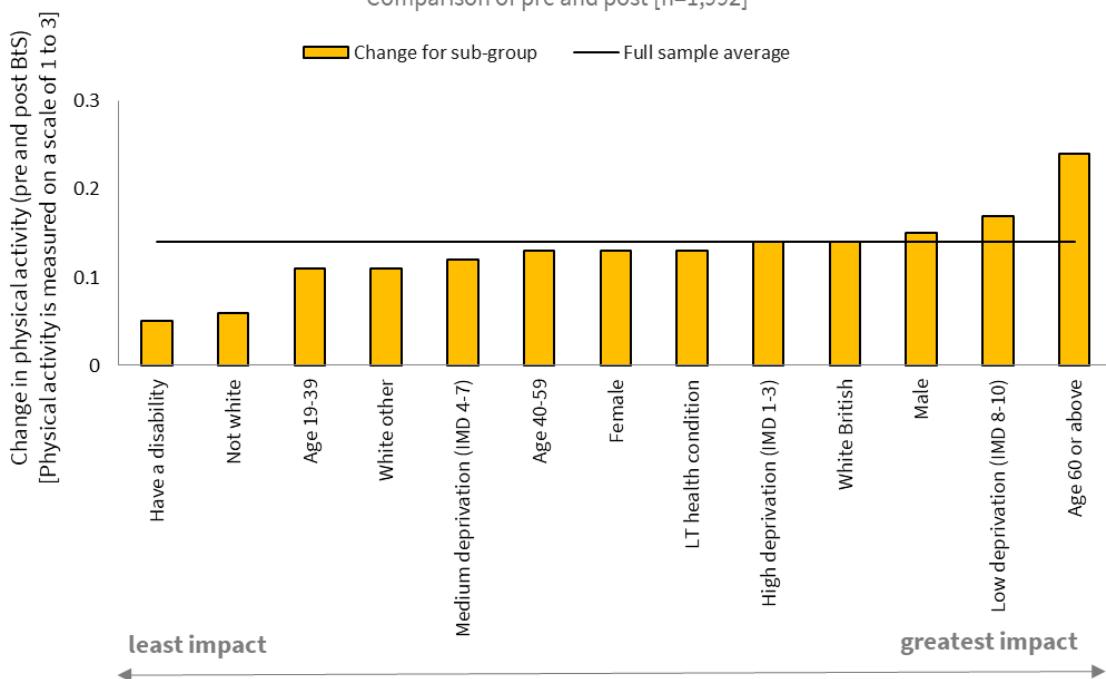


Fig. 4. Where does Beat the Street impact Physical Activity the most?

Comparison of pre and post [n=1,992]

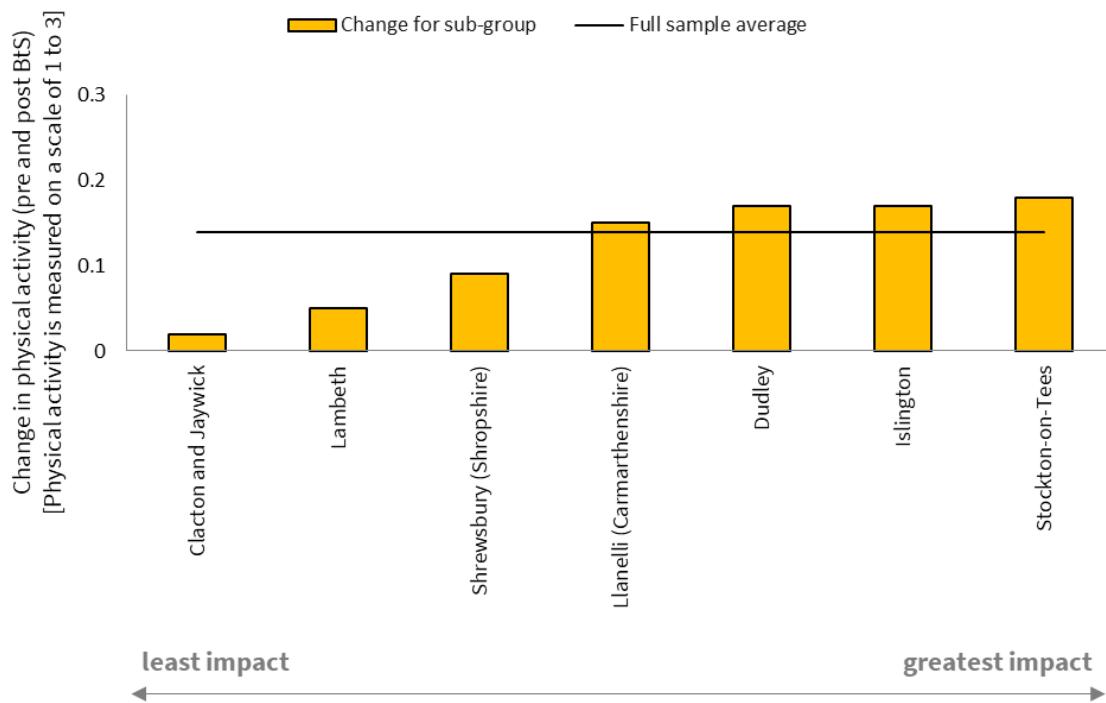
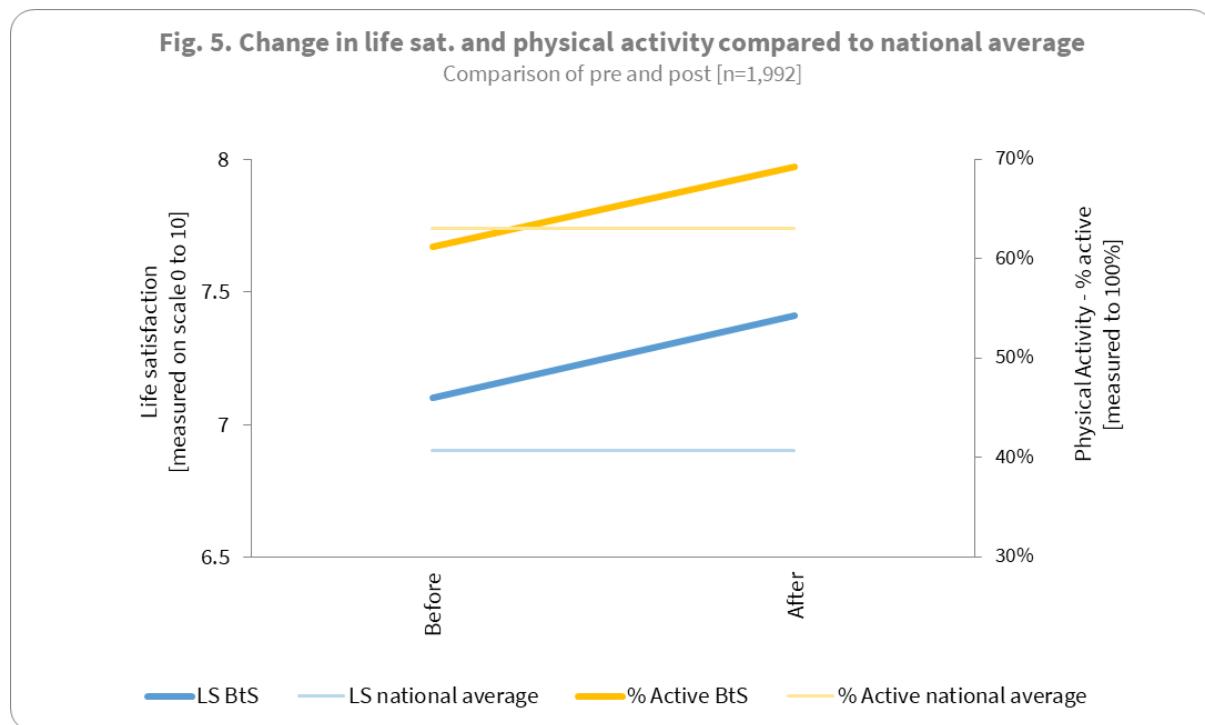


Figure 5 - national data comparison



Alternative version of figure 1

