



# #BeeWell Brief: Physical Activity

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Based on #BeeWell 2022  
data

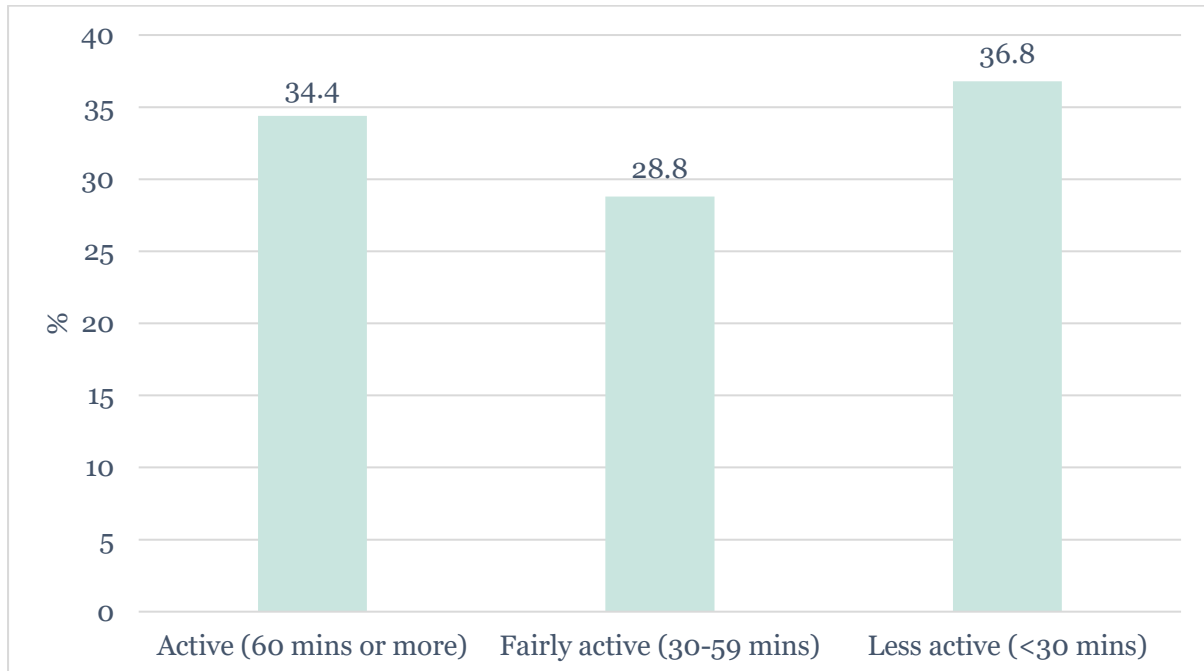


In this #BeeWell Brief we focus on the relationship between physical activity levels and wellbeing, primarily using data from our 2022 survey, which generated responses from approximately 35,000 young people in more than 150 schools across Greater Manchester (see our [headline findings report](#) for more detail).

## 1. Overall physical activity levels of young people in Greater Manchester

The Chief Medical Officer recommends that young people engage in at least one hour of physical activity per day. In 2021, 34.5% met or exceeded this threshold. This remained stable in 2022 (34.4%). Furthermore, our 2022 data indicated that 28.8% of young people were fairly active (30-59 minutes per day), and 36.8% were less active (<30 minutes per day) (see Figure 1). Our longitudinal cohort became marginally less active over time (Y8/2021: 37%; Y9/2022: 35.9%), whereas our snapshots of Y10 pupils indicated a minor increase from 2021 (31.7%) to 2022 (32.8%).

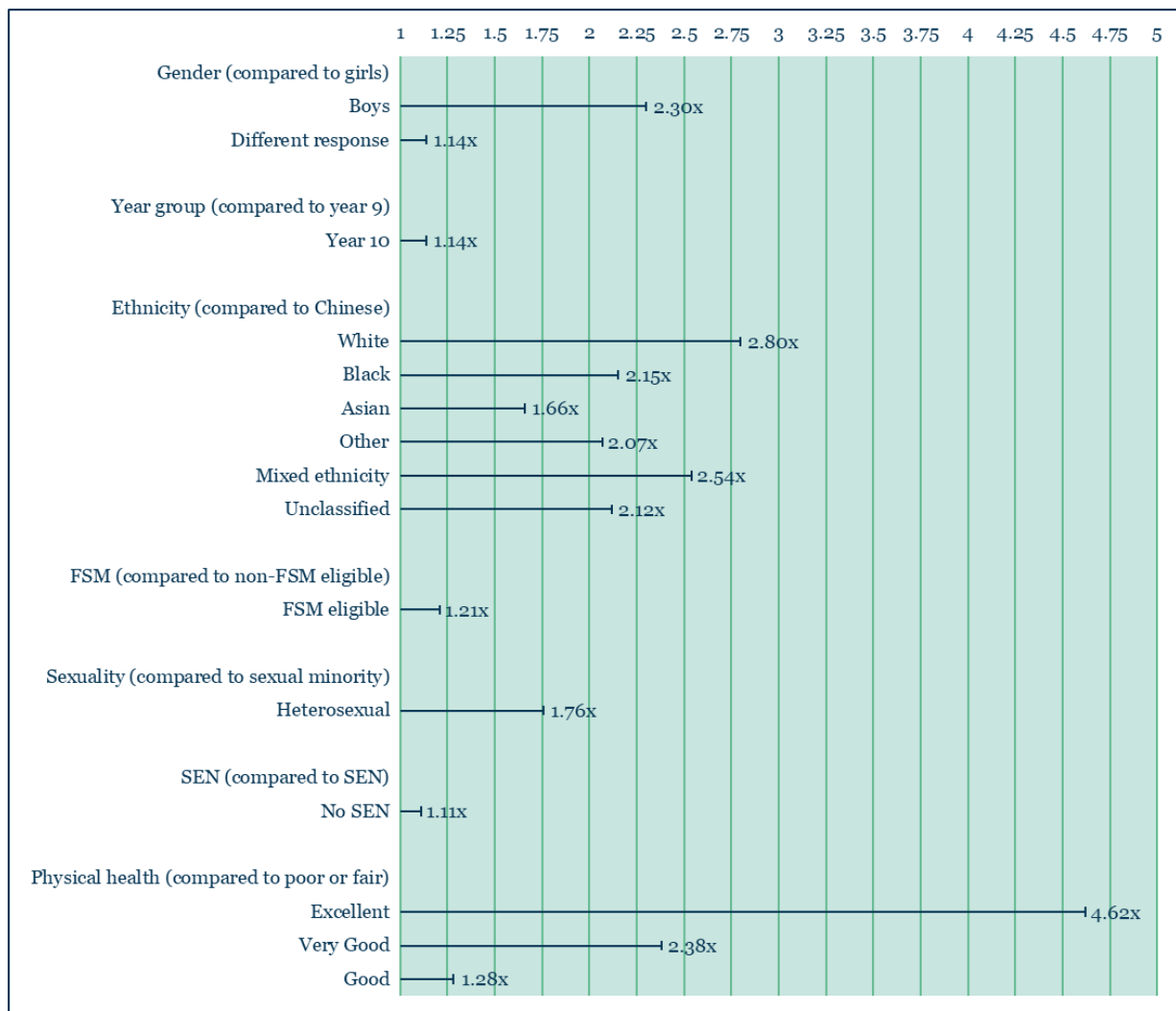
**Figure 1: Daily physical activity levels among young people in Greater Manchester (#BeeWell), 2022.**



## 2. Inequalities in physical activity levels

Figure 2 depicts our analysis<sup>1</sup> of inequalities in physical activity levels among different groups of young people. In each case, we use the *least active* group as the main source of comparison for simplicity (i.e. increased odds are easier to interpret than reduced odds). So, for example, with regard to gender, girls are the least active group, and we can see that boys are 2.3x more likely to be classed as physically active. Similarly, in relation to socio-economic disadvantage, young people eligible for free school meals are the least active group, and we can see that those who are not eligible are 1.21x more likely to be classed as physically active.

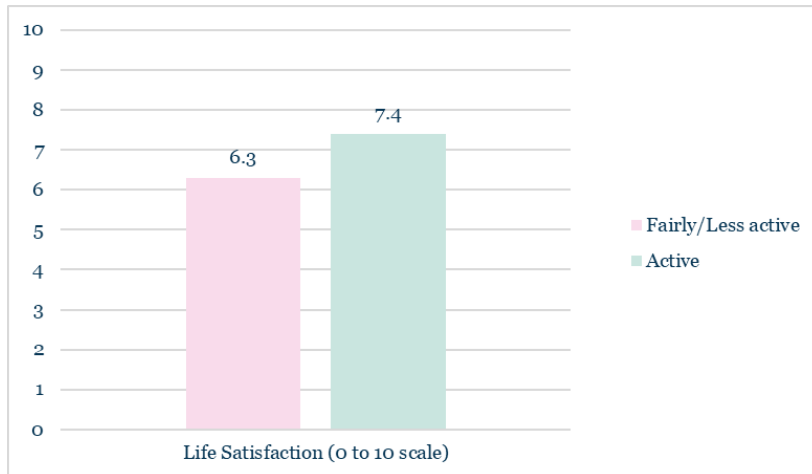
**Figure 2. Inequalities in physical activity levels among different groups of young people in Greater Manchester.**



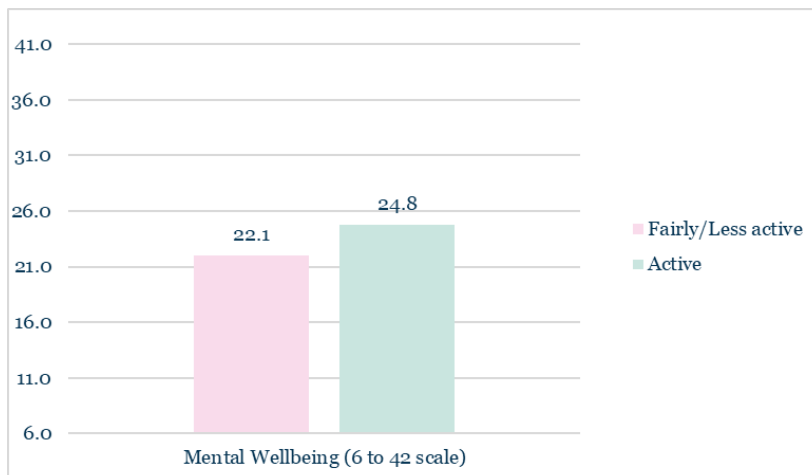
*NB: Odds-ratio of 1 means that the comparison group is no more or less likely to be physically active than the reference group.*

### 3. The relationship between physical activity and wellbeing

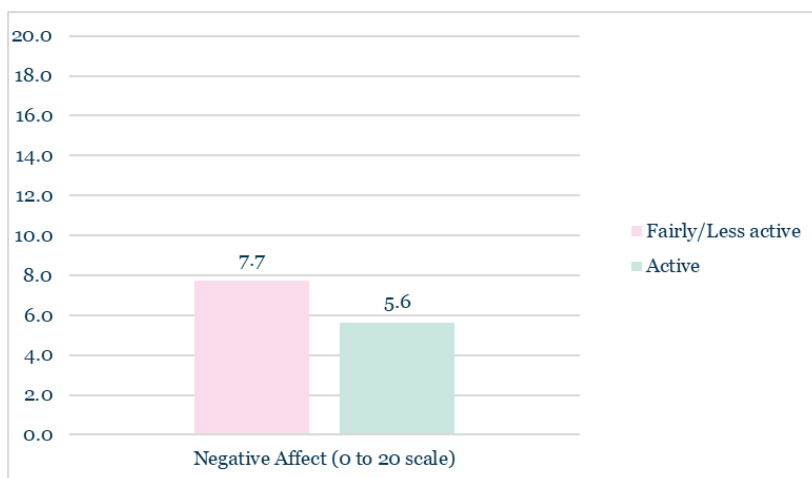
Figures 3-5 depict the relationship between physical activity and each of our three key wellbeing indicators: life satisfaction, mental wellbeing, and negative affect (also referred to as ‘internalising symptoms’).



**Figure 3. Life satisfaction of active and fairly/less active young people.**



**Figure 4. Mental wellbeing of active and fairly/less active young people.**



**Figure 5. Negative affect of active and fairly/less active young people.**

In each case, the differences in wellbeing between active and fairly/less active young people is statistically significant<sup>2</sup>, and large enough to be considered noteworthy. The standardised mean differences are 0.20 S.D., 0.21 S.D., and -0.22 S.D., for life satisfaction, mental wellbeing and negative affect, respectively. These findings are remarkably consistent across outcomes, and mean that being physically active (as opposed to being fairly/less active) is associated with about one-fifth of a standard deviation increase in wellbeing. However, it is important to note that the relationship between physical activity levels and wellbeing is likely bi-directional. That is, being more physically active may increase your mental wellbeing, but experiencing higher levels of mental wellbeing is also likely to make you more likely to engage in physical activity.

## **Recommendations**

1. Prioritise the promotion of physical activity among young people in Greater Manchester

Our data indicates that nearly two-thirds of young people in GM do not meet the Chief Medical Officer's recommendation of engaging in at least one hour of physical activity per day. Work in this area might helpfully take a dual approach, encouraging those who are fairly active to become more active, while also supporting those who are less active to begin to build movement into their daily routines.

2. Make *movement* more appealing and accessible to all young people in Greater Manchester

There are clear inequalities in physical activity levels among certain groups of young people in GM. In order to enact Recommendation 1 above effectively, movement of any sort needs to be made more appealing and accessible to all. For example, we need to better understand how girls can be engaged so that they are just as physically active as boys. Sport England have [issued resources on this topic](#), encouraging providers to create “positive experiences” of movement to boost engagement.

3. Celebrate the wellbeing benefits of physical activity

There is a noteworthy association between young people's physical activity and their wellbeing. Efforts to promote physical activity across the city-region should exploit this finding (i.e., becoming more physically active can benefit your mental health as well as your

physical health), and indeed, the relationship speaks to the need for a joined up/integrated approach. From a policy perspective, such an approach could also reference the economic value of increased physical activity (see a [recent economic analysis of the #BeeWell dataset](#)). Following the release of our 2021 #BeeWell data, [GM Moving announced](#) a new youth-led campaign, with the aim of making the connection between wellbeing and physical activity.

## Endnotes

<sup>1</sup> We ran a multi-level logistic regression analysis, using our sample characteristics as predictor variables and physical activity level as our outcome variable. Logistic regression enables us to estimate the strength of association between a ‘binary’ outcome (e.g. active vs fairly/less active) and a set of explanatory variables (e.g. SEN, ethnicity). These are expressed as odds ratios (e.g. *‘the odds of young people with characteristic X being physically active are 3.5 times greater than young people with characteristic Y’*). We used multi-level regression because our data are ‘nested’ (i.e. young people within schools) and it is important to account for the similarities between young people from the same school in our analysis. Failing to do so can lead to incorrect inferences.

<sup>2</sup> When comparing groups for a given outcome, the statistical tests we run provide something called a ‘p value’. This tells us how frequently, if we ran our study again many times, we would get data as extreme (or more extreme) than the data we have, if there is no actual difference in the population. It is expressed as a percentage (e.g. 0.08 = 8%). If the p value is small enough (normally less than 5% from a very large number of hypothetical results – hence ‘ $p < .05$ ’), the finding is considered to be statistically significant. This means that the result is therefore considered unlikely to be the result of random noise. That said, very large samples such as that used here lead to increased test sensitivity. This means that some statistically significant results can emerge where the actual magnitude of difference between groups is not meaningful. As a result, our main emphasis in our interpretive commentary is on the *size* of the difference.