



Sport England: Understanding variations in sports participation between local authorities

August 2010

Background & Objectives

Background

- Sport England is focused on the creation of a world-leading community sport system
 - Investing to grow and sustain participation in grassroots sport
 - Collaborating with partners at a national and local level
 - Targeting an additional 1 million people doing more sport by 2012-13.
- As part of this objective, Sport England has commissioned a series of robust quantitative models aimed at better understanding the factors, which account for variations in sports participation, and thereby identify the levers most amenable to public policy intervention.



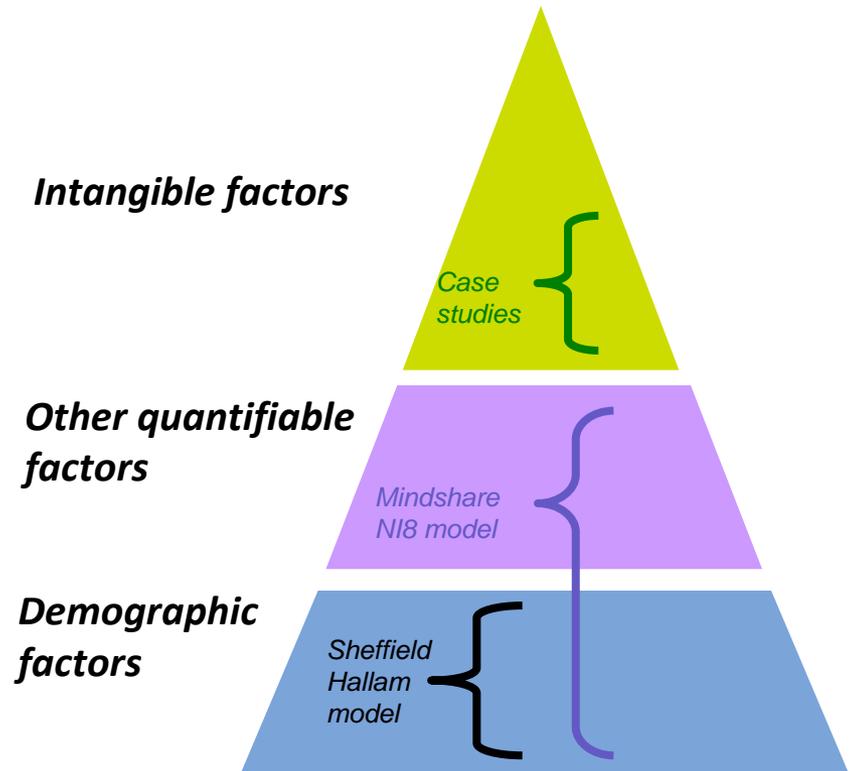
Specific research objectives for the project

- A strengthened theoretical framework for understanding variations in participation in sport.
- Robust quantitative models that test
 - the impact of various inputs, and activities on participation
 - the nature and strength of relationships between a range of outputs and the intended outcome.
- Illustration of those factors that on their own, or in combination, make the best public policy ‘buy’ to grow and sustain community participation in sport.

Background to the models in the project

- Sheffield Hallam first built a model in 2007 to understand variations in participation rates as driven by demographic factors such as age and income*. The differences between actual and expected participation observed in the original Sheffield model clearly showed that whilst demographic factors were important there are other factors (perhaps more amenable to intervention) that affect participation rates. This project sought to identify and better understand some of these factors.
- As part of this project, we have updated the Sheffield Hallam model to estimate Local Authority participation using APS 2 and 3 data covering the 12 month period July 2008 to July 2009.
- The principal thrust of the modelling work has been Mindshare's NI8 model, which extends the Sheffield Hallam model by taking into account, in addition to demographics, additional quantifiable information about an individual's surroundings, such as weather, local authority interventions, and access to facilities.
- Additionally, as part of this project, case study research has been commissioned which attempts to explain some of the intangible factors that could not be tested through modelling (see separate reports for Derbyshire and Camden).

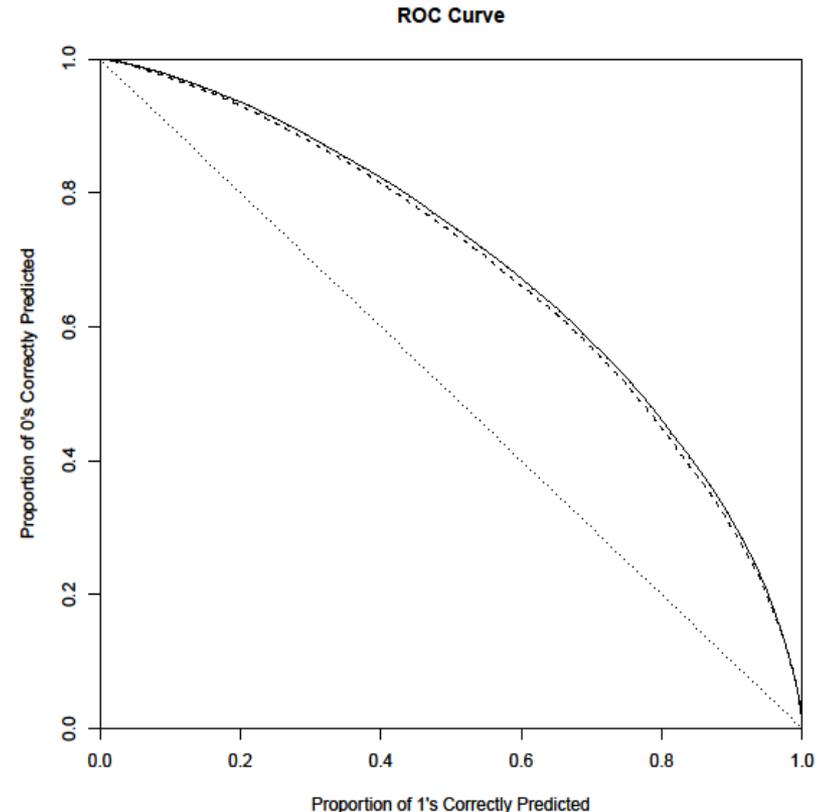
Drivers of participation in sport



* Active People: The Model of Demographically Adjusted Participation Rates ("the Sheffield Hallam model")

The Mindshare NI8 model compared with the Sheffield Hallam model

- The ROC curve in the diagram is a measure of predictive accuracy for quantitative models. The closer the curve follows the top right hand border, the more accurate the model in predicting the participation in sport. The Mindshare model is depicted with a solid line here, and the Sheffield Hallam model with a dashed line.
- From this we can see that the Mindshare NI8 model is a marginally better predictor of participation in sport than the Sheffield Hallam model, given that in addition to demographic factors it also tests for variables like social club membership and lottery funding.
- While the effect appears marginal at a national scale, we have found that the Mindshare model is better at predicting participation levels for certain local areas, and is therefore an improved model for understanding variations between local areas.



Findings from the model

Guide to this presentation

- This presentation illustrates the key findings from the Mindshare NI8 model, which attempts to draw out the factors that influence whether an individual will reach the NI8 criteria (defined as at least 12 sessions of at least 30 minutes duration and at least moderate intensity over the last 4 weeks of sport and active recreation).
- We have graphed the drivers of participation in the model to show the impact each has on the probability of meeting the NI8 criteria
 - As bar charts for “dummy variables” (factors that are either drivers or not and there is nothing in between, like living in a certain area or gender)
 - As best fit lines for factors which change the more or less they are present (e.g. age, temperature).
- Where appropriate we have supplied commentary to the graphed findings through text boxes.
- There are a few key points to bear in mind when reading these charts
 - Wherever the impact of a driver is shown, we have controlled for all other drivers. In other words, we show where factors drive participation all other things being equal
 - The charts show the impact on the probability of meeting the NI8 criteria, not the number of people who participate in sport that fall within a certain group.
- There is further information on the methodology used in the modeling and the findings of the models themselves in the full technical report.

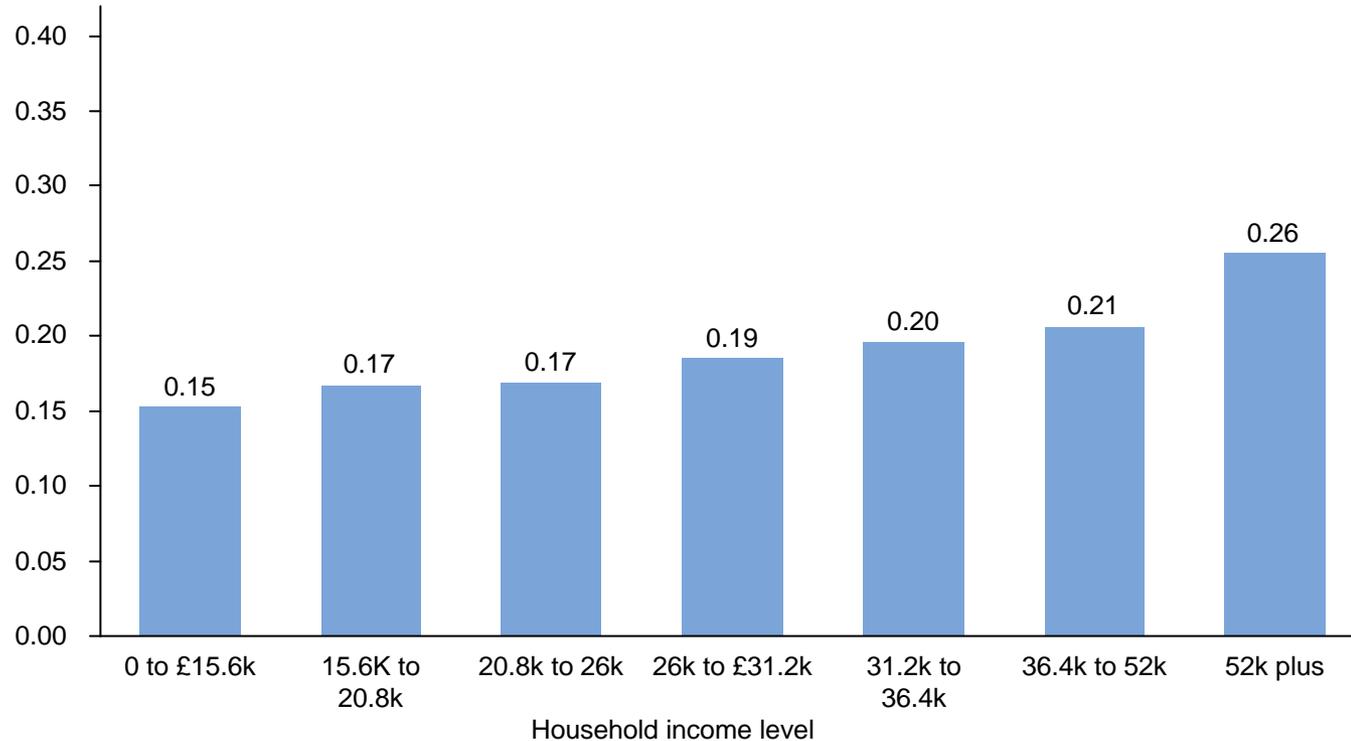
Overview of the drivers of participation in the NI8 model

- The table to the right provides an overview of the variables that the modelling found to have a significant impact on the probability of an individual reaching the NI8 criteria, and whether an increase in this variable means an individual is more (positive) or less (negative) likely to reach NI8.
- More detail on the quantified impact of each of these drivers can be found in the following slides and in the technical report.

Variable	Impact	Variable	Impact
Social club membership	Positive	Single adult household	Positive
Attended cultural events over the last year	Positive	Male	Positive
Region: East Midlands, North East, North West, South East, South West, Yorkshire	Positive	National lottery grants awarded within 10kms	Positive
A-Levels	Positive	Lakes within 10kms	Positive
5 or more GCSEs	Positive	Own home outright	Positive
Higher education at degree level	Positive	Number of children in household	Negative
Average temperature	Positive	Population density in local area	Negative
Total rainfall	Positive	Live in council housing	Negative
Income Level	Positive	Car Van Available	Negative
Own ethnicity in area	Positive	Age	Negative
White ethnicity	Positive	Illness	Negative
Attend cultural events	Positive	Four or more adults in household	Negative

Individuals who are part of a higher income household are more likely to meet the NI8 criteria

Impact on probability of meeting NI8 criteria

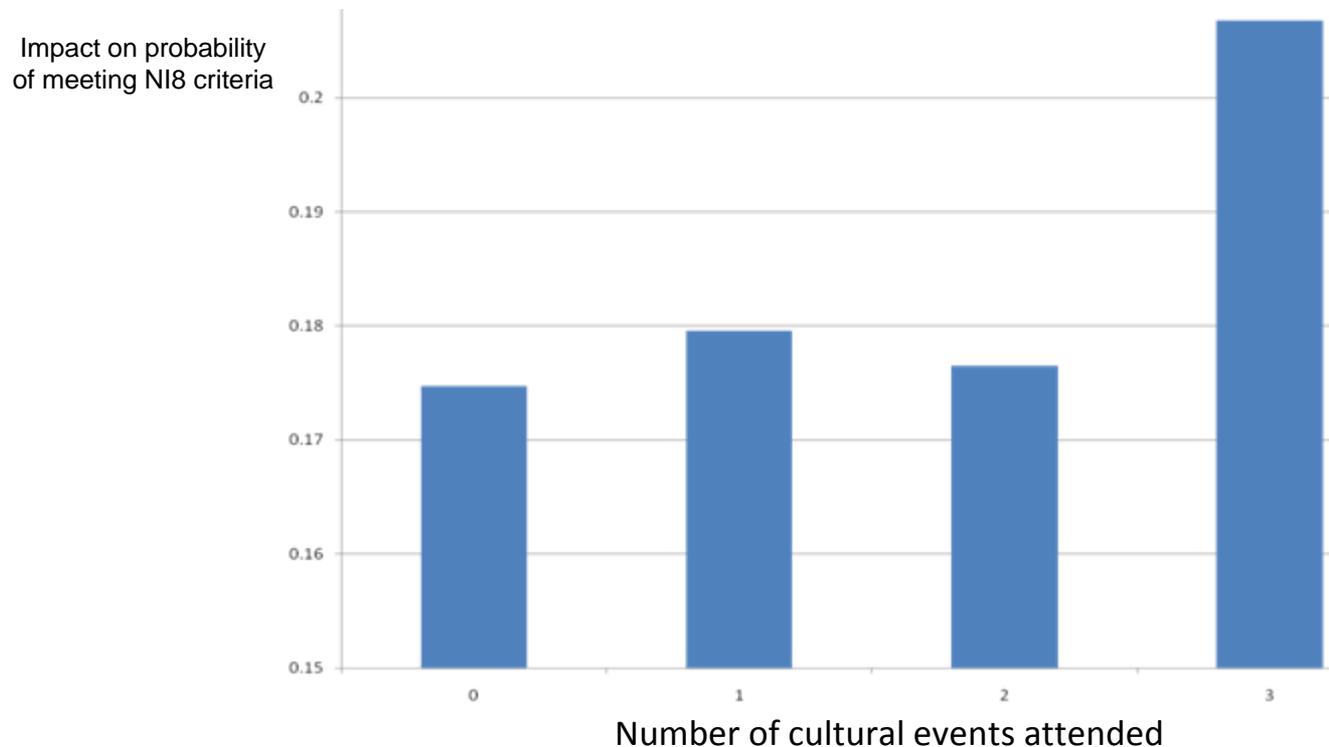


•We have estimated the impact that each of the drivers has on reaching the NI8 criteria, holding all other variables at their average and estimating the average participation rate at different levels of the variable. Variables where the coefficient is positive increase the probability that the individual is likely to meet the NI8 criteria.

•The model has confirmed and reinforced the importance of demographic factors in driving participation in sport and variations between participation rates between local authorities, such as income, shown here, age education and number of children in the household, shown in following charts.

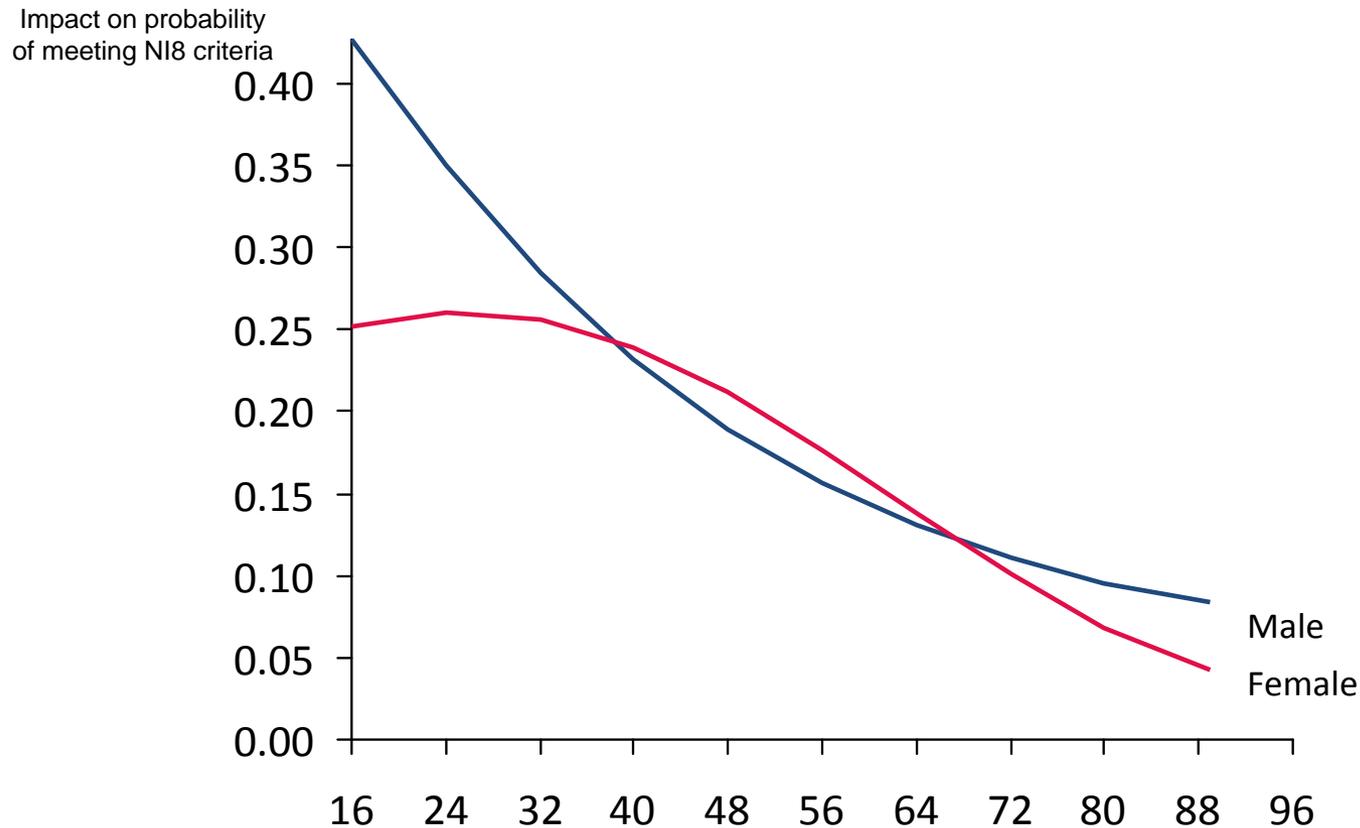
•There is a particularly noticeable jump in participation rates in the highest income band here.

Those who attend cultural events are more likely to meet the NI8 criteria



- People who attend 3 or more cultural events in previous twelve months – such as going to museums or concerts – are more likely to meet the NI8 criteria.
- The model appears to confirm our initial hypothesis that people who engage more in cultural activities or civic life engage more in sport.

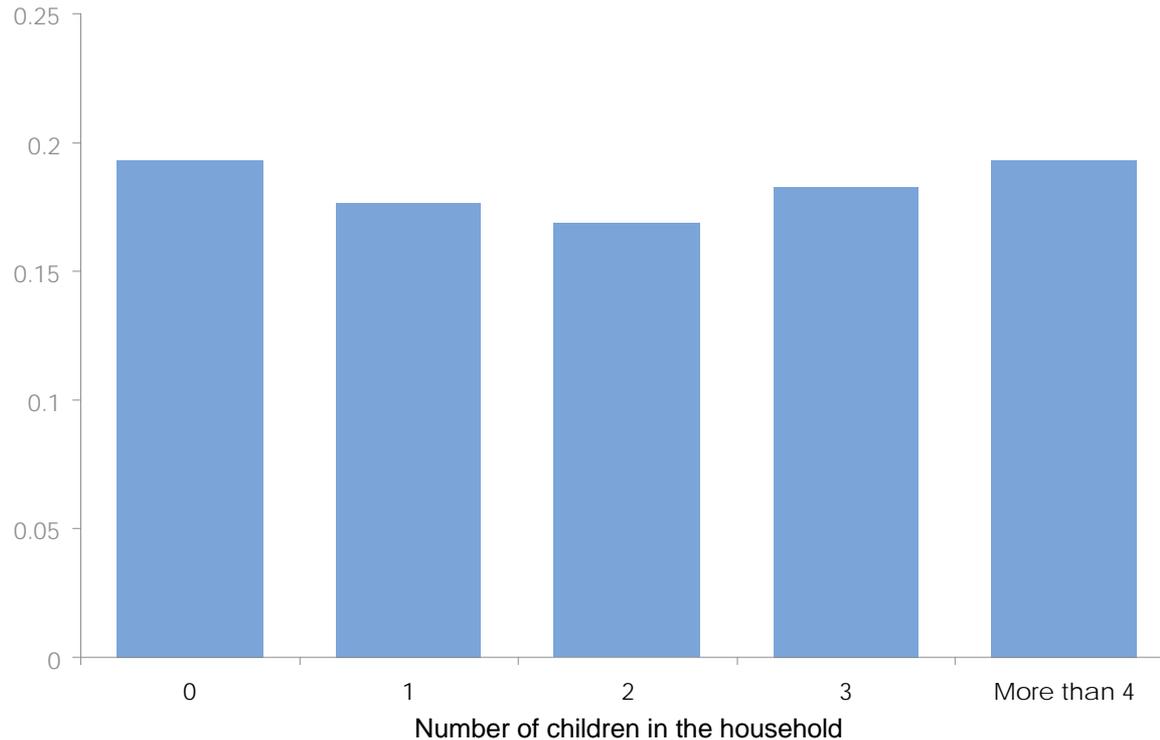
The effect of age is very different for men and women



- At a younger age, the overall likelihood to participate is higher for men, but this declines sharply with age and the gap between men and women narrows.
- This may be due to the effect of school sports on young active males, but may also be due to the sociocultural norms around sport amongst men.

Those with children in the household are less likely to meet the NI8 criteria

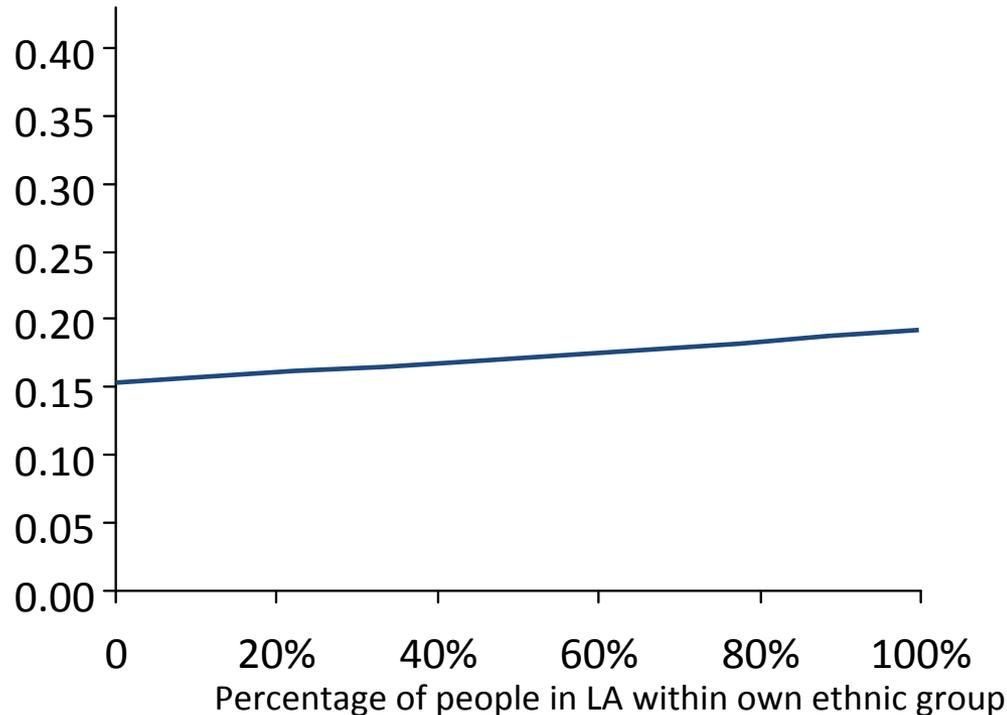
Impact on probability of meeting NI8 criteria



- Individuals with children in their household are less likely to meet the NI8 criteria, up to two children.
- This is probably due to additional pressure on free time for these individuals.
- Beyond 2 children, the impact is reduced. This is probably lifestage driven, as people with 3 or 4 children are likely to be older parents and have more available free time.

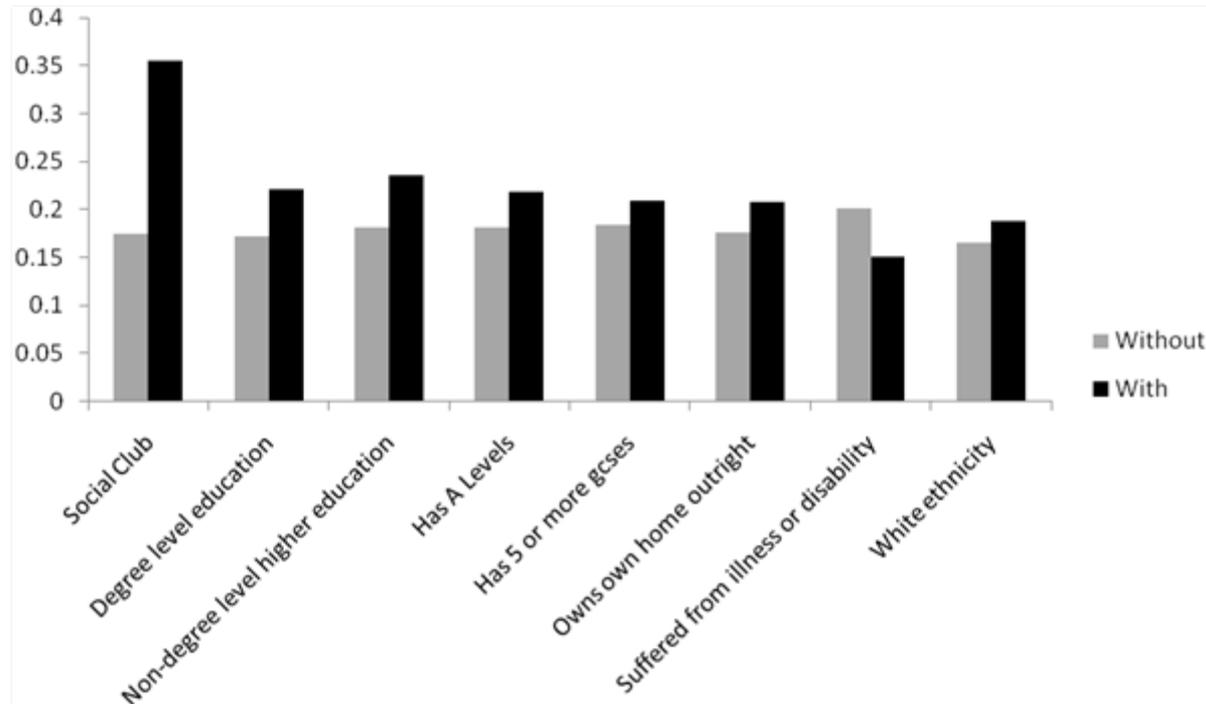
Effect of living in an area with a higher percentage of people in your ethnic group

Impact on probability of meeting NI8 criteria



- This has a positive impact: where an ethnic group makes up a higher percentage of the local population, members of that group are more likely to meet the NI8 criteria.
- This is probably because if you are in a particular ethnic group, you are more likely to participate if people of your ethnicity are already doing a certain sport in your area.

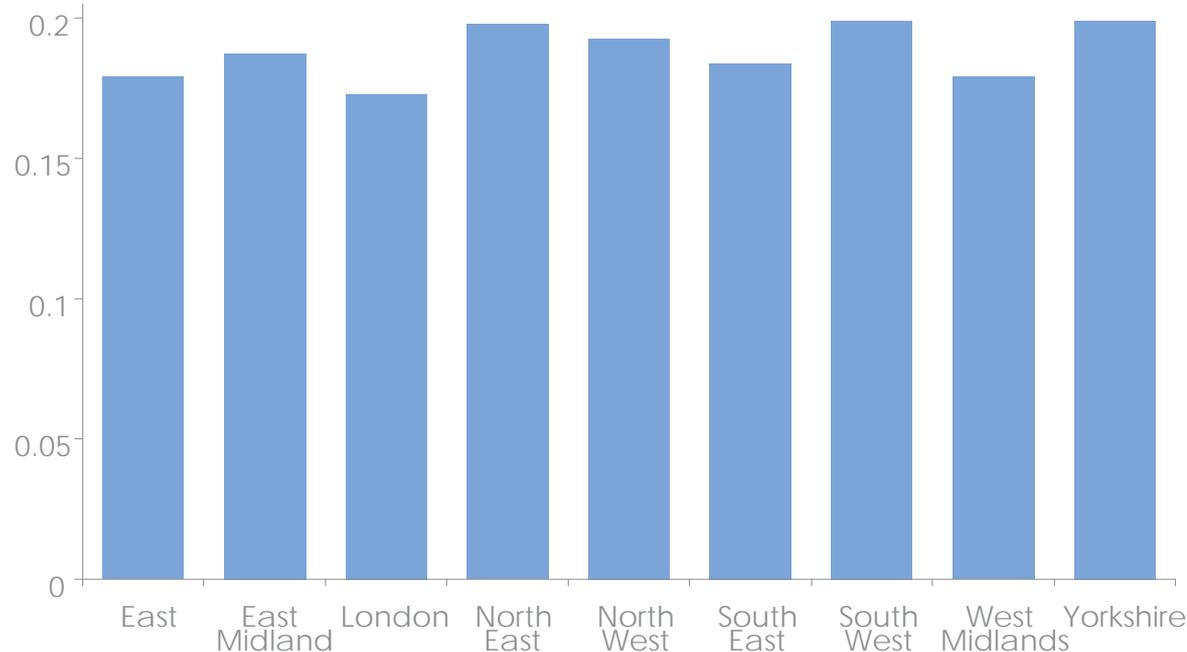
Other dummy variable effects in the model – demographic and lifestyle factors which have a positive or negative impact



- Across both the NI8 and many of the sport specific models, there is a consistently emerging trend that those who have attained a higher-education qualification, degree or otherwise are more likely to participate in sport.
- Other factors that are represented here: illness or disability, which makes an individual less likely to participate; ethnicity - white individuals are more likely to be active, all else being equal; home ownership, which makes someone more likely to participate (perhaps because it is a proxy for social class); and social club membership.

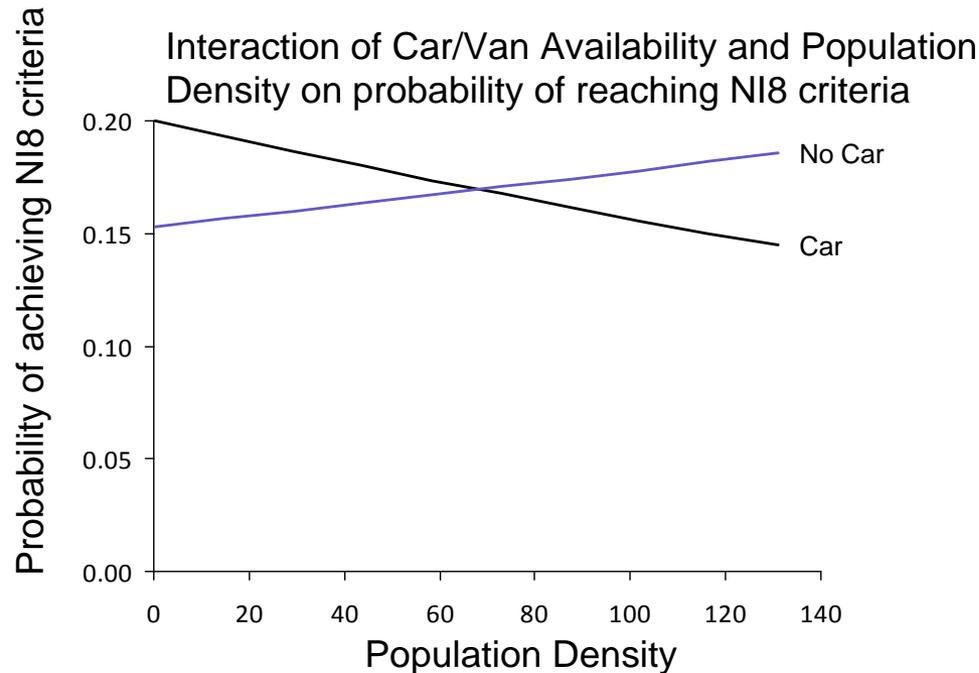
Individuals who live in some regions of the country are more likely to meet the NI8 criteria

Impact on probability of meeting NI8 criteria



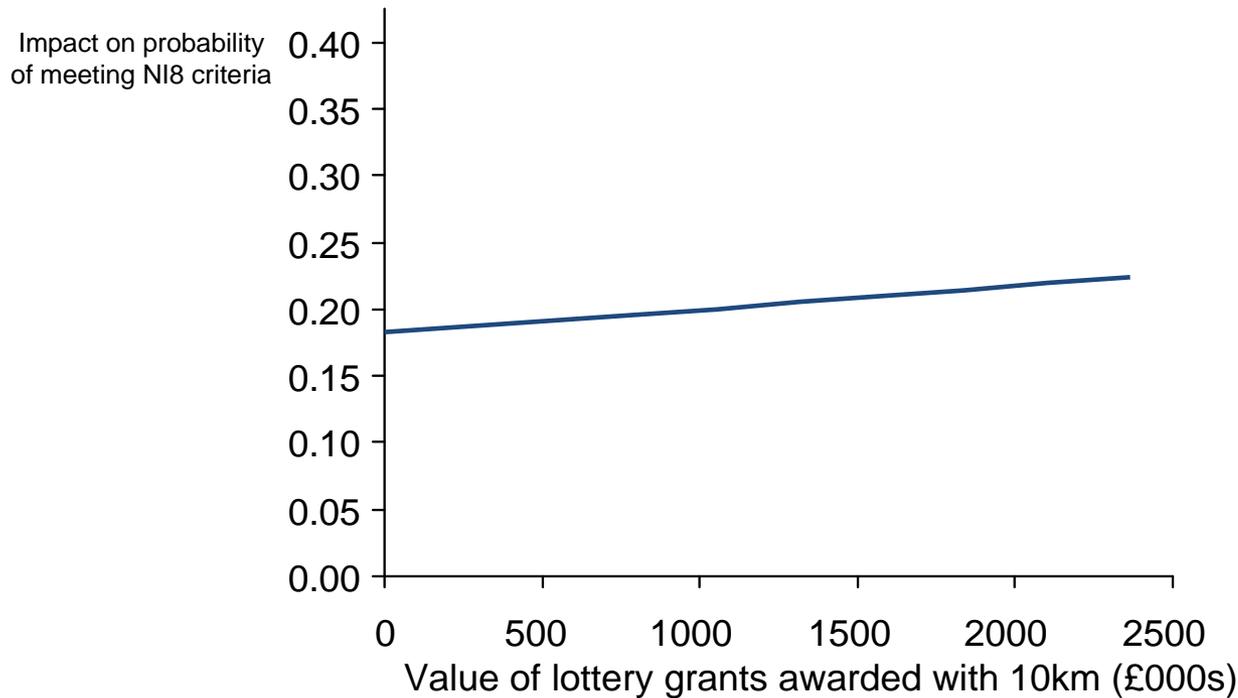
- Taking all of the other factors in the model into account, individuals who live in some regions of the country are more likely to meet the NI8 criteria.
- These differences will be driven by a range of tangible and intangible factors we have not been able to include in the model.

Car ownership interacts with population density in NI8 model



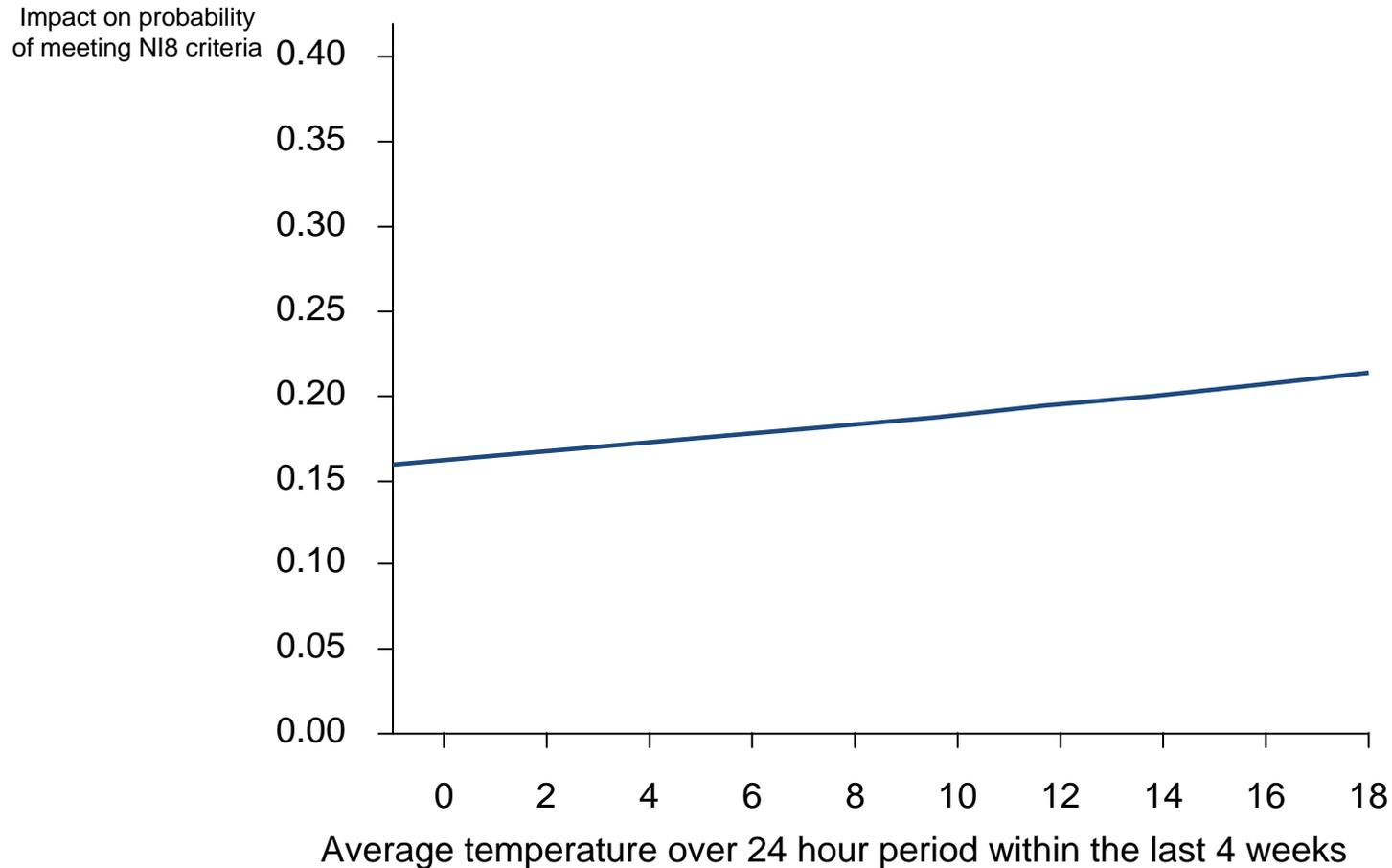
- The modelling has found an interaction exists between Population Density and Car Ownership. That is to say that the impact of population density varies by whether or not the individual has access to a car or van.
- In rural areas, car ownership has a positive impact on the probability of reaching NI8 criteria. In urban areas, it has a negative impact – car owners are less likely to meet the target
- This is likely to be due to the better transport links and proximity to sport facilities in urban areas making it easier for an individual to participate in sport

Effect of lottery grant awarded within 10km – this has significant positive impact on participation



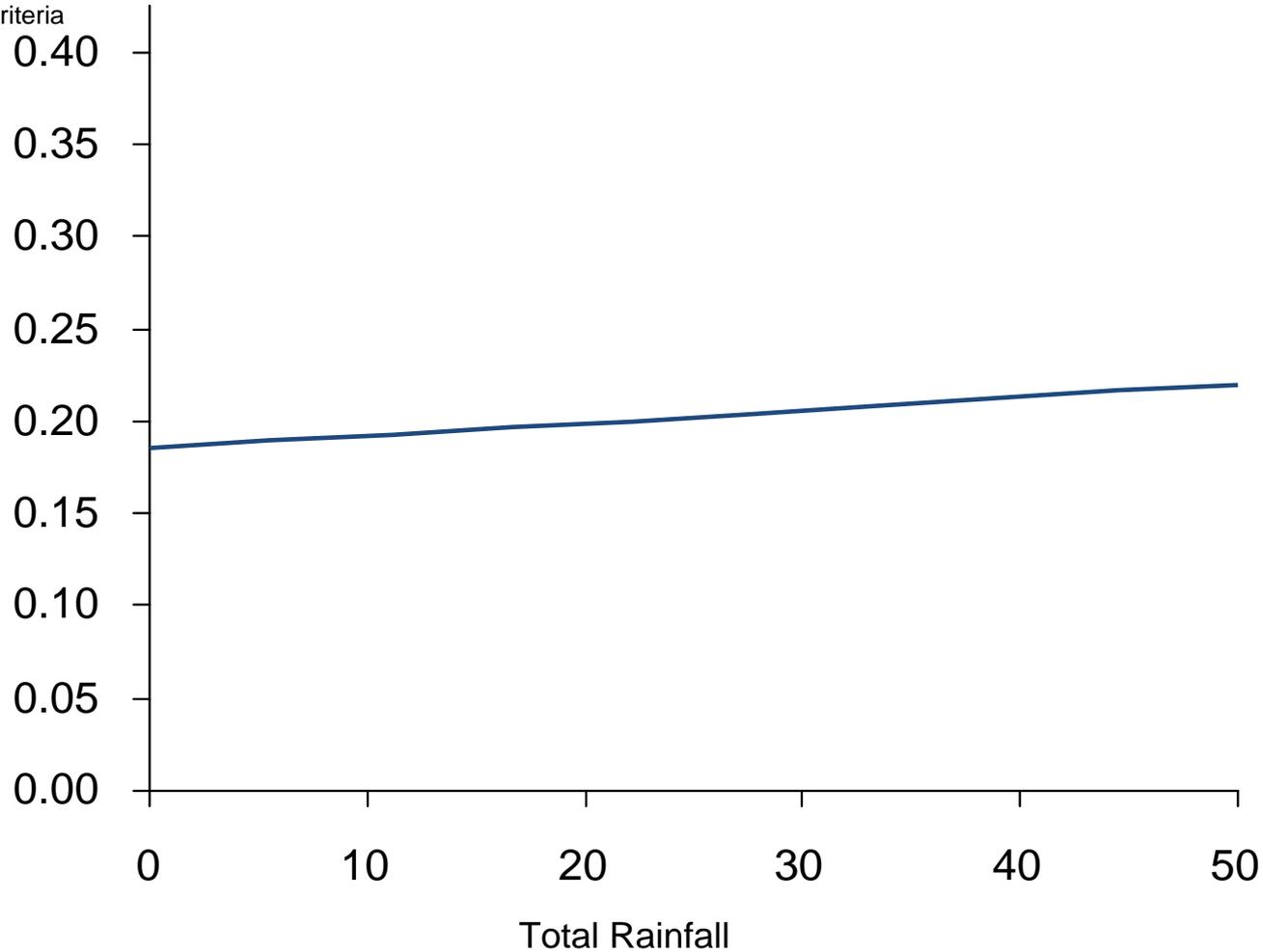
- The model confirms our hypothesis that areas that have received higher levels of Sport England lottery funding have higher participation rates. SE lottery amounts within 10km of a respondent lead to that respondent being more likely to meet the NI8 criteria.
- It is possible that this is because lottery funding reflects long-term investment in an area, as the lottery grant award data we have used stretches back to 1996/97. Furthermore, given that in order to receive lottery funding a local area will likely have to demonstrate a long-term commitment to invest in the frameworks, people and programmes that support sport in the area, lottery funding itself may be representative of a broader long-term commitment to sport in that area.

Effect of higher average temperature – as the weather gets warmer, people are more likely to meet the NI8 target

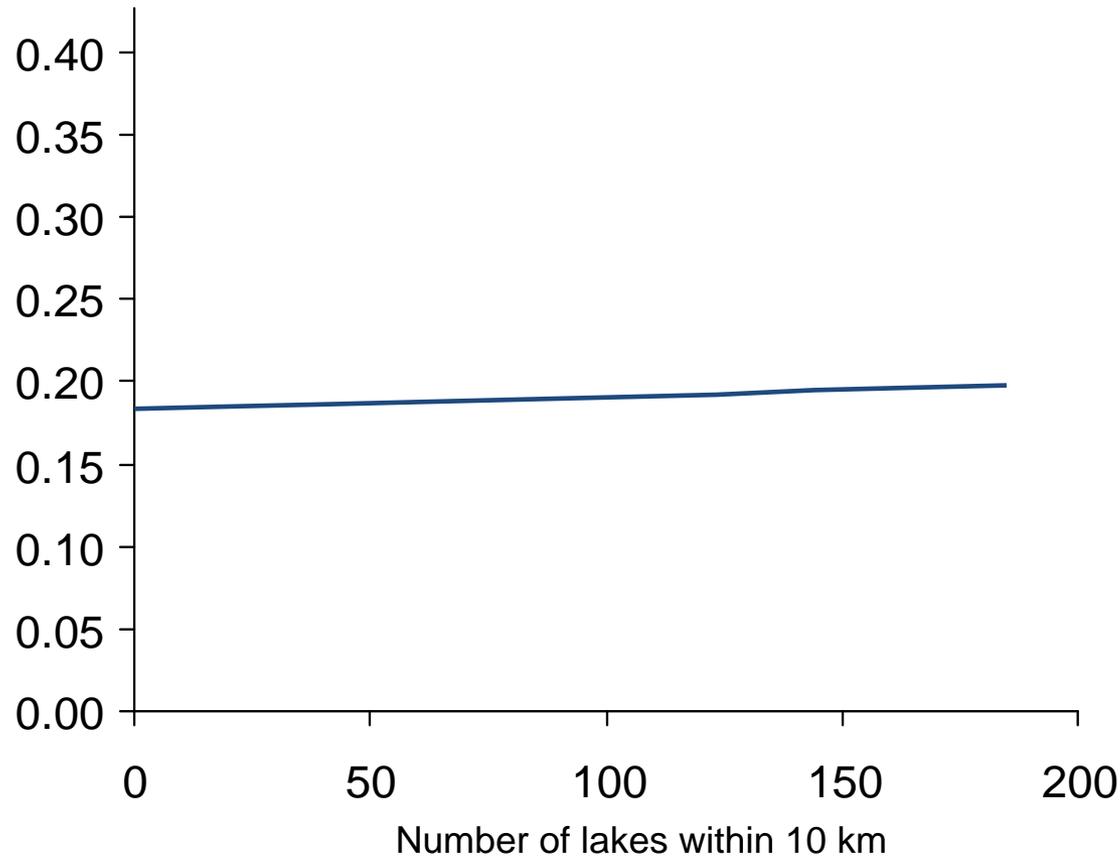


Effect of total rainfall – this appears to have a slight positive effect

Impact on probability of meeting NI8 criteria



Effect of living within 10km of lakes – this has a smaller but still significant positive impact on participation



Other factors tested

- In addition, there were a number of factors that we were unable to prove due to the limitations of the data available or the modeling:
 - Total spend on sport in an area: we do not have access to data that records total expenditure in sport over the long-term in an area across the public and private sectors
 - Quality of facilities and local government sport provision: while we were able to test distance to facilities (including accredited facilities) and accredited clubs, we do not have data to assess the relative quality of facilities in one area versus another

Summary of key findings

- **Demographic factors:** The NI8 model has confirmed and reinforced the importance of demographic factors in driving participation.
- **Cultural engagement:** The model appears to confirm our hypothesis that there is a relationship between participation in sport and general civic participation: people who engage more in cultural activities or civic life engage more in sport.
- **Lottery funding:** The model confirms that areas that have received higher levels of Sport England lottery funding have higher participation rates. This may be because lottery funding is an indicator of long-term investment in sport in an area.