Natural England Commissioned Report NECR167

Visits to the natural environment in East London

Analysis of data from the Monitor of Engagement with the Natural Environment survey (2009-2013)

First published 13 January 2015

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NATURAL ENGLAND

Foreword

Natural England commission a range of reports from external contractors to provide evidence and advice to assist us in delivering our duties.

Background

Natural England's Outdoors for All Programme supports the Government's ambition that 'everyone should have fair access to a good quality natural environment'. Similarly, our Outdoor Learning Programme supports the Government's ambition for 'every child to experience and learn about the natural environment', through programmes that promote both learning in and learning about the natural environment. Through these two programmes Natural England aims to improve the number and diversity of people enjoying experiences in and inspired by the natural environment.

Over the next 5 years we have committed to develop wider opportunities for people to engage with the natural environment, near to where they live, in ways that meet their needs including health, learning and recreation. We will do this by working with and through partners to help transform services that tackle the most urgent issues for people with the greatest need, so both these programmes are strongly evidence led in both design and delivery.

Evidence highlights that increasing access to local greenspace improves health, wellbeing and learning outcomes and helps to address health inequalities.

East London has some of the most deprived boroughs in the UK. People living in the 'Growth Borough' area (Barking and Dagenham, Greenwich, Hackney, Newham, Tower Hamlets and Waltham Forest) make up 18% of London's population, but include 62% of the city's areas of highest deprivation. Residents of these boroughs are likely to have fewer qualifications, are more likely to be unemployed, and will tend to die younger than the average for London. The Growth Boroughs and the Mayor of London, with the support of Government, have set a Convergence Framework with the target of ensuring that Growth Borough residents will have the same social and economic chances as their neighbours across London by 2030.

Over the last two years Natural England have been working with a growing coalition of partners to gather the evidence and local insight needed to inform the development of a demonstration project in East London, one that aims to test an integrated approach to delivering improvements in children's learning and health outcomes through better access to, and more frequent use of, local green space. The project will build on the experience already being gained through large scale projects including the Natural Connections, Well London/Well Communities and the Healthy Schools programmes.

The analysis of the Monitor of Engagement with the Natural Environment survey (MENE) presented in this report provides evidence of an association between the availability of greenspace and both the frequency of visits to the natural environment and levels of physical activity in East London. The results also confirm the influence of children in the household in promoting adult visits to the natural environment.

The findings support a rationale for working to improve access to and use of local green space in East London as a way to deliver a range of health, wellbeing and learning outcomes for children and their families. Furthermore, the need and opportunity to deliver benefits for households with children appears to be greatest in the boroughs with low availability of green space (as measured by the Greater London Authorities People and Nature index) such as Newham and Barking & Dagenham.

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Further information
This report can be downloaded from the Natural England website: **www.gov.uk/natural-england**. For information on Natural England publications contact the Natural England Enquiry Service on 0845 600 3078 or e-mail **enquiries@naturalengland.org.uk**.

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1. Executive Summary

Context

The Natural England Outdoor Learning and Outdoors for All Programmes work to promote equal access to good quality greenspace. Analysis of the Monitor of Engagement with the Natural Environment survey (MENE) is routinely undertaken to inform and shape projects within these two programmes of work. Recent MENE reports have identified that certain groups in society, including members of the least affluent socio-economic groups (SEGs) and members of Black, Asian and Minority Ethnic communities (BAME) are the least likely to make frequent visits to the natural environment (1). MENE analysis also identified that households with children are more likely than those without children to make frequent visits to the natural environment (2).

Natural England is now working with partners, including Public Health England and DEFRA, to understand how enabling better access to greenspace might play a role in addressing social inequalities by delivering both health and learning outcomes. This report was commissioned specifically to inform the development of a community based outdoors for learning and health demonstration project in East London. For the purposes of this report, data was analysed from the following East London boroughs: Barking & Dagenham, Greenwich, Hackney, Newham, Tower Hamlets and Waltham Forest.

Analysis was completed on data from the MENE survey period 2009-2013 and all findings referred to in this report are statistically significant.

Key findings

Frequency of visits to the natural environment

1. Adults living in East London were much more likely than the England average to:
   - be members of the Black, Asian and Minority Ethnic population (BAME) (54% v 13%)
   - be in the least affluent socio-economic groups (DE SEG 31% v 27%).
   - be younger (72% v 49% aged 44 or under)
   - have children in the household (34% v 29%).

2. Adults living in East London were much less likely to visit the natural environment frequently (at least once a week) (37% in East London v 45% for the rest of London and 54% for the England average).

Greenspace, visit frequency and physical activity

3. Use of Greater London Authority's Public Open Spaces and Nature Index to complement MENE data allowed this analysis to show that, in East London, there was a link between the availability of greenspace (as measured by the greenspace index) and frequency of visits – in fact of all the factors studied, it was the greenspace index that was most

closely related to frequency of visits to the natural environment in East London. On average, people living in the boroughs with the highest greenspace index made more frequent visits than those in boroughs with lower greenspace indices.

4. Within East London, levels of physical activity were also lowest in boroughs with a low greenspace index.

5. The positive association between the greenspace index and both the frequency of visiting the natural environment and levels of physical activity were not found when data from the rest of London was analysed.

6. The majority of all visits to natural environments were taken very close to home and most visits involved time in an urban park (62%.) This figure was similar to the average for the rest of London (59%) but significantly higher than the all England average (24%). Notably 70% of visits taken in Tower Hamlets had an urban park as their destination.

Other factors related to visit frequency

7. Other factors closely related to frequency of visits to the natural environment in East London were age, presence of children in the household and ethnicity. Socio-economic group, gender and illness & disability were also important factors.

8. The relative importance of these factors varied between individual boroughs, reflecting their different demographic profiles. However a link between ethnicity and both frequency of visits to the natural environment and levels of physical activity was identified at the East London and East London borough levels.

9. In terms of barriers to visiting the natural environment, residents of East London were more likely to cite being too busy at home (22% v 17% England average) and/or too busy at work (33% v 25% England average). Cost was not reported as a significant barrier to visiting the natural environment in East London, the rest of London or England overall.

Presence of children in the household

10. Residents of East London with children in their household were more likely than those without children to be members of the BAME population, to be aged 25 to 44, and to own a car.

11. The presence of children in the household increased the likelihood of adults making frequent visits to the natural environment compared to households with no children. This link was evident at three spatial scales studied: East London (36 v 38%), the rest of London (42 v 49%) and for all of England (52 v 59%).

12. Results from individual boroughs suggested that the presence of children in the household may help to offset low levels of adult visiting, especially in boroughs with low greenspace indices.

The results of this analysis provide evidence of a correlation between the availability of greenspace (as measured by the greenspace index) and the levels of both visits to the natural environment and levels of physical activity in East London. The results also confirm a

correlation between the presence of children in the household and the frequency at which adults take visits. Hence the findings help build a rationale for working to promote children's access to local green space in East London, as a way to deliver a range of benefits for children and their families. Furthermore, the opportunity to deliver these benefits for households with children appeared to be amplified in the boroughs with the least availability of green space such as Newham and Barking & Dagenham.

2. Background

2.1 Introduction to MENE

The Monitor of Engagement with the Natural Environment survey (MENE) provides a comprehensive dataset on people's use and enjoyment of the natural environment. The survey was established in 2009 and so can now provide insight into trends in visit taking over time. In addition, the dataset is geo-coded and is now large enough to enable analysis by geographic area within England (down to borough level) and specific population groups.

MENE surveying is undertaken using in-home Omnibus interviews with a representative sample of the adult English population (aged 16+). The cumulative sample sizes from the first four years of surveying from March 2009 to February 2013 are as follows:

- Interviews with 188,780 respondents;
- Core visit details collected for 160,376 visits;
- Full visit details collected for 56,777 visits.

The survey topics included in MENE include:

- Volume of visits to the natural environment;
- Places visited;
- Activities undertaken;
- Reasons for taking visits;
- Expenditure on visits;
- Barriers to taking visits.

Further information on the survey including data collection approaches, weighting and grossing methods and the accuracy of results can be found in the MENE Survey Technical Report (3[1]).

2.2 Purpose of analysing data for East London

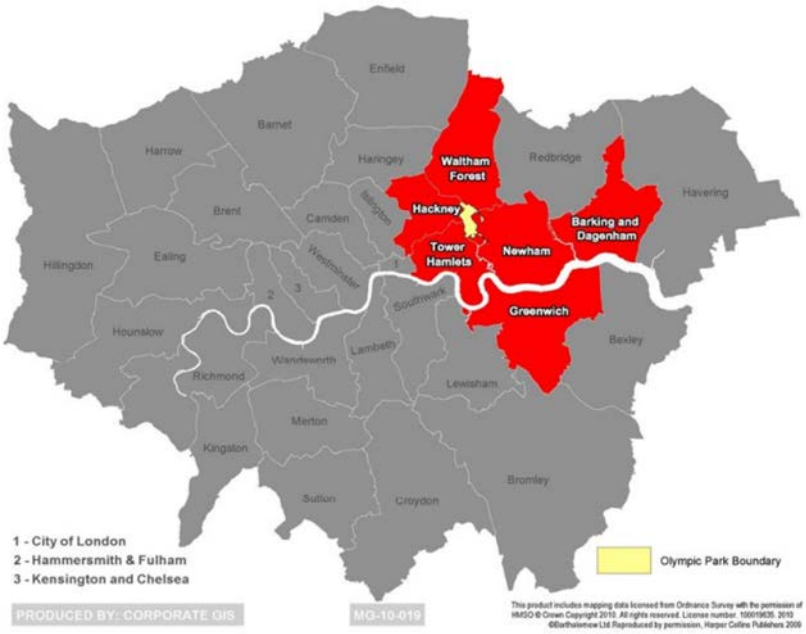
The Natural England Outdoor Learning and Outdoors for All Programmes work to promote equal access to good quality greenspace. Analysis of the Monitoring Engagement with the Natural Environment survey (MENE) is routinely used to inform and shape projects within these two programmes of work. Recent MENE reports have identified that certain groups in society, including members of the least affluent socio-economic groups (SEG – see Appendix 2 for definition) and members of the Black, Asian and Minority Ethnic community (BAME) are the least likely to make frequent visits to the natural environment (1[2]). MENE analysis has also found that households with children are more likely than those without children to make frequent visits to the natural environment (2[3]).

[1] See 'References' section for more details.
[2] See 'References' section for more details.
[3] See 'References' section for more details.

Natural England is now working with partners, including Public Health England and DEFRA, to understand how enabling better access to quality greenspace might play a role in addressing social inequalities by delivering both health and learning outcomes.

This report was commissioned by Natural England in partnership with the University of East London specifically to inform the development of a community based outdoors for learning and health demonstration project in East London. It includes data collected over the survey period from 2009-2013 for the six East London boroughs illustrated below.

- Barking & Dagenham
- Greenwich
- Hackney
- Newham
- Tower Hamlets
- Waltham Forest



These boroughs were selected for analysis as they are the focus of the 2011 – 2015 Convergence Framework and Action Plan (4[4]).

Unfortunately, the sample size available for Hackney in this instance was too small to allow statistically representative reporting for this borough on its own; however, data for Hackney was included in overall East London figures presented.

[4] See 'References' section for more details.

The number of interviews analysed in each borough was as follows:

	Number of MENE respondents (March 2009 – February 2013)
Barking & Dagenham	614
Greenwich	1,330
Hackney	108
Newham	2,019
Tower Hamlets	1,307
Waltham Forest	1,063
TOTAL	**6,441**

2.3 Comparing data for East London to the rest of London and England

Analyses for East London and the individual boroughs making up East London (with the exception of Hackney) were compared to data available for the rest of London and England. Throughout this report, reference to 'rest of London' refers to MENE data from all the London boroughs **outside** of the 6 East London boroughs. For a list of the boroughs that make up the rest of London category see Figure 3. Data presented for England was derived from the whole MENE dataset, **including** all of the London boroughs.

2.4 Availability of greenspace – the greenspace index

This study was, for the first time, able to incorporate an index for availability of greenspace to complement the MENE data.

The Greater London Authority (GLA) publishes their Public Open Spaces and Nature Index, referred to as the 'greenspace index' in this report. The index is based on GLA data (5) relating to:

- Distance to public open space as defined in the 2011 London Plan;
- The proportion of homes with access to nature;
- The proportion of area that is greenspace.

The index has been used as a proxy for the availability of greenspace - it cannot reflect the relative quality of that greenspace.

The GLA index is calculated at a ward level; however for the purposes of this analysis, borough level averages were used. The index does not account for local greenspace beyond ward or borough boundaries.

2.5 Physical activity data

One of the foci of this analysis was to look for any association between health, learning and the natural environment, so a key data set included in this analysis was the level of physical activity. This data comes from a question in the MENE survey which asks how many days in the past week, if any, respondents undertook 30 minutes or more of physical activity that was vigorous enough to elevate their breathing rate. For the purposes of this report, 'frequent physical activity' is defined as participation to this exertion level on three or more days per week.

Individual respondent interpretations of this definition are very wide and capture everything from sport and active recreation to physical activity involved in getting to and from places. (MENE respondents are advised that this should not include housework or physical activity that may be part of their job).

2.6 Reporting natural environment visit frequency data

Throughout this report, visiting the natural environment frequently is defined as normally taking visits at least once a week during the 12 months prior to the survey interview. (Where respondents report they 'never' take visits to the natural environment this also relates to their normal patterns of visiting in the 12 months prior to interview.)

3. Identifying links between demographics, green space and frequency of visits

3.1 Key findings

1. During the 2009-2013 period, on average the people in East London visited the natural environment less often than people in the rest of London and far less often than people in England as a whole (37% v 45% and 54% respectively.)

2. On average the population of East London was younger (aged 44 or under) than in England as a whole (72% v 49%) and more likely to have children in the household (34% v 29%). Residents of East London were also far more likely than the England average to be members of the BAME population (54% v 13%) and to be in the least affluent socio-economic groups (31% v 27%.)

3. In East London the greenspace index was the variable most closely related to frequency of visits to the natural environment; on average, people living in boroughs with a relatively high greenspace index made more frequent visits than those living in boroughs with a lower greenspace index. For example 26% of Newham residents, the borough with the lowest greenspace index, normally visited the natural environment at least weekly, compared to 47% of Greenwich residents where the greenspace index was highest.

4. Other factors for which a correlation with the frequency of visiting at the borough level was identified were age, presence of children in the household, socio-economic group, ethnicity, gender and illness & disability. These factors varied per borough, reflecting the different demographic profiles of each borough.

The demographic profile of East London was compared to that for the rest of London and England as a whole in order to identify any factors related to variations in frequency of visits to the natural environment and on participation in physical activity.

A more detailed review of the demographic profiles of the individual boroughs in East London is included in section 4.

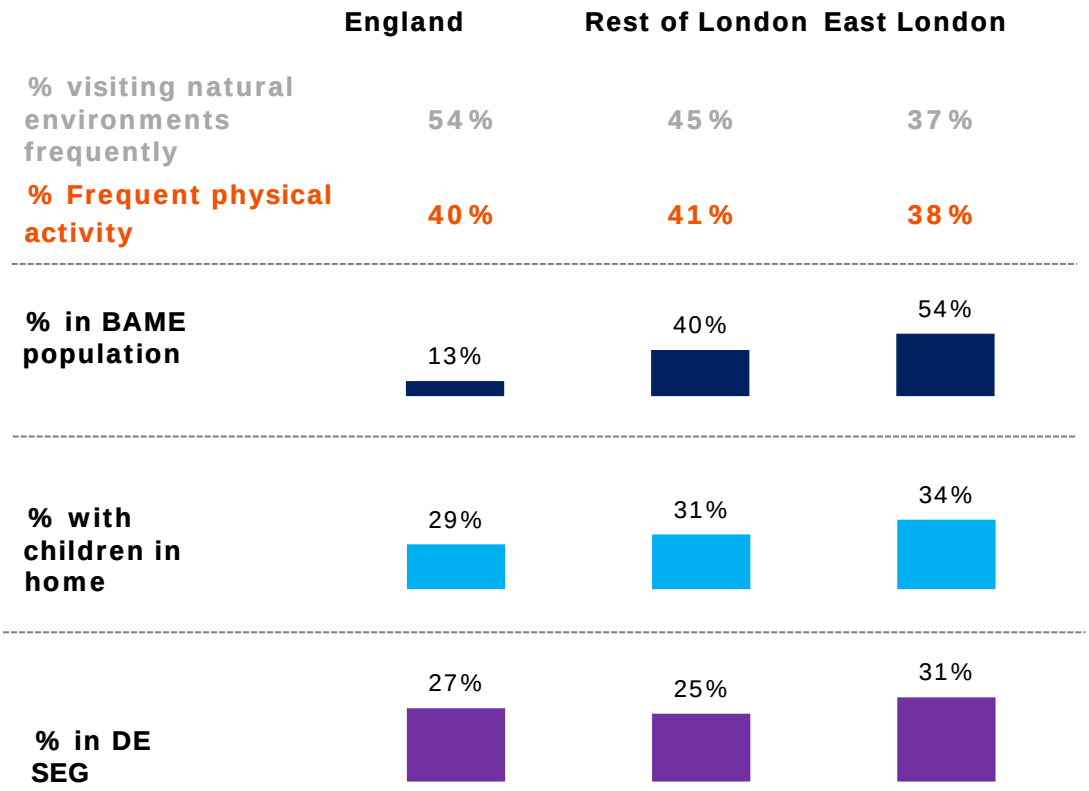
3.2 Comparing population profiles

Figure 1 compares the proportions of the population of England, the rest of London and East London who:

- Visited the natural environment frequently (at least once a week);
- Engaged in frequent physical activity (30 minutes vigorous physical activity at least 3 times per week);
- Had children resident in their household;
- Were members of the BAME population;
- Were members of the DE socio-economic groups;
- Were in particular age bands.

These variables were selected as they showed the highest variation between areas and as these variables have also been identified in previous reports to be those most likely to correlate with frequency of visits to the natural environment.

Figure 1 – Frequent visiting (at least weekly), frequent physical activity levels and key demographics



Age band	England	Rest of London	East London
16-24	14%	17%	21%
25-44	35%	46%	51%
45-54	17%	15%	12%
55+	34%	21%	16%

Based on MENE data from 2009-13, the population of East London was younger than the English adult population as a whole with more than 70% of East London residents aged 44 or under compared to 49% the total English adult population.

When compared to the rest of London and England as a whole, residents of East London were more likely to be in the BAME population (54% compared to 40% in the rest of London and 13% in England overall).

Variations were also seen with regards to presence of children in the household (34% of households in East London had children compared to 29% in England overall) and in relation to the proportion of the population in the DE social groups (31% for East London compared to 25% for the rest of London and 27% for England).

The proportion of residents of East London visiting the natural environment weekly (37%) was lower than in the rest of London (45%) and much lower than the average for England (54%).

3.3 Understanding the factors that correlate with visit frequency

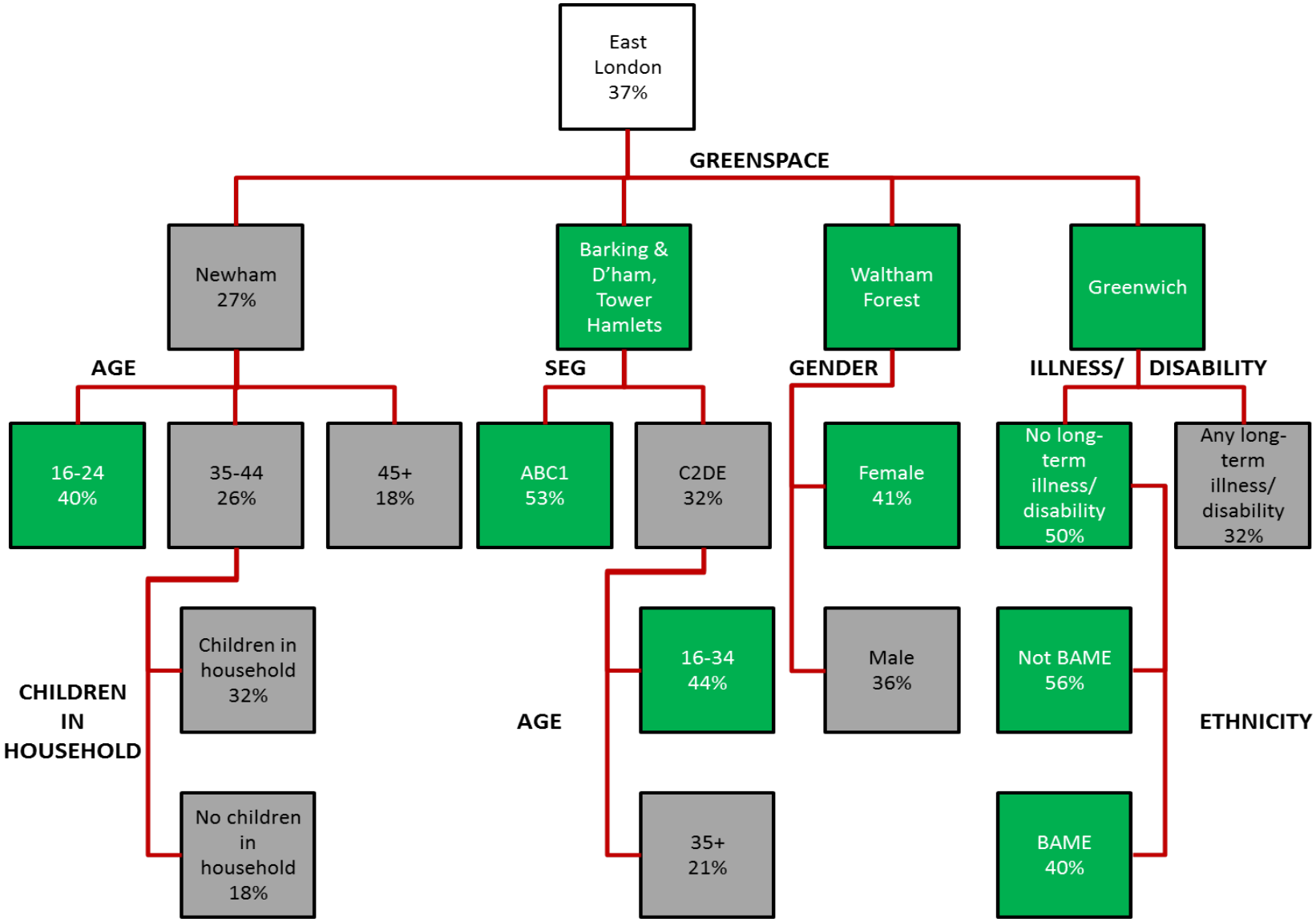
A multivariate analysis was undertaken to identify the demographic and spatial variables that had the greatest statistical correlation with how often residents of East London boroughs visited the natural environment (Figure 2).

When interpreting Figure 2, it is helpful to note that:

- The percentages shown are the proportion of those in each group who took frequent visits to the natural environment;
- Results are ranked in order of relative importance, with the factor appearing the greatest statistical significance in terms of visiting behaviour at the top;
- Green boxes indicate an above average result compared to the overall East London figure (i.e. a higher than average proportion visiting the natural environment at least weekly);
- Grey boxes show a lower than average result compared to the East London average.

The multivariate analysis demonstrated that for East London the greenspace index was the most significant predictor of visit frequency. (In Fig 2 the outputs for Barking & Dagenham and Tower Hamlets were combined as their greenspace indices for these boroughs were very similar.)

Figure 2 – Multi-variate analysis - factors with the closest statistical correlation to visit frequency (shows proportions visiting the natural environment frequently). Note: Analysis uses unweighted data



4. Understanding variations by East London borough - demographics, green space and frequency of visits

4.1 Key findings

1. Within East London, patterns of visiting the natural environment varied significantly between boroughs – the proportion of adults making frequent visits was lowest in Newham and Barking & Dagenham (26% and 34% respectively) and highest in Greenwich and Tower Hamlets (47% and 44%). Less variation was evident between these areas in relation to frequent physical activity levels.

2. Within East London both the frequency of visits to the natural environment and levels of physical activity were both lowest in areas with low greenspace indices and highest in areas with high greenspace indices (ranging from 26% visiting weekly in Newham to 47% in Greenwich). However a link between availability of greenspace and visit frequency was not evident for the wider London area, nor was it evident in relation to levels of physical activity.

3. For England, the rest of London and East London, levels of physical activity were highest amongst people who visited the natural environment most often and lowest amongst people who never visited. Within East London boroughs, levels of physical activity were also correlated to frequency of visits to the natural environment, with physical activity levels being lowest in Newham and Barking & Dagenham (35% and 36%) and highest in Greenwich and Tower Hamlets (40% and 41% respectively).

4. There were significant differences in the demographic profiles of the individual East London boroughs studied: these differences may help to explain the variations seen in average frequencies of visits to the natural environment, however they complicate interpretation of the results.

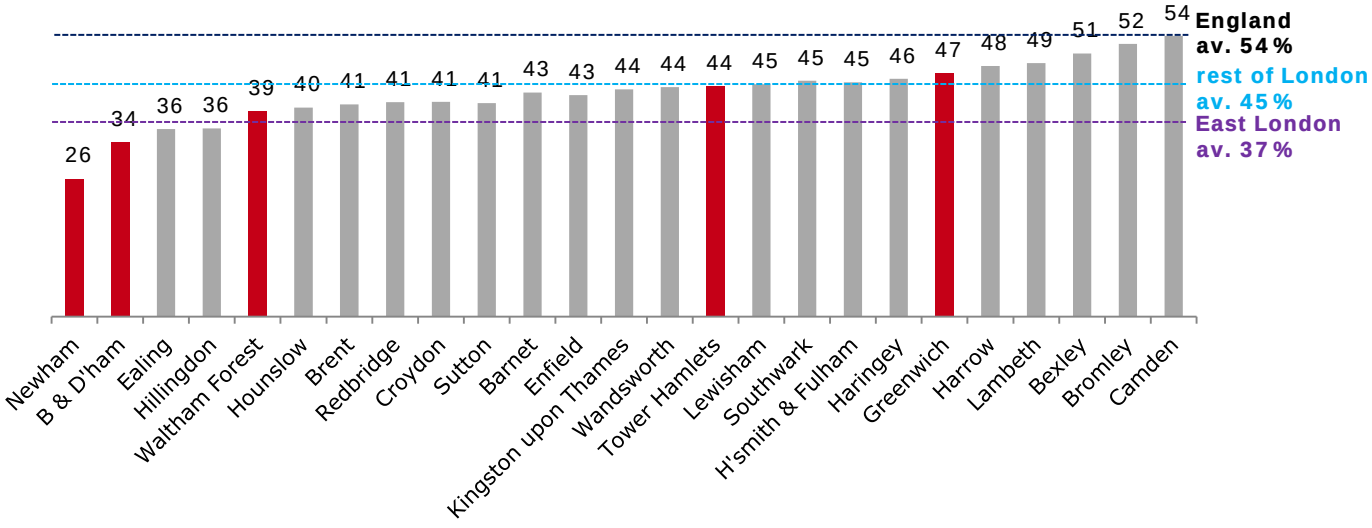
Compared to the rest of London and England as a whole, East London has a higher proportion of BAME residents and a higher proportion of residents in the less affluent DE SEGs. Previous analysis of the MENE survey data has consistently shown these population groups to be among those least likely to visit the natural environment.

This section looks in greater detail at various factors in relation to frequency of visits to the natural environment - including the links between visits, physical activity, the availability of local greenspace - and whether demographic factors correlate with visit behaviour.

4.2 Comparison of visit frequency by London borough

Figure 3 presents the proportion of residents in each of the London boroughs who visited the natural environment at least once a week. The red bars highlight the East London boroughs (Hackney excluded due to small sample size).

Figure 3 – Frequent visits to the natural environment by London borough (% visiting at least weekly)

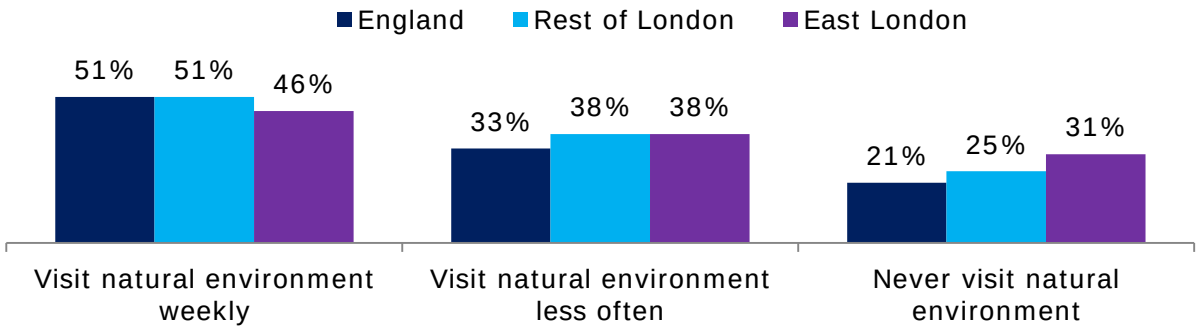


The proportion of the East London population taking frequent visits to the natural environment (37%) was lower than the rest of London (45%) and England (54%). However, within the East London area, there were clear variations between individual boroughs: in Newham around a quarter of people visited once a week or more (26%) compared to almost half of residents in Greenwich (47%).

4.3 Visit frequency and physical activity

Figure 4 illustrates the proportion of adults who took part in frequent physical activity among those who normally visited the natural environment at least once a week, those who visited less often and those who never visited in the last 12 months.

Figure 4 – Participation in frequent physical activity (3 days+ per week) by frequency of visits to natural environments in the last 12 months

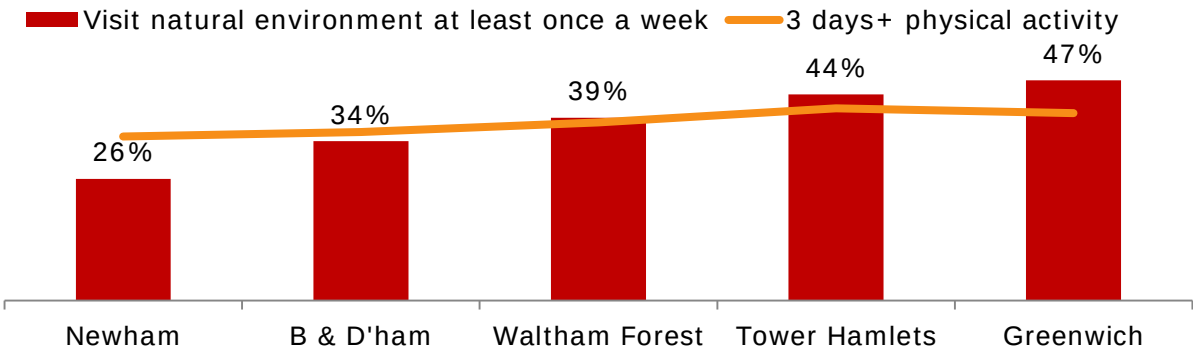


For people living in East London, the rest of London and across England levels of physical activity were highest amongst people who visited the natural environment most often and lowest amongst those who never visited.

However, in East London almost a third of people who never visited the natural environment were physically active on a frequent basis.

Figure 5 compares the proportion of adults who took frequent physical activity and frequent visits to the natural environment for each of the individual East London boroughs.

Figure 5 – Frequent physical activity and frequent visits (at least weekly) to the natural environment by London borough



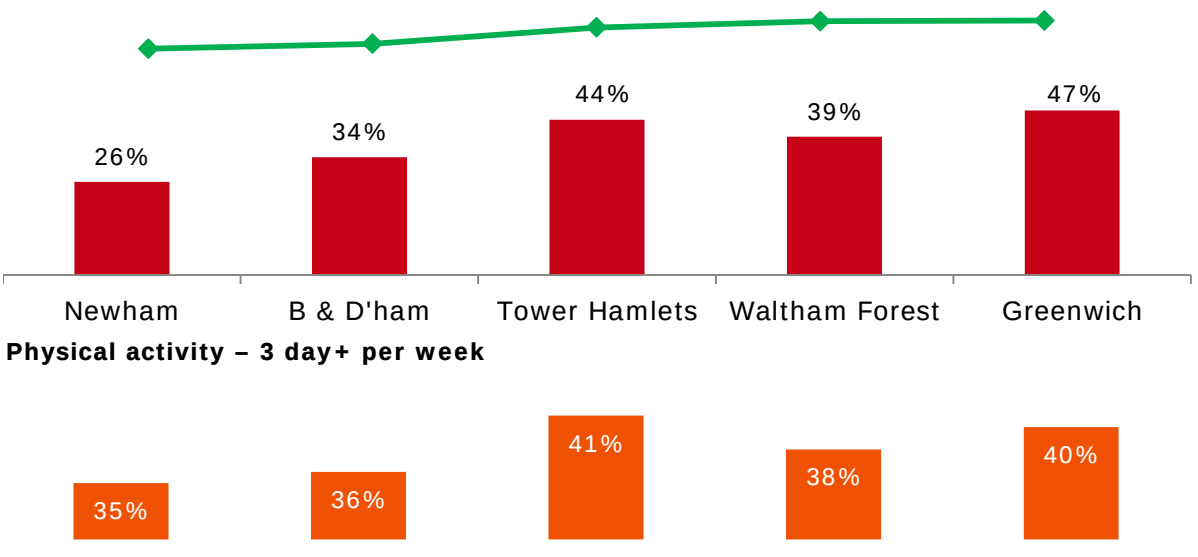
Within East London, there appeared to be a correlation between frequency of physical activity and frequency of visits to the natural environment. For example, in Greenwich, 40% of residents undertook frequent physical activity and 47% visited the natural environment at least once a week. In contrast both of these measures were lowest in Newham (35% and 26% respectively).

4.10 Greenspace availability

In East London, the availability of greenspace was the strongest determinant of the frequency of visits to the natural environment; in general, the higher the greenspace index the more frequently people visited the natural environment (Figure 6).

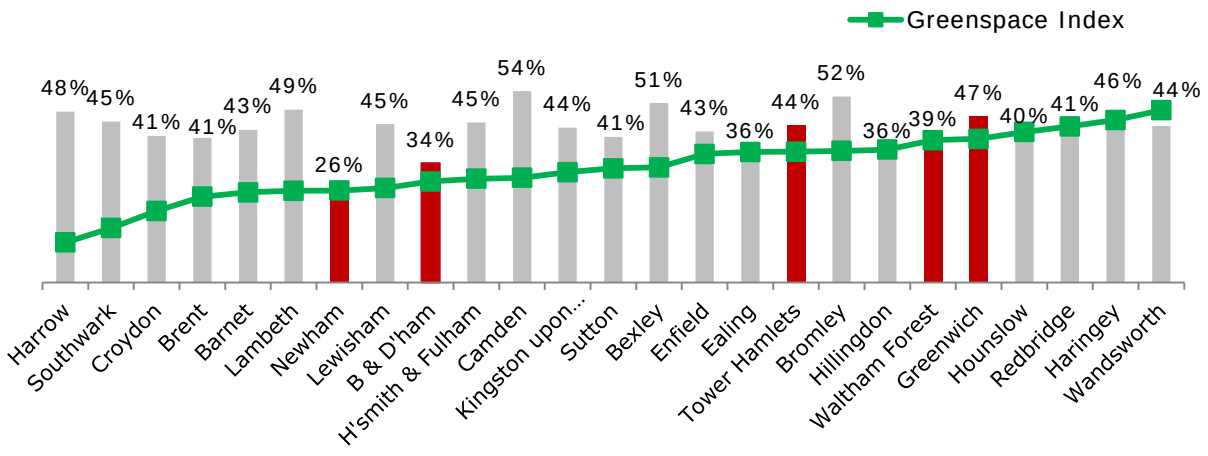
In addition to the pattern observed for visit frequency and the availability of greenspace, Figure 6 suggests a correlation between taking part in frequent physical activity and the availability of greenspace in the East London boroughs. However there is less evidence of this for the rest of London.

Figure 6 – Frequent visits to the natural environment (at least weekly) and physical activity ranked by greenspace availability



By contrast, across the sample of London boroughs (Figure 7), there was no clear pattern in terms of the availability of greenspace and taking frequent visits to the natural environment. For example, in some of the boroughs with the lowest greenspace indices the levels of visit taking were higher than the London average (e.g. Harrow and Lambeth). This suggests that, at the wider London level, other social or economic factors were more closely correlated with frequency of visits to the natural environment.

Figure 7 – Frequent visits to the natural environment (at least weekly) ranked by greenspace availability



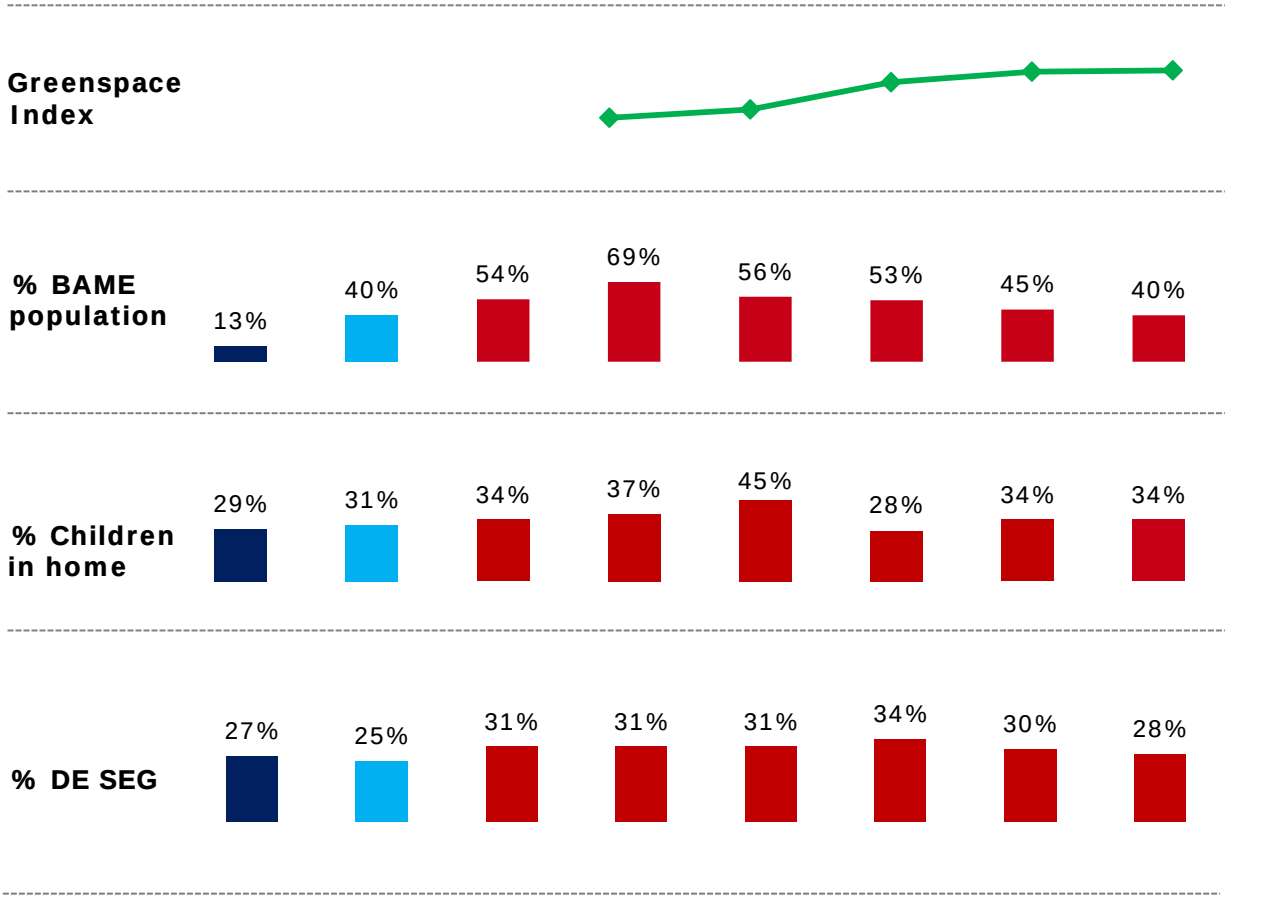
4.11 Demographic profile of East London boroughs

Demographic variables such as ethnicity, socio-economic status and children in the household were investigated to determine what variations exist in relation to greenspace availability, visits to the natural environment and physical activity.

Figure 8 compares the demographic profile of adults within each of the East London boroughs, compared to the average for East London, the rest of London and the English population.

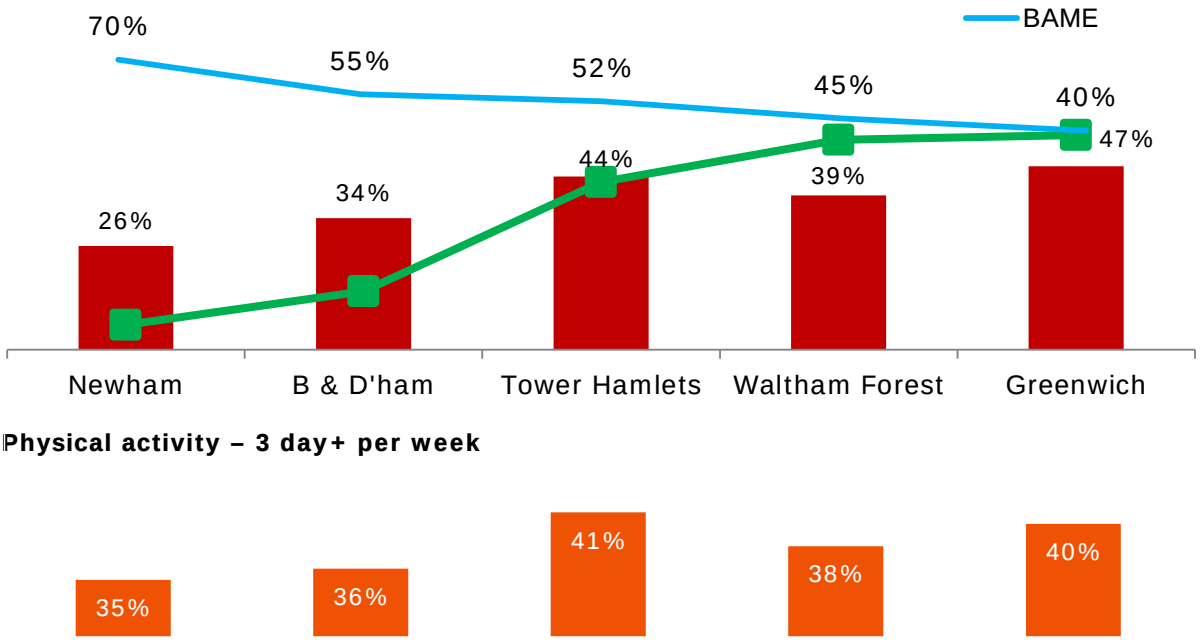
Figure 8 – Demographic profiles, frequent visit taking and frequent physical activity by borough

	England	Rest of London	East London	Newham	Barking & Dagenham	Tower Hamlets	Waltham Forest	Greenwich
Frequent Visits (at least weekly)	54%	45%	37%	26%	34%	44%	39%	47%
Frequent physical activity (3+ days)	40%	41%	38%	35%	36%	41%	38%	40%



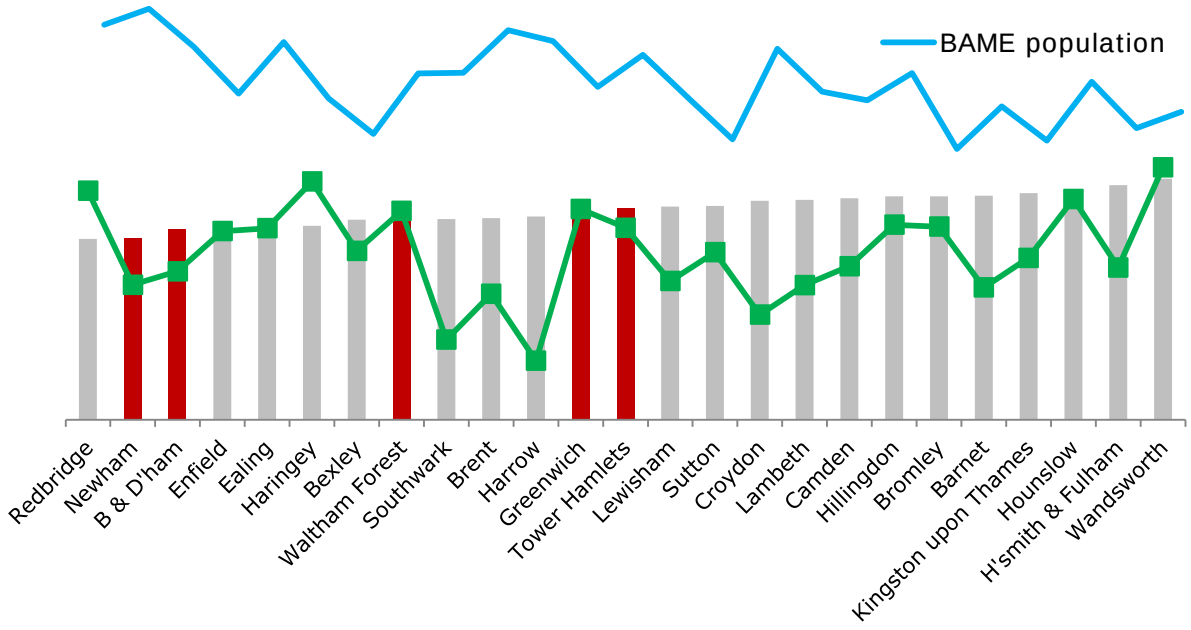
Within East London boroughs (Figure 9), Newham had the highest proportion in the BAME community (70%), the lowest levels of visits to the natural environment (26%) and the lowest greenspace index. In contrast, in Greenwich, where a lower proportion of the population were in the BAME population (40%), the proportion of frequent visits to the natural environment (47%) and the greenspace index were highest. Greenwich also had one of the highest frequent physical activity levels recorded within East London.

Figure 9 – Ethnicity, frequent outdoor visits and greenspace availability for East London's boroughs (ranked by frequency of visits to the natural environment, lowest on left and highest on right). Green line indicates the greenspace index for each area)



The results suggested a correlation between frequency of visits and ethnicity, with the lowest visit levels recorded in boroughs with the highest proportions of their population in the BAME communities (e.g. in both Redbridge and Newham 35% visited at least once a week, and 64% and 70% respectively were members of the BAME population.) conversely the highest levels of visiting frequently were recorded in boroughs with low proportions of the population in the BAME community. This is in line with findings reported in previous MENE reports. However, across the London boroughs as a whole, there was no obvious correlation between frequency of visits to the natural environment and availability of greenspace (Figure 10.)

Figure 10 – Ethnicity, frequent visits to the natural environment and availability of greenspace by London borough (ranked by frequency of visits, lowest on left and highest on right. The green line indicates the greenspace index for each area and the blue line the proportion in the BAME population)



A more detailed examination of how visit frequency relates to other demographic factors, such as the presence of children in the household, is examined later on in this report (see section 6).

5. Visit characteristics in East London boroughs

5.1 Key findings

1. Nearly two thirds (64%) of all visits to the natural environment in East London were to destinations within 2 miles of home, similar to the averages for people living in the rest of London (67%) and England (66%).

2. Most visits taken by residents of East London involved time in an urban park (62%), a similar proportion to the rest of London (59%) but significantly higher than the England average (24%).

3. Residents of East London were more likely to be motivated to visit the natural environment by opportunities to spend time with family (21% v 13% England average) and to entertain children (16% v 12% England average).

4. People in East London were less likely to visit natural environments for health and exercise reasons - 22% compared to the rest of London (30%) and England (38%).

5. East London residents were more likely than average to cite being too busy at home (22% v 17% England average) and/or at too busy at work (33% v 25% England average) as barriers to visiting the natural environment.

5.2 Places visited & distance travelled

Figure 11 compares the profile of visits taken by residents of each of the East London boroughs in relation to distances travelled and the proportions of visits taken to urban parks.

Figure 11 – Distance travelled and visits to parks by borough

	England	Rest of London	East London	Newham	Barking & Dagenham	Tower Hamlets	Waltham Forest	Greenwich
% Frequent visits (at least weekly)	54%	45%	37%	26%	34%	44%	39%	47%
% Frequent physical activity (3+ days)	40%	41%	38%	35%	36%	41%	38%	40%
Greenspace Index								
Distance travelled								
3+ miles	33%	33%	36%	38%	42%	29%	36%	37%
1 or 2 miles	26%	21%	21%	19%	14%	24%	22%	24%
Less than 1 mile	40%	46%	43%	43%	44%	48%	43%	39%
% Visited a park	24%	59%	62%	62%	59%	70%	50%	60%

The majority of visits taken by residents of East London were to places close to home (64% within 2 miles), which is similar to the rest of London and England (66% and 67% respectively).

Most visits taken by residents of East London involved time in an urban park (62%), a similar proportion to the rest of London (59%) but significantly higher than the average for England (24%).

Visit motivations & barriers

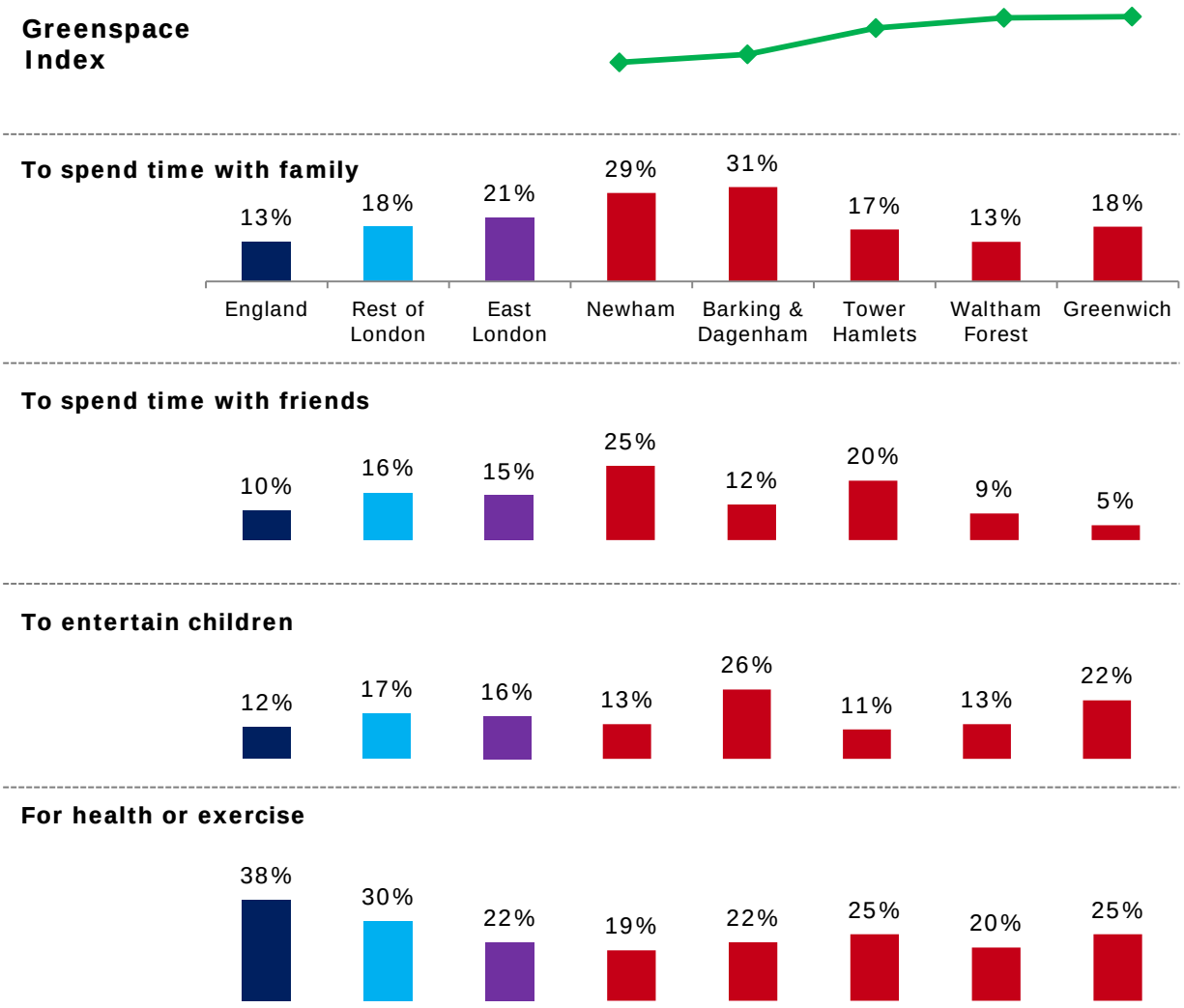
5.2.1 Motivations

Figure 12 (overleaf) shows variations in the motivations cited for taking visits to the natural environment amongst residents of each of the East London boroughs. Compared to England as a whole, visits taken by residents of East London were more likely to be motivated by opportunities to spend time with family (13% and 21% respectively) and to entertain children (12% and 16% respectively), reflecting the higher proportion of households with children in East London.

The highest proportion of visits motivated by the desire to entertain children was seen in Barking & Dagenham. Visits taken in Newham were more likely to be motivated by the desire to spend time with family and/or friends. As shown in subsequent analysis (see section 6), the presence of children in the household was shown to have a correlation with frequency of visits to the natural environment.

A smaller proportion of the East London population visited for health and exercise reasons (22%) compared to the rest of London (30%) and England (38%). Within the individual East London boroughs, the lowest proportion visiting for health or exercise was recorded in Newham (19%). There were some small variations by area, however there was no clear pattern in terms of the availability of greenspace and the proportion of visits motivated by health or exercise for East London boroughs.

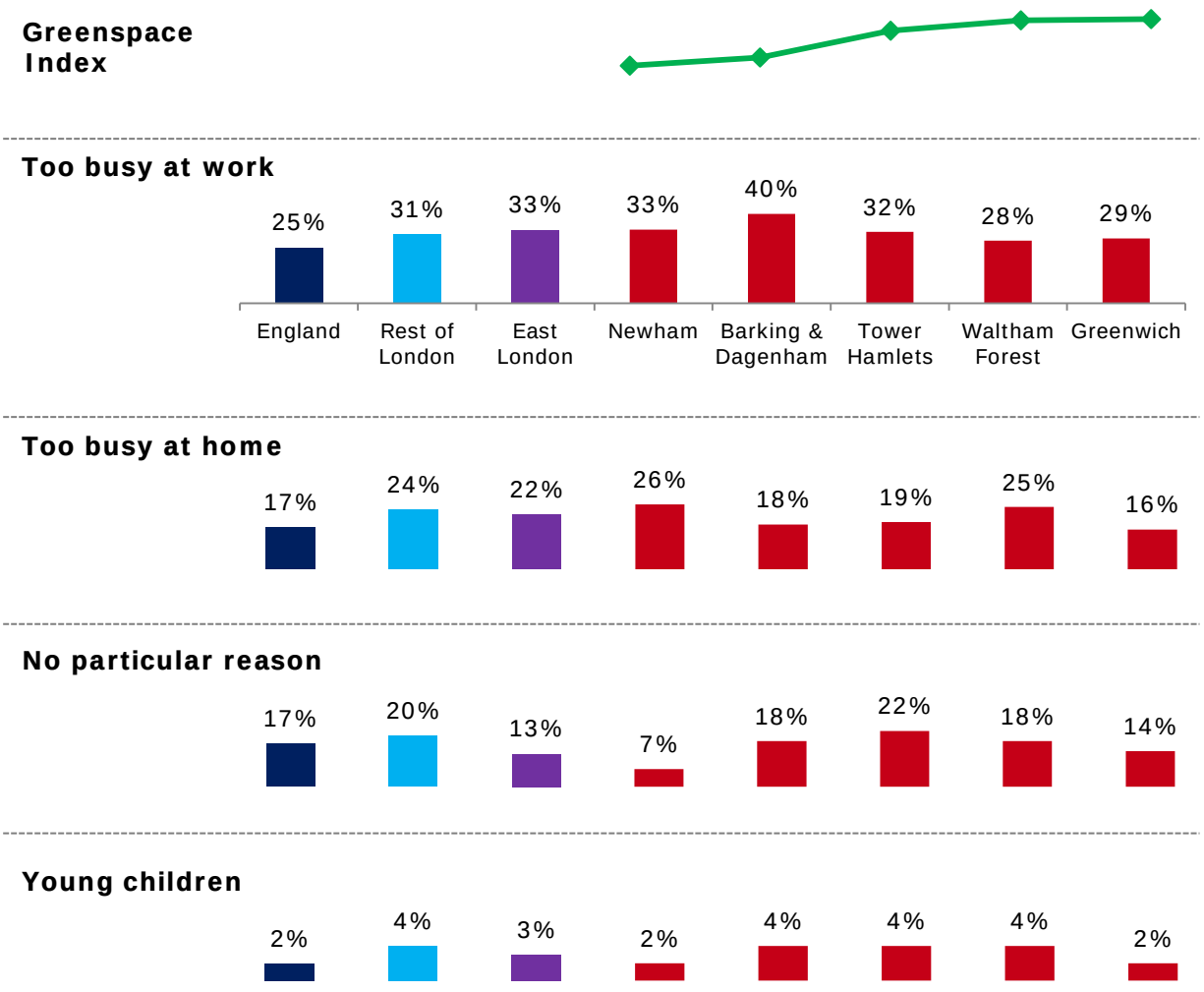
Figure 12 – Visit motivations - England, rest of London and East London boroughs



5.2.2 Barriers

In the MENE survey, respondents who visited the natural environment infrequently (every 2 to 3 months or less often) are asked if there are any barriers that prevent them from visiting more frequently. The barriers mentioned most often by residents of East London are shown in Figure 13, alongside data for the rest of London and England.

Figure 13 – Barriers to visiting the natural environment - England, rest of London and East London boroughs



People who live in East London were more likely to state that being too busy at work or a home prevented them from visiting the natural environment more often, compared to the average for England.

A lack of time due to work was particularly likely to be an issue for those living in Barking & Dagenham.

While other barriers were investigated, only those that showed variation between the East London boroughs have been presented in Figure 13. For example, analysis was undertaken to examine cost as a barrier to visiting, however, this was also found to be a barrier for very

small proportions of residents of the East London Boroughs and there were no significant variations between boroughs.

For East London overall and several of the East London boroughs, the proportion of households with children were higher than the average for England (see Figure 8). In each of the East London boroughs, the proportion of people motivated to visit the natural environment to 'entertain children' were comparable with, if not higher, than the average for England. By contrast a number of boroughs had higher proportions who felt having young children was a barrier to visiting the natural environment compared to the average for England.

Variations by presence of children in the household have already been identified in relation to visiting the natural environment – with households with children being more likely to visit frequently (2[5]). Analysis presented in the following section was undertaken to better understand the potential link between the presence of children in the household and visit behaviour and any differences in the demographic profiles of households with and without children.

[5] See 'References' section for more details.

6. Presence of children in household and visits to the natural environment

6.1 Key findings

1. Residents of East London with children in their household were more likely than those without children to be members of the BAME population, to be aged 25 to 44 and/ or to own a car.

2. Across England, people in households with children were more likely to take frequent visits than those in households without children (59% v 52%). This trend was also evident for the rest of London (49% vs 42%) but less marked for East London (38% vs 36%). However in Newham and Barking & Dagenham, households with children were significantly more likely than households without children to take frequent visits to the natural environment (33% v 22% and 37% v 30% respectively). The results suggested that the presence of children in the household may help to offset low adult visit frequency in areas of low greenspace availability.

3. In England, households with children were marginally more likely to take part in regular physical activity In East London and the rest of London, households with children were generally less likely than those without children to take part in frequent physical activity.

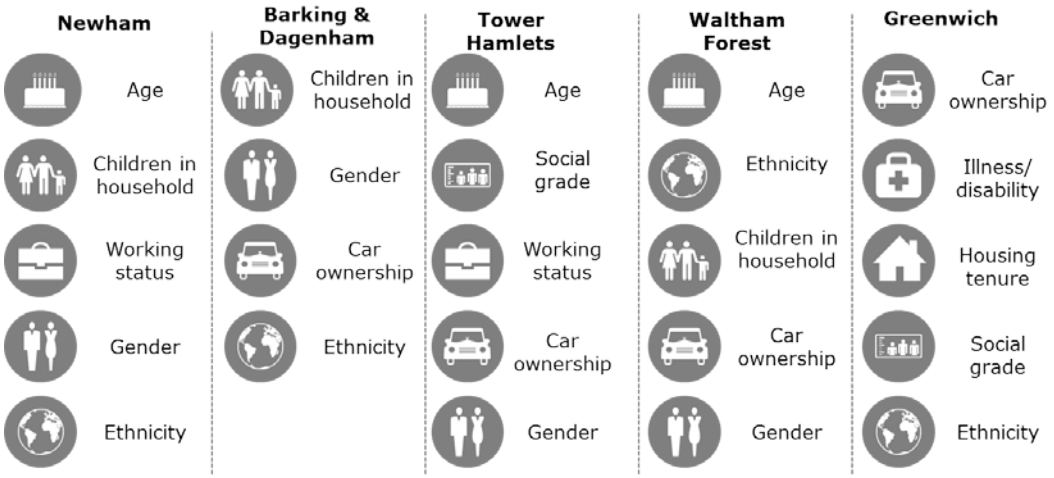
4. Visits to the natural environment by residents of East London with children in their household were more likely to be motivated by the desire to entertain the children, to spend time together as a family, to seek peace & quiet and to learn something.

6.2 Factors other than greenspace related to visit frequency in East London

To establish how frequency of visits to the natural environment varied by demographics within East London boroughs, further multivariate analysis[6] was undertaken at the borough level. (Greenspace availability was excluded from this analysis.) The results are summarised for each of the East London borough's in Figure 14, with the variables listed in order of significance.

The analysis undertaken in section 4 suggested that ethnicity was a factor that correlated with visit frequency. However, as shown below (Figure 14), a more varied and complex picture emerged when further analysis was undertaken.

Figure 14 –Factors other than greenspace with statistical correlation to frequency of visits to the natural environment – (RANKED IN ORDER OF IMPORTANCE FOR EACH BOROUGH)



- Age related factors including the presence of children in the household were important in all boroughs.
- In Newham and Barking & Dagenham the presence of children in the household was more statistically significant than in other East London boroughs. These two boroughs also have the lowest availability of greenspace and the lowest proportion of frequent visits taken to the natural environment.
- In Waltham Forest, the presence of children showed variation in relation to frequency of visiting the natural environment, but was less important in this borough than age and ethnicity.
- In areas with higher visit frequency and greater availability of greenspace (such as Greenwich) other socio-economic demographic factors such as social grade and housing tenure were shown to be of greater significance in relation to visit frequency.

The results from this multivariate analysis were consistent with other MENE reports showing that in general there is an increased likelihood to visit the natural environment in households with children compared to households with no children (2[7]).

[6] See Appendix 1 for an explanation of the method used.
[7] See 'References' section for more details.

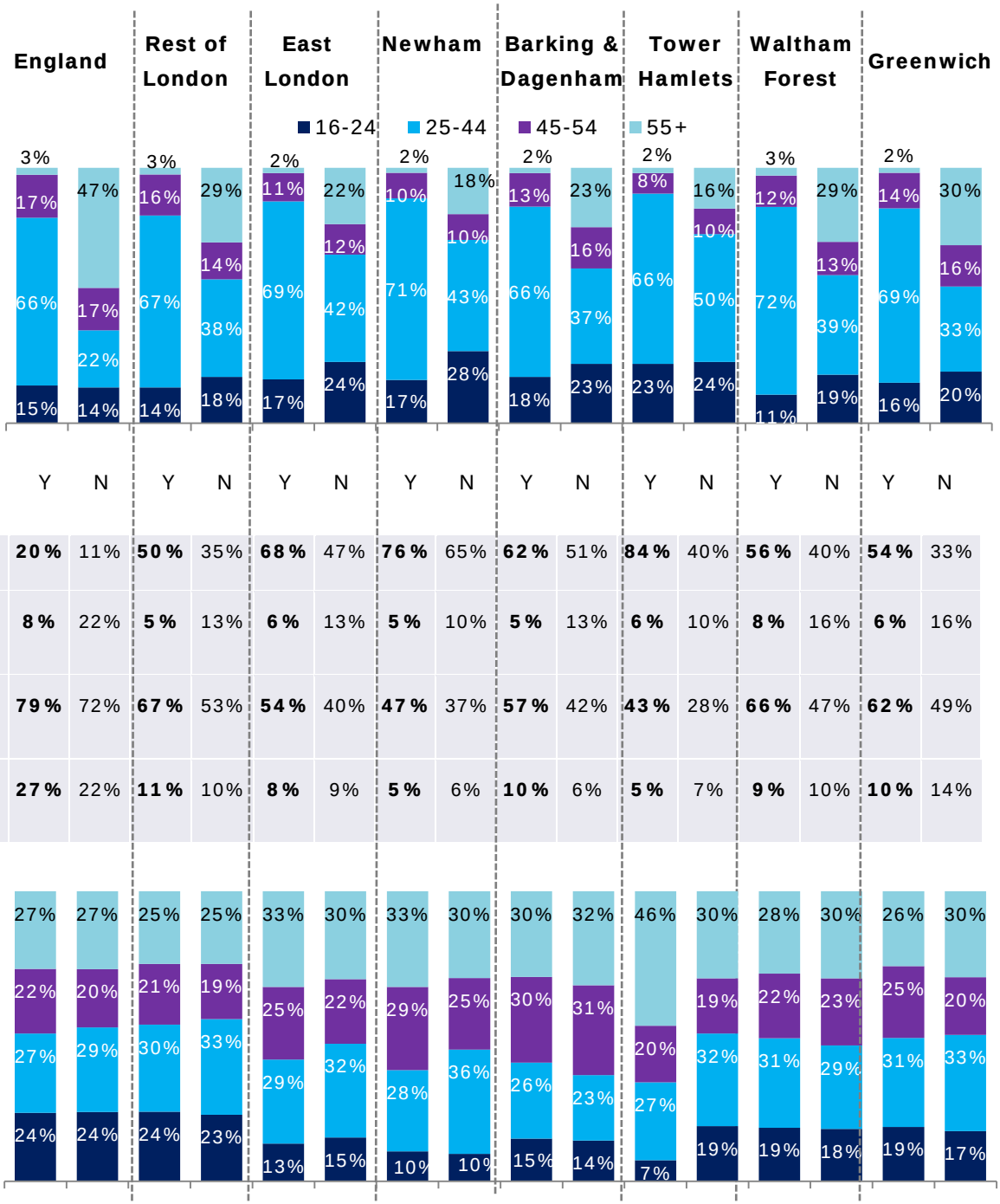
6.3 Demographic profiles of households with and without children

In order to understand more about variations according to the presence of children in the household in East London, additional analysis was then undertaken at the borough level comparing households with and households without children. Figure 15 shows that households in East London with children compared to households without children were more likely to be:

- Aged 25 to 44;
- Members of the BAME population;
- Car owners.

In Tower Hamlets, households with children were more likely to be in the least affluent socio-economic groups. In Newham and Tower Hamlets, households with children were more likely to be in the BAME population.

Figure 15 – Demographic profiles by presence of children in household

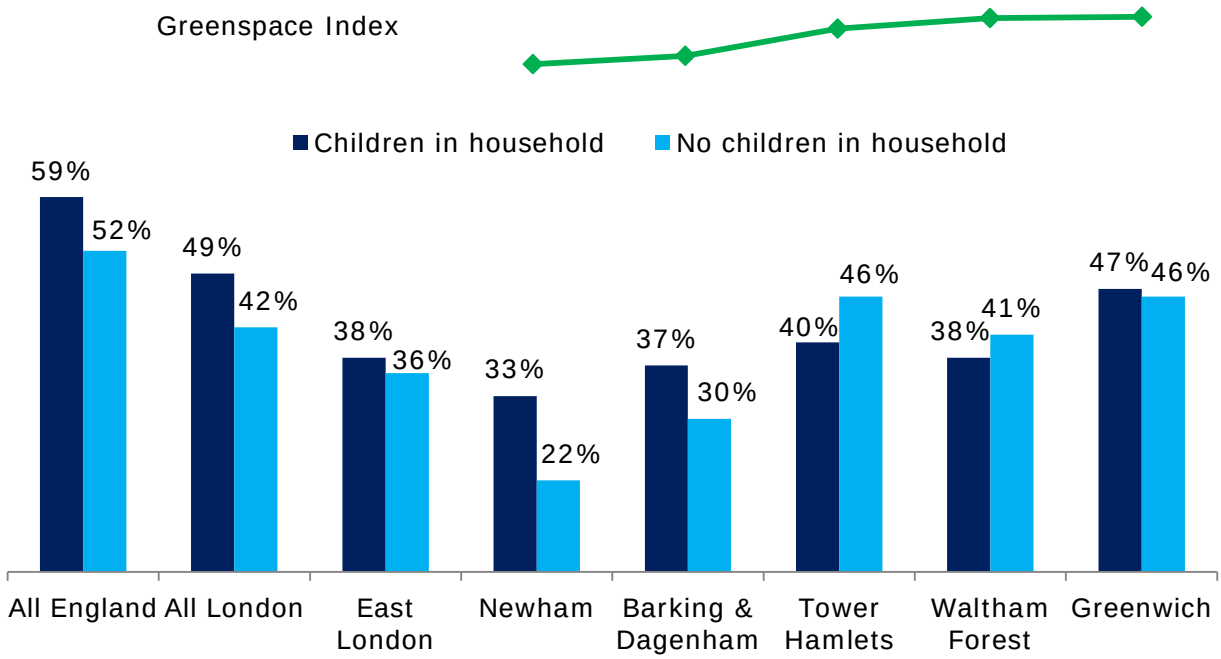


6.4 Presence of children in the household and frequency of visits

Figure 16 shows that for England as a whole, people in households with children were more likely to take frequent visits than those in households without children (59% v 52%). This trend was also evident for the rest of London (49% vs 42%) but less marked for East London (38% vs 36%).

In both the boroughs of Newham and Barking & Dagenham, households with children were significantly more likely than those households with no children to take frequent visits to the natural environment (33% v 22% and 37% v 30% respectively). The results suggest that the presence of children in the household may be helpful in offsetting low adult visit levels in boroughs with low greenspace indices.

Figure 16 – Frequent visits by presence of children in household

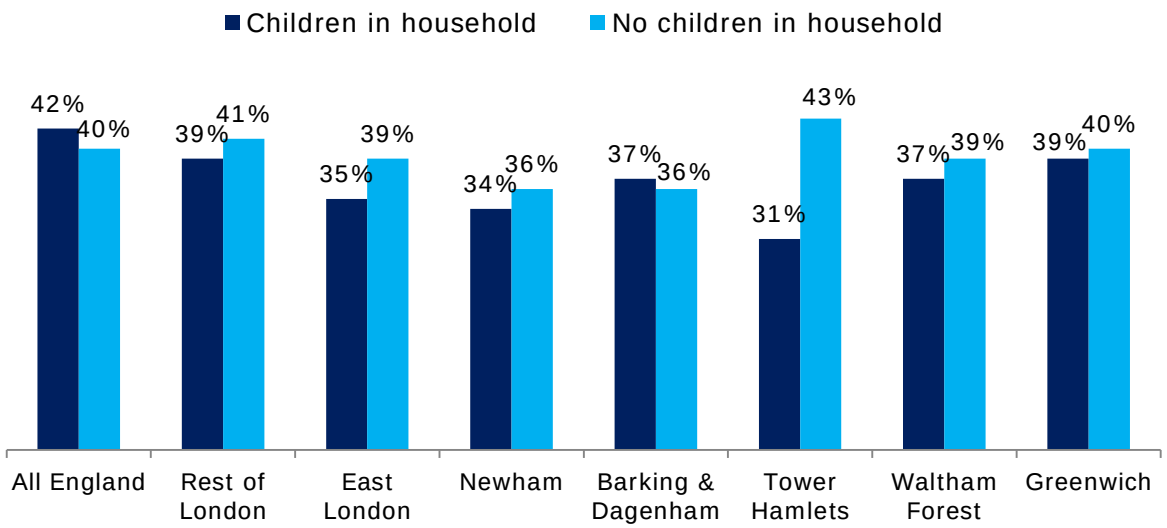


Variation in the frequency of visits to the natural environment by presence of children in the household was not evident in Tower Hamlets. However it is possible that any underlying trend may be masked in this borough by the significant difference in the demographic profile of the populations with and without children; namely that households with children in Tower Hamlets are much more likely to come from the social groups who tend to visit the least, whereas those without children are more likely to come from the social groups who tend to visit most, so this difference may have masked any underlying uplift.

6.5 Presence of children and physical activity

Figure 5 showed a link between levels of frequent physical activity and frequent visits to the natural environment amongst residents of East London boroughs. Figure 17 examines how the presence of children in the household related to this.

Figure 17 – Frequent physical activity by presence of children



Within East London and the rest of London, people with children in the household were generally *less likely* than those without children to take part in frequent physical activity. This difference was particularly marked in Tower Hamlets (31% vs 43% respectively).

Across England, households with children were only marginally more likely than those without to take part in frequent physical activity (42% and 40% respectively).

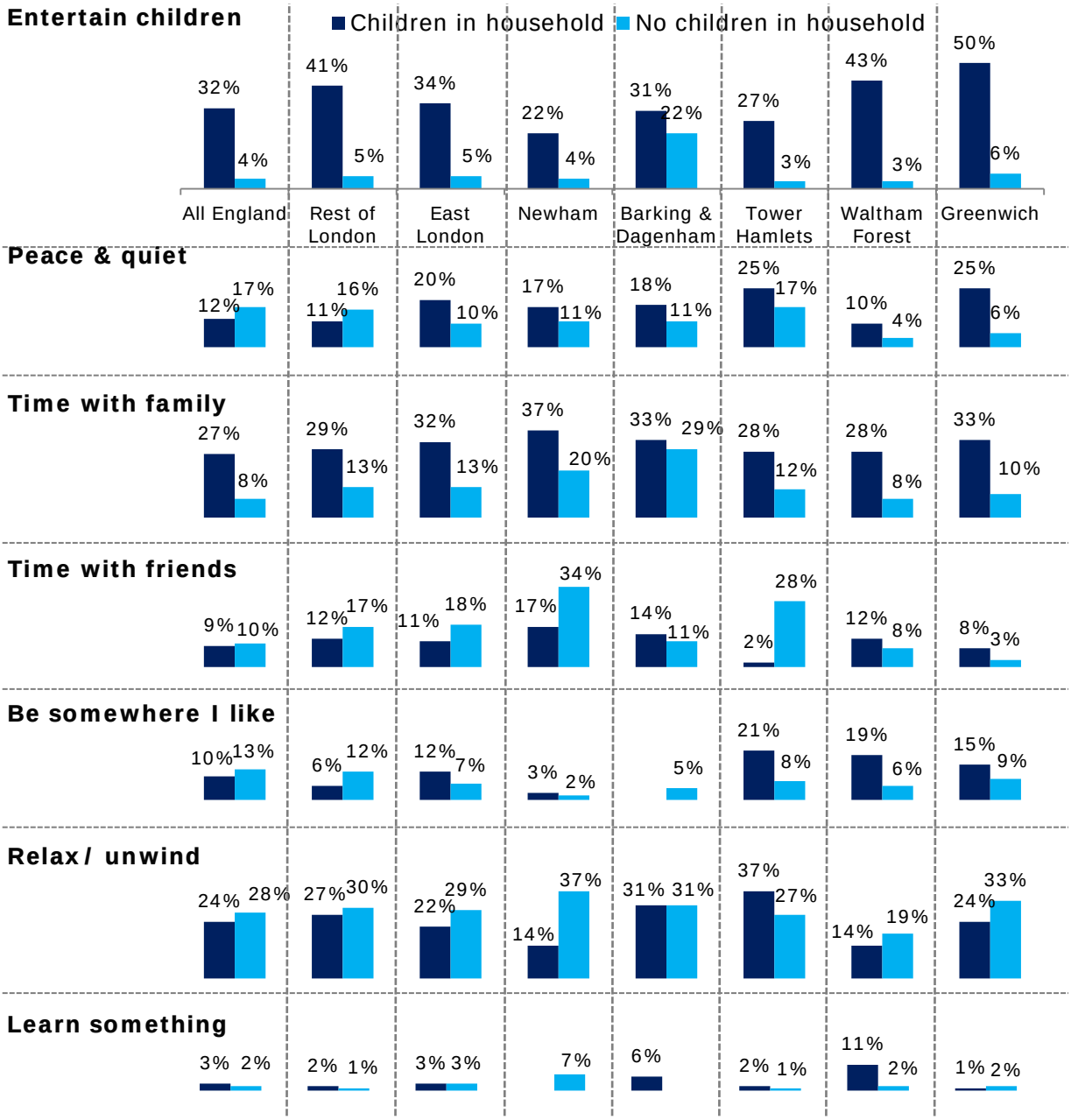
6.6 Motivations & barriers by presence of children

6.6.1 Motivations

In the East London boroughs, the motivations 'entertaining children', 'peace and quiet' and 'spending time with family' were all more likely to be cited as reasons for taking visits by people with children in their household (Figure 18). In Newham in particular, entertaining children and time with family were key motivations for visiting the natural environment amongst those with children in their household.

'To learn something' was also more likely to be given as a reason for visits amongst people with children living in Barking & Dagenham and Waltham Forest. Being 'somewhere I like' was more likely to be mentioned in Tower Hamlets, Waltham Forest and Greenwich, this was particularly true of those with children in their household.

Figure 18 – Motivations for visiting the natural environment by presence of children



6.6.2 Barriers

Table 1 shows the reported barriers to visiting the natural environment given by those who *infrequently* visited the natural environment (once every 2-3 months or less often). Results are compared for those people with and without children in their household.

Table 1 – Barriers to visiting the natural environment by presence of children

	England		Rest of London		East London		Newham		Barking & Dagenham		Tower Hamlets		Waltham Forest		Greenwich	
Children in household	Any	None	Any	None	Any	None	Any	None	Any	None	Any	None	Any	None	Any	None
Busy at work	**35%**	23%	**33%**	30%	**37%**	31%	**40%**	37%	**50%**	35%	**29%**	32%	**23%**	32%	**45%**	25%
Busy at home	**28%**	14%	**31%**	21%	**34%**	17%	**37%**	21%	**32%**	11%	**43%**	8%	**23%**	26%	**33%**	11%
Expense	**9%**	4%	**12%**	6%	**10%**	4%	**10%**	3%	**14%**	2%	**4%**	0%	**15%**	14%	**0%**	0%
Young children	**10%**	0%	**14%**	1%	**9%**	0%	**6%**	0%	**9%**	2%	**13%**	0%	**10%**	0%	**10%**	0%

With the exception of Waltham Forest, residents of East London with children were more likely to mention being too busy at home as a barrier to taking more visits to the natural environment. The expense of taking visits and having young children were also more frequently mentioned by people with children. It is not possible to determine from the data the reasons why differences between households with and without children being less marked in Waltham Forest than in other the East London boroughs.

6.7 Activities & places by children in the household

Not surprisingly, playing with children was a key activity undertaken on visits taken by people with children in their household. Other activities more likely to be undertaken on visits by people with children, compared to visits without children, included visiting attractions (residents of Tower Hamlets and Greenwich), informal games and sport, and swimming outdoors.

Figure 19 – Activities undertaken by presence of children

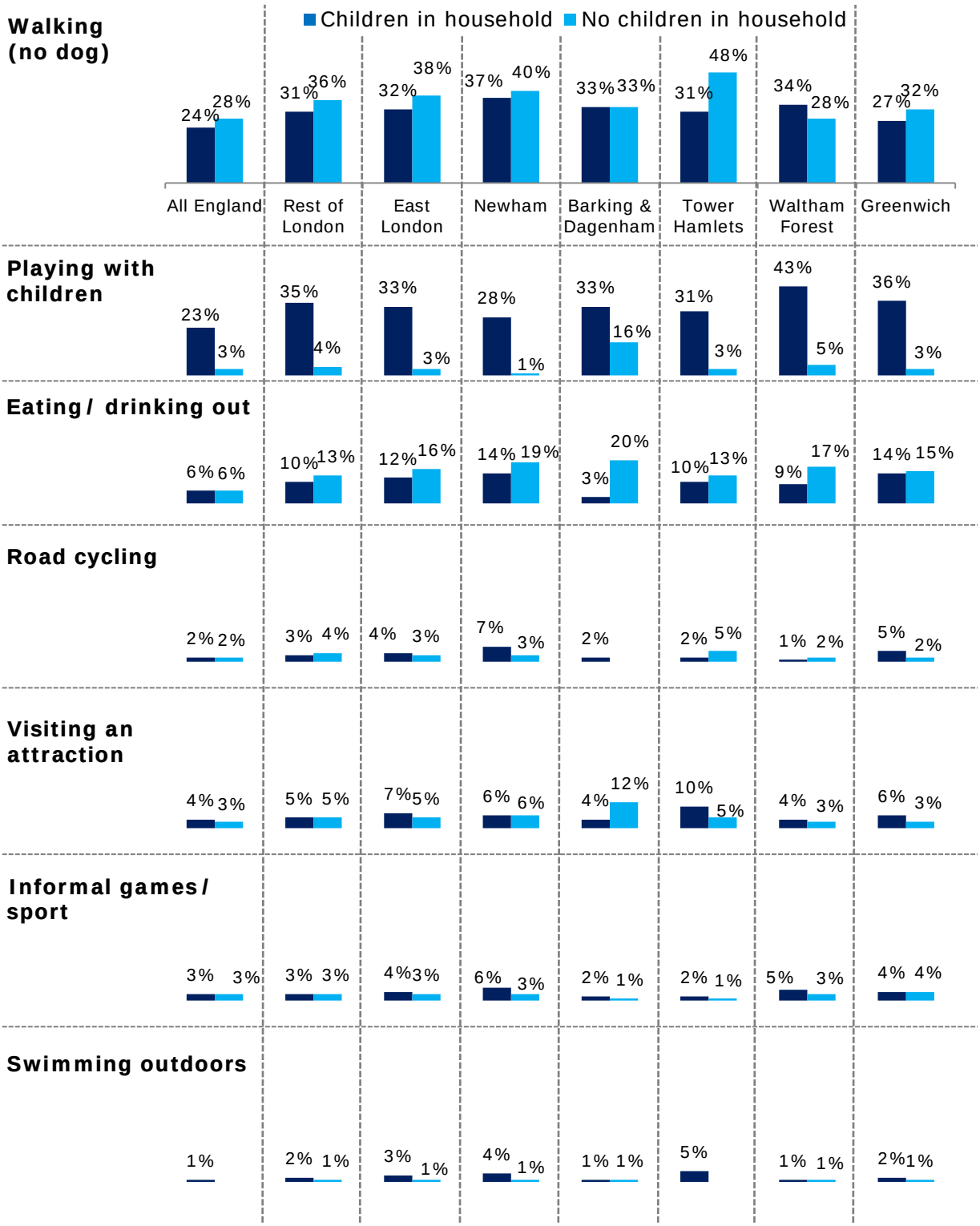
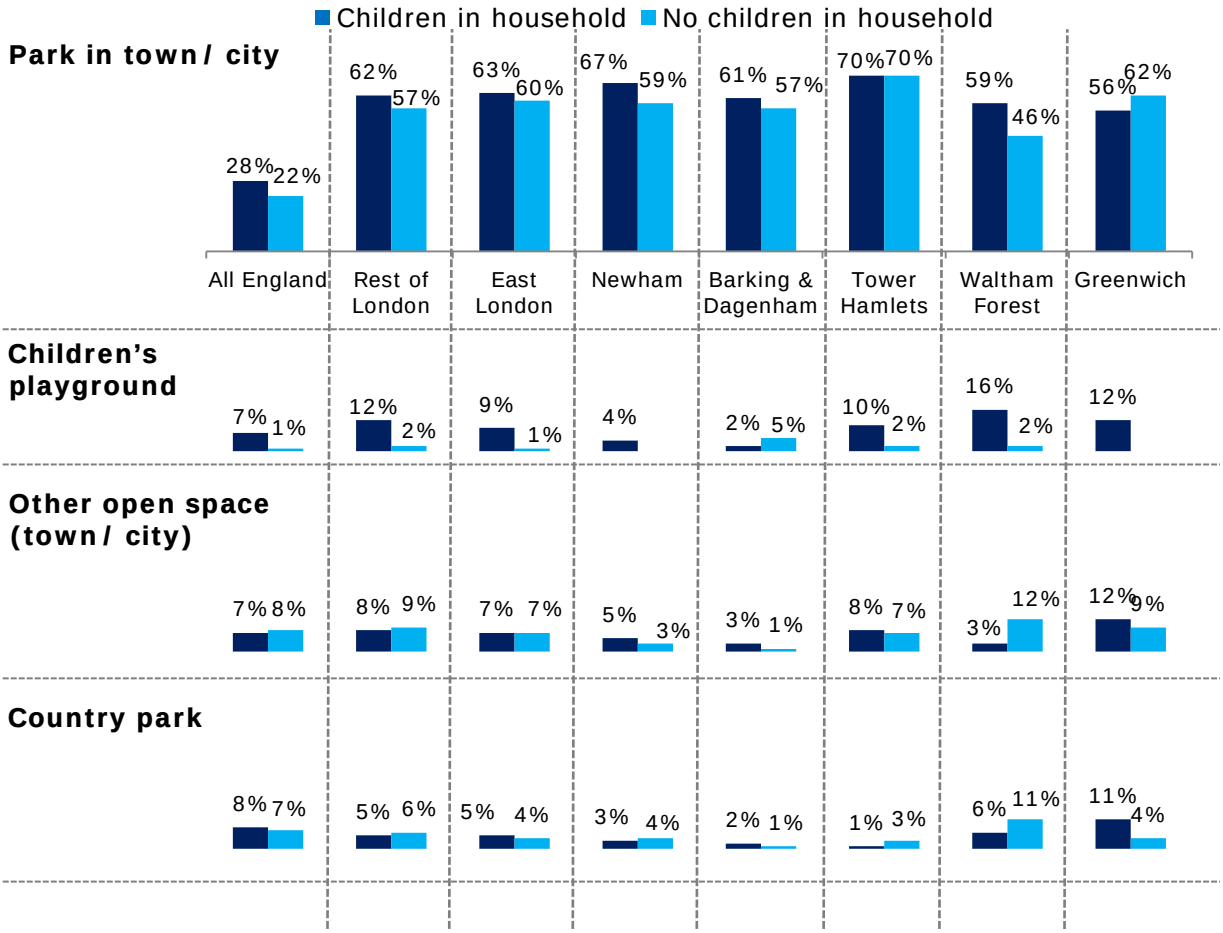


Figure 20 – Places visited by presence of children

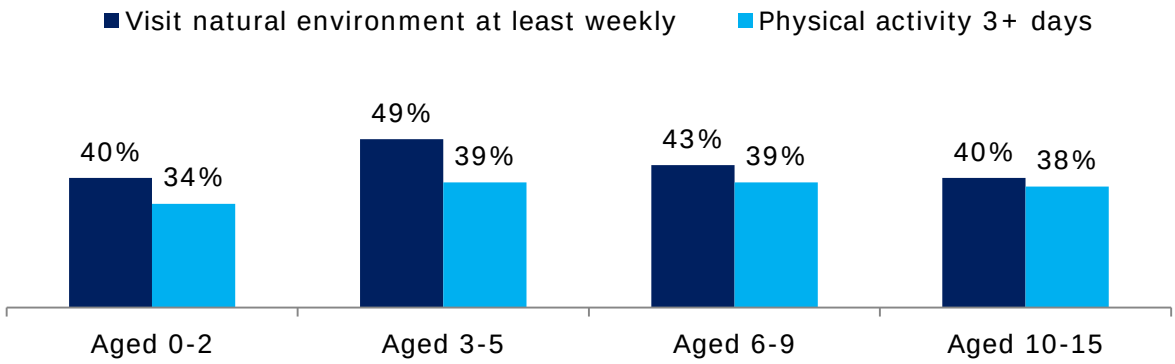


In terms of places visited, visits taken by people with children in their household were more likely to include urban parks.

6.8 Variations by age of children

As shown in Table 2, across all East London boroughs a common barrier cited by people with children in the household for not visiting the natural environment regularly or at all, was having young children. However, Figure 21 shows that in East London, people with children aged between 3 and 5 took visits to the natural environment more often than those with children in older age groups (49% at least weekly).

Figure 21– Frequent visits to natural environment and physical activity levels by age of children



When looking at participation in physical activity, there was less variation by age of children in household, although those with children under the age of 3 were least likely to take part in 3 or more days of physical activity per week.

Table 2 – Barriers to visiting the natural environment by age of children

	Aged 0-2	Aged 3-5	Aged 6-9	Aged 10-15
Busy at work	21%	23%	27%	35%
Busy at home	29%	23%	43%	36%
Expense	-	6%	7%	4%
Young children	14%	14%	13%	8%
No Particular reason	18%	26%	23%	18%

Those households in East London with children under the age of 5 were more likely than other households with older children to cite the age of their children as a barrier to visiting the natural environment (Table 2). Work commitments were more likely to be mentioned when children were older, while being busy at home was most likely to be seen as a barrier amongst those with children between the ages of 6 and 9.

7. Conclusion

The results of this analysis provide evidence of a positive correlation between the availability of greenspace and levels of both frequency of visits to the natural environment and levels of physical activity in East London.

The results also suggest that having children in the household may promote adult visiting by providing motivation for visits.

Hence the findings help support a rationale for working to promote children's access to local green space in East London as a way to deliver a range of benefits for children and their families. Furthermore, the need and opportunity to deliver benefits for households with children might be greatest in the boroughs with the least availability of greenspace such as Newham and Barking & Dagenham.

8. References

1. BURT, J., STEWART, D., PRESTON, S. & COSTLEY, T. 2013. *Monitor of Engagement with the Natural Environment Survey (2009 -2012): Difference in access to the natural environment between social groups within the adult English population*. Natural England Data Reports, Number DAT003.

2. Hunt, A., Rickinson, M., Burt, J., Andrews, R. and Stewart, D. Monitor of Engagement with the Natural Environment Survey (2009 -2012): visits to the natural environment by households with children. Natural England Data Report (in press).

3. MENE Technical Report http://publications.naturalengland.org.uk/publication/6177445019385856?category=47018

4. Covergence Framework and Action Plan 2011-2015: http://www.london.gov.uk/sites/default/files/Convergence%20action%20plan%202011-2015.pdf

5. Greater London Authority: London Ward Well-being Probability Scores - 2013 edition http://data.london.gov.uk/datastore/package/london-ward-well-being-scores

Appendix 1 – Multivariate analysis approach

Using CHAID approaches[8], each analysis was based around a single dependent variable, here the responses to frequency with which visits were taken to the natural environment over a period of 12 months, based on the mean score obtained. The dependent variable is then analysed against a number of predictor variables.

Outputs from the CHAID analysis are produced as a tree diagram with the population segmented into groups depending on whether they are significantly more or significantly less likely to be related to the dependant variable.

CHAID tests the significance of correlations between the dependant variable and the predictor variables. The variable with the highest level of correlation is represented by the first split in the decision tree.

The top level of the tree shows the data for all respondents in the study. The predictor variables are then applied to see if splitting the sample based on these predictors leads to a statistically significant discrimination in the dependent variable. If responses are not significant on their own, they are then combined with other responses until a significant discrimination is found. This becomes the first branch of the tree. If the predictor variables can be further split to show additional discrimination in the data, these then form subsequent levels in the tree diagram.

[8] CHAID stands for Chi-squared Automatic Interaction Detector.

Appendix 2 – Definition of Socio Economic Groups

A

These are professional people, very senior managers in business or commerce, or are top-level civil servants.

Retired people, previously grade A, and their widows/ widowers.

B

Middle management executives in large organisations, with appropriate qualifications.

Principal officers in local government and civil service.

Top managers or owners of small business concerns, educational and service establishments.

Retired people, previously grade B, and their widows/ widowers.

C1

Junior management, owners of small establishments, and all others in non-manual positions.

Jobs in this group have very varied responsibilities and educational requirements.

Retired people, previously grade C1 and their widows/ widowers.

C2

All skilled manual workers, and those manual workers with responsibility for other people.

Retired people previously grade C2, with a pension from their job.

Widows/widowers, if receiving pensions from their late spouse's job.

D

All semi-skilled and unskilled manual workers, and apprentices and trainees to skilled workers.

Retired people, previously grade D, with a pension from their job.

Widows/widowers, if receiving pensions from their late spouse's job.

E

All those entirely dependent on the state long term, through sickness, unemployment, old age or other reasons.

Those unemployed for a period exceeding 6 months (otherwise classified on previous occupation).

Casual workers and those without a regular income. Only households without a chief wage earner are coded in this group.

See http://www.nrs.co.uk/nrs-print/lifestyle-and-classification-data/social-grade/ for further details.