Healthy behaviours in Peterborough: Alcohol consumption, smoking, diet, physical activity, and NHS Health Checks

Survey findings

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Background

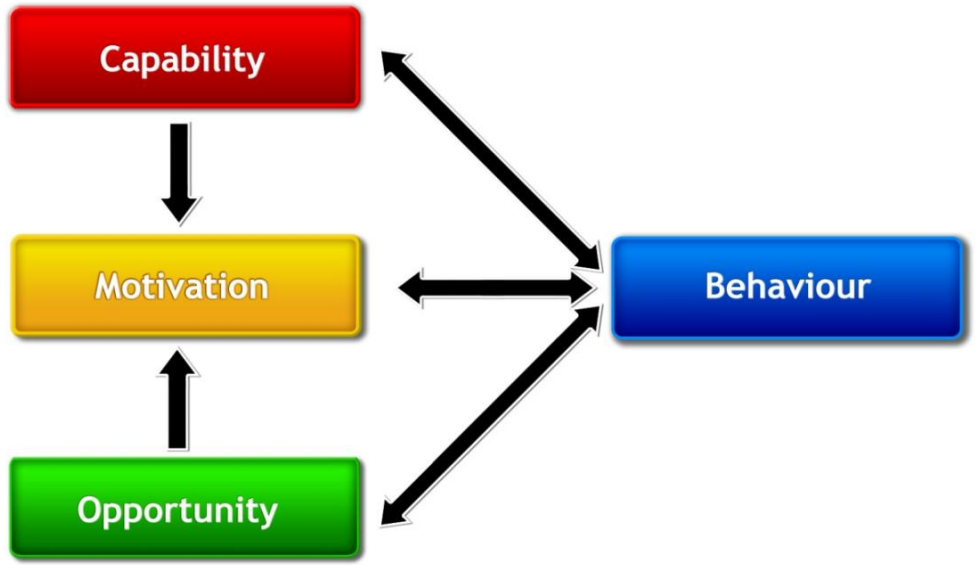
Sheffield Hallam University were commissioned by Cambridgeshire County Council and Peterborough City Council to undertake a survey of residents in Peterborough to explore the following health behaviours:

- Alcohol consumption
- Smoking in adults
- Diet
- Physical activity
- Uptake of NHS Health Checks.

This report presents the findings from the survey in Peterborough. The findings for these health behaviours in Cambridgeshire are presented in separate reports, available at https://cambridgeshireinsight.org.uk/document-library/ (Healthy Behaviours).

As our theoretical approach and methods were the same across the surveys in Peterborough and Cambridgeshire, some of the content of the Cambridgeshire reports has been reproduced here, so that this report reads as a standalone document for ease of use.

We used the Capability, Opportunity and Motivation – Behaviour (COM-B) [1,2] model to explore factors influencing these five health behaviours.



Local Resident Survey: Methods

- Our survey of residents in Peterborough included questions regarding multiple health behaviours (i.e., alcohol, smoking, diet, physical activity, uptake of NHS Health Checks).
- Survey participants were asked initial filter questions to determine the specific health behaviours they could be asked about in more detailed questions, e.g., whether they were a current smoker, drink alcohol, aged between 40-74 and therefore eligible for an NHS Health Check, etc.
- Individuals were recruited via on-street market researchers between September – December 2024. Eligibility criteria included: participants aged 18 or above; Peterborough resident; able to provide consent.
- A purpose sampling strategy was used to recruit a diverse sample, e.g., living in areas of varying deprivation; ethnicity; age.
- Descriptive statistics and/or univariable statistics were conducted to address each research question. The analysis was done using SPSS version 26.0 (IMB Corp).

Ethical approval

- Ethical approval was granted by Sheffield Hallam University Research Ethics Committee (ID ER65436549) and Peterborough City Council. All participants provided informed consent before participating.

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Alcohol consumption: Survey

Survey participants who stated that they currently drink alcohol were asked specific questions about their alcohol consumption.

The objectives were to:

1) Understand who is drinking in excess of the UK government guidelines*/binge drinking across Peterborough.
2) Identify the barriers and facilitators to risky drinking amongst adults living in Peterborough.
3) Explore whether the barriers and facilitators to risky drinking vary by those who are and are not drinking at risky levels.
4) Explore whether the barriers and facilitators to risky drinking vary by key demographic and health variables.
5) Explore whether people who are drinking at risky levels are willing to access the local 'Healthy You' service.

The survey was designed in consultation with professional stakeholders and measured:

- **Alcohol behaviour** i.e., frequency of alcohol consumption; number of units consumed on a typical day; how often someone engages in binge drinking (6 or more units of female/ 8 or more units if male [3]; how often someone is not able to stop drinking once they had started (alcohol dependency).
- **Capability, Opportunity and Motivation** to drink no more than 14 units a week, spread across 3 days [4]
- **Demographic and health data** i.e., age; partial postcode; gender; ethnicity; country of birth; whether they speak a language other than English at home; employment status; health status; annual household income; educational level.

*The Chief Medical Officers' guideline for both men and women: https://assets.publishing.service.gov.uk/media/5a80b7ed40f0b623026951db/UK_CMOs__report.pdf

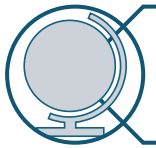
Survey findings - Participants

In total, 235 residents in Peterborough reported that they drank alcohol and took part in this section of the survey.

The mean age of residents was 45.01 years (SD 16.79), with over half being male (63.0%).

Nearly ¾ of the sample identified as being White British (71.5%), 18.3% reported being of White Other background.

Most were from the most deprived (IMD 1 – 2) (51.9%) and moderately deprived (IMD 3 – 6) (30.0%) areas.



23.0% of residents were born outside of the UK (23.0%) and spoke a language other than English at home (22.6%).

Over half of residents were in full or part-time employment (64.7%).

Over half of the sample were educated to below degree level (53.6%), with 28.5% reporting having no formal educational qualifications.

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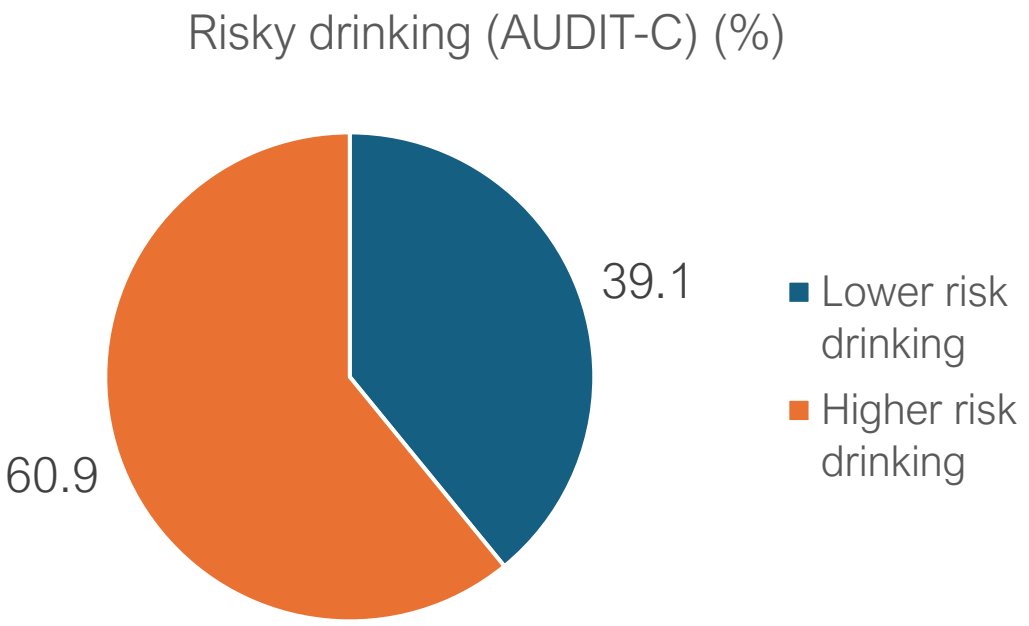
Research Question 1: *Who is drinking in excess of the government guidelines / binge drinking across Peterborough?*

In total, 230 people drank alcohol and answered all three AUDIT-C questions.



AUDIT-C total scores were calculated from answers to the three AUDIT-C questions about frequency of drinking alcohol, number of units of alcohol consumed on a drinking day and frequency of binge drinking. AUDIT-C scores are on a scale from 0 to 12, with higher scores indicating higher risk drinking. Higher risk drinkers were classified as those who scored 5 or more.

Alcohol use	
How often do you have a drink containing alcohol?	
Monthly or less	48 (20.4%)
2 – 4 times per month	63 (26.8%)
2 – 3 times per week	70 (29.8%)
4+ times per week	54 (23.0%)
How many units of alcohol do you drink on a typical day when you are drinking?	
1-2	44 (19.1%)
3-4	51 (22.2%)
5-6	53 (23.0%)
7-9	36 (15.7%)
10+	46 (20.0%)
Unsure	5
Prefer not to say	0
How often have you had 6 or more units if you are female or 8 or more if male on a single occasion in the last year?	
Never	88 (37.8%)
Less than monthly	66 (28.3%)
Monthly	23 (9.9%)
Weekly	42 (18.0%)
Daily or almost daily	14 (6.0%)
Unsure	2
Prefer not to say	0

Research Question 1 (cont.): *Who is drinking in excess of the government guidelines/ binge drinking across Peterborough?*

In total, 230 people drank alcohol and answered all three AUDIT-C questions.

A measure of alcohol dependence was calculated from one question about how often participants were unable to stop drinking once they had started, with response options ranging from 'never' to 'daily or almost daily'.

Responses of 'daily or almost daily' were considered to indicate probable physical dependence on alcohol, while responses of 'less than monthly' and 'monthly' probably indicated binge drinking behaviour.

As shown in the table, AUDIT-C scores increased with alcohol dependence. This means that **as risky drinking behaviour increased, so did alcohol dependence.**

Alcohol dependency	
How often during the last year have you found that you were not able to stop drinking once you had started?	
Never	210 (89.4%)
Less than monthly	12 (5.1%)
Monthly	3 (1.3%)
Weekly	10 (4.3%)
Daily or almost daily	0 (0.0%)
Unsure	0
Prefer not to say	0
AUDIT-C alcohol scores by level of alcohol dependence	
Never unable to stop drinking once started (no dependence) (n = 205)	5.29 (2.94)
Less than monthly or monthly (probably binge drinking) (n = 15)	8.80 (2.24)
Weekly (n = 10)	10.80 (1.03)
Daily or almost daily (probable dependence) (n = 0)	-

Research Question 1 (cont.): *Who is drinking in excess of the government guidelines / binge drinking across Cambridgeshire?*

We explored differences in demographic characteristics between those who were classified as lower risk drinkers (39.1%; 90) and those classified as higher risk drinkers (60.9%; 140).

Residents who were classified as a higher risk drinker were more likely to:

Be male

Have no formal educational qualifications

Be from White British or White Other ethnic backgrounds

Not have a long-term physical health condition

Be employed*

*This finding contrasts with results in Cambridgeshire, where higher risk drinkers were more frequently unemployed. Cambridgeshire Behavioural Insights Alcohol Report.

Research Question 2: *What are the barriers and facilitators to risky drinking?*

The table presents the mean (SD) scores for each barrier and facilitator to drink within UK alcohol guidelines. Each item is assessed on an 11-point scale from strongly disagree (=0) to strongly agree (=10). The data were highly skewed, with a high proportion of participants strongly agreeing (score of 10) with each item.

Across the sample of participants who were asked about their capability, opportunity and motivation to follow alcohol guidance (n = 125), residents reported that they:

- Know about the importance of drinking no more than 14 units a week, spread across 3 days or more and have the skills to make decisions and plans to do this **(psychological capability).**
- Have the physical skills and enough physical stamina to drink no more than 14 units a week, spread across 3 days or more **(physical capability).**
- Have sufficient time and the necessary resources (e.g., access to information about units and support services) to drink no more than 14 units a week, spread across 3 days or more **(physical opportunity).**
- Have the necessary support from people (e.g., from friends and family) to drink no more than 14 units a week, spread across 3 days or more **(social opportunity).**
- Intend to (or want to) drink no more than 14 units a week, spread across 3 days or more (**reflective motivation**).
- Drink no more than 14 units a week, spread across 3 days or more, automatically (without thinking about it) **(automatic motivation)**

Capability, Opportunity, and Motivation to drink within UK alcohol guidelines	Mean (SD) (n = 125)
Psychological capability	
I know about the importance of drinking no more than 14 units a week, spread across 3 days or more and have the skills to make decisions and plans to do this.	8.41 (2.44)
Physical capability	
I have the physical skills and enough physical stamina to drink no more than 14 units a week, spread across 3 days or more.	8.45 (2.55)
Physical opportunity	
I have sufficient time and the necessary resources (e.g., access to information about units and support services) to drink no more than 14 units a week, spread across 3 days or more.	8.25 (2.55)
Social opportunity	
I have the necessary support from people (e.g., from friends and family) to drink no more than 14 units a week, spread across 3 days or more.	7.74 (3.13)
Reflective motivation	
I intend to (or want to) drink no more than 14 units a week, spread across 3 days or more.	7.56 (3.49)
Automatic motivation	
Drinking no more than 14 units a week, spread across 3 days or more, is something I do automatically (without thinking about it).	7.12 (3.71)

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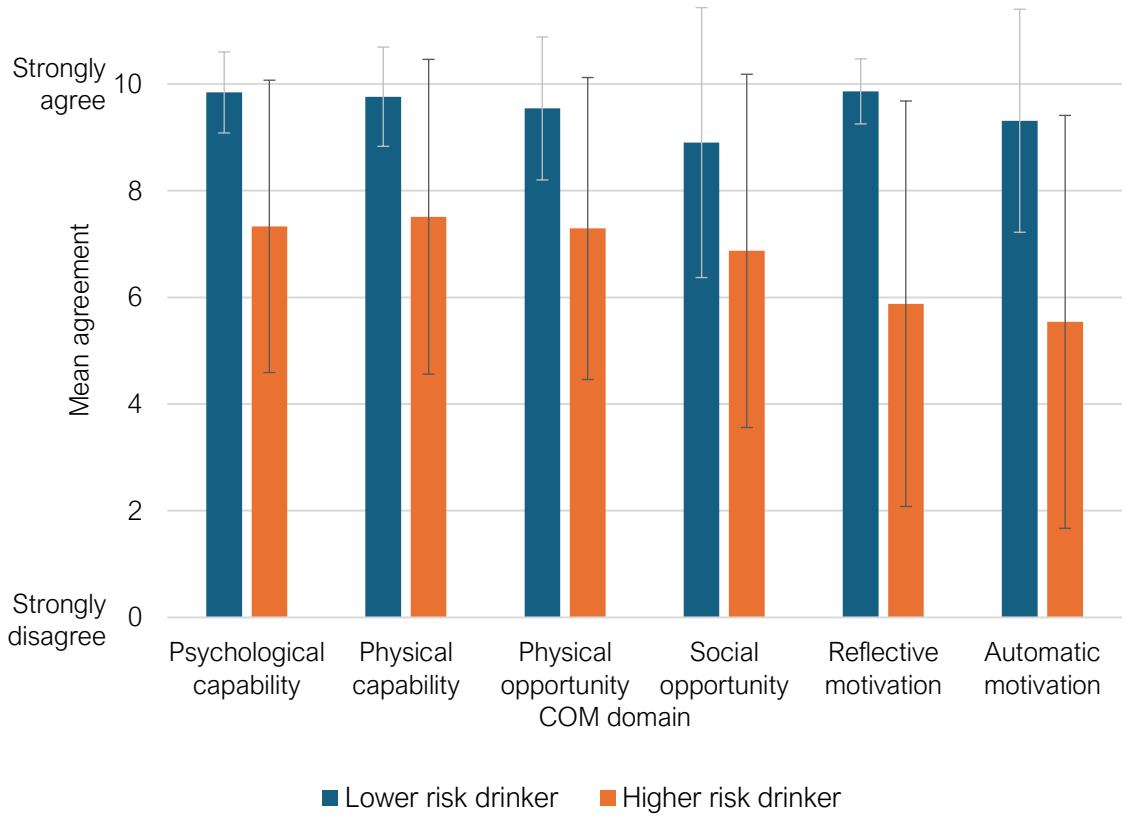
Research Question 3: *Do the barriers and facilitators to risky drinking vary by those who are and are not drinking at risky levels?*

Residents who were classified as a higher risk drinker were more likely to report:

- Weaker knowledge about the importance of drinking within government guidelines and weaker skills to make decisions and plans to do this (**psychological capability**).
- Weaker physical skills and stamina to drink within government guidelines (**physical capability**).
- Having less time and resources (e.g., access to information about units and support services) to drink within government guidelines (**physical opportunity**)
- Having less support from people (e.g., from friends and family) to drink within government guidelines (**social opportunity**).
- Weaker intentions (or willingness) to drink within government guidelines (**reflective motivation**).
- Being less likely to believe that drinking within government guidelines is something they do automatically (without thinking about it) (**automatic motivation**).

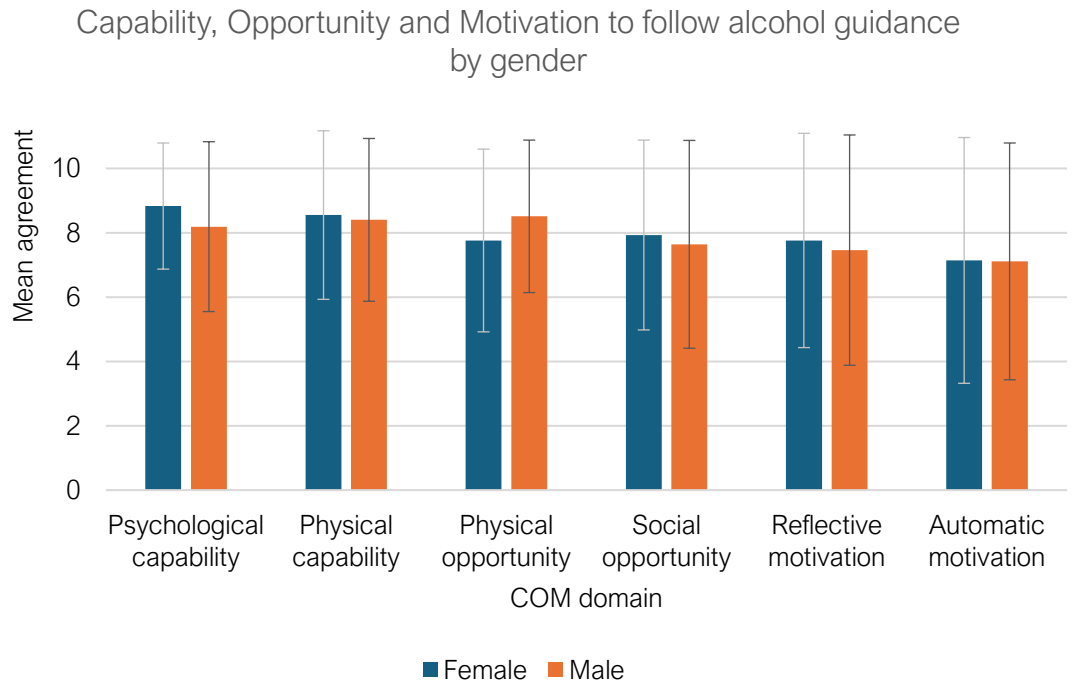
Capability, Opportunity and Motivation to follow alcohol guidance, by those classified as a lower risk and higher risk drinker



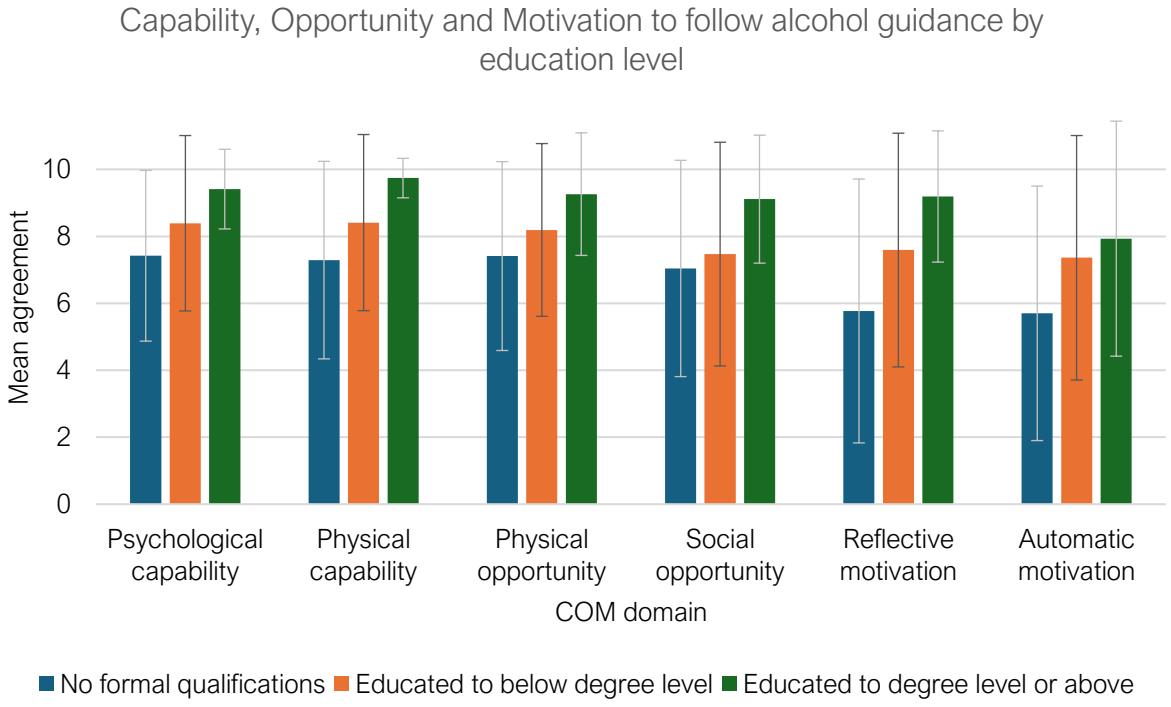
Error bars on charts represent one standard deviation above and below the mean.

Research Question 4: *Do the barriers and facilitators to risky drinking vary by key demographic and health variables?*

Despite the data showing that risky drinking behaviour was more prevalent among men, residents who were employed, and residents without long-term physical health conditions, there were no clear differences in residents' capability, opportunity or motivation to follow alcohol guidance by gender, employment status or health status.*



However, there was a trend for residents' capability, opportunity and motivation to follow alcohol guidance to increase with the amount of formal **educational qualifications** they had.



*This pattern of results contrasts with findings in Cambridgeshire, where there were clearer trends for gender, employment status and health status. The lack of significant results for these variables in the Peterborough dataset could be due to the smaller sample size (n = 125).

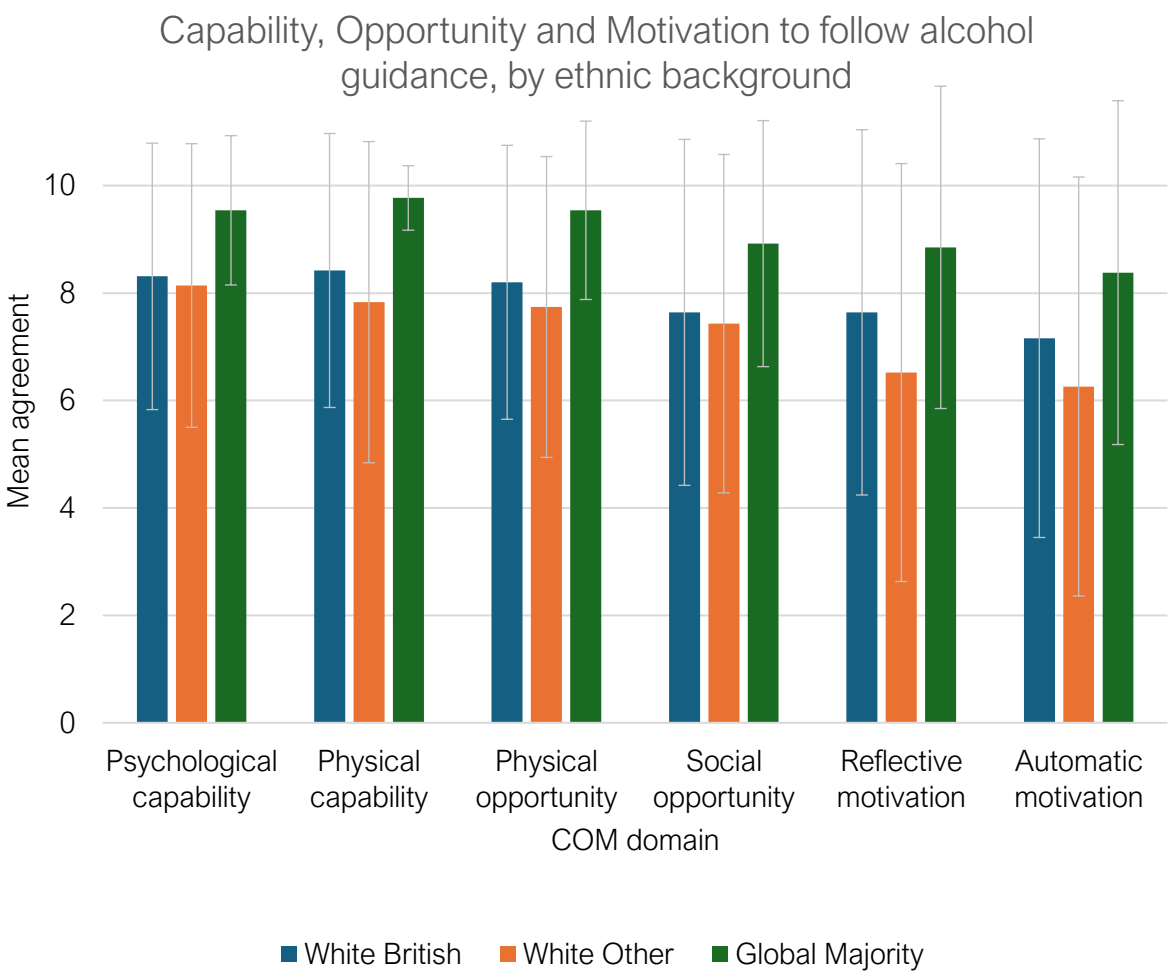
Research Question 4 (cont.): *Do the barriers and facilitators to risky drinking vary by key demographic and health variables?*

There appeared to be a trend for residents from White British and White Other ethnic backgrounds to report weaker capability, opportunity and motivation to follow alcohol guidance, compared with residents from Global Majority ethnic backgrounds.

Furthermore, residents from White Other ethnic backgrounds reported on average weaker motivation to follow alcohol guidance compared to residents from White British and Global Majority ethnic backgrounds, specifically:

- Weaker intentions (or willingness) to drink within government guidelines **(reflective motivation)**.
- Weaker beliefs that drinking within government guidelines is something they do automatically (without thinking about it) **(automatic motivation)**.

However, the group sizes were uneven, with only small numbers of participants in the White Other (n = 24) and Global Majority groups (n = 13), which means that differences between groups should be interpreted with caution.



Research Question 5: *Are people who are drinking at risky levels willing to access a Healthy You service?*

Most residents (84.7%) had not accessed a Healthy You service. Physical activity services were the most frequently accessed Healthy You service among residents who drank alcohol (8.7%). Only one resident had accessed alcohol services.

There was no difference in willingness to access a Healthy You service in the future between residents classed as lower and higher risk drinkers.

	Entire sample (n = 230)	Lower risk drinking (n = 90)	Higher risk drinking (n = 140)
Uptake of Healthy You services			
Yes	35 (15.3%)	12 (13.5%)	23 (16.4%)
No	194 (84.7%)	77 (86.5%)	117 (83.6%)
Unsure	*1*	*1*	*0*
Willingness to access Healthy You amongst those who have not accessed a service			
No – but willing to access in the future	83 (42.8%)	34 (44.2%)	49 (41.9%)
No – and unwilling to access in the future	38 (19.6%)	19 (24.7%)	19 (16.2%)
No – and unsure whether they would be willing to access in the future	73 (37.6%)	24 (31.2%)	49 (41.8%)
Type of Healthy You service accessed			
Physical activity services	20 (8.7%)	4 (4.4%)	16 (13.7%)
Healthy eating services	4 (1.7%)	1 (1.1%)	3 (2.6%)
Weight management services	8 (3.5%)	2 (2.2%)	6 (5.1%)
Smoking services	8 (3.5%)	4 (4.4%)	4 (3.4%)
Mental health services	7 (3.0%)	4 (4.4%)	3 (2.6%)
Alcohol services	1 (0.4%)	0 (0.0%)	1 (0.8%)
Other	1 (0.4%)	0 (0.0%)	1 (0.8%)

Smoking in adults: Survey

Survey participants who stated that they were a current smoker were asked specific questions about smoking-related behaviour and their perceived barriers and facilitators to smoking cessation.

The objectives were to:

1) Understand patterns of adult smoking behaviour (e.g., type of tobacco product, levels of smoking) and quit attempts across residents of Peterborough.
2) Explore whether adult smoking behaviours (e.g., type of tobacco product, levels of smoking) and quit attempts vary by demographic variables.
3) Identify barriers and facilitators to smoking cessation among adult smokers living in Peterborough.
4) Explore whether barriers and facilitators to smoking cessation vary by demographic variables.

The survey was designed in consultation with professional stakeholders. Smoking-related measures included:

- **Smoking behaviour** (Type and amount of tobacco product used; how many cigarettes per day they typically smoke and how soon after waking they smoke or use a tobacco product (nicotine dependence) [5]; use of e-cigarettes or vapes; previous quit attempts/ attempts to cut down and methods used).
- **Capability, Opportunity and Motivation** to quit smoking [4].
- **Demographic and health data** (i.e., age; partial postcode; gender; ethnicity; country of birth; speaking a language other than English at home; employment status; health status; annual household income; education level).

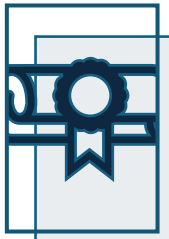
Survey findings

Participants

In total, 145 residents in Peterborough who reported that they currently smoke or use tobacco products took part in the survey.

The average age was 44.78 years (SD 16.36 years), and 44.1% of smokers were female

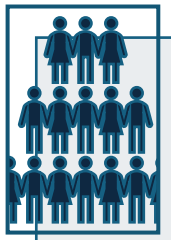
57.2% of smokers were employed (either full, part-time, or self-employed). Nearly ¾ of these identified as being a routine/manual worker (71.1%)



35.9% of smokers had no formal qualifications and 55.9% were educated to below degree level

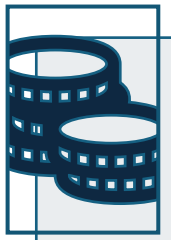
29.0% were born outside of the UK

64.6% of smokers lived in the most deprived areas (IMD 1-2) and 22.2% lived in moderately deprived areas (IMD 3-6)



64.8% of smokers identified as being White British. The next largest group in terms of ethnicity was White Other (19.3%)

24.8% spoke a language other than English at home. 18 different languages were reported as being the main language spoken at home.



Of those reporting income data (n = 100), 42.0% reported an annual household income of ≤£20,000.

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Research Question 1: *What are the **patterns of adult smoking behaviour** (e.g., type of tobacco product, levels of smoking) and quit attempts for smokers surveyed in Peterborough?*

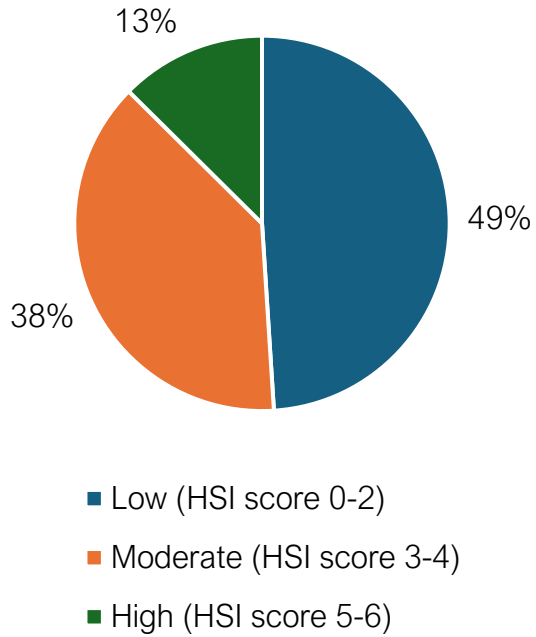
The majority of smokers were using manufactured cigarettes or rolling tobacco.

Types of tobacco used in a typical week

Roll your own	51.0%
Manufactured cigarettes	63.4%
Cigars	2.1%
Shisha	0.7%
Scented chewing tobacco	0.7%
Snuff	0.7%

51% of smokers were classed as having moderate or high nicotine dependence.

Nicotine Dependence based on Heaviness of Smoking Index*
(cigarettes per day + time from waking)



Around 24% of smokers were dual users, also using vapes or e-cigarettes.

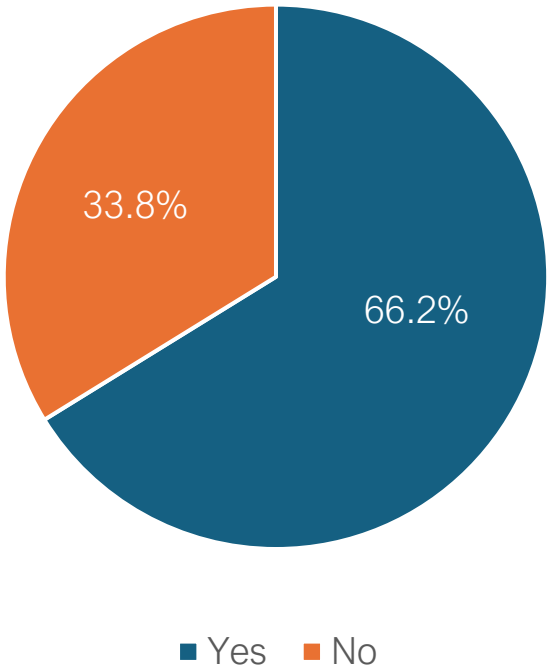
Do you regularly use vapes or e-cigarettes?

- Yes: 23.4% (34)
(47% disposable; 21% refillable; 32% both)
- No: 76.6% (111)

*Heaviness of Smoking Index (HSI) scores were calculated from the time to first cigarette of the day and number of cigarettes per day, giving scores on a 0 to 6 scale, where 0-2 indicates low nicotine dependence, 3-4 indicates moderate dependence and 5-6 indicates high dependence.

Research Question 1 (cont.): *What are the patterns of adult smoking behaviour (e.g., type of tobacco product, levels of smoking) and **quit attempts** for smokers surveyed in Peterborough?*

Have you ever attempted to quit or cut down on smoking?



What method did you use to try and quit or cut down on smoking?

Independently or not otherwise specified	45 (31.0%)
E-cigarettes or vapes	32 (22.1%)
Nicotine replacement therapies	24 (16.6%)
Accessed local Stop Smoking Services	13 (9.0%)
Accessed an online community or support group	3 (2.1%)
Medication	3 (2.1%)
Accessed a quit smoking app	1 (0.7%)
Prefer not to say	1 (0.7%)

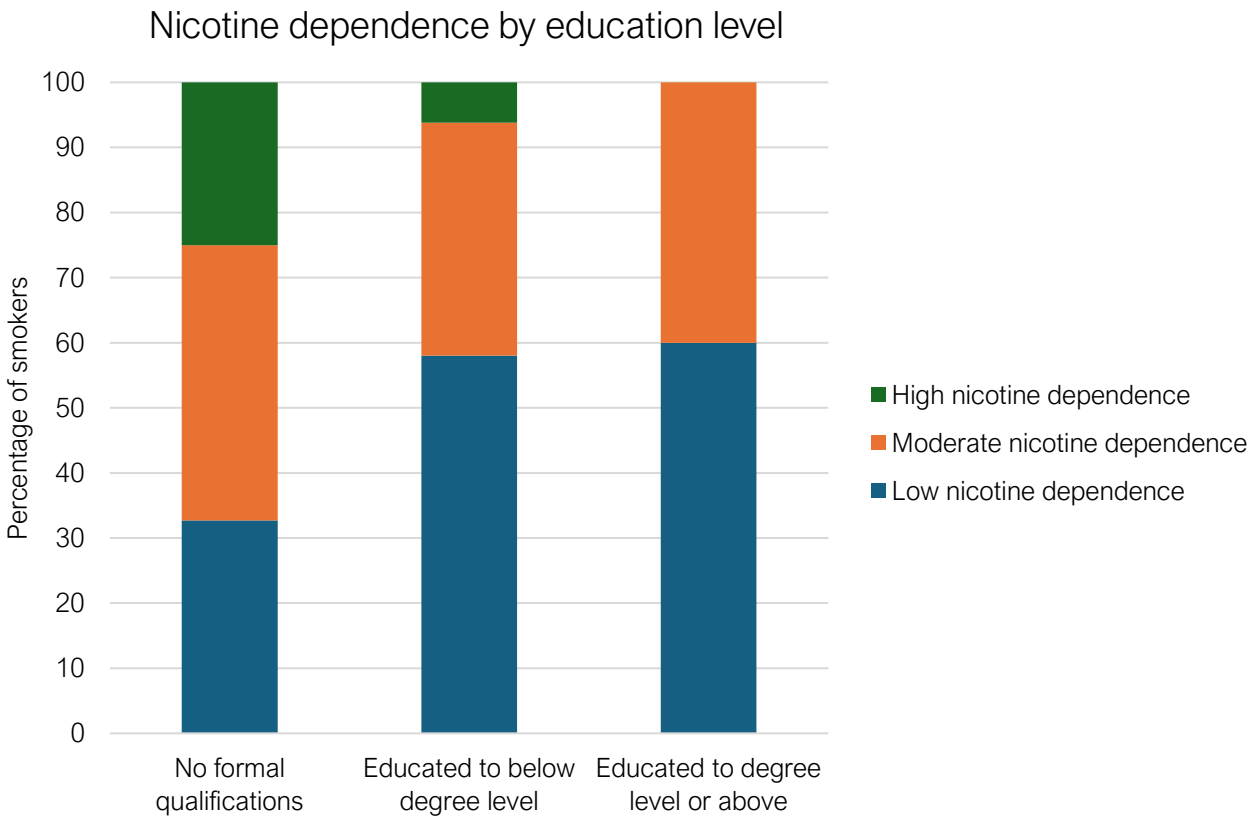
Research Question 2: *Do adult smoking behaviours and quit attempts vary by demographic and health variables?*

Nicotine dependence:

Smokers with moderate or high nicotine dependence tended to have **fewer formal qualifications** (see figure).

There were **no clear links** between nicotine dependence and:

- ethnicity
- employment status
- type of employment (routine/manual worker vs other)
- income
- area of deprivation
- health status (presence/absence of health conditions or disabilities)*



*This pattern of results contrasts with findings in Cambridgeshire, where there were statistically significant links between level of nicotine dependence and household income, area of deprivation, and health status. This is likely due to the smaller sample size of the Peterborough dataset (n = 145). Cambridgeshire Behavioural Insights Smoking Report

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Research Question 2 (cont.): *Do adult smoking behaviours and quit attempts vary by demographic and health variables?*

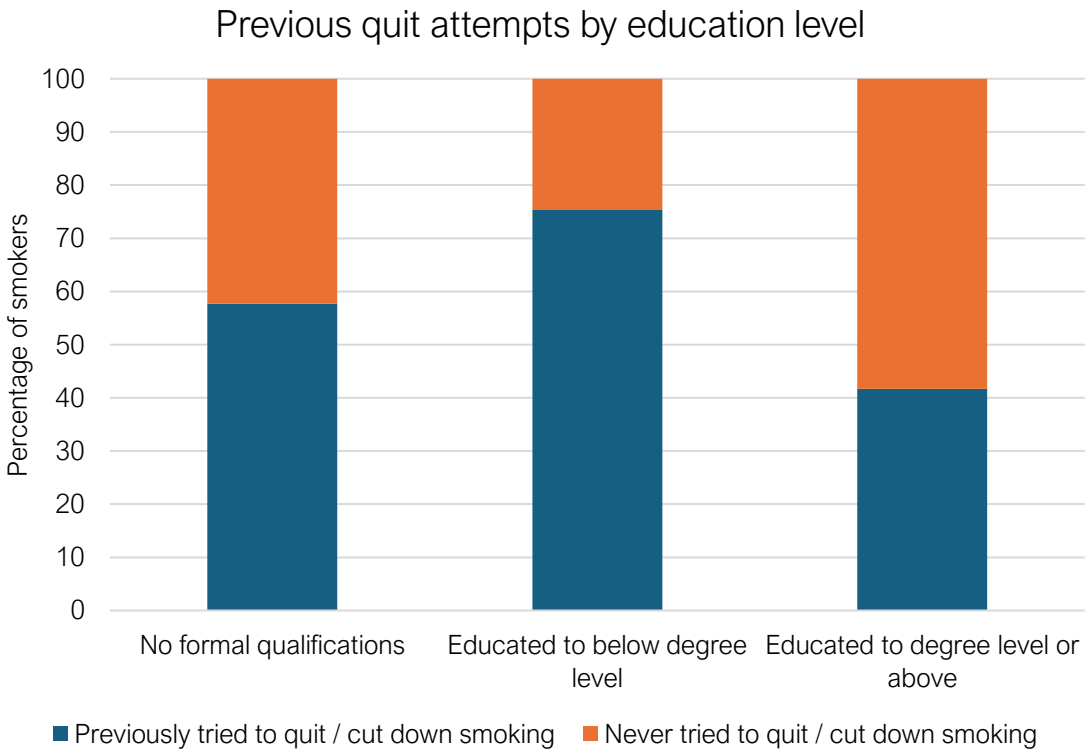
Previous quit attempts:

There were no clear demographic differences between smokers who have previously tried vs those who have never tried to quit or cut down in terms of:

- age
- gender
- ethnic background
- employment status
- employment type
- area of deprivation
- health status
- nicotine dependence*

The only statistically significant difference found was in **education level** (p = 0.02, see figure):

- Smokers who had previously tried to quit or cut down were more likely to have qualifications below degree level
- Smokers who had never tried to quit or cut down were more likely to either have no formal qualifications, or to have qualifications at or above degree level



*This pattern of results contrasts with findings in Cambridgeshire, where there were statistically significant links between previous quit attempts and gender, ethnicity, and area of deprivation. This is likely due to the smaller sample size of the Peterborough dataset (n = 145).

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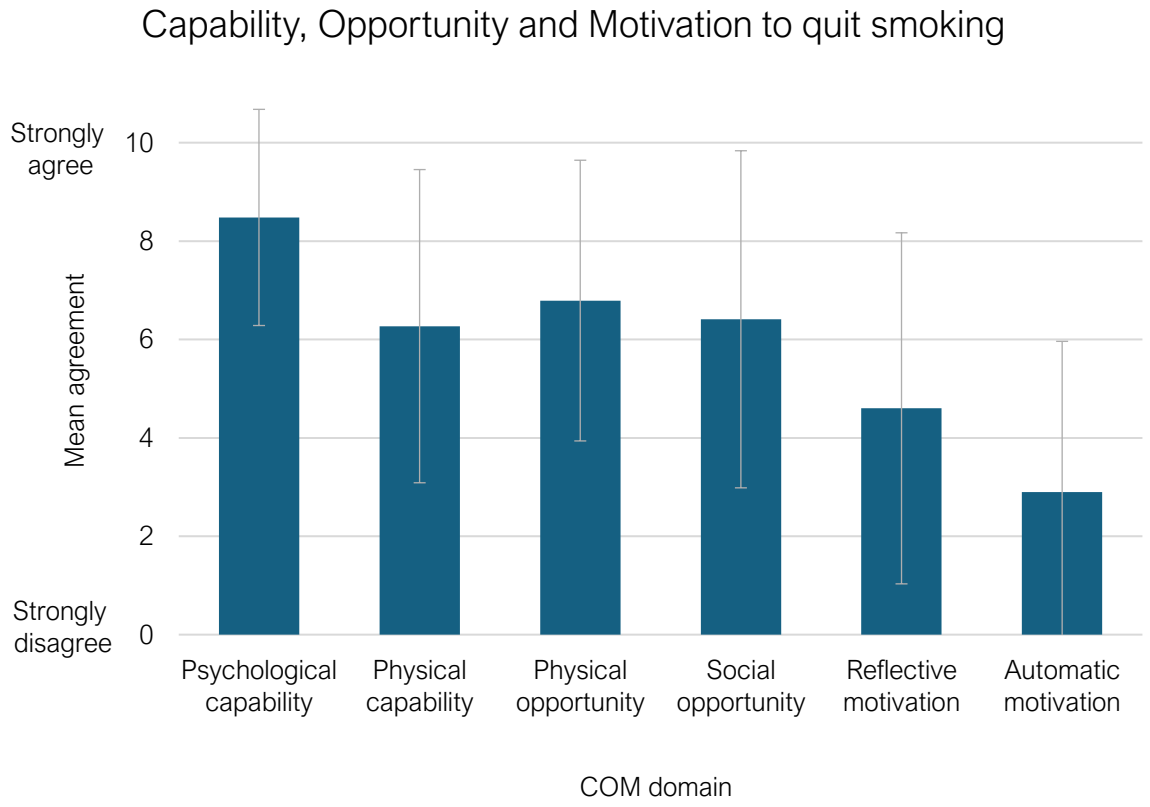
Research Question 3: *What are the barriers and facilitators to smoking cessation among adults living in Cambridgeshire?*

All participants who smoked were asked to rate their agreement with six statements about smoking, adapted from a brief measure of capability, opportunity and motivation [4], on a scale from 0 ("strongly disagree") to 10 ("strongly agree").

Psychological capability "I know about the importance of quitting smoking and have skills to make decisions and plans to quit smoking"
Physical capability "I have the physical skills and enough physical stamina to quit smoking"
Physical opportunity "I have sufficient time and the necessary resources (e.g., access to stop smoking services, nicotine replacement) to quit smoking"
Social opportunity "I have the necessary support from people (e.g., from friends and family) to quit smoking"
Reflective motivation "I intend to (or want to) quit smoking"
Automatic motivation "Smoking is something I do automatically (without thinking about it)" *



*For this item, scores were reverse coded, as the question asked about smoking automatically (i.e., habit) rather than quitting. For this item, lower scores indicate stronger agreement that smoking is something they do automatically. Error bars on charts represent one standard deviation above and below the mean.

Research Question 3 (cont.): *What are the barriers and facilitators to smoking cessation among adults living in Peterborough?*

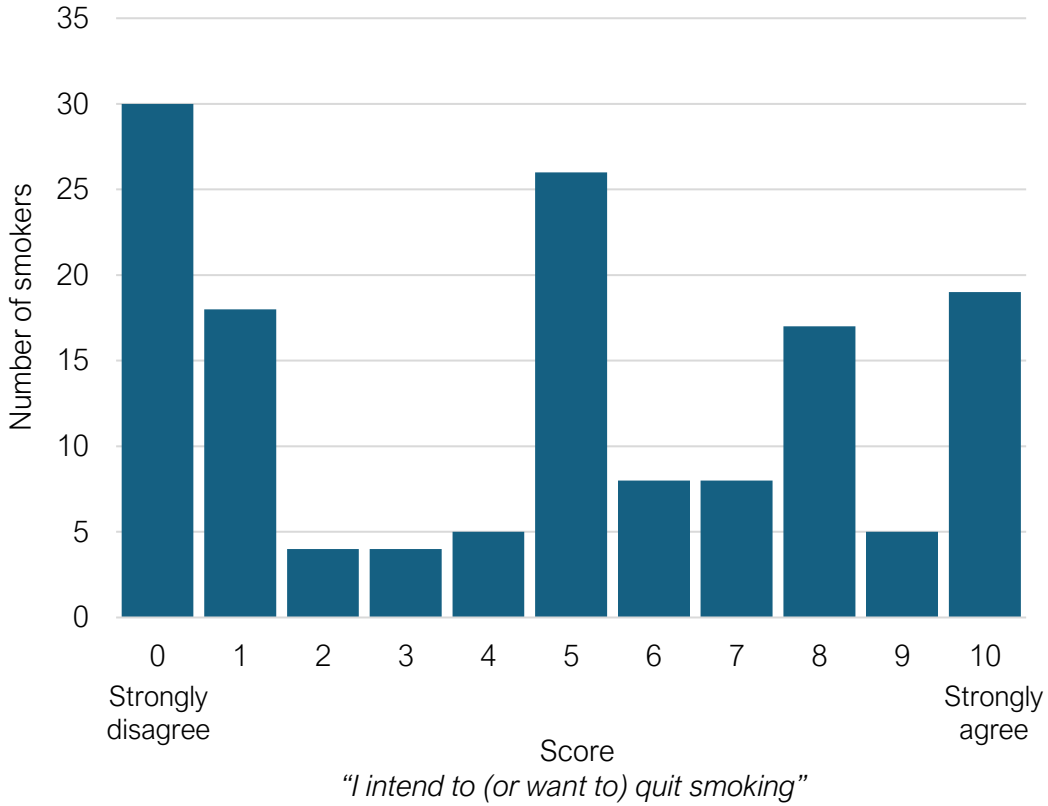
Overall, residents reported that:

- They know about the importance of quitting smoking and have the skills to make decisions and plans to quit smoking (**psychological capability**).
- They have the physical skills and enough physical stamina to quit smoking (**physical capability**).
- They have sufficient time and the necessary resources (e.g., access to stop smoking services, nicotine replacement) to quit smoking (**physical opportunity**).
- They have the necessary support from people (e.g., from friends and family) to quit smoking (**social opportunity**).

Overall, residents tended to score low on the automatic motivation item. This means that they reported smoking to be something they do automatically, without thinking about it (**automatic motivation**).

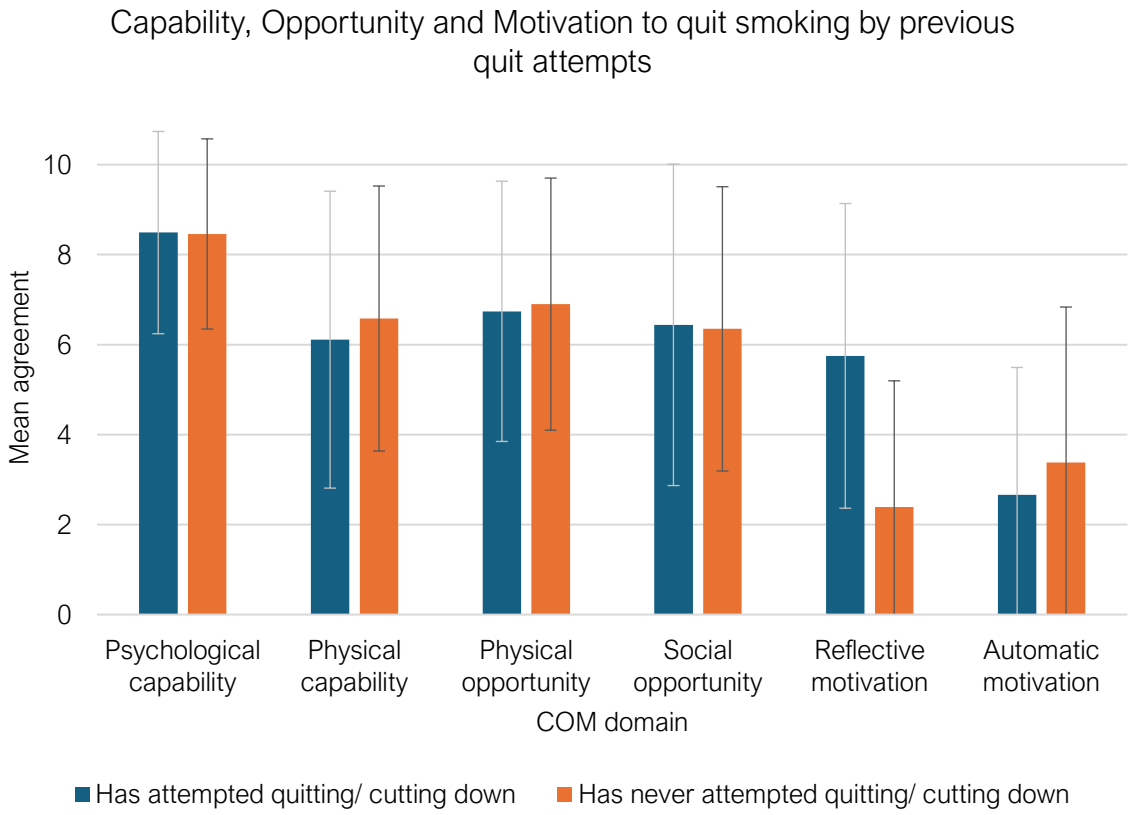
Residents also tended to report weaker intentions (or willingness) to quit smoking (**reflective motivation**), although this item had the most varied responses (see figure).

Reflective motivation to quit smoking scores

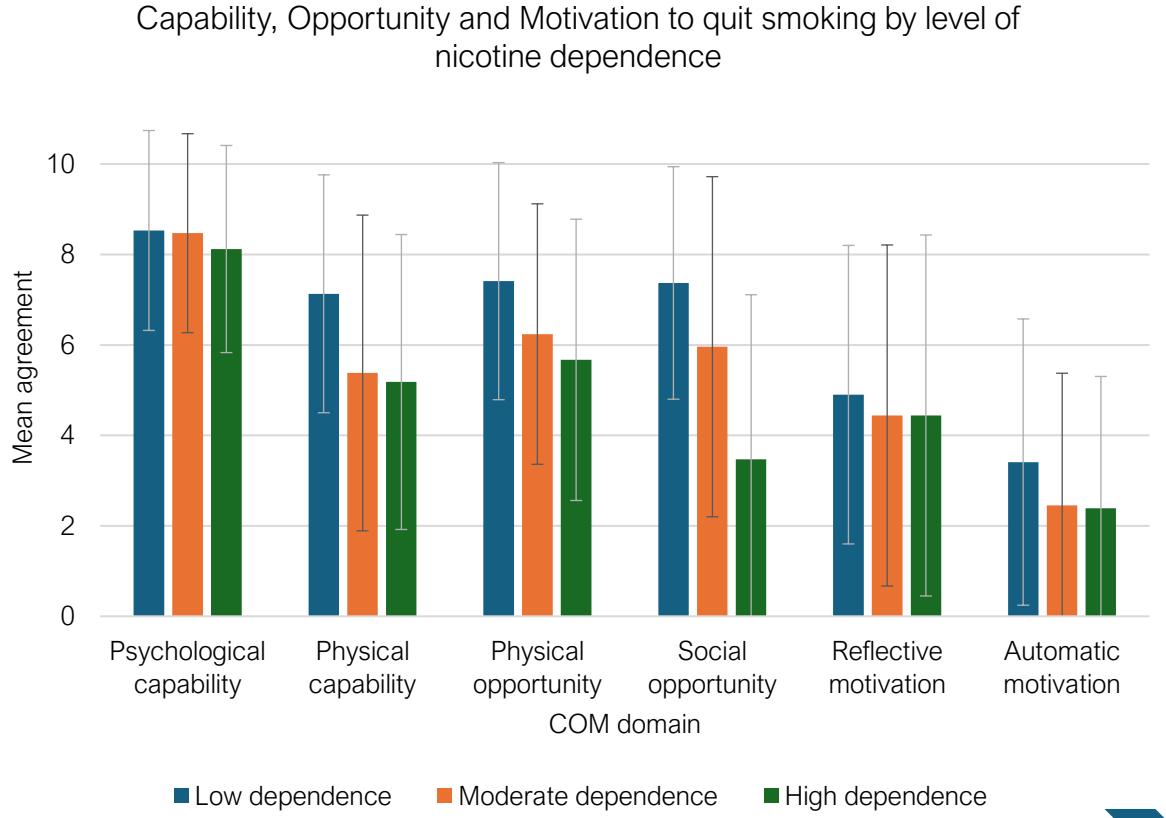


Research Question 3 (cont.): *What are the barriers and facilitators to smoking cessation among adults living in Peterborough?*

Participants who had **previously tried to quit/cut down** had significantly higher levels of reflective motivation (i.e., desire) to quit smoking ($p < 0.001$).



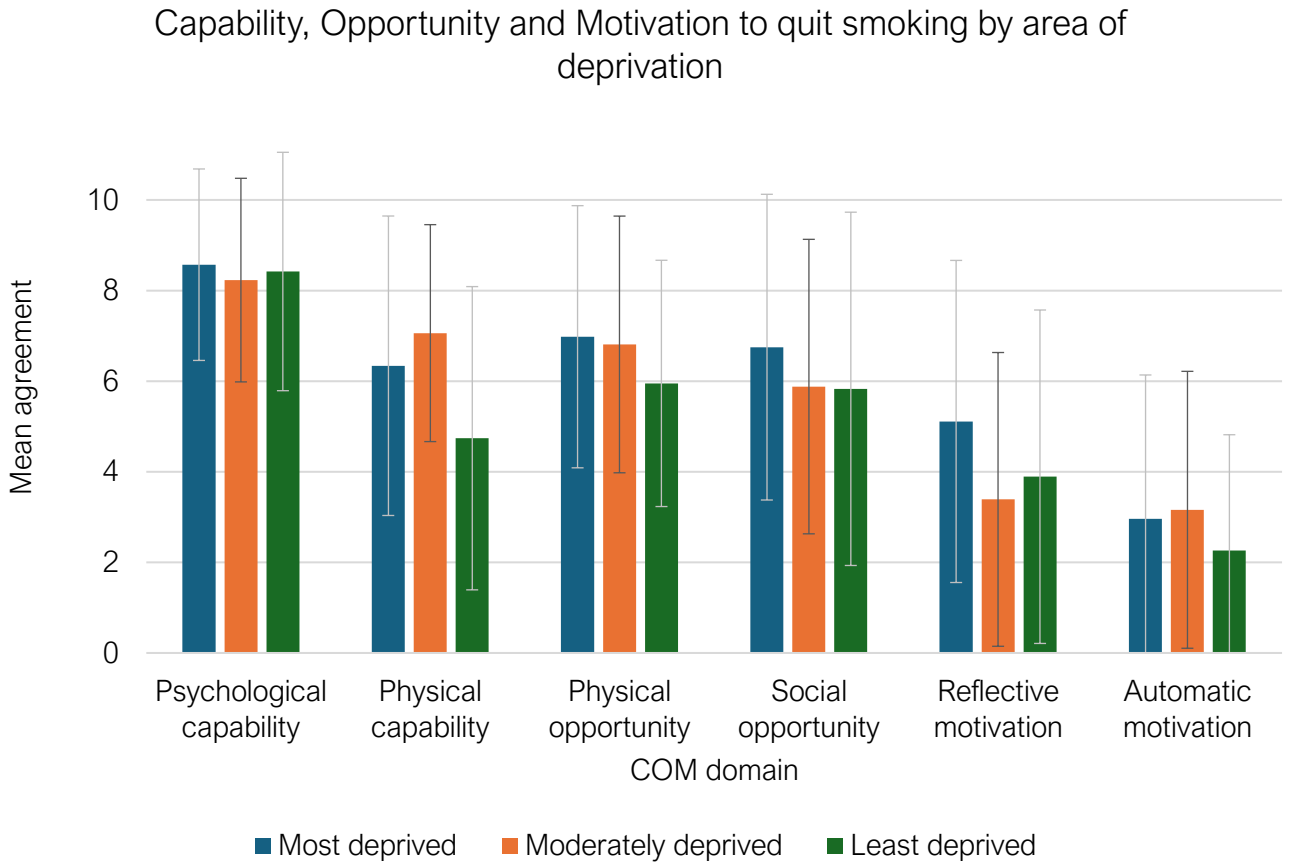
Those who were classified as having **high dependence on nicotine** reported weaker capability, opportunity and motivation to quit smoking, compared with those who were classified as having lower dependence on nicotine.



Research Question 4: *Do the barriers and facilitators to smoking cessation vary by demographic and health variables?*

Smokers in the **least deprived areas** reported on average lower physical capability to quit smoking (i.e., weaker physical skills and weaker physical stamina to quit smoking). However, this finding should be treated with caution due to only a small number of smokers recruited from the least deprived areas (n = 19, 13.1% of sample).

As shown in the figure, smokers in the **most deprived areas** reported on average higher reflective motivation to quit smoking, that is, they reported stronger intentions (or willingness) to quit smoking.



Healthy diet: Survey

All survey participants were asked about their dietary behaviours.

The objectives were to:

1) Understand patterns of dietary behaviours in adults across Peterborough.
2) Understand who is less likely to have healthy diet.
3) Identify the barriers and facilitators to eating five portions of fruit and vegetables a day.
4) Explore whether the barriers and facilitators to eating five portions of fruit and vegetables a day vary by those who are and are not eating five portions.
5) Explore whether the barriers and facilitators to eating five portions of fruit and vegetables a day vary by key demographic and health variables.

The survey measured:

- Dietary behaviour – we measured four aspects of diet [6]:
  - daily fruit and veg consumption
  - daily portions of high fat, salt or sugary snacks
  - daily sugary drinks consumed
  - weekly take-away/convenience foods.
- Capability, Opportunity and Motivation for eating at least 5 portions of fruit and vegetables a day [4].
- Demographic and health data (i.e., age, partial postcode, gender, ethnicity, country of birth, languages other than English spoken at home, employment status, health status, annual household income, education level).

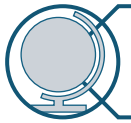
Survey findings – Participants

In total, 500 residents in Peterborough took part in the survey.

The mean age of participants was 45.24 years, ranging from 18 – 89 years old, and 47.8% were female

Over half (52.6%) were from the most deprived areas of Peterborough, and 31.1% were from moderately deprived areas

61.2% identified as being White British, 15.4% as White other, 10.4% as Asian/Asian British, 7.6% as Black/Black British and 5.4% as another ethnicity



31.7% reported that they were born outside of the UK and 31.0% reported that they spoke a language other than English at home

35.2% reported having a health condition or disability

58.8% reported that they were currently working (employed either full-time, part-time, or self-employed)

32.0% reported having no formal educational qualifications, and 48.9% were educated to below degree level

Research Question 1: *What are the patterns of dietary behaviours in adults across Peterborough?*

The survey found that on average residents consumed:

4.81 portions of fruit or veg a day, with **50%** of residents reporting that they had 5 or more portions of fruit or veg a day.

1.65 high fat, salt, sugary snacks per day

2.45 sugary drinks per day

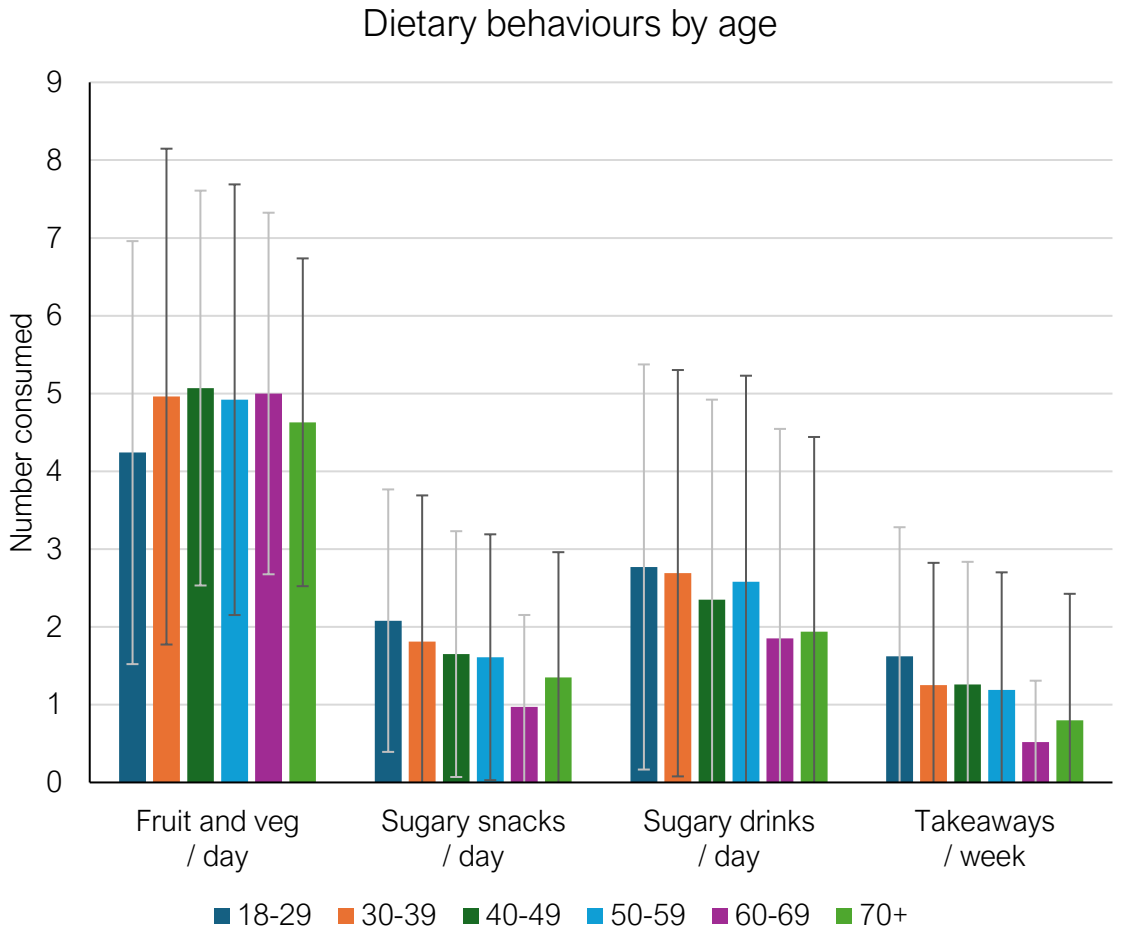
1.18 takeaways/convenience foods per week

Research Question 2: *Who is less likely to have a healthy diet across Peterborough?*

There was a trend for **younger residents** (18–29 years) to report having an unhealthier diet.

Residents who were aged 18–29 years reported consuming 2.77 sugary drinks per day, whereas residents aged 60 – 69 years reported consuming 1.85 sugary drinks per day.

Similarly, residents who were aged 18–29 years reported consuming 1.62 takeaways/convenience foods per week, whereas residents aged 60–69 years reported consuming 0.52 takeaways/convenience foods per week.

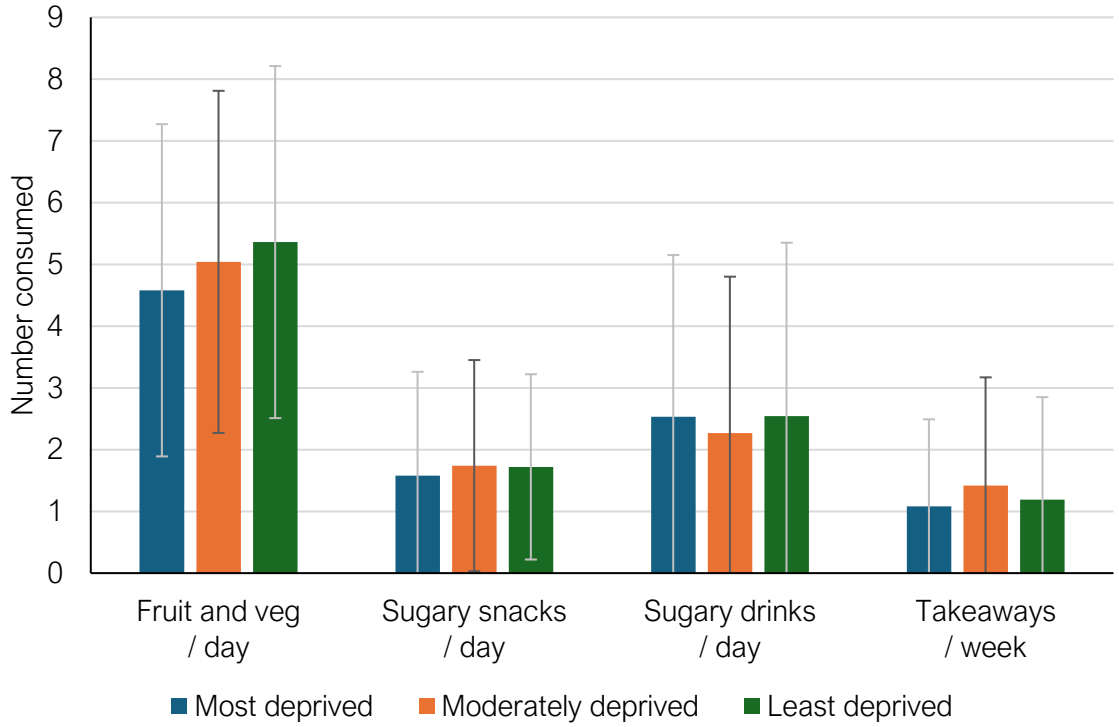


Error bars on charts represent one standard deviation above and below the mean.

Research Question 2 (cont.): *Who is less likely to have a healthy diet across Peterborough?*

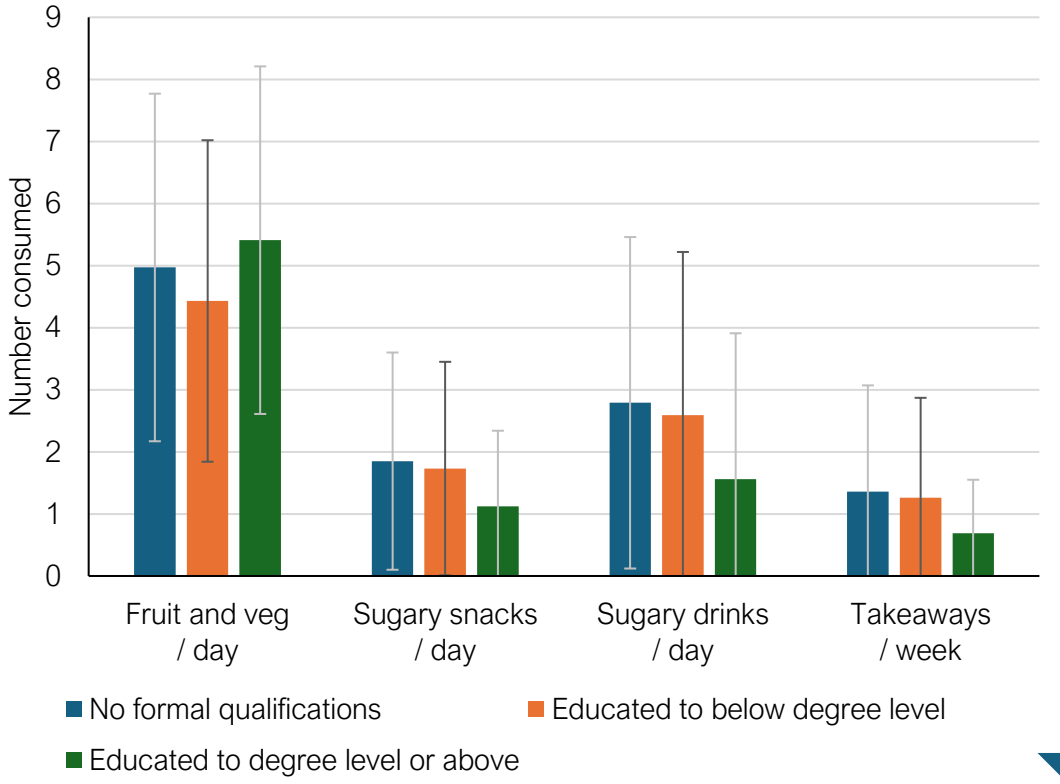
There were not large differences in dietary behaviours between residents living in different **areas of deprivation**, although there was a possible trend for residents in more deprived areas to eat fewer portions of fruit and vegetables per day.

Dietary behaviours by area of deprivation



There was a trend for those educated to **degree level or above** reporting eating more portions of fruit and vegetables a day, fewer sugary snacks and sugary drinks per day, and fewer takeaways per week compared to those with no qualifications or educated below degree level.

Dietary behaviours by education



Research Question 3: *What are the barriers and facilitators to eating five portions of fruit and vegetables a day?*

Participants (n = 327) were asked to rate their agreement with six statements about eating five portions of fruit and vegetables a day, adapted from a brief measure of capability, opportunity and motivation [4], on a scale from 0 ("strongly disagree") to 10 ("strongly agree").

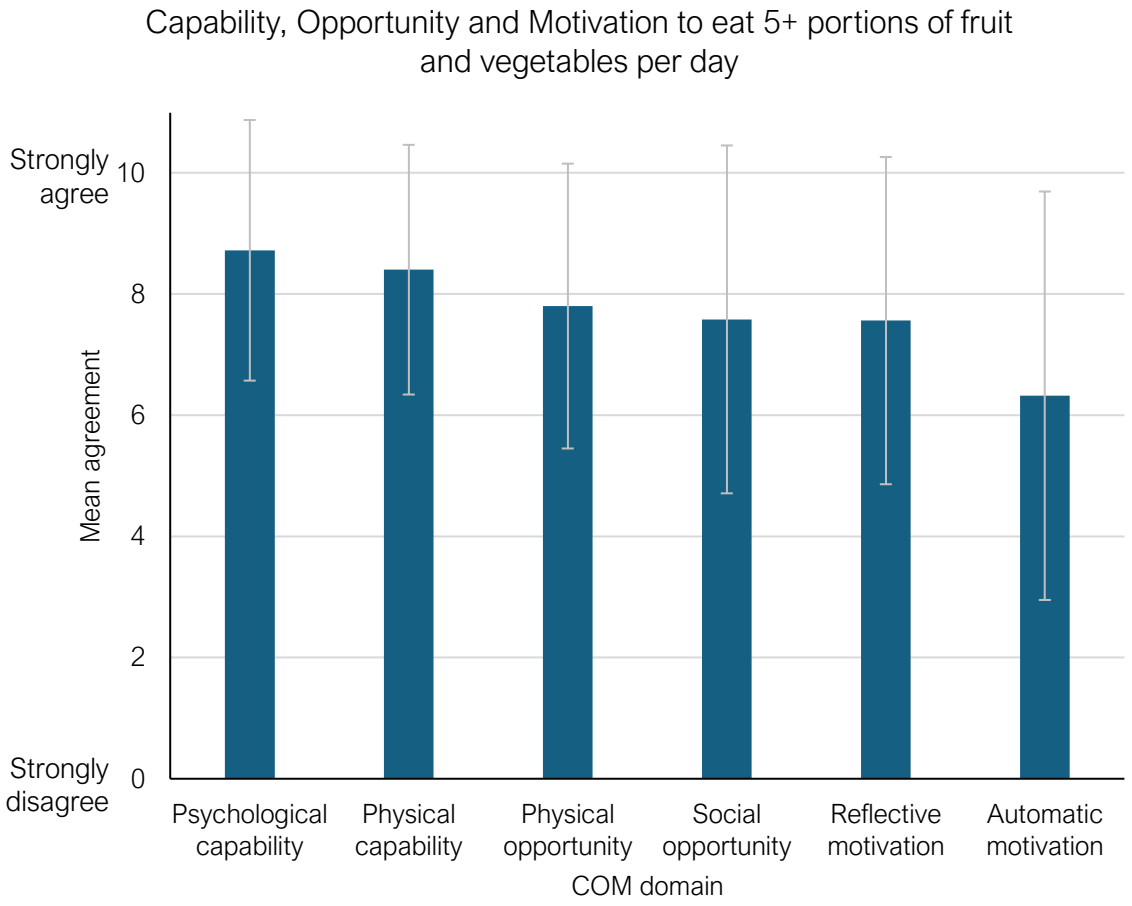
Psychological capability "I know about the importance of eating at least 5 portions of a variety of fruit and vegetables a day and have the skills to make decisions and plans to do this."
Physical capability "I have the physical skills and enough physical stamina to eat at least 5 portions of a variety of fruit and vegetables a day."
Physical opportunity "I have sufficient time and the necessary resources (e.g., I can access and afford fresh fruit/veg, I have time to prepare them) to eat at least 5 portions of a variety of fruit and vegetables a day."
Social opportunity "I have the necessary support from people (e.g., from friends and family) to eat at least 5 portions of a variety of fruit and vegetables a day."
Reflective motivation "I intend to (or want to) eat at least 5 portions of a variety of fruit and vegetables a day."
Automatic motivation "Eating at least 5 portions of a variety of fruit and vegetables a day is something I do automatically (without thinking about it)."

Research Question 3 (cont.): *What are the barriers and facilitators to eating five portions of fruit and vegetables a day?*

Across the sample, residents reported that they:

- Know about the importance of eating 5 portions of fruit and veg a day and have the skills to make decisions and plans to eat 5 portions of fruit and vegetables a day (**psychological capability**)
- Have the physical skills to be able to eat 5 portions of fruit and vegetables a day (**physical capability**)
- Have sufficient time and the necessary resources (e.g., access to shops & time) to eat 5 portions of fruit and vegetables a day (**physical opportunity**)
- Have the necessary support from people (e.g., from friends and family) to eat 5 portions of fruit and vegetables a day (**social opportunity**)
- Intend to (or want to) eat 5 portions of fruit and vegetables a day (**reflective motivation**)

The lowest score was for **automatic motivation**. Compared with the other items, residents reported weaker beliefs that eating 5 portions of fruit and vegetables a day is something they do automatically (without thinking about it).

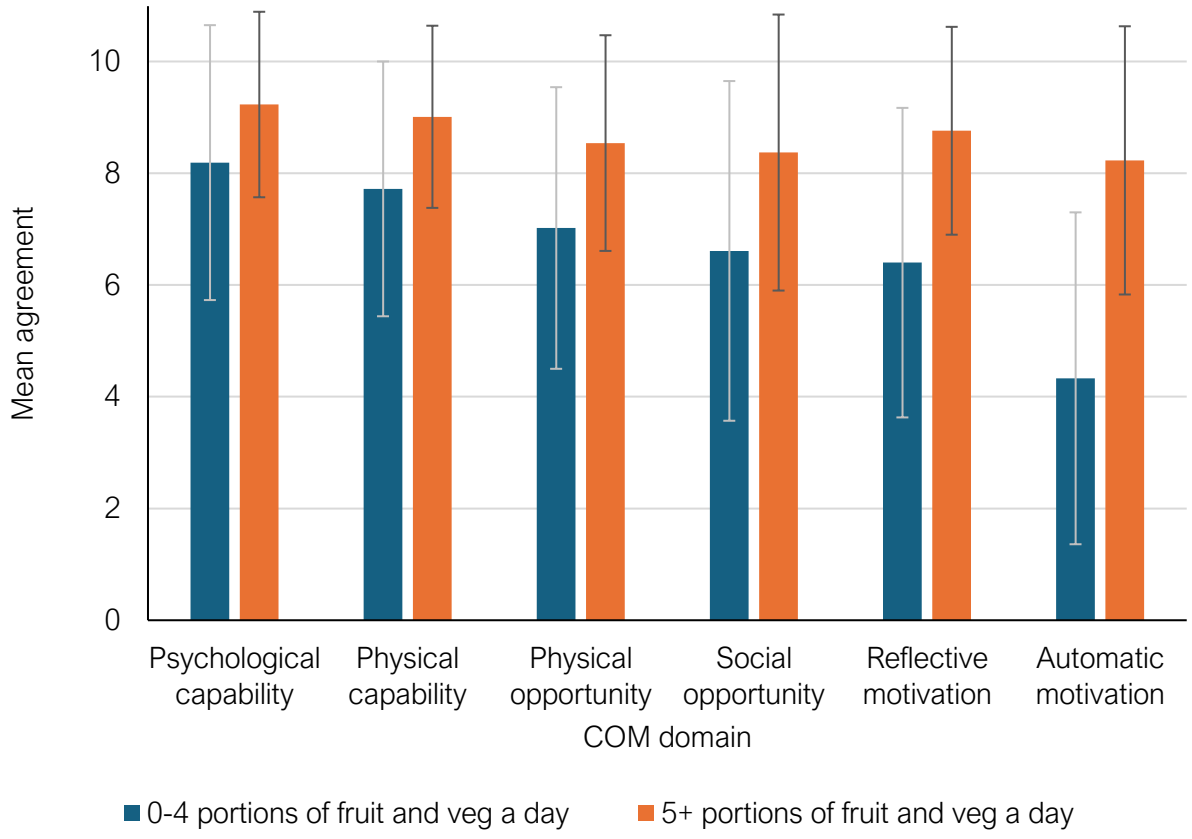


Research Question 4: *Do the barriers and facilitators to eating five portions of fruit and vegetables a day vary by those who are and are not eating five portions?*

Residents who do not eat five portions of fruit and vegetables a day were more likely to report:

- Weaker knowledge about the importance of eating 5 portions of fruit and vegetables a day and weaker skills to make decisions and plans to eat 5 portions of fruit and vegetables a day **(psychological capability)**
- Weaker physical skills and physical stamina to eat 5 portions of fruit and vegetables a day **(physical capability)**
- Having less time and resources (e.g., time to prepare food) to eat 5 portions of fruit and vegetables a day **(physical opportunity)**
- Having less support from people (e.g., from friends and family) to eat 5 portions of fruit and vegetables a day **(social opportunity)**
- Weaker intentions to (or willingness to) eat 5 portions of fruit and vegetables a day **(reflective motivation)**
- Weaker beliefs that eating 5 portions of fruit and vegetables a day is an automatic behaviour (i.e., something they do without thinking about it) **(automatic motivation)**

Barriers and facilitators for eating 5+ portions of fruit and vegetables per day by amount of fruit and vegetables eaten



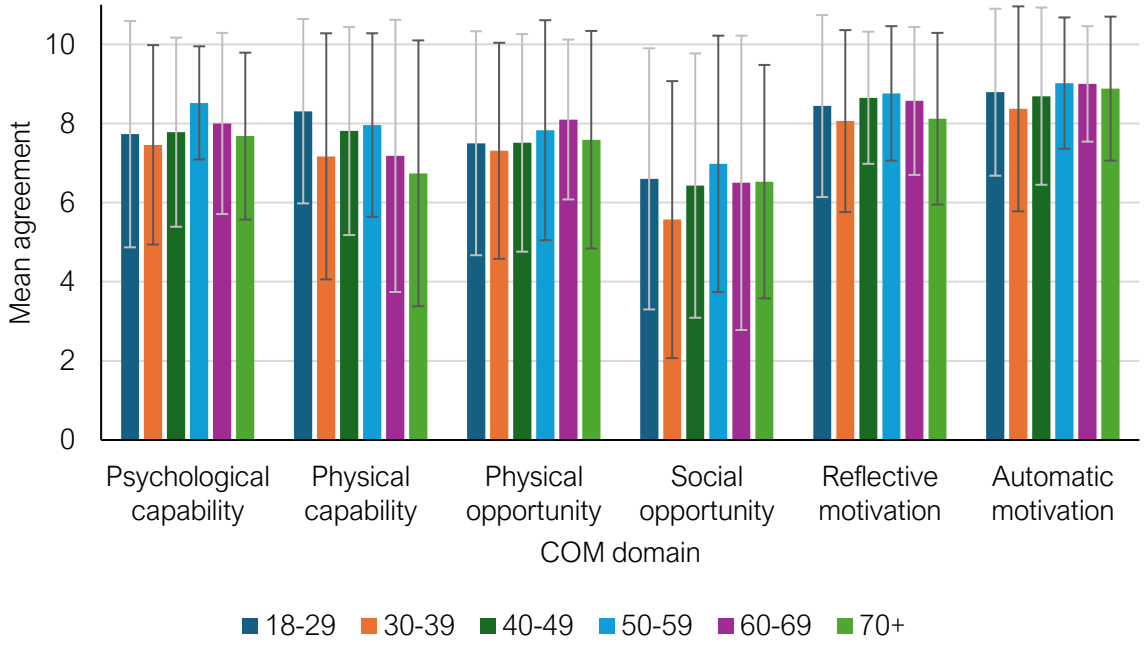
Research Question 5: *Do the barriers and facilitators to eating five portions of fruit and vegetables a day vary by key demographic and clinical variables?*

There were not large differences in residents' capability, opportunity and motivation to eat 5 portions of fruit and vegetables a day by **employment status**. The largest difference was in social opportunity, with residents who were not currently working reporting having less support from people (e.g., from friends and family) to eat 5 portions of fruit and vegetables a day compared to those who were currently working.

Capability, Opportunity and Motivation to eat at least 5 pieces of fruit or veg/day by employment status

There were any not large differences in residents' capability, opportunity and motivation to eat 5 portions of fruit and vegetables a day by **age group**.

Capability, Opportunity and Motivation to eat at least 5 portions of fruit or veg/day by age

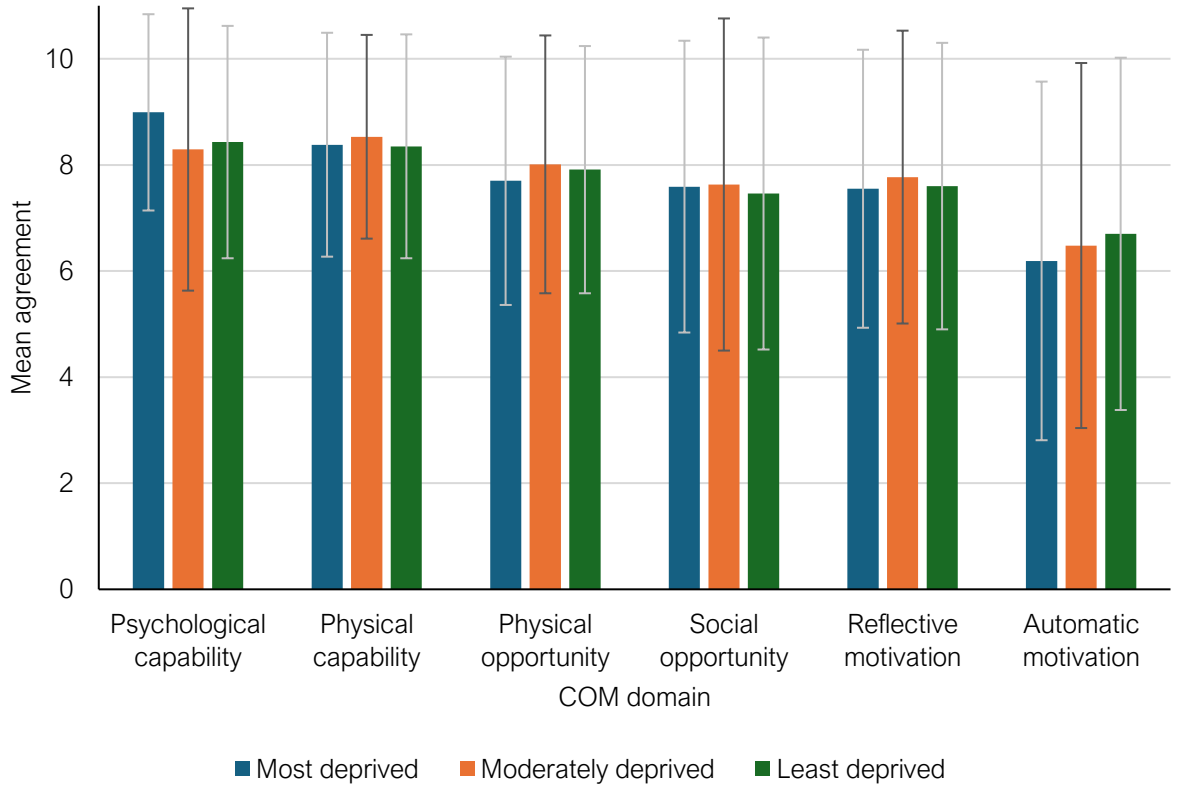


Research Question 5 (cont.): *Do the barriers and facilitators to eating five portions of fruit and vegetables a day vary by key demographic and clinical variables?*

There were no large differences in residents' capability, opportunity and motivation to eat 5 portions of fruit and vegetables a day by **area of deprivation**.

The largest difference between groups was for psychological capability, with a possible trend for residents in the most deprived areas to report stronger psychological capability to be eat 5 portions of fruit and vegetables a day (i.e., knowing about the importance of eating at least five portions of fruit and vegetables a day and having the skills to make decisions and plans to do this) compared with residents from less deprived areas.

Capability, Opportunity and Motivation to eat five portions of fruit and vegetables a day by area of deprivation



Physical activity: Survey

All survey participants were asked about their physical activity level. We defined physical activity as being physically active for at least 30 minutes per day.

The objectives were to:

1) Understand who is less likely to be physically active across Peterborough.
2) Identify the barriers and facilitators to being physically active.
3) Explore whether the barriers and facilitators to being physically active vary by those who are and are not physically active.
4) Explore whether the barriers and facilitators to being physically active vary by key demographic and health variables.
5) Understand who is accessing 'Healthy You' services.

The survey measured:

- **Physical activity** (This was measured with one item, “In the past week, on how many days have you done a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? This may include sport, exercise, and brisk walking or cycling for recreation or to get to and from places but should not include housework or physical activity that may be part of your job”.) [7]
- **Capability, Opportunity and Motivation** to be physically active for at least 30 minutes per day [4]
- **Demographic and health data** (i.e., age; partial postcode; gender; ethnicity; country of birth; whether they speak a language other than English at home; employment status; health status; annual household income; education level).

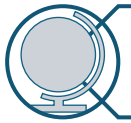
Survey findings – Participants

In total, 500 residents in Peterborough took part in the survey.

The mean age of participants was 45.24 years, ranging from 18 – 89 years old, and 47.8% were female

Over half (52.6%) were from the most deprived areas of Peterborough, and 31.1% were from moderately deprived areas

61.2% identified as being White British, 15.4% as White other, 10.4% as Asian/Asian British, 7.6% as Black/Black British and 5.4% as another ethnicity



31.7% reported that they were born outside of the UK and 31.0% reported that they spoke a language other than English at home

35.2% reported having a health condition or disability

58.8% reported that they were currently working (employed either full-time, part-time, or self-employed)

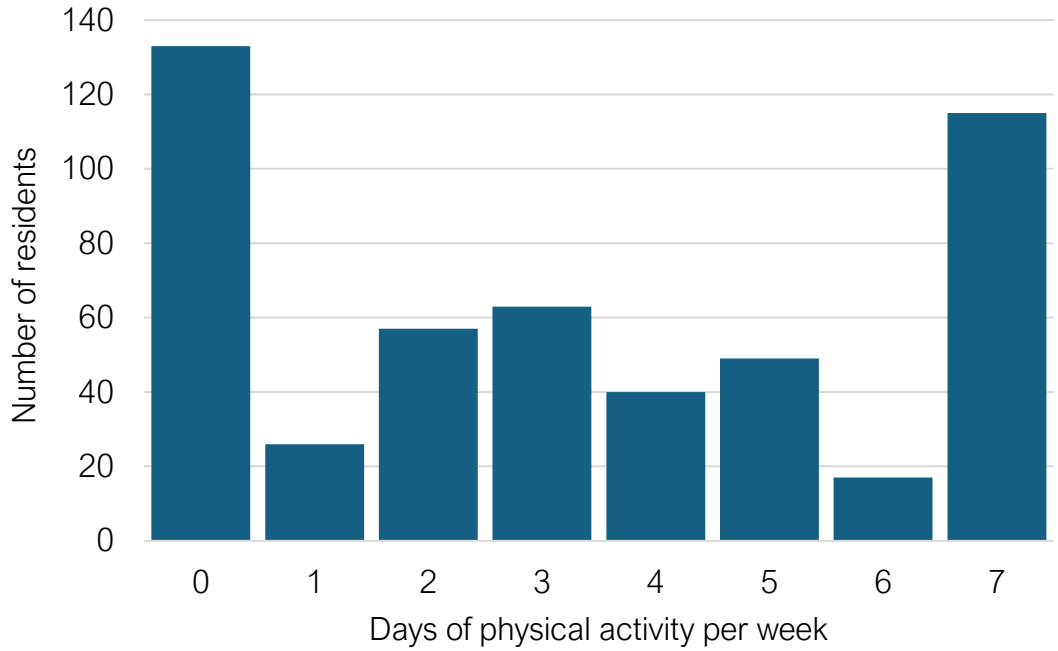
32.0% reported having no formal educational qualifications, and 48.9% were educated to below degree level

Survey findings – Physical activity

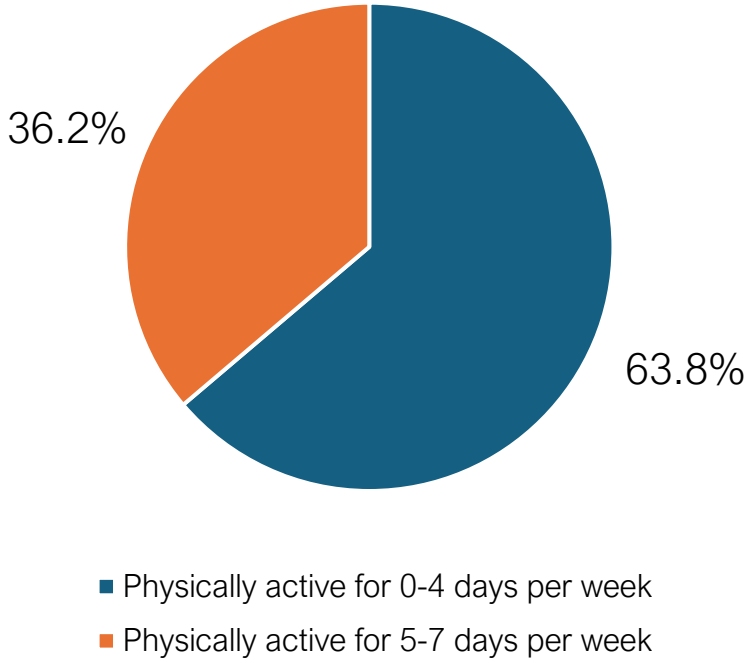
On average, residents reported doing at least 30 mins of physical activity on **3.28 days a week**.

Around a third of residents met the physical activity guidelines.

Around two thirds of residents did not meet the physical activity guidelines, with around a quarter of residents reporting no days of physical activity per week.



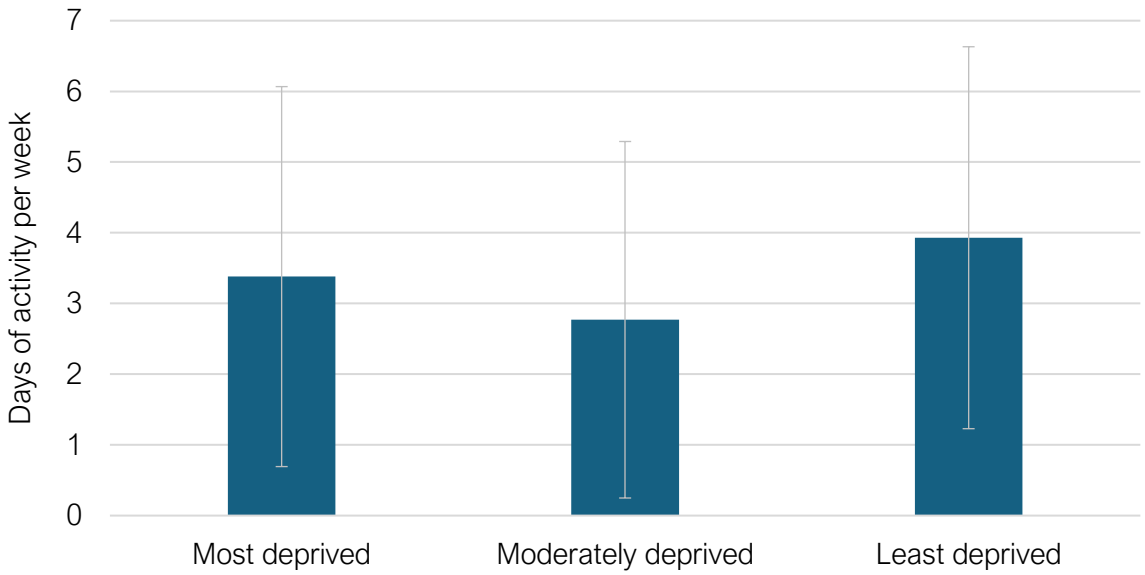
Physical activity levels



Research Question 1: *Who is less likely to be physically active across Cambridgeshire?*

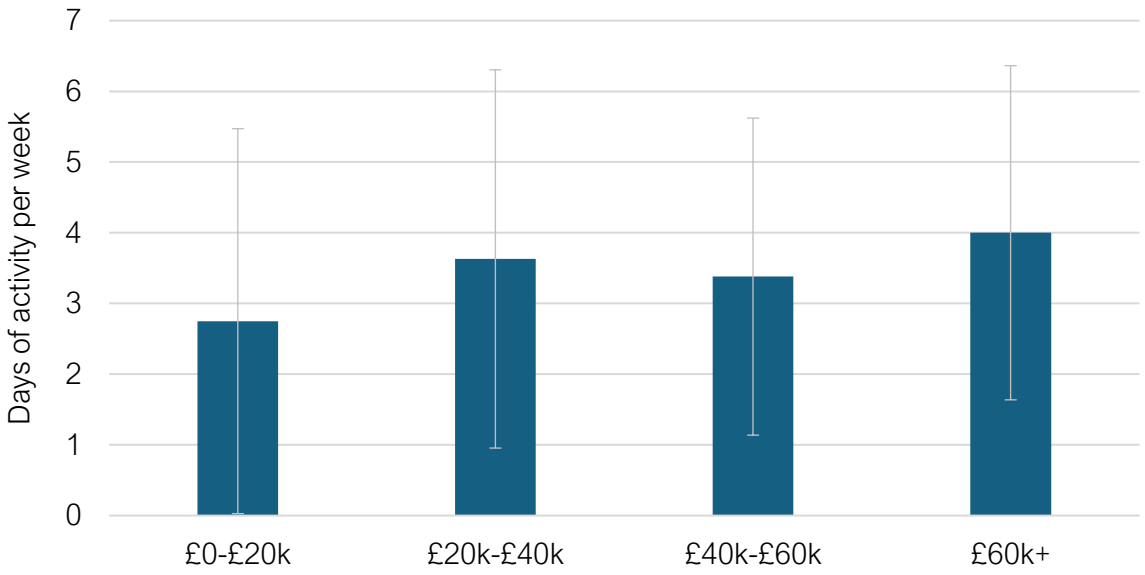
Residents were less likely to be physically active if they lived in **moderately deprived** areas of Peterborough, compared with those living in the least deprived areas.

Physical activity by area of deprivation



Residents were less likely to be physically active if they had **lower household income**. Although there were no significant differences between the income groups, there was an overall trend for physical activity level to increase with household income.

Physical activity by household income



Error bars on charts represent one standard deviation above and below the mean.

Research Question 1 (cont.): *Who is less likely to be physically active across Cambridgeshire?*

Age

Residents aged 60–69 years reported being less physically active (engaging in on average 2.13 days of physical activity per week) compared with residents aged 18–29 years, 30–39 years, and 40–49 years (engaging in on average 3.61, 3.41, and 3.58 days of physical activity per week, respectively).

Gender

Women reported being less physically active (engaging in on average 3.01 days of physical activity per week) than men (engaging in on average 3.53 days of physical activity per week).

Presence of a health condition or disability

Residents who reported having one or more health conditions or disabilities reported being less physically active (engaging in on average 2.94 days of physical activity per week) than residents who did not have a health condition or disability (engaging in on average 3.47 days of physical activity a week).

Employment status

Residents who were not currently working (for any reason, including being retired, unemployed and on maternity/paternity leave) reported being less physically active (engaging in on average 2.92 days of physical activity per week) than residents who were currently working full-time, part-time or self-employed (engaging in on average 3.53 days of physical activity per week).*

*There were some differences between these findings and those in Cambridgeshire. In the Cambridgeshire dataset, there was no difference in physical activity by gender or income but there was a difference in physical activity by education level. Cambridgeshire Behavioural Insights Physical Activity Report

Research Question 2: *What are the barriers and facilitators for being physically active?*

Participants (n = 275) were asked to rate their agreement with six statements about being physically active, adapted from a brief measure of capability, opportunity and motivation [4], on a scale from 0 ("strongly disagree") to 10 ("strongly agree").

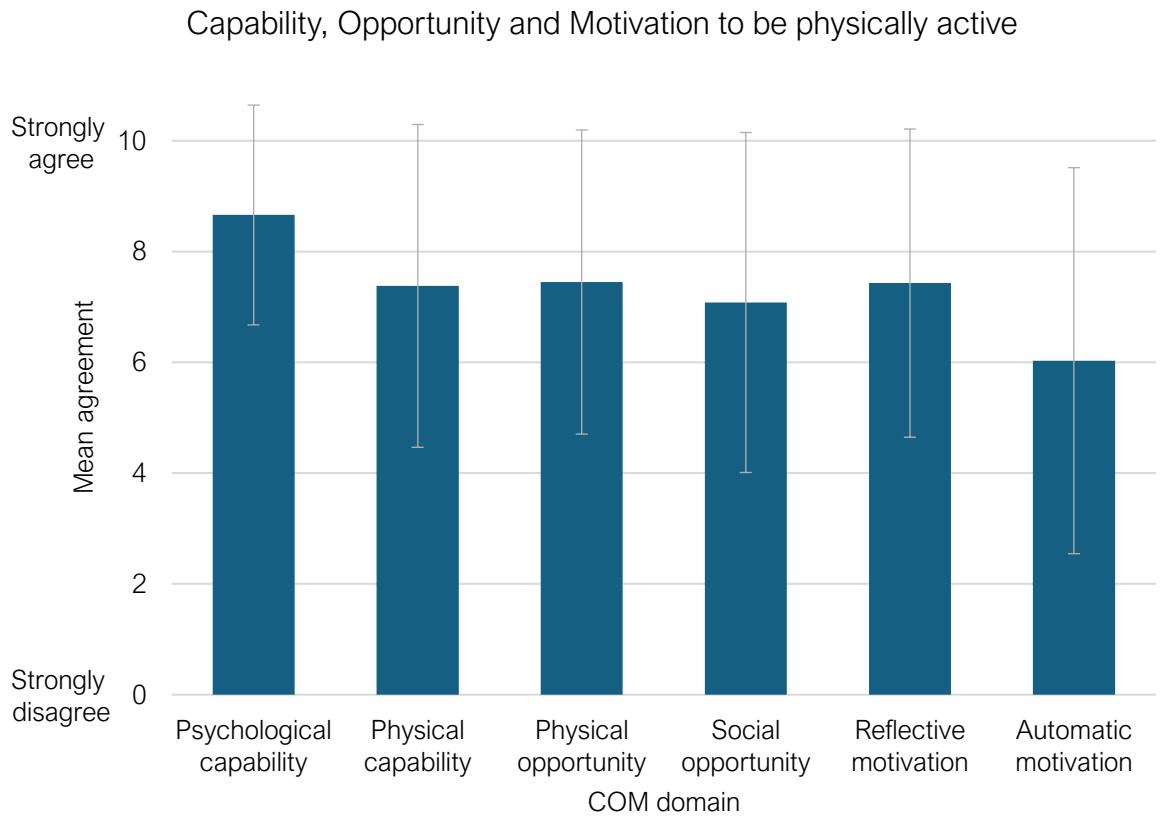
Psychological capability "I know about the importance of being physically active for 30 minutes a day and have the skills to make decisions and plans to be physically active for 30 minutes a day"
Physical capability "I have the physical skills and enough physical stamina to be physically active for 30 minutes a day"
Physical opportunity "I have sufficient time and the necessary resources (e.g., equipment and space) to be physically active for 30 minutes a day."
Social opportunity "I have the necessary support from people (e.g., from friends and family) to be physically active for 30 minutes a day"
Reflective motivation "I intend to (or want to) be physically active for 30 minutes a day."
Automatic motivation "Being physically active for 30 minutes a day is something I do automatically (without thinking about it)"

Research Question 2 (cont.): *What are the barriers and facilitators for being physically active?*

Across the sample, residents reported that they:

- Know about the importance of being physically active for 30 minutes a day and have the skills to make decisions and plans to be physically active for 30 minutes a day (**psychological capability**)
- Have the physical skills and enough physical stamina to be physically active for 30 minutes a day (**physical capability**)
- Have sufficient time and the necessary resources (e.g., equipment and space) to be physically active for 30 minutes a day (**physical opportunity**)
- Have the necessary support from people (e.g., from friends and family) to be physically active for 30 minutes a day (**social opportunity**)
- Intend to (or want to) be physically active for 30 minutes a day (**reflective motivation**)

The lowest score was for **automatic motivation**. Compared with the other items, residents reported weaker beliefs that being physically active for 30 minutes a day is something they do automatically (without thinking about it).



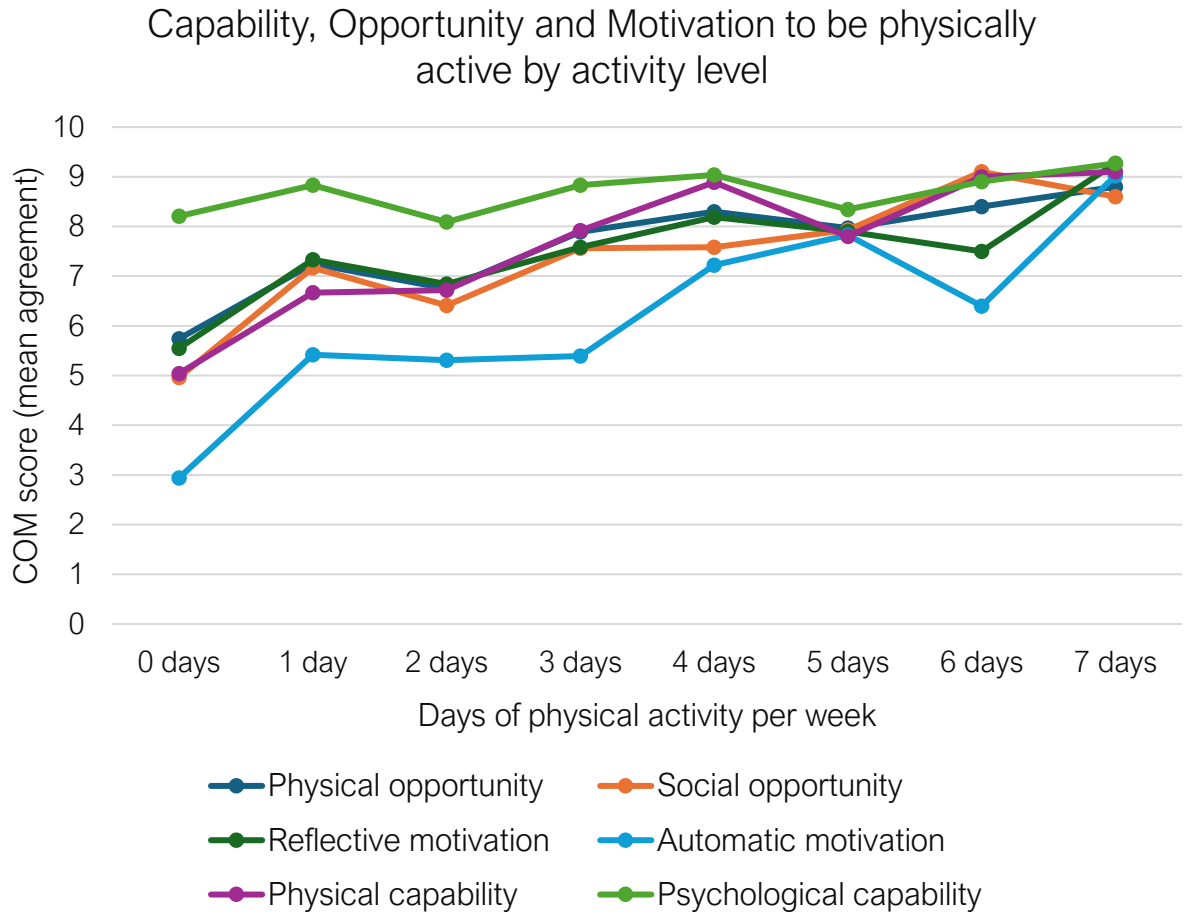
Research Question 3: *Do the barriers and facilitators to being physically active vary by those who are and are not physically active?*

Residents who reported **less physical activity** reported:

- Weaker beliefs that they have the physical skills and enough physical stamina to be physically active for 30 minutes a day (**physical capability**)
- Weaker beliefs that they have sufficient time and the necessary resources (e.g., equipment and space) to be physically active for 30 minutes a day (**physical opportunity**)
- Weaker beliefs that they have the necessary support from people (e.g., from friends and family) to be physically active for 30 minutes a day (**social opportunity**)
- Weaker intentions to (or willingness to) be physically active for 30 minutes a day (**reflective motivation**)

The largest difference in scores was for **automatic motivation**. Residents who reported less physical activity reported weaker beliefs that being physically active is something they do automatically (without thinking about it).

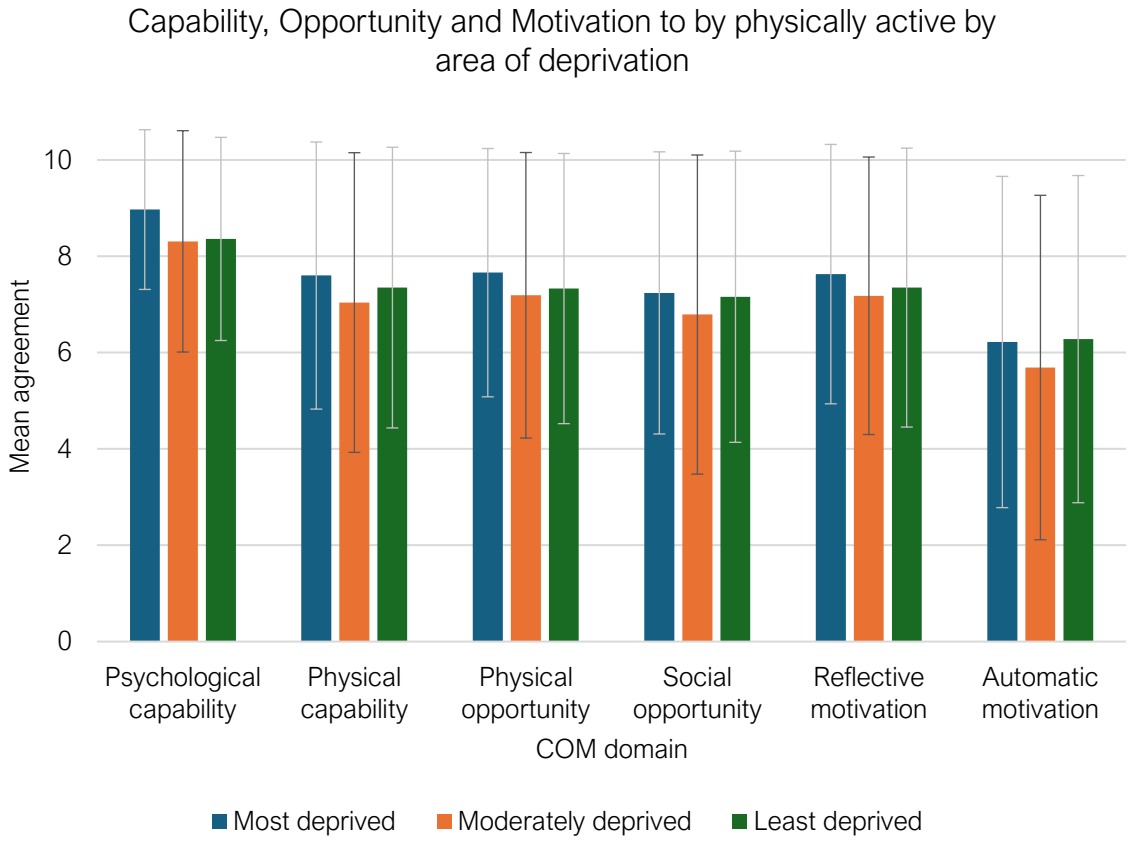
The smallest difference in scores was for **psychological capability.** This means that regardless of level of physical activity, residents know about the importance of being physically active and believe they have the skills to make decisions and plans to be physically active.



Research Question 4: *Do the barriers and facilitators to being physically active vary by key demographic and health variables?*

There were no large differences in residents' capability, opportunity or motivation to be physically active by **area of deprivation**.

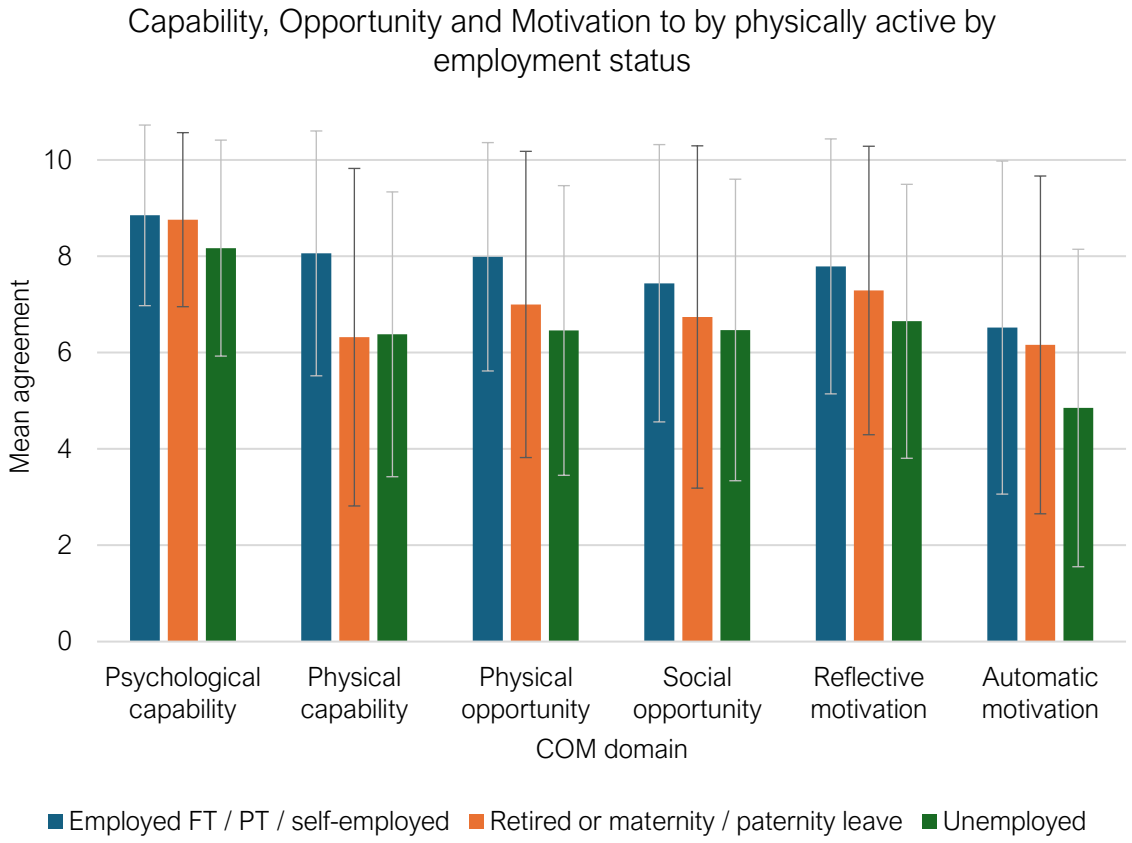
The largest difference between groups was for psychological capability, with a possible trend for residents in the most deprived areas to report stronger psychological capability to be physically active (i.e., knowing about the importance of being physically active and having the skills to make decisions and plans to be physically active) compared with residents from less deprived areas.



Research Question 4 (cont.): *Do the barriers and facilitators to being physically active vary by key demographic and health variables?*

Residents who were **unemployed** reported lower capability, opportunity and motivation to be physically active than residents who were currently working, including:

- Weaker physical skills and stamina to be physically active **(physical capability)**.
- Having less time and resources (e.g., access to equipment and space) to be physically active **(physical opportunity)**.
- Having less support from people (e.g., from friends and family) to be physically active **(social opportunity)**.
- Weaker intentions (or willingness) to be physically active **(reflective motivation)**.
- Weaker beliefs that being physically active is something they do automatically (without thinking about it) **(automatic motivation)**.



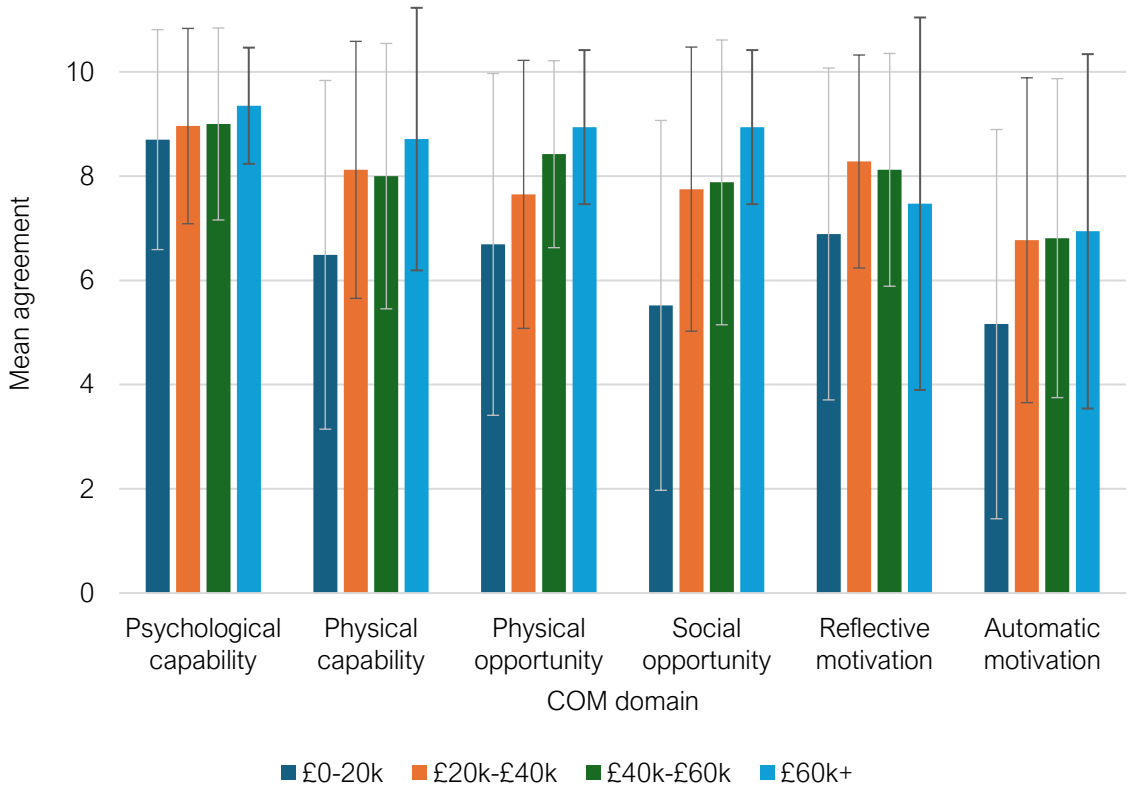
Research Question 4 (cont.): *Do the barriers and facilitators to being physically active vary by key demographic and health variables?*

There was a trend for residents **with lower household incomes** to report lower capability, opportunity and motivation to be physically active than residents with higher household incomes, including:

- Weaker physical skills and stamina to be physically active **(physical capability).**
- Having less time and resources (e.g., access to equipment and space) to be physically active **(physical opportunity).**
- Having less support from people (e.g., from friends and family) to be physically active **(social opportunity).**
- Weaker intentions (or willingness) to be physically active **(reflective motivation).**
- Weaker beliefs that being physically active is something they do automatically (without thinking about it) **(automatic motivation).**

There was the least difference between residents in different income groups on psychological capability, indicating that income was not strongly associated with residents' knowledge about the importance of physical activity or their skills to make decisions and plan to be physically active.

Capability, Opportunity and Motivation to by physically active by income



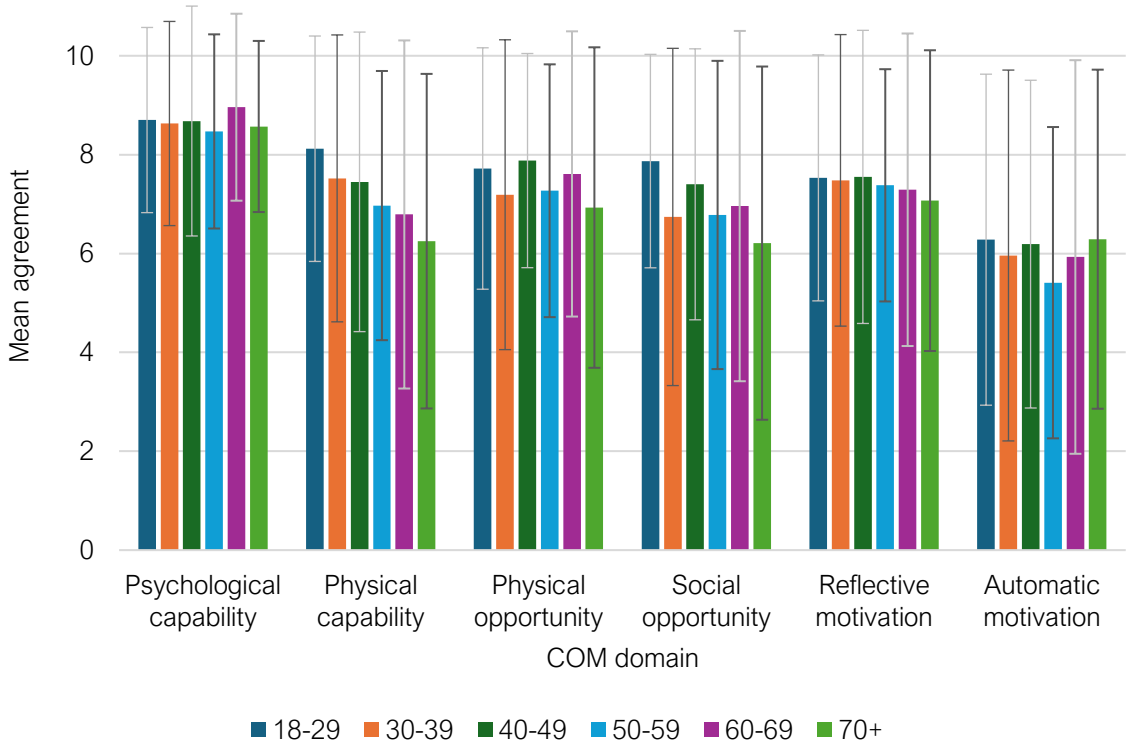
Research Question 4 (cont.): *Do the barriers and facilitators to being physically active vary by key demographic and health variables?*

There was a clear trend for residents to report decreasing **physical capability** (weaker physical skills and stamina) to be physically active with **increasing age**.

There was also a trend for residents to report having less **social opportunity** (e.g., support from friends and family) to be physically active with increasing age.

There was little difference between residents in different age brackets on psychological capability, indicating that age was not associated with residents' knowledge about the importance of physical activity or their skills to make decisions and plan to be physically active.

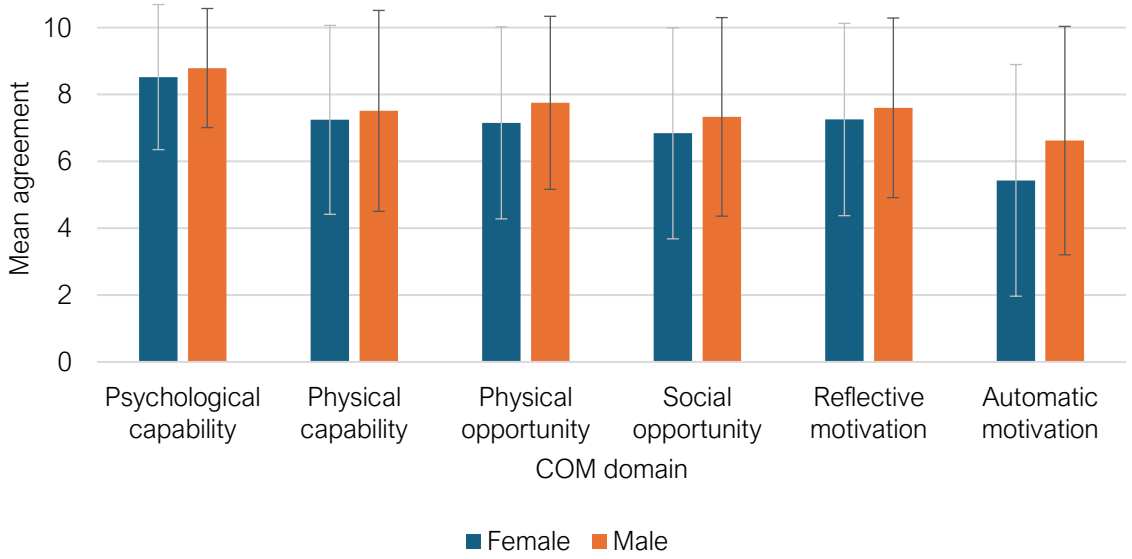
Capability, Opportunity and Motivation to by physically active by age



Research Question 4 (cont.): *Do the barriers and facilitators to being physically active vary by key demographic and health variables?*

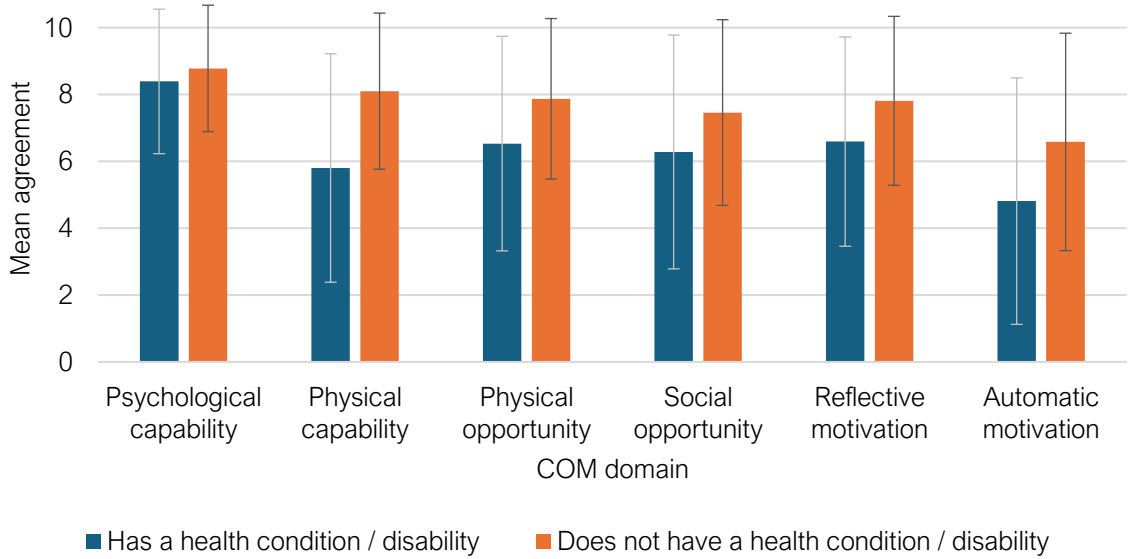
There were no large differences in residents' capability, opportunity and motivation to be physically active by **gender**. The largest difference between men and women was on automatic motivation, with women reporting weaker beliefs that being physically active is something they do automatically (without thinking about it).

Capability, Opportunity and Motivation to by physically active by gender



Residents who had a health condition or disability reported lower capability, opportunity and motivation to be physically active than residents without a health condition or disability.

Capability, Opportunity and Motivation to by physically active by health status



NHS Health Checks: Local survey

All survey participants were asked questions about their use and intentions to attend NHS Health Checks.

The objectives were to:

(1) Understand who is accessing NHS Health Checks in Peterborough.

(2) Identify the barriers and facilitators to accessing NHS Health Checks amongst adults in Peterborough.

(3) Explore whether the barriers and facilitators to accessing NHS Health Checks vary by those who have and have not accessed an NHS Health Check.

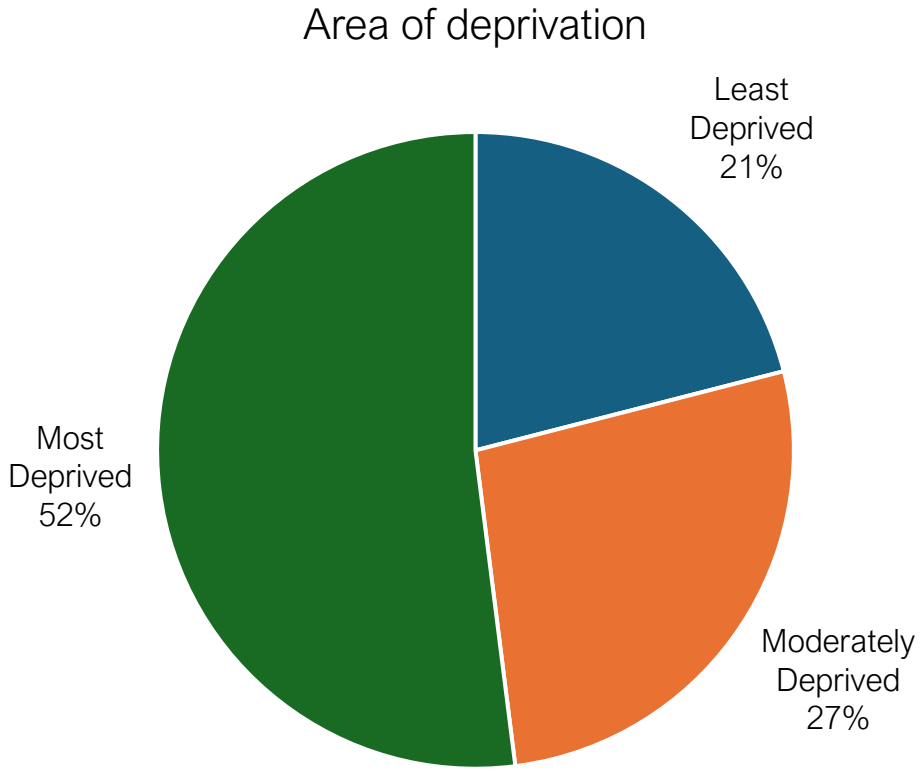
(4) Explore whether the barriers and facilitators to accessing NHS Health Checks vary by key demographic and health variables.

The survey measured:

- **NHS Health Check attendance** i.e., whether they have or have not attended an NHS Health Check; whether they are or are not willing to attend an NHS Health Check when offered
- **Capability, Opportunity and Motivation for** attending an NHS Health Check [4]
- **Demographic and health data** i.e., age; partial postcode; gender; ethnicity; country of birth; languages spoken other than English at home; employment status; health status; annual household income; educational level

Survey findings – Participants

In total, 258 residents in Peterborough aged between 40 – 74 years (eligible for an NHS Health Check) took part in the survey.

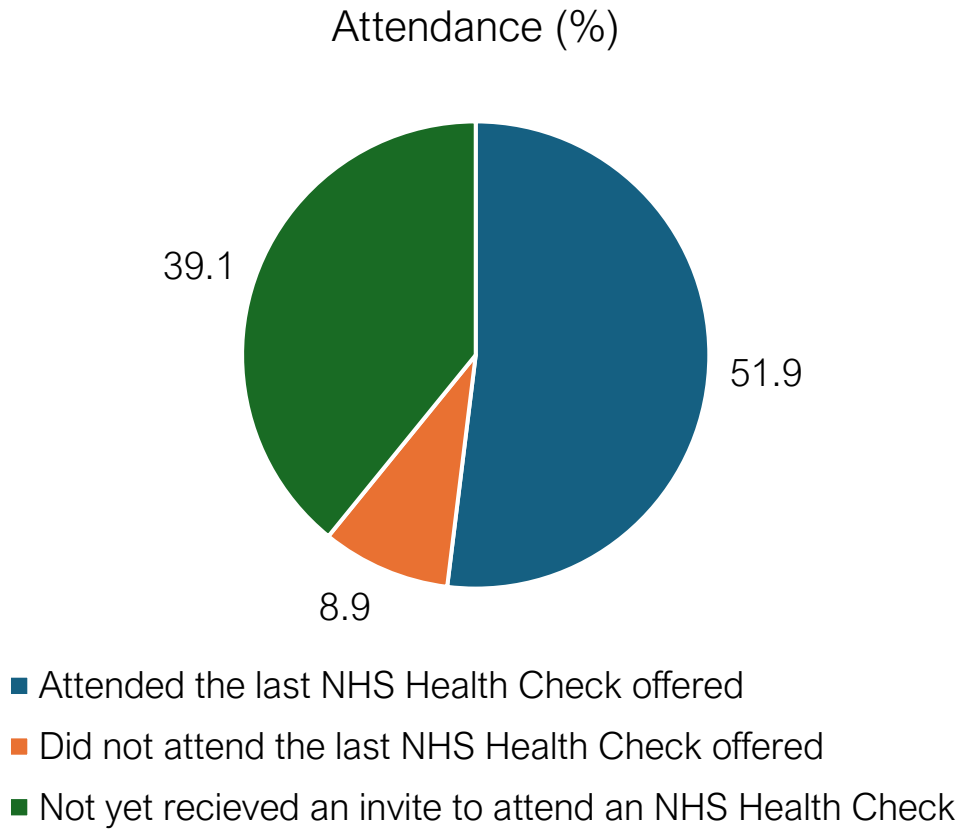


- The mean age of residents was 54.99 years old (SD 9.74)
- Just over half of residents were male (51.2%)
- 72.9% of residents were born in the UK
- 27.9% spoke a language other than English at home
- Over half of residents were in full/part-time or self-employment (58.1%)
- Nearly half were educated to below degree level (46.1%)
- The majority who responded identified as White British (65.5%)

Research Question 1: *Who is accessing NHS Health Checks in Peterborough?*

Of the 258 residents who were aged 40-74 and who were therefore eligible for an NHS Health Check:

- Around half of residents (n = 134) had attended the last NHS Health Check offered
- 8.9% (n = 23) did not attend the previous NHS Health Check offered
- Over a third (n = 101) had not yet received an invite to attend an NHS Health Check



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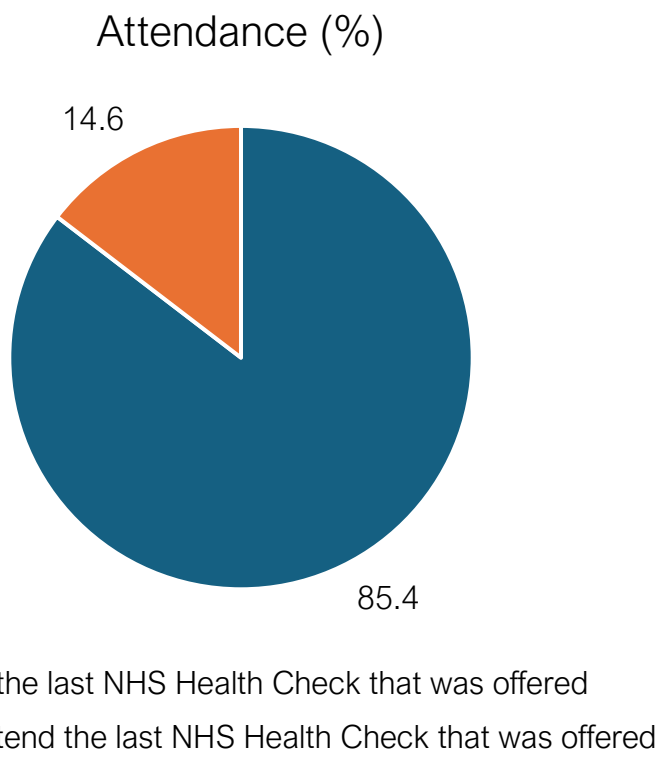
Research Question 1: *Who is accessing NHS Health Checks in Peterborough?*

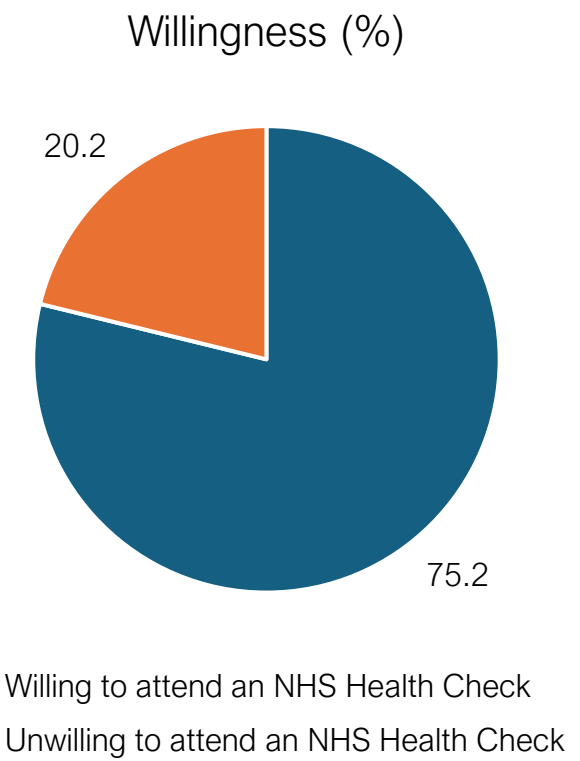
Of those who reported that they had received an invitation to attend an NHS Health Check (n = 157):

- 85.4% (n = 134) reported that they attended the last NHS Health Check that was offered
- 14.6% (n = 23) reported that they have not attended the last NHS Health Check that was been offered



Of those who reported whether they were willing to attend an NHS Health Check if offered (n = 246):

- 75.2% (n = 194) were willing to attend an NHS Health Check
- 20.2% (n = 52) were unwilling or unsure whether to attend an NHS Health Check



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Research Question 2: *What are the barriers and facilitators to accessing NHS Health Checks?*

Participants (n = 125) were asked to rate their agreement with six statements about accessing NHS Health Checks, adapted from a brief measure of capability, opportunity and motivation [4], on a scale from 0 ("strongly disagree") to 10 ("strongly agree").

Across the sample, residents reported that they:

- Know about the importance of accessing an NHS Health Check and they have the skills to make decisions and plans to access an NHS Health Check **(psychological capability)**
- Have the physical skills and enough physical stamina to access an NHS Health Check **(physical capability)**
- Have sufficient time and the necessary resources (e.g., time to attend an appointment, able to travel to an appointment) to access an NHS Health Check **(physical opportunity)**
- Have the necessary support from people (e.g., from friends and family) to access an NHS Health Check **(social opportunity)**
- Intend to (or want to) access an NHS Health Check **(reflective motivation)**

Residents reported the **lowest score for automatic motivation**, compared with other aspects of capability, opportunity, and motivation. This means that residents were less likely to believe that accessing an NHS Health Check is an automatic behaviour (i.e., something they do without thinking about it).

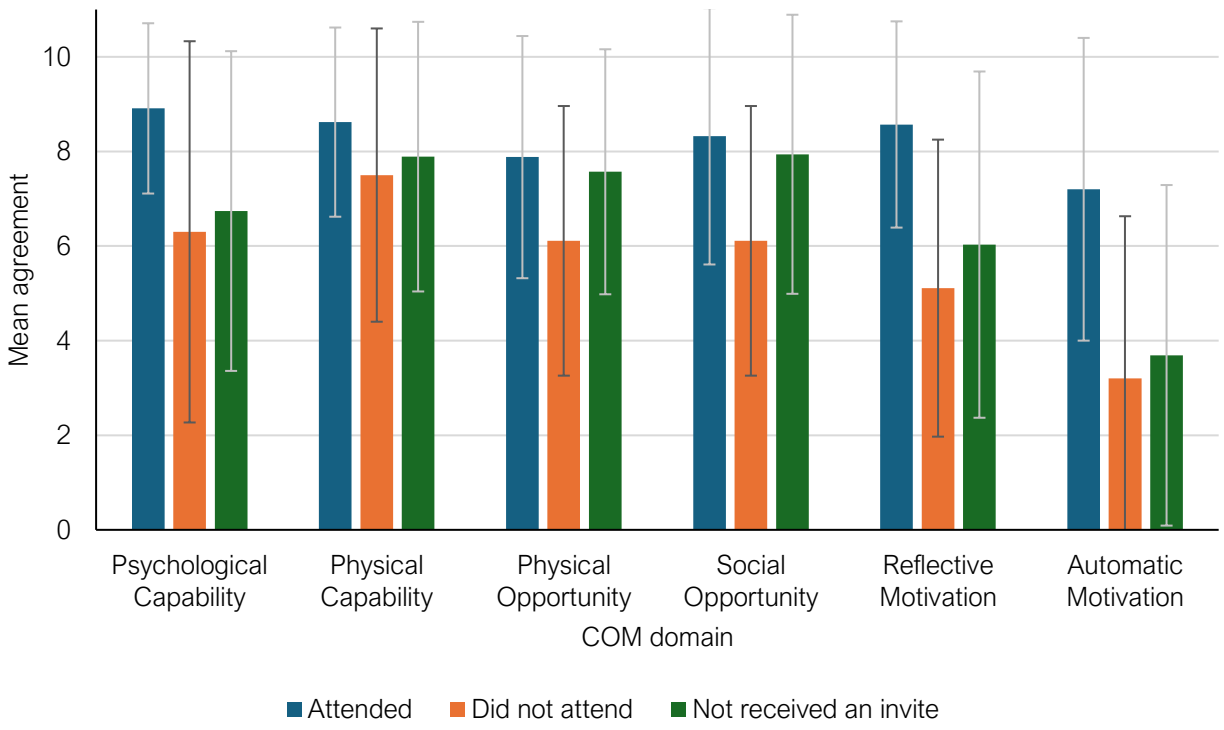
Capability, Opportunity, and Motivation to access an NHS Health Check	Mean (SD) (n = 125)
Psychological capability	
I know about the importance of accessing my NHS Health Checks and have the skills to make decisions and plans to access my NHS Health Checks	7.96 (2.80)
Physical capability	
I have the physical skills and enough physical stamina to access my NHS Health Checks	8.14 (2.54)
Physical opportunity	
I have sufficient time and the necessary resources (e.g., time to attend an appointment, able to travel to an appointment) to access my NHS Health Check	7.53 (2.67)
Social opportunity	
I have the necessary support from people (e.g., from friends and family) to access my NHS Health Checks	7.95 (2.90)
Reflective motivation	
I intend to (or want to) access my NHS Health Checks	7.48 (3.04)
Automatic motivation	
Accessing my NHS Health Checks is something I do automatically (without thinking about it)	5.80 (3.79)

Research Question 3: *Do the barriers and facilitators to accessing NHS Health Checks vary by those who have and have not accessed an NHS Health Check?*

Residents who **had not accessed an NHS Health Check** were more likely to report:*

- Weaker knowledge about the importance of accessing an NHS Health Check and weaker skills to make decisions and plans to access an NHS Health Check **(psychological capability)**
- Weaker physical skills and physical stamina to access an NHS Health Check **(physical capability)**
- Having less time and resources (e.g., time to attend an appointment, able to travel to an appointment) to access an NHS Health Check **(physical opportunity)**
- Having less support from people (e.g., from friends and family) to access an NHS Health Check **(social opportunity)**
- Weaker intentions to (or willingness to) access an NHS Health Check **(reflective motivation)**
- Weaker beliefs that accessing an NHS Health Check is an automatic behaviour (i.e., something they do automatically without thinking about it) **(automatic motivation)**.

Capability, Opportunity, and Motivation to attend an NHS Health Check, by invitation and attendance status

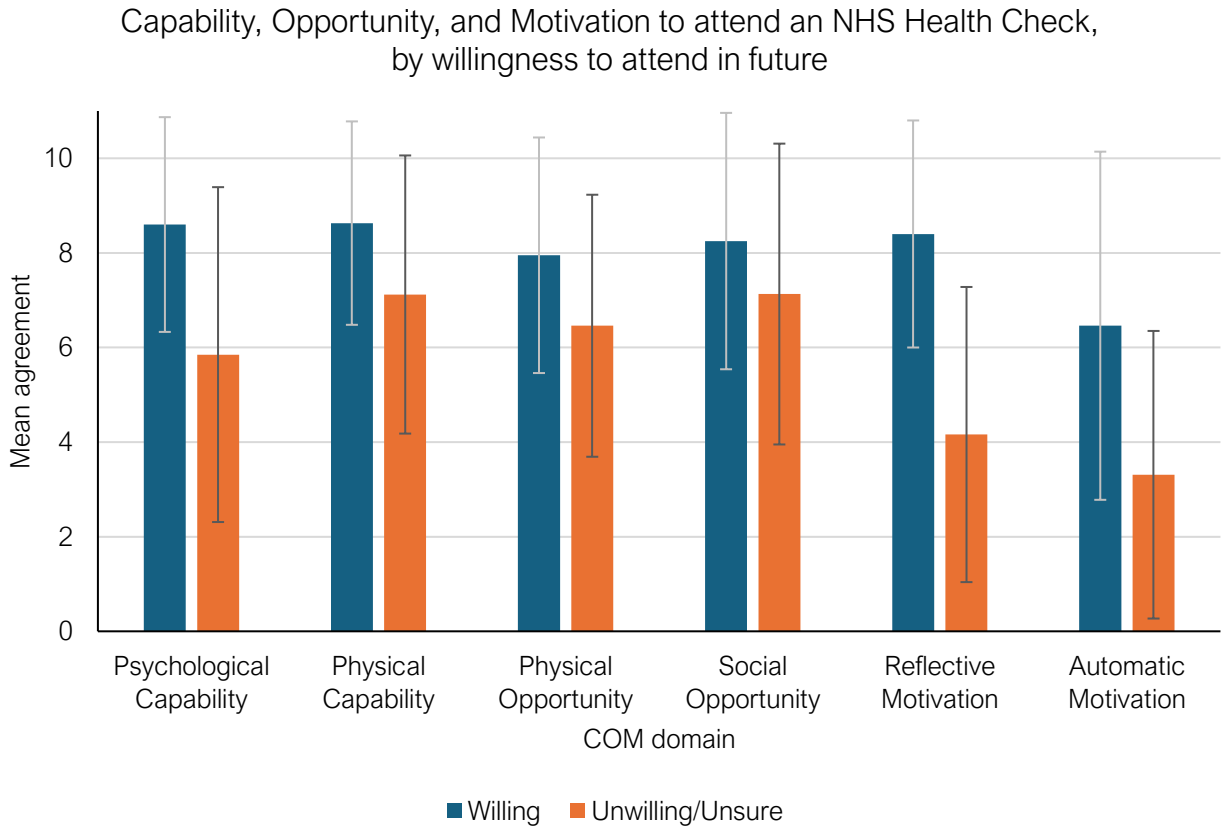


*These findings should be treated with caution due to the low sample size, as only 23 residents had not attended the last NHS Health Check they were offered. Error bars on graphs represent one standard deviation above and below the mean.

Research Question 3 (cont.): *Do the barriers and facilitators to accessing NHS Health Checks vary by those who have and have not accessed an NHS Health Check?*

Residents who were **unwilling or unsure** whether to access an NHS Health Check were more likely to report:*

- Weaker knowledge about the importance of accessing an NHS Health Check and weaker skills to make decisions and plans to access an NHS Health Check **(psychological capability)**
- Weaker physical skills and physical stamina to access an NHS Health Check **(physical capability)**
- Having less time and resources (e.g., time to attend an appointment, able to travel to an appointment) to access an NHS Health Check **(physical opportunity)**
- Having less support from people (e.g., from friends and family) to access an NHS Health Check **(social opportunity)**
- Weaker intentions to (or willingness to) access an NHS Health Check **(reflective motivation)**
- Weaker beliefs that accessing an NHS Health Check is an automatic behaviour (i.e., something they do without thinking about it) **(automatic motivation)**



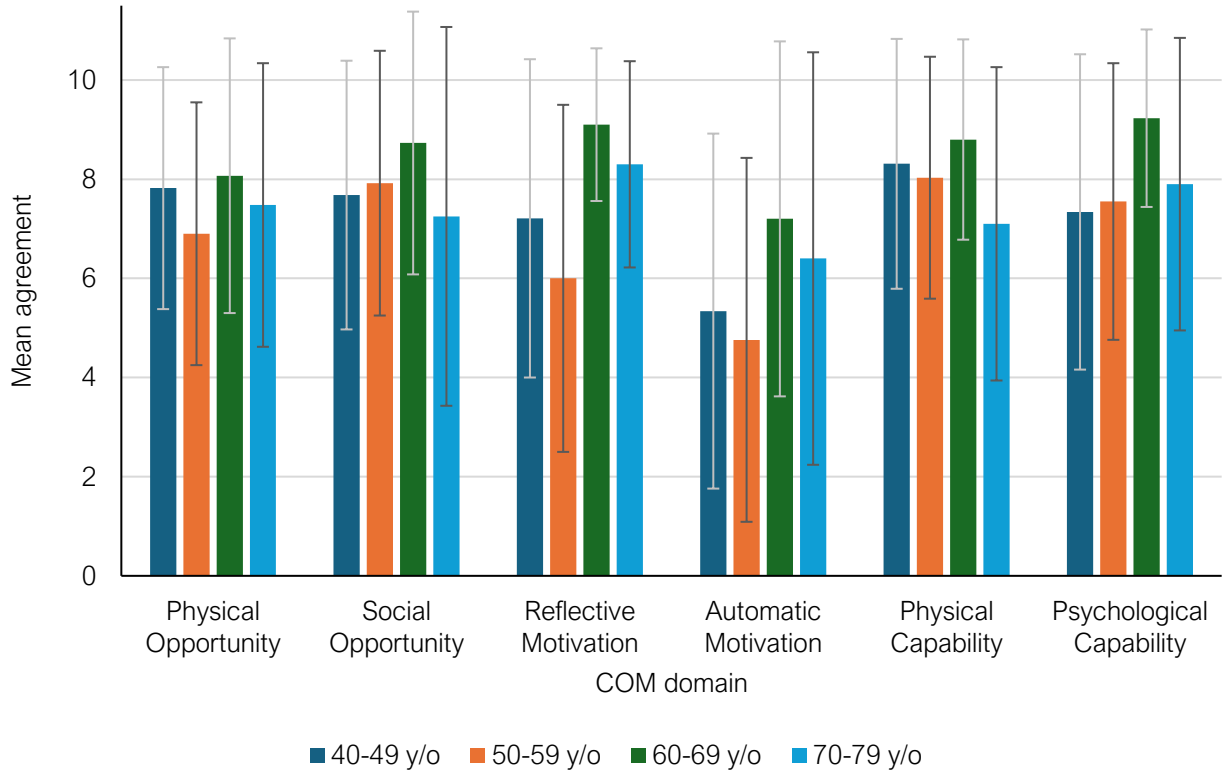
*These findings should be treated with caution due to the low sample size, as only 52 residents reported being unsure or unwilling to attend a future NHS Health Check.

Research Question 4: *Do the barriers and facilitators to accessing NHS Health Checks vary by key demographic and health variables?*

Residents aged 40-59 years old were more likely to report:*

- Weaker knowledge about the importance of accessing an NHS Health Check and weaker skills to make decisions and plans to access an NHS Health Check **(psychological capability)**
- Weaker intentions to (or willingness to) access an NHS Health Check **(reflective motivation)**
- Weaker beliefs that accessing an NHS Health Check is an automatic behaviour (i.e., something they do automatically without thinking about it) **(automatic motivation)**.

Capability, Opportunity, and Motivation to attend an NHS Health Check, by age



*These findings should be treated with caution due to the low sample size.

Conclusions

This survey of Peterborough residents explored factors associated with five different health behaviours: alcohol consumption, smoking, diet, physical activity and uptake of NHS Health Checks.

We identified patterns of demographic characteristics that were associated with each of these health behaviours and measured residents' capability, opportunity and motivation to behave in healthy ways (e.g., to stop smoking, to eat 5 portions of fruit and vegetables a day). For each health behaviour, we explored how residents' capability, opportunity and motivation varied across different demographic and health groupings.

The survey findings presented in this report highlight factors that might be useful to consider when developing interventions to support health behaviour change for residents in Peterborough.

Recommended citation:
Clarke, E., Garstang, K., Humphreys, H., Thorneloe, R.J. (2025). Healthy behaviours in Peterborough: Alcohol consumption, smoking, diet, physical activity, and NHS health checks. Survey findings.
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