



## **Pilot 1 – Working paper**

### **Mapping of quantitative secondary longitudinal datasets and development of a questionnaire module for outdoors and health research**

Dr Liz O'Brien *Economic and Social Research Group, Forest Research*  
Professor Catharine Ward Thompson *OPENSspace, Edinburgh College of Art*  
Dr Jenny Roe *OPENSspace, Edinburgh College of Art*  
Professor Richard Mitchell *Public Health and Health Policy, University of Glasgow*  
Dr Benedict Wheeler *Environment and Health, Peninsula College of Medicine and Dentistry*  
Aileen Marshall *Inverness College, UHI Millennium Institute*

**Suggested citation:**

O'Brien, E., Ward Thompson, C., Roe, J., Mitchell, R., Wheeler, B. and Marshall, A. (2010). *Mapping of quantitative secondary longitudinal datasets and development of a questionnaire module for outdoors and health research*. Report for the Outdoors and Health Network, ESRC grant no. RES-355-25-0040.

**Associated documents:** There is an Excel spread sheet that accompanies this report containing searchable information gathered from the mapping of longitudinal quantitative datasets.

## **Contents**

1	Introduction .....	2
2	Quantitative secondary data sources – Recreation and the natural environment .....	2
2.1	Recreation and the natural environment data sources .....	2
2.2	Physical well-being .....	3
2.3	Mental well-being .....	4
2.4	Social well-being .....	4
2.5	Summary .....	5
3	Quantitative secondary data – Health and Mental Health .....	7
3.1	Repeat cross-sectional population health surveys .....	7
3.2	Genuinely longitudinal cohort or panel studies .....	8
3.3	Large scale population censuses and surveys which include, but are not focused on, health .....	8
3.4	Data sets derived from routine recording of NHS service use and vital events such as death .....	9
3.5	Overall reflections on the connections between datasets on health, contact with natural environments and environments themselves .....	9
3.6	Best questions for capturing general health status (which might influence attitudes and activity levels) .....	9
3.7	Best questions for capturing poor mental health .....	10
3.8	Best questions for capturing a range of physical and mental health and for tracking health change over time .....	11
3.9	Best question for measuring physical activity .....	12

## Introduction

The overall aim of this Pilot 1 task was to exploit opportunities for longitudinal studies of the relationship between outdoor environments and health by using datasets already being collected at more than one point in time. The network members identified a number of repeat surveys being carried out where data collected covered both health and access to the natural environment. A secondary aim of the network was to identify specific questionnaire modules or questions that would best capture high quality data on health or environment. To this end, surveys were examined from two perspectives, using the expertise of the network members: firstly, they were examined for questions or modules relating to access to the natural environment and, secondly, for questions or modules relating to health and wellbeing. In both cases, the aim was to identify potential content for future surveys that could be shared with the research community and also to highlight particularly effective and robust questions or modules that might be recommended to contribute to raising the standard of research in this area. The aim of the latter is to further the evidence base on any link between nature and health.

In relation to this latter aim, one objective was to identify a few, key, question modules on the outdoor environment that might be particularly recommended for adding to surveys that focus on health and, similarly, a few, key question modules on health that might be particularly recommended for adding to surveys that focus on recreation and the natural environment.

## 1 Quantitative secondary data sources – Recreation and the natural environment

**Liz O'Brien, Catharine Ward Thompson and Jenny Roe**

### 1.1 Recreation and the natural environment data sources

The aim of this activity was to identify surveys, particularly recreation focused surveys, that identify use and enjoyment of outdoor nature spaces in Britain.

Thirty seven surveys were identified and information collected on:

- Title of survey
- Authors/commissioner/sponsors of survey
- Main topics covered by survey
- Date
- Frequency
- Methods and sampling
- Country
- Website link
- Outdoor terms used

The idea was not to focus specifically on health questions within these surveys, although some of the surveys do ask about frequency of exercise in nature and perceptions of whether engaging with the natural environment has an impact on people's health and well-being, either physically, socially or mentally. The aim was to identify questions that are asked about use of outdoor nature that could potentially be usefully incorporated within a health survey to further the evidence base on any link between nature and health.

The surveys identified can be grouped into 3 broad areas, with some surveys covering more than one of these areas.

- 1) Use of and activity in outdoor nature.
- 2) Perceptions, attitudes and behaviour towards outdoor nature including perceptions about the quality of nearby green space.
- 3) Perceptions of quality of broader neighbourhood/local spaces – that includes some reference to outdoor nature.

Questions have been identified from these surveys under the headings of:

- Access
- Use
- Quality
- Value
- Management/maintenance.

These five categories emerged from a Heriot Watt University/OPENspace collaborative research study 'Urban Green Nature: Building the Evidence Base ([www.cabe.org.uk/publications/urban-green-nation](http://www.cabe.org.uk/publications/urban-green-nation)). All of these categories are potentially important in people's use and engagement with nature that might lead to health and well-being benefits. For example is a nature space visited near to where a person lives or do they use (or need) transport to access nature? Are there facilities for appropriate use such as good paths or signage? Is the quality of the space good or do litter and rubbish dumping, for example, spoil people's experience and make them wary of accessing particular places? Related to this is management and maintenance: does the place appear looked after and maintained to a good standard?

All of these categories and questions are potentially useful in surveys that explore the relationship between outdoor natural environments and health, depending on the particular research aim and context. The database of surveys gathered therefore provides a useful resource from which future researchers can choose elements to suit their particular needs.

However, despite their potential relevance, there are too many issues and questions on recreation and the outdoor environment in this database for them all to be recommended for placing into a single health survey. In order to identify a few, key, questions, we have attempted to narrow down the focus and concentrate on specific issues.

One approach is to focus on physical, social and mental well-being, as potential health outcomes, and identify questions on outdoor environment and recreation that are most likely to offer useful information in relation to these.

## **1.2 Physical well-being**

Natural England has put in the following question to its large scale survey on engagement with the natural environment. The National Institute of Health and Clinical Excellence has contributed to developing question A as an appropriate question to ask in monitoring people's levels of physical activity. We then need to find out how much of the physical activity is undertaken outdoors in nature, which leads us to part B. As there is a specific recommendation of the amount of exercise people need to do in order to benefit their health we have an overall measure that we then need to link to outdoor nature exercise.

### *Question*

#### Part A

In the past week<sup>1</sup>, 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.*

Type in number between 0 and 7.

#### Part B

How much of the above physical activity was undertaken in natural places outdoors.

---

<sup>1</sup> An accepted alternative question is to ask 'over the past 4 weeks ...'

[By 'nature spaces outdoors' we mean open spaces in and around towns and cities, including parks, canals and nature areas; the coast and beaches; and the countryside including farmland, woodland, hills and rivers]

Type in number between 0 and 7.

Note – there is potential to rephrase Part B to say on average how much of your weekly activity is undertaken in natural places outdoors. However it is probably better to have the same time scale e.g. the past week, for Part A and B.

### **1.3 Mental well-being**

Increasingly, surveys about people's access to nature are asking people Likert Scale questions (e.g. whether they agree or disagree on a 5-point scale) with statements about nature's impact on their mental well-being in terms of making them feel more relaxed, less anxious or stressed. Therefore the following questions might be especially appropriate; these have been adapted from the Natural England survey and Forestry for People survey undertaken by Forest Research.

#### *Question A*

How much do you agree or disagree with the following statements?

Outdoor nature makes me feel calm and relaxed  
Outdoor nature makes me feel refreshed and revitalised  
In outdoor nature I can reduce my stress and anxiety.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

#### *Question B*

1) People sometimes feel the need to escape from everyday problems and stresses to take their mind off things or clear their head. Would you say you ever feel like this?

- Always
- Frequently
- Occasionally
- Rarely
- Never

2) Where would you be most likely to go to escape from everyday problems and 'clear the head'

- 1 your own home
- 2 a family or neighbour's home
- 3 out of doors (private or shared garden, local streets, park, wood, field or nearby countryside)

### **1.4 Social well-being**

Many of the surveys and other research illustrates the importance of outdoor nature (often public spaces open to all) as a place to go with friends and family and to meet with others or get involved in a range of community activities. Being involved in decision making about local nature spaces can also contribute to social and community engagement and well-being.

### Question

How much do you agree or disagree with the following statements?

Outdoor nature spaces are good places to spend time with friends and family.  
Outdoor nature spaces are good places to meet new people and get involved in community activity  
Having a say in what happens in my local nature space gives me a sense of belonging to my area/community

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

We would also recommend including a question that explores the social opportunities of local open space/gardens:

I can stop and chat to people on my street when passing by/walking about OR  
My local street is a good place for chatting with people

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

### 1.5 Summary

There are many potential questions that could be used. However the OHN needs to identify and recommend key questions that might most usefully provide relevant data if incorporated into a health survey. These questions can be checked with the health questions being identified through a review of health surveys to explore how health surveys assess mental and social well-being.

The following questions represent a recommended 'minimum' to include in any survey exploring relationships with green space and well-being. This list is based on the factor results (data reduction) carried out by OPENspace on three recent surveys for Commission for Architecture and Built Environment (CABE) Space, I'DGO 2 (Inclusive Design for Getting Outdoors, Phase 2) and WIAT (Woodlands In and Around Town). If space is constrained, then we would recommend dropping the latter two questions since we know most people access their nearest green space by walking, and mostly go with someone rather than alone. The first question captures the quality of the broader neighbourhood and can be substituted with a general 'satisfaction with your local neighbourhood' question if preferred.

**Would you advise a friend or relative to live in this neighbourhood?**

- yes, definitely
- yes, maybe
- neither/nor
- no, not much
- no, definitely not

**How satisfied are you with the quality of green space nearest to your home?**

- very satisfied
- fairly satisfied

- neither satisfied nor dissatisfied
- fairly dissatisfied
- very dissatisfied

**How attractive and pleasant is your nearest green space to use?**

- very pleasant
- pleasant
- neither pleasant nor unpleasant
- unpleasant
- very unpleasant

**How safe do you feel using your nearest green space?**

- very safe
- safe
- neither safe nor unsafe
- unsafe
- very unsafe

**How far away from your home is your nearest green space?**

- Less than a 5 minute walk
- Within a 5-15 minute walk
- Within a 15-30 minute walk
- More than a 30 minute walk away
- Don't know

**How often do you visit this green space from October to March?**

- Every day
- At least once a week
- At least once a month
- At least once a year
- Never

**How often do you visit this green space from April to September?**

- Every day
- At least once a week
- At least once a month
- At least once a year
- Never

**What are your two main reasons for visiting this green space?**

- relax or think/for peace and quiet
- get some fresh air
- see wildlife/birds
- somewhere to go to with friends/family (e.g. to the playground with children/grandchildren)
- to exercise (walk, cycle or play sports and games) and/or walk the dog
- passing through on the way to somewhere else
- some other reason (please say what) \_\_\_\_\_

**How do you usually get to your nearest public green space?**

- by walking
- by bike
- by bus/public transport
- by car

**Do you usually go to this green space ...**

- alone
- with others, including friends and/or family

## 2 Quantitative secondary data – Health and Mental Health

**Richard Mitchell and Benedict Wheeler 22/03/10**

A search process identified 25 datasets which met the criteria of having wide geographical coverage and capturing data on the health of individuals. We did not include local health and well being surveys (of which there are a large number across the UK). The final list represent the best and most widely used health-related data sets in the UK, but it is very far from being an exhaustive list of data on population health.

The main aim of the search was to identify datasets for which it would be possible, in theory, to attach measures of exposure to natural environments to individual respondents. It is important to note at the outset that the permission, arrangements and costs for connecting environmental data to data on individuals who appear in the health surveys varies from survey to survey.

The datasets fall loosely into 4 categories

1. Repeat cross-sectional population health surveys
2. Genuinely longitudinal cohort or panel studies
3. Large scale population censuses and surveys which include, but are not focused on, health
4. Data sets derived from routine recording of NHS service use and vital events such as death

### 2.1 Repeat cross-sectional population health surveys

Category 1 datasets include the Health Survey for England and the Scottish Health Survey. These are large scale studies which mix questionnaires and clinical examinations to capture very detailed information on both health status and health behaviours. They typically include a range of measures of both physical and mental health and usually carry variables which set respondents in context, such as their economic situation and family structure. Normally, the geographical location of respondents is not given precisely in the readily accessible datasets. The user might, for example, know the local authority district in which a respondent lives. However, precise locations of respondents will be known to the survey teams and arrangements may be in place for matching data on aspects of respondent's immediate neighbourhood to respondents (the amount of green space in their area for example). There will always be safeguards in place to prevent the user knowing exactly where the respondents live.

Repeat cross-section means that it is not the same individuals who appear in the data set at each survey wave. This means that these surveys are not generally suitable for tracking individuals' health and behaviours over time, but they can be used for tracking changes in population behaviour. For example, the surveys will reveal whether people are generally taking more or less exercise over time. Some surveys, such as the Scottish Health Survey do provide information on hospital admissions and deaths of respondents subsequent to their appearance in a survey. This provides a limited longitudinal 'extension' to the data.

The advantages of these kinds of data sets are that they tend to be large in size, and to capture very detailed information about health and health-related behaviours. By offering both clinical and physiological information (for example height, weight, blood pressure, cholesterol) on a subsample of respondents, these data permit connections between health behaviours, self-reported health and more objective assessments of health.

The disadvantage of them is that they tend not to tell us much about behaviours in natural environments. By attaching information about the neighbourhood environments in which the individuals live, we must assume contact with or use of those environments.

## **2.2 Genuinely longitudinal cohort or panel studies**

Category 2 datasets include genuine cohort studies such as the National Child Development Study (NCDS) and longitudinal samples from the UK decennial census.

In a genuine cohort study, a group of people is recruited (often at birth) and 'followed' across their lifecourse by repeated survey and interview. The frequency with which they are contacted varies from study to study, but is typically centered around key life transition periods. By having data on the same individuals over time, it is possible to follow the various social, economic and health trajectories they follow and to determine both the factors which might predict what happens to them in their lives, and the consequences of life events. This type of study is one of the few which permits conclusions to be drawn about causal factors in the development of poor health. Since following a group of people over time is very expensive and difficult, these data sets tend to be smaller than the population health surveys. Possession of such detailed information on the life circumstances of individuals means that access to these data can be closely controlled. As with population health surveys, it is usually possible to 'attach' information about the environmental circumstances to respondents, but this is a closely controlled process. Furthermore, since some of these data sets have followed people for 60 or more years, data on contemporary environmental circumstances alone may not be sufficient.

The topics included in these cohort studies vary. Some are focused firmly on health. Others track social and economic circumstances more thoroughly. The level of detail about health and behaviours thus varies from study to study. Similarly, the 'cohort' followed varies. Some studies began in the 1940s and 1950s, others much later (including the millennium study which began in 2000). The data are thus specific to the 'era' in which the respondents have lived and may reflect norms and behaviours specific to that era.

The British Household Panel Study is unusual in that it is a genuine longitudinal data set which follows the same people over time, but it interviews them every year. This incredibly high frequency of follow up allows the user to observe any immediate impacts of changes in life circumstances. The BHPS has relatively limited health-related variables, however it does capture general health and mental health, and also some limited physical activity information.

Also in category 2 are the longitudinal data sets which stem from the UK decennial census. In theory, the entire population fills in a census form every 10 years. These longitudinal data sets follow individuals over time by accessing the census forms they fill in at each census, and also by accessing information on their use of health services, cancer registrations, births and deaths. These data sets have much larger sample sizes than the cohort studies, but are almost totally based on information in the census form. The census introduced a question on health in 1991 and added to it in 2001. As with the studies discussed above, it is possible to attach information about environmental circumstances to respondents in these datasets, but the user will never be permitted to know the precise location or identity of the respondents.

## **2.3 Large scale population censuses and surveys which include, but are not focused on, health**

Category 3 datasets are large scale, cross-sectional surveys which do capture information about health, but which do not have health as a specific focus. Typically, these data sets capture self-reported morbidity or general health. They may also capture information about attitudes to health and health behaviours. The advantage of these data sets is that they connect measures of health a wide range of other life circumstances such as employment or economic circumstances. They also tend to have large sample sizes. However, these data sets lack detailed information on health and behaviour, and tend to carry the disadvantages of a cross-sectional design. These data are worth considering for use though, since they are increasingly carrying information on attitude to features of neighbourhoods including green space. They also often carry information on social interaction, which is a mechanism postulated for the health benefits of green spaces. As with category 1 data sets, these are cross-sectional which

means they do not interview the same people at each wave. They can therefore capture change over time at a population level, but not for individuals.

#### **2.4 Data sets derived from routine recording of NHS service use and vital events such as death**

Category 4 data sets are distinct from the others in that they do not stem from surveys or censuses, but instead are the product of routine recording of service use and life events such as death. So, for example, when an individual accesses hospital services, this information is recorded. When they die, the cause of death and their age, sex and some other personal details are recorded. When used together, such routine records can provide detailed 'timelines' of health across the life course.

The quality and availability of this type of data varies from country to country, with Scotland having the best resource by far. Such data can be used to assess the association between the particular events recorded (for example, hospital admission or cancer registration) and environmental circumstances. They can be analysed on an aggregate basis offering, for example, the chance to explore whether neighbourhoods which have a low number of admissions to hospital are also those with a high proportion of green space. They can also, with some restrictions, be analysed on an individual level basis offering, for example, the chance to explore whether an individual who has a first admission for stroke is more likely to recover if they live in a green environment than someone who lives in a less green environment. Access to such data on an individual basis tends not to be straight-forward, but it is possible.

The advantages of these data are that they can provide powerful records of the utilisation of NHS services over time, and hence a cost to the public purse of particular health 'trajectories'. The disadvantages are that the user rarely has much contextual information about the individual which can make it hard to draw conclusions about the life circumstances which lead to different health trajectories.

#### **2.5 Overall reflections on the connections between datasets on health, contact with natural environments and environments themselves.**

The number and quality of datasets which make direct connections between health status, health behaviours and contact with natural environments is slowly increasing. The early adopters are surveys run by organizations with a vested interest, such as Natural England and Forest Research. These studies tend to be cross-sectional, with a few longitudinal ones emerging.

Over time, the more substantial health and social surveys are adding questions on contact with natural environments, but because this is a recent development, they do not yet provide opportunities for longitudinal analyses which match changes in behaviour with changes in health status (either at an individual or population level).

Currently, the most promising routes for being able to make longitudinal analyses of the relationships between use of and contact with natural environments and health / health behaviours are i) the emerging smaller scale surveys and ii) the attachment of data on environmental context to existing large scale health surveys and cohort studies. The big potential problem with the latter approach are that whilst we may be able to attach data about the type of environment an individual lives in to detailed data about their health and wellbeing, we will not be able to attach data on their use of this environment. Detailed data about contact with natural environments, use of them and individual level health will require primary collection. However, there the amount of information that can be gathered on health and health status in a primary survey remains a limitation.

#### **2.6 Best questions for capturing general health status (which might influence attitudes and activity levels)**

- Over the last 12 months, would you say that your health has on the whole been
  - Good

- Fairly Good
  - Not Good
- Do you have any long term illness, health problems or disability which limits your daily activities or the work you can do?
    - Yes
    - No

The advantages of these questions are that:

- They are very widely used and results are therefore comparable with other data sets, including the census
- They are very strong predictors of mortality, hospital use and other health outcomes

The disadvantages of these questions are that:

- They provide little information about what is wrong with people (e.g. is this a mental or physical problem or both?)
- They often pick up chronic health problems which may be unlikely to change as a result of contact with natural environments

## 2.7 Best questions for capturing poor mental health

*NB This question is licensed and permission must be obtained before use.* This is the GHQ12 instrument.

Please read this carefully:

We should like to know how your health has been in general over the past few weeks. Please answer ALL the questions by ticking the box below the answer which you think most applies to you.

HAVE YOU RECENTLY:

1 been able to concentrate on whatever you're doing?	Better than usual	Same as usual	Less than usual	Much less than usual
2 lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
3 felt you were playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
4 felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable
5 felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
6 felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
7 been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
8 been able to face up to your problems?	More so than usual	Same as usual	Less so than usual	Much less able
9 been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
10 been losing confidence in yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
11 been thinking of yourself as a worthless	Not at all	No more than usual	Rather more than usual	Much more than usual

person?				
12 been feeling reasonably happy, all things considered?	More so than usual	Same as usual	Less so than usual	Much less than usual

The advantages of this question set are that

- It constitutes a very widely used and well validated measure of minor psychiatric morbidity
- It can be dichotomised and used as a screening tool

The disadvantages of this question set are that

- It must be licensed for use and may incur a charge (though often not)
- It is focused on detecting minor psychiatric morbidity. There are other stress and wellbeing scales which may cover other aspects of mental health rather better

## 2.8 Best questions for capturing a range of physical and mental health and for tracking health change over time

*NB This question is licensed and permission must be obtained before use.* This is the SF-12 instrument.

Answer every question by placing a check mark on the line in front of the appropriate answer. If you are unsure about how to answer a question, please give the best answer you can.

1. In general, would you say your health is:

Excellent (1)  Very Good (2)  Good (3)  Fair (4)  Poor (5)

The following two questions are about activities you might do during a typical day. Does YOUR HEALTH NOW LIMIT YOU in these activities? If so, how much?

2. MODERATE ACTIVITIES, such as moving a table, bowling, playing golf, etc...:

Yes, Limited A Lot (1)  Yes, Limited A Little (2)  No, Not Limited At All (3)

3. Climbing SEVERAL flights of stairs:

Yes, Limited A Lot (1)  Yes, Limited A Little (2)  No, Not Limited At All (3)

During the PAST 4 WEEKS have you had any of the following problems with your work or other regular activities AS A RESULT OF YOUR PHYSICAL HEALTH?

4. ACCOMPLISHED LESS than you would like:

Yes (1)  No (2)

5. Were limited in the KIND of work or other activities:

Yes (1)  No (2)

During the PAST 4 WEEKS, were you limited in the kind of work you do or other regular activities AS A RESULT OF ANY EMOTIONAL PROBLEMS (such as feeling depressed or anxious)?

6. ACCOMPLISHED LESS than you would like:

Yes (1)  No (2)

7. Didn't do work or other activities as CAREFULLY as usual:

Yes (1)  No (2)

8. During the PAST 4 WEEKS, how much did PAIN interfere with your normal work (including both work outside the home and housework)?

\_\_\_\_\_ Not At All (1) \_\_\_\_\_ A Little Bit (2) \_\_\_\_\_ Moderately (3) \_\_\_\_\_ Quite A Bit (4) \_\_\_\_\_ Extremely (5)

The next three questions are about how you feel and how things have been DURING THE PAST 4 WEEKS. For each question, please give the one answer that comes closest to the way you have been feeling. How much of the time during the PAST 4 WEEKS –

9. Have you felt calm and peaceful?

\_\_\_\_\_ All of the Time (1) \_\_\_\_\_ Most of the Time (2) \_\_\_\_\_ A Good Bit of the Time (3)

\_\_\_\_\_ Some of the Time (4) \_\_\_\_\_ A Little of the Time (5) \_\_\_\_\_ None of the Time (6)

10. Did you have a lot of energy?

\_\_\_\_\_ All of the Time (1) \_\_\_\_\_ Most of the Time (2) \_\_\_\_\_ A Good Bit of the Time (3)

\_\_\_\_\_ Some of the Time (4) \_\_\_\_\_ A Little of the Time (5) \_\_\_\_\_ None of the Time (6)

11. Have you felt downhearted and blue?

\_\_\_\_\_ All of the Time (1) \_\_\_\_\_ Most of the Time (2) \_\_\_\_\_ A Good Bit of the Time (3)

\_\_\_\_\_ Some of the Time (4) \_\_\_\_\_ A Little of the Time (5) \_\_\_\_\_ None of the Time (6)

12. During the PAST 4 WEEKS, how much of the time has your PHYSICAL HEALTH OR EMOTIONAL PROBLEMS interfered with your social activities (like visiting with friends, relatives, etc.)?

\_\_\_\_\_ All of the Time (1) \_\_\_\_\_ Most of the Time (2) \_\_\_\_\_ A Good Bit of the Time (3)

\_\_\_\_\_ Some of the Time (4) \_\_\_\_\_ A Little of the Time (5) \_\_\_\_\_ None of the Time (6)

The advantages of this question set are that

- It measures both mental and physical health from a variety of perspectives and gives scores relevant to each sub-domain (Role Physical, Bodily Pain, Vitality, Social Functioning, Role Emotional, and Mental Health)
- It is widely used
- It can produce a continuous score which is suitable for detecting change over time in populations

The disadvantages are that

- The question set is relatively long
- Whilst the continuous score can be used to measure change, it can be hard to know the substantive meaning of a change in score. If, for example, the score improves significantly by 5 points, what does that actually mean in terms of a health gain?

## **2.9 Best question for measuring physical activity**

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.*