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# Formal Volunteering and health in the 50+age group in Northern Ireland:

## Second Interim Report



*The*  
**ATLANTIC**  
*Philanthropies*

July 2012

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Thanks to the Atlantic Philanthropies for funding this project. The aim of this organisation is to bring positive change to the lives of disadvantaged and vulnerable people around the world through funding projects whose aims fit with their vision. Further information can be found at [www.atlanticphilanthropies.org](http://www.atlanticphilanthropies.org)

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Volunteer Now works to promote, enhance and support volunteering across Northern Ireland. Volunteer Now is about connecting with individuals and organisations to build healthy communities and create positive change.

**Volunteer Now** enhances recognition for the contribution volunteers make, provides access to opportunities and encourages people to volunteer.

We provide training, information, guidance and support to volunteer-involving organisations on issues of good practice and policy regarding volunteering, volunteer management, child protection, safeguarding vulnerable adults and governance.

The Unlocking Potential Project can provide information and support on how to successfully attract, support and retain older volunteers. To find out more, including names, role and contact details of the project staff, go to <http://www.volunteernow.co.uk/supporting-organisations/developing-volunteering> and clicking on Volunteering for Over 50s.

Additional copies of the report can be downloaded from [www.volunteernow.co.uk](http://www.volunteernow.co.uk).

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## 1.0 Executive Summary

Work is currently ongoing on a longitudinal research study commissioned by Volunteer Now and funded by The Atlantic Philanthropies examining the relationship between formal volunteering and health in the 50+ age group in Northern Ireland (2010-12).

Since March 2010 people aged 50+ engaged in formal volunteering activities in Northern Ireland have been involved in providing data for this study over four consecutive 6-month time periods. Data collection was completed in July 2012, with a final report of the findings due to be published early in 2013. This second interim report presents data collected at three time points (Baseline, 6 months and 12 months) and focuses on the following key themes:

1. Satisfaction with the experience and time spent on formal volunteering roles during the period.
2. Organisational support factors associated with volunteer satisfaction and wellbeing.
3. Temporal variations in activity levels, self-reported health and body mass index (BMI) of formal volunteers aged 50+.

Data collation is ongoing for the final time point (18 months post baseline) which will allow for an analysis of longitudinal data over four time points which is intended to provide new insights into our understanding of natural age related change trajectories in health, quality of life and activity levels in this target group within the Northern Ireland context.

### *Key findings*

At baseline 388 volunteers were located within 109 organisations across Northern Ireland. The majority of organisations were classified as belonging to the voluntary/community sector (81.7%), with 5.5% belonging to the statutory sector and 1.8% classified as housing association.

The baseline sample consisted of 388 participants (60% female and 40% male) whose ages ranged from 50 to 90 years ( $M=64.9$ ,  $SD=7.6$ ). The majority of respondents were aged 60-69 (51.2%), with smaller numbers in the older 80-89 category ( $n=14$ ). The sample also comprised a sample of volunteers who were new to formal volunteering (33.7%) and a sample with some previous experience of volunteering (64.8%).

### *Volunteer satisfaction levels*

In general, the percentages expressing satisfaction with volunteering at 6 and 12 months were high (91.8% and 92.4% respectively). However, volunteers linked to organisations operating various recruitment and support practices expressed higher satisfaction with volunteering after 6 months. The types of activities reported by volunteers were varied. Leadership/management activities were the most popular for both men (50%) and women (56%). Women were more likely to be involved in caring/visiting/befriending activities than men, whereas men were more likely to be involved in practical activities.

### *Hours spent volunteering*

On average the number of hours spent volunteering increased significantly from six months after baseline. Neither physical nor psychological health scores were related to the amount of hours spent volunteering.

The majority of volunteers who provided information on hours spent volunteering had estimated an annual total in excess of the threshold value of 100 hours suggested by Morrow-Howell et al., (2003). Approximately 77% of respondents at 6 months and 70% of respondents at 12 months indicated spending more than 100 hours per annum with some 30% and 28% respectively indicating 250+ hours per year.

### *Perceptions of the volunteering experience*

The vast majority of volunteers reported being suitably placed, able to cope with their volunteering activities and felt that their efforts were appreciated by their volunteer organisations. Findings from this study do not support the notion of differential benefits of volunteering for the younger and older old.

The evidence from this study relating to recruitment and support practices, satisfaction with volunteering and age differences in the hours spent volunteering suggests that role strain among formal volunteers is not a problem in the Northern Ireland context.

The majority of volunteers in the current study positively endorsed the question relating to reciprocity with only 7.9% of the sample at 12 months stating that they did not feel 'appreciated' by their volunteer organisation.

### *Health and Quality of life*

For reported physical health, there was a general improvement in scores over time as assessed by the World Health Organisation measure of quality of life (the WHOQUAL-BREF). The WHOQUAL-BREF's psychological well-being scores displayed a

pattern of maintenance over the time period as did reported levels of social support, moderate/mild physical activity and self-report body mass index (BMI).

Comparing the percentages agreeing with various quality of life statements (table 4, page 23) shows a similar maintenance pattern over the three time periods, with the majority of respondents expressing positive views in relation to quality of life, enjoyment of life, a meaningful life and mobility. Relatively fewer endorsed negative attitudes (limited by pain, negative feelings) over the time period.

Physical health scores obtained from the volunteer cohort at baseline were lower than those reported in community dwelling older people living in the Scotland but subsequent improvements in reported physical health over time among the volunteer cohort resulted in higher average health scores than those reported for Scottish older adults. The psychological health scores were also consistently higher among the volunteer sample. In addition, the physical and mental health scores obtained from the volunteers compared favourably to normative data from a recent large scale study of WHOQOL-BREF scores across twenty-seven disease groups/health conditions at 38 UK sites in a wide range of settings (Skevington & McCrate, 2011). The volunteer sample scores were consistently higher than all sub-samples of people with specifically diagnosed health problems. Compared to 'well' samples the volunteers reported lower physical health scores at baseline but their improvements in physical health over time brought their scores closer to these 'well' groups. In terms of psychological wellbeing, the volunteer sample scored on average consistently higher than both the 'well' and 'unwell' samples (see Tables 6 and 7).

#### *Physical activity and BMI*

Among volunteers in this study, the overall pattern of physical activity levels was also one of maintenance for mild and moderate activities in the period from baseline to 12 months with a reduction in vigorous activities from baseline to 6 months and a subsequent levelling off in the period 6-12 months. The reductions observed in activity levels from baseline to six months may in part be attributed to seasonal influences. In addition, the majority of the volunteer cohort reported being in the normal and underweight categories using self-reported Body Mass Index (BMI) with only small percentages in the severely underweight and obese categories. These percentages persisted over the three time periods for both men and women. The stability in reported BMI over the three time points is related to relatively high activity levels among this cohort.

## **2.0 Introduction- the Unlocking Potential Project.**

The 'Unlocking Potential Project' is a five year initiative which began in 2008. It is funded by The Atlantic Philanthropies and managed by Volunteer Now. The overall aim of the project is to encourage and support healthier ageing and civic engagement in Northern Ireland, by enabling and empowering older people to take part in volunteering. It is planned that over the course of the 5 years, the project will be informed by ongoing pieces of primary and secondary research, which will be used to inform the shape and direction it takes. This research report is one of a number of pieces of work that have been completed and work is ongoing in relation to collecting complementary quantitative and qualitative data on this issue. The full range of research reports that the project has carried out can be found by going to <http://www.volunteernow.co.uk/publications> and searching under 'Older People Volunteering'.

The project has a number of specific objectives which are listed below:-

- To challenge attitudes and raise awareness of the contribution and benefits of volunteering;
- To increase the number of older volunteers over the next five years (*50-64 year olds by 5% and the number of 65+ years olds by 10%*). In numeric terms this equates to an expected increase of 7,650 volunteers;
- To improve access to and develop volunteer opportunities for older people that meet their expectations and positively impact on communities; and
- To enhance, older people's quality of life in relation to equality, social inclusion, support and health issues.

## **2.1 Background**

As part of the 'Unlocking Potential' project in 2010, Volunteer Now commissioned the University of Ulster's School of Psychology to help carry out a longitudinal questionnaire survey among the 50+ age group in Northern Ireland engaged in formal volunteering activities across a range of volunteer involving organisations. There is currently a lack of detailed empirical evidence based research in Northern Ireland examining the relationship between volunteering and health. This study is intended to complement and supplement findings from two reports - 'Making the Connection' (2009) and 'Making the Connection 2' (2011). Both of these reports are available to download from the Volunteer Now Organisation's website at <http://www.volunteernow.co.uk/publications>.

This report was prepared by the University of Ulster's School of Psychology as the second of two quantitative interim reports in advance of the full report due in

January 2013. The full report will also include and complement the findings of a parallel qualitative study based on focus group interviews with volunteers and non-volunteers carried out by the same team examining aspects of volunteering and health.

All reports have a focus on the 50+ age group in Northern Ireland in terms of increasing our understanding of how their volunteering experiences relate to their self-reported health and quality of life. These reports are providing an up to date picture of the volunteering and health patterns of this age group. This age group is one which is growing as a proportion of the overall population of Northern Ireland and one that is therefore gaining increasing influence over the shape of the political, economic, social, cultural and general civic landscape here.

## **2.2 Aims of the project**

### *Main Research Question*

Are there health and well being benefits for the over 50's, in Northern Ireland, who engage in formal volunteering?

The main objectives of the final study are to:

- 1) Assess whether involvement in various formal volunteering activities are related to differences in older people's reported health and well-being status.
- 2) Assess whether the experiences of formal volunteering among older people (50+) predict changes in health over an 18 month time period. Specifically, the study aims to determine the extent to which formal volunteering activities moderate the relationship between ageing and health and whether the volunteering experience has an impact on natural trajectories of health improvement, maintenance or decline.
- 3) In addition, the study will examine whether demographic variables (e.g. age, sex, living alone, retirement), attitudes to ageing and levels of reported social support mediate the relationship between volunteering experiences and health and whether such variables predict variations in individual health and wellbeing trajectories over time.

## **2.3 Summary of Methodology**

### *2.3.1 The sampling frame*

Fieldwork for the study began in March 2010. The investigation employed a mixed methods approach comprising a longitudinal questionnaire survey of older adult volunteers in N. Ireland over a period of 18 months, complemented by the strategic

use of focus group interviews with a cross-section of older volunteers and non-volunteers.

The design of the study provided a useful longitudinal framework for the evaluation of change in reported health status with baseline data collected from both older participants undertaking formal volunteering activities for the first time and existing older volunteers with some previous volunteering experience. Data collection 12 months after baseline was completed in January 2012 and the data has now been collated and analysed for this report. Data collection for a further time point (18 months post-baseline) will be completed by July 2012 with a final report on the findings available in early 2013.

In addition to the quantitative study, focus group interviews are being conducted among distinct older groups (older volunteers with a range of volunteering experiences and older non-volunteers). It is intended that the findings of the initial focus groups will be reported in January 2012 and the findings from the stage 2 focus groups reported along with the quantitative findings early in 2013.

### *2.3.2 Measures*

The quantitative questionnaires at each time point contained common questions relating to the following themes:

#### *Satisfaction with Volunteering experience.*

This consisted a general satisfaction question scored on a 5-point ranked scale from very dissatisfied to very satisfied, as well as a series of 4-point questions relating to endorsement of various aspects of the volunteers' experience at 12 months (e.g. being appreciated, being supported, being given opportunities to do the things they like to do, coping with the demands of volunteering and balancing home life).

#### *Time spent Volunteering*

Respondents were asked to record and estimate of the number of hours spent volunteering the previous 4 weeks.

#### *Quality of life and mental health.*

The World Health Organisation's Quality of Life- Brief Instrument (WHOQOL-BREF) consists of 26 items assessing four domains of quality of life (Physical Health, Psychological, Environment and Social relationships). The three questions relating to the social relationships domain were dropped and replaced by six questions from the LSNS-6. To reduce the questionnaire length only the Physical and Psychological domains were employed. The Physical domain contained six questions each measured on a 5-point Likert scale relating to activities of daily living, dependence on medicinal substances and medical aids, energy and fatigue, mobility, pain and discomfort, sleep and rest and work capacity. The Psychological domain also contained six similarly scored Likert type items relating to bodily image and appearance, negative feelings, positive feelings, self-esteem, spirituality / religion / personal beliefs, thinking and concentration. In addition to the physical and psychological domain scores and the WHOQOL-BREF also contains two separate

items asking about an individual's overall perception of their quality of life and their health. Both items were presented on a 5-point Likert scale from 'very poor' to 'very good'. Domain scores are scaled in a positive direction (i.e. higher scores denote higher quality of life). The mean score of items within each domain is used to calculate the domain score. Mean scores were then multiplied by 4 in order to make domain scores comparable with the scores used in the larger WHOQOL-100.

#### *Social contact and support.*

The Lubben Social Network Scale-6 (LSNS-6) is a six item abbreviated version of the Lubben Social Network Scale (Lubben et al., 2006). The LSNS-6 has two sub-scales (friends and family) with each subscale containing three questions relating to the number of friends or relatives the respondent has been in contact with/ feels at ease with or feels close to on at least a monthly basis. Responses to all scale questions ranged from none to nine or more friends/relatives placed on a 6-point Likert scale. The LSNS-6 total score is an equally weighted sum of these six items. Scores range from 0 to 30 with higher scores indicating more social contact and support.

#### *Activity levels/functional status.*

Three questions were included relating to activity levels during the previous seven days. Respondents were asked how many days in the previous week they had been engaged in vigorous, moderate and mild exercise for at least 10 minutes. Examples of vigorous exercise offered were running, aerobics, heavy gardening with examples of moderate exercise given as cycling, vacuuming, gardening and mild exercise defined as walking at a brisk pace. Three other Likert type questions on 5-point Likert scales assessed respondents' satisfaction with their ability to 'perform daily acts', ability to 'get around' and the extent to which physical pain prevents them from doing what they need to do.

#### *Self-reported height and weight.*

Responses to these questions were used to calculate each respondent's Body Mass Index (BMI).

#### *Nature of the volunteering organisation.*

Respondents were asked to provide the name of the host organisation they mainly volunteer with and these were subsequently classified by Volunteer Now in terms of the nature of the organisation (i.e. Voluntary/community, statutory, church/faith-based or other), the sub-sector to which the organisation can best be placed (older people, community development, disability, advice/information, arts/culture/heritage, Young people/children, disability, education/training, health and wellbeing, other) and the estimated annual income of the organisation (less than £1000, £1K-£10K, £10K-£100K, £100K, £100-£250K, £250K-£500K, more than £500K).

Also, Volunteer Now collected additional information on organisational recruitment and support practices from approximately 62% of the organisations providing volunteers for this study. This information was appended to the volunteer data to enable comparisons on satisfaction with volunteering experiences across the sector.

### Demographic questions

Questions were also included on sex of respondent, age, marital status, retirement status, living alone or with others, nature of the volunteering experience.

### 2.3.3 Themes and time frame

Table 1 summarises the four time frames for fieldwork in the quantitative study as well as the key themes assessed at each stage of the data collection.

Table 1.

#### Summary of quantitative study time frame and measures used.

<b>Quantitative Questionnaire content and fieldwork timings</b>			
<b>Baseline Questionnaire 1</b>	<b>6 months Questionnaire 2</b>	<b>12 months Questionnaire 3</b>	<b>18 months Questionnaire 4</b>
Stage 1 Fieldwork March-November 2010	Stage 2 Fieldwork October '10 - June 2011.	Stage 3 Fieldwork May '11-January 2012	Stage 4 Fieldwork December '11 -June 2012
<b>Common health/ and quality of life questions</b>  Questions on the types of volunteering activities  Questions motivations / reasons for choosing formal volunteering	<b>Common health/ and quality of life questions</b>  <i>PLUS</i> <i>Questions on...</i>  The volunteering experience (perceived personal benefits of volunteering)  Changes in circumstances in previous 6 months	<b>Common health/ and quality of life questions</b>  <i>PLUS</i> <i>Questions on...</i>  The volunteering experience (positive and negative aspects of volunteering)  Changes in circumstances in previous 6 months	<b>Common health/ and quality of life questions</b>  <i>PLUS</i> <i>Questions on...</i>  The volunteering experience (positive and negative aspects of volunteering)  Changes in circumstances in previous 6 months
<b>Sample Response (N= 344)</b>	<b>Sample Response (N=294 with 287 matched at both time points)</b>	<b>Sample Response (N=285 with 249 matched at 3 time points)</b>	<b>Data collection ongoing</b>

Note: Text in bold highlights common questions presented at each time point.

This second interim report presents findings at three time points (baseline, 6 months and 12 months) on the following themes:

1. Satisfaction with the experience and time spent on formal volunteering roles at 6 and 12 months.

2. Organisational support factors associated with volunteer satisfaction and wellbeing at 6 months and 12 months post baseline.
3. Self-reported mental and physical health, activity levels and body mass index (BMI) of older formal volunteers in N. Ireland at 6 and 12 months from baseline.

### **3.0 Findings**

#### *3.1 Description of baseline sample.*

The baseline sample consisted of 388 participants (60% female and 40% male) whose ages ranged from 50 to 90 years (M=64.9, SD=7.6). The majority of respondents were aged 60-69 (51.2%) with smaller numbers in the older 80-89 category (n=14). The sample also comprised a mix of new (33.7%) and experienced volunteers (64.8%). The majority reported living with a spouse or partner (56.4%) with sizeable proportions indicating living alone (27.6%), having caring responsibilities (25.9%) and living with some form of disability (22.7%).

#### *3.2 Organisational recruitment and support practices*

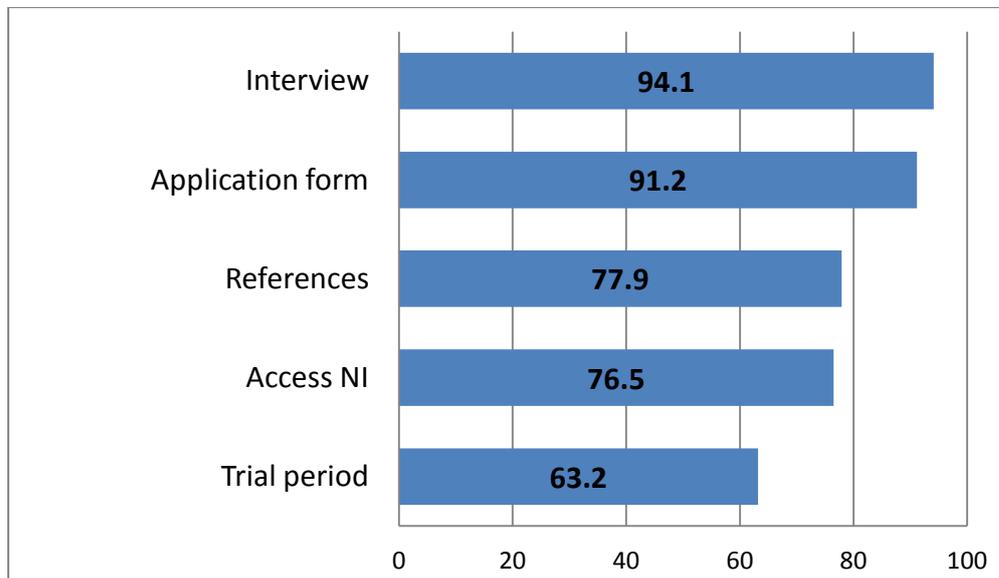
At baseline 388 volunteers were located within 109 organisations across Northern Ireland. The majority of organisations were classified as belonging to the voluntary/community sector (81.7%), with 5.5% belonging to the statutory sector and 1.8% classified as housing association. Some additional research by Volunteer Now in December 2011 provided supplementary information on organisational recruitment and volunteer support practices for 68 of these organisations (62.4%). The information relating to these organisations was added to the database of volunteer responses for analysis purposes within this interim report.

Figures 1 and 2 show that for those organisations where information on recruitment and support practices were available, the majority (94.1%) used an interview and an application form as part of their recruitment of volunteers. The majority also provided induction and training support (95.6%), as well as having a named support person for volunteers to access (94.1%) and ongoing supervisory meetings on progress (91.2%).

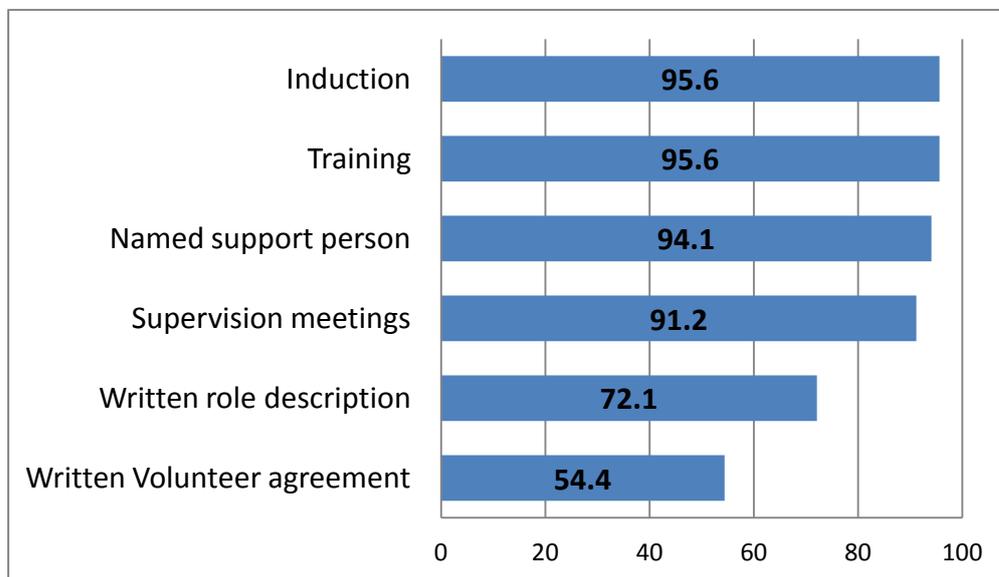
#### *3.3 Volunteer satisfaction levels at 6 months and 12 months*

Relating this organisational information to expressed satisfaction with the volunteer experience showed that where such practices were in place in organisations, satisfaction levels at 6 months were consistently higher (figures 3 and 4). Notably also, the percentages expressing satisfaction with volunteering was generally higher at 12 months regardless of whether these recruitment and support practices were in place suggesting that these practices have more impact in the initial settling in

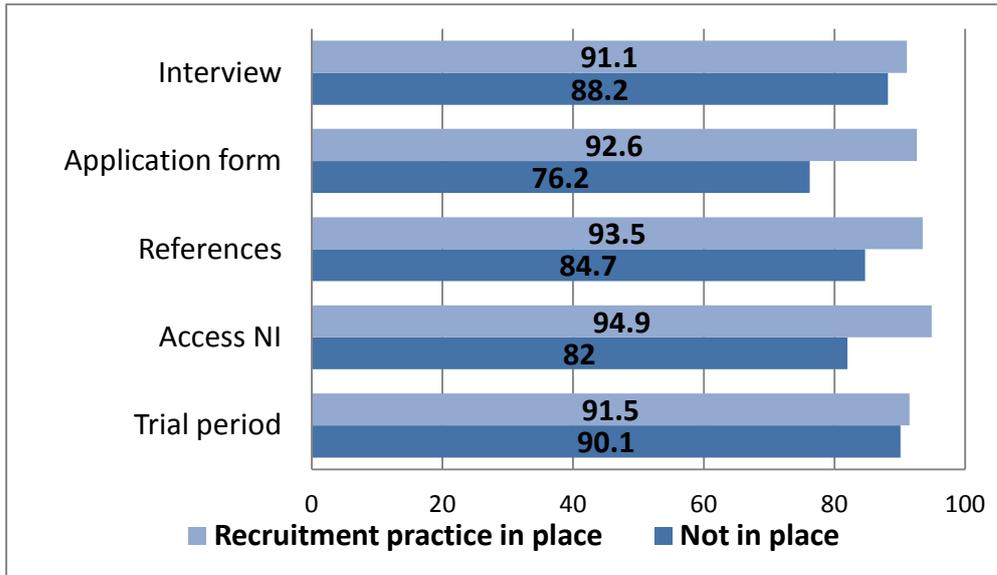
period of voluntary experience and that satisfaction with volunteering after this period is determined by other contextual factors.



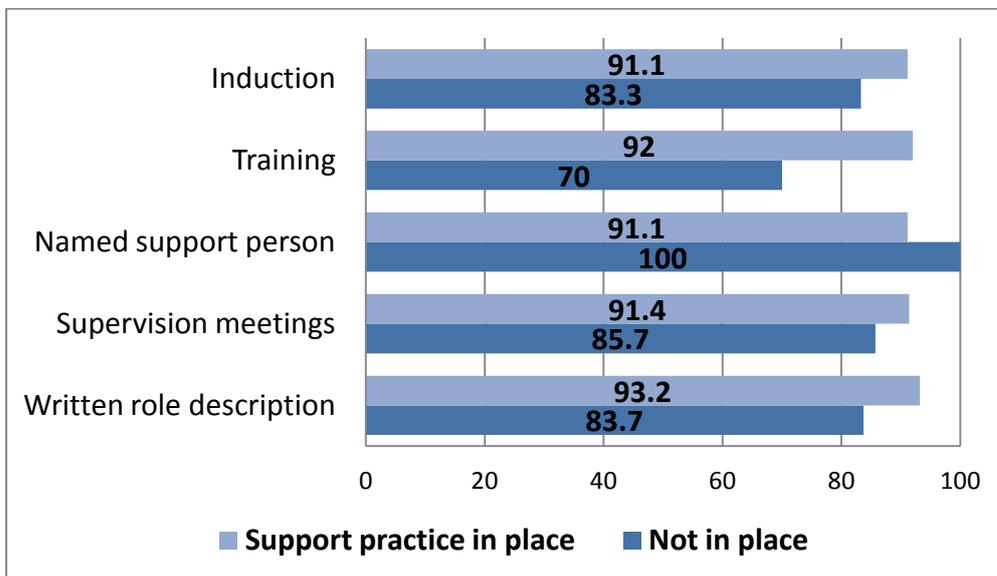
*Figure 1.*  
**Percentage of available volunteer organisations using various recruitment and selection practices (N=68).**



*Figure 2.*  
**Percentage of available volunteer organisations using various post recruitment support practices (N=68).**



*Figure 3.*  
**Percentage of volunteers expressing satisfaction with volunteering at 6 months by use of volunteer organisation recruitment practices.**



*Figure 4.*  
**Percentage of volunteers expressing satisfaction with volunteering at 6 months by employment of volunteer organisation support practices.**

### 3.4 Volunteer Roles

A systematic review conducted by Casiday et al., (2008) to assess the health effects of volunteering on individual volunteers reported that the majority of the studies examining the health impacts of volunteering on volunteers related to volunteering in general, rather than looking at particular settings or roles (Van Willigen, 2000; Weitzman and Kawachi, 2000; Thoits and Hewitt, 2001; Clark, 2003; Morrow-Howell, Hinterlong et al., 2003; Musick and Wilson, 2003; Greenfield and Marks, 2004; Yuen, Burik et al., 2004; Harris and Thoresen, 2005; Jirovec, 2005; Li and Ferraro, 2005; Librett, Yore et al., 2005; Lum and Lightfoot, 2005; Wu, Tang et al., 2005; Li, 2007; Piliavin and Siegl, 2007).

In this study, respondents were asked at baseline to indicate the activities they would be carrying out within their volunteer organisations using a list of 20 activities (see questionnaire 1 in appendix). A principal components analysis of the responses suggested that these activities could be grouped into six broad categories (leadership/management, Caring/visiting/befriending, office/administration, practical, teaching/mentoring and collecting/selling tickets/fundraising. The categories were not mutually exclusive or exhaustive with some degree of overlap between them. Figures 5-6 provide a breakdown of the percentages of volunteers taking up these roles by sex and age group.

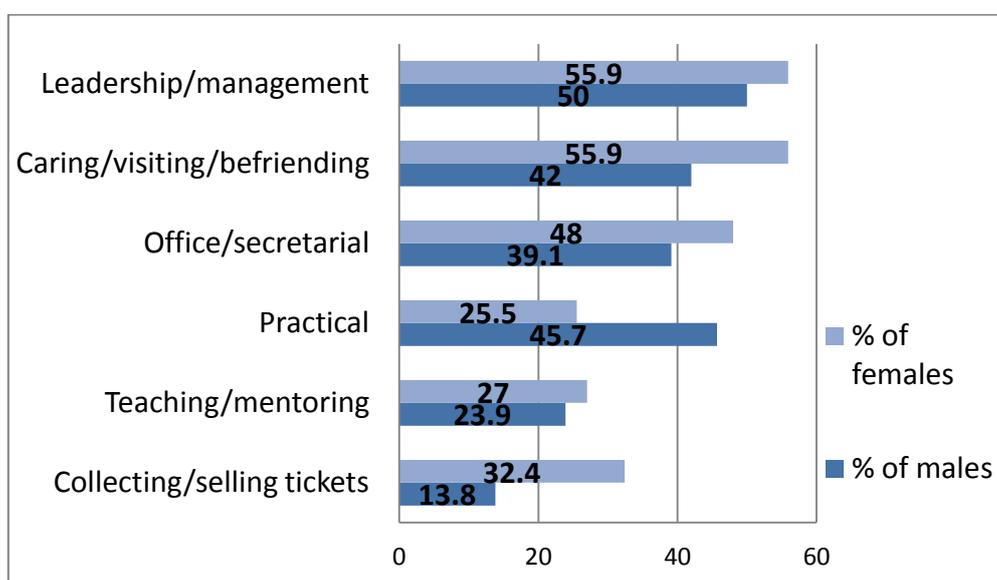
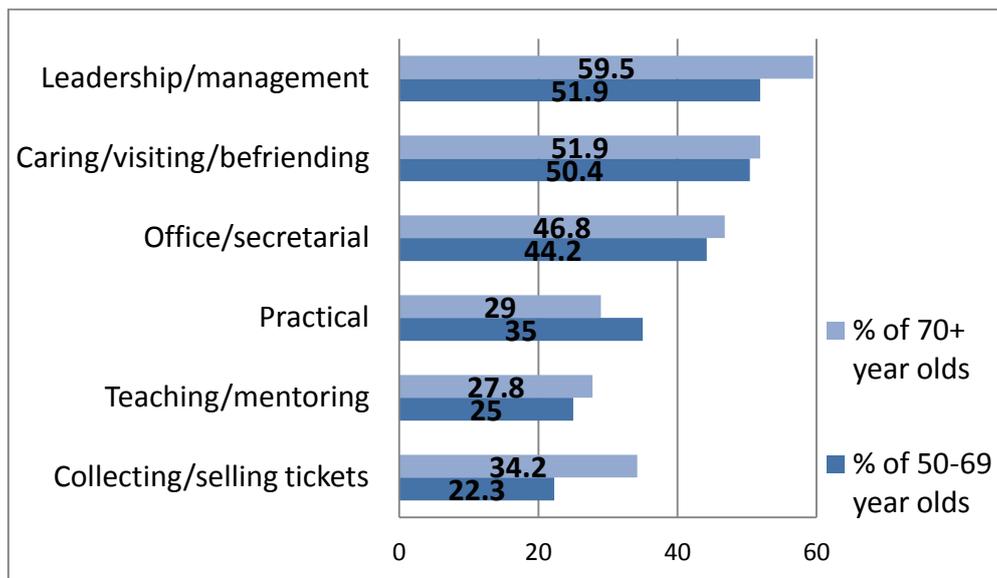


Figure 5 .

**Percentage of volunteers involved in various types of activities at baseline by age group.**

Leadership/management activities were the most popular for both men (50%) and women (56%). Women were more likely to be involved in caring/visiting/befriending activities (56%) than men (42%), whereas men (46%) were more likely than women (25.5%) to be involved in practical activities.

In general, the relative popularity of activities was similar for older and younger volunteers but some differences are worthy of note. Older people were more likely to be involved in leadership/management type activities (60%) than their younger counterparts (52%) and fundraising (34% vs. 22.3%). The younger age group on the other hand were more likely to be involved in practical activities (35%) than the 70+ age group (29%).



*Figure 6 .*  
**Percentage of volunteers involved in various types of activities at baseline by age group.**

### 3.5 Variety of volunteer activities by sex and age

Table 2 shows evidence of sex and age differences in the variety of activities taken on at baseline. Both age groups were likely to be involved in a one or two types of general activity rather than a mix of general activities. Older volunteers (70+ years) were more likely to take on a greater variety of activities (41.8%) compared to 28.1% of the 50-69 year olds. Likewise, the younger volunteers were more likely to be involved in a more limited set of 1-2 general activities (60.4%) compared to older people (50.6%).

Sex differences were also apparent with men more likely to be involved a more restricted range of 1-2 activities (66.7%) than women (52.9%) and women were also more likely to be involved in a greater variety of 3 or more roles (47.1% vs. 33.3% for men).

Table 2

Percentage of sample at baseline engaged in various generic activities.

Number of activities	Age group %		Sex %	
	50-69 years	70+ years	Men	Women
1-2	60.4	50.6	66.7	52.9
3-4	28.1	41.8	23.9	35.8
5-6	11.5	7.6	9.4	11.3

### 3.6 Hours spent volunteering (Figures 7 and 8)

At both 6 months and 12 months respondents were asked to report the number of hours they had spent volunteering in the previous 4 weeks. On average the number of hours spent volunteering increased significantly from 21.8 (SD=22.5) at 6 months to 25.7 hours at 12 months (SD=27.04) ( $t=-2.45$ ,  $df=187$ ,  $p=.015$ ). This increase over time was reported by both men and women and in the younger (50-69 years) and older (70+ years) age groups. In general, men recorded longer hours at both time points and the younger age group likewise recorded spending more hours volunteering than the 70+ year group. At 6 months women tended to report lower hours than men, and this was especially so in the younger age category (19.15 vs. 29.13 hours). For the 70+ age group, women reported a lower number of hours than men at 6 months (15.73 vs. 19.41 hours), but there was no difference in hours spent volunteering between men and women at the 12 months (20.14 vs. 20.73 hours).

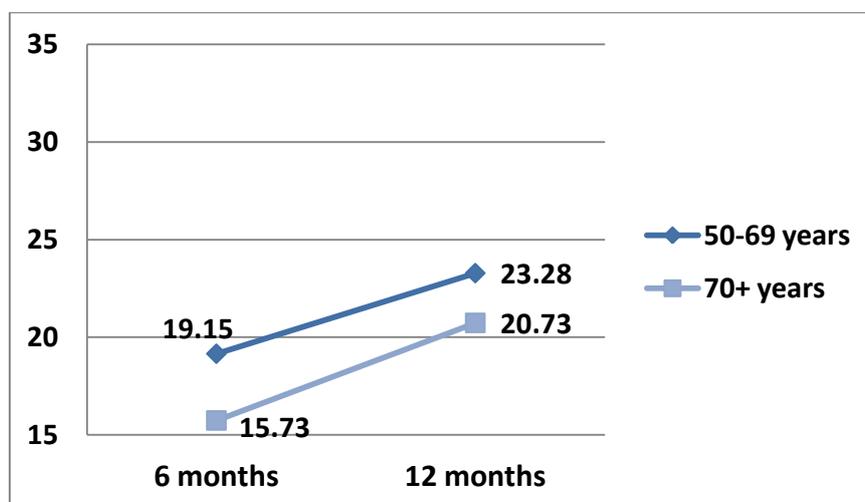


Figure 7.

Mean number of hours in previous 4 weeks spent volunteering (Women).

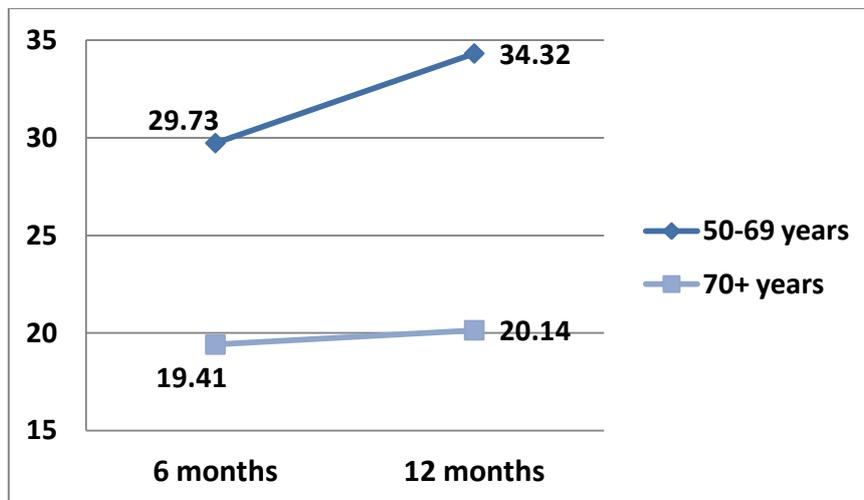


Figure 8.  
**Mean number of hours in previous 4 weeks spent volunteering (Men).**

Some studies have shown that increasing number of hours spent volunteering yields greater health benefits up to a certain threshold (which differed among studies) (Van Willigen, 2000; Thoits and Hewitt, 2001; Li, 2007). It has been shown that increased time spent volunteering is related to health, although at very high levels this effect may level off or even decrease (Van Willigen, 2000; Musick and Wilson, 2003). Luoh et al., (2002) defined intensive volunteering as more than 100 hours per year and his study reported better health and lower mortality for those volunteering more than 100 hours per year, compared with both the less frequent and the non-volunteering groups. Conflicting evidence has come from Morrow-Howell et al. (2003) who found that that increased volunteer hours related to greater well-being, but only up to 100 hours per year.

For the current study respondents were asked to estimate the number of hours spent volunteering in the 4 weeks prior to completing the survey. In order to make suitable comparisons with previous research, these responses were scaled up by a factor of 12 to reflect an annual estimate. This estimate was then reduced to 3 categories (1-100 hours per annum, 101-250 hours per annum and 250+ hours) and these in turn were used to compare scores on the WHOQOL-BREF physical and psychological health scales. Results in tables 3a and 3b showed that neither physical nor psychological health scores varied significantly according to hours spent volunteering. This was true at both 6 months or 12 months post baseline.

It is also noteworthy that the majority of those who provided information on hours had estimated an annual total in excess of the threshold value of 100 hours suggested by Morrow-Howell et al., (2003). Approximately 77% of respondents at 6 months and 70% of respondents at 12 months indicated spending more than 100 hours per annum with some 30% and 28% respectively indicating 250+ hours per

year. It is possible that volunteers have overestimated their previous month's level of commitment to voluntary activities, thereby inflating the annual estimates but the high reported hours in general is accompanied by high levels of expressed satisfaction among the volunteers as a whole.

*Table 3a.*

**Mean physical and psychological health scores (at 6 months) by estimated number of hours spent volunteering annually (at 6 months).**

<i>Estimated annual hours spent volunteering (at 6 months)</i>	Physical health (WHOQUAL-BREF)	Psychological health (WHOQUAL-BREF)
<i>1-100</i>	16.42 (2.51)	15.60 (2.04)
<i>101-250</i>	16.43 (2.48)	15.56 (2.25)
<i>250+</i>	16.33 (2.68)	15.63 (2.38)
<i>Test result</i>	F(2, 226)=.30, p=.74	F(2, 228)=.02, p=.98

*Table 3b.*

**Mean physical and psychological health scores (at 12 months) by estimated number of hours spent volunteering annually (at 12 months).**

<i>Estimated annual hours spent volunteering (at 12 months)</i>	Physical health (WHOQUAL-BREF)	Psychological health (WHOQUAL-BREF)
<i>1-100</i>	16.41 (2.58)	15.68 (1.90)
<i>101-250</i>	16.43 (2.69)	15.76 (1.91)
<i>250+</i>	16.06 (2.98)	16.05 (2.44)
<i>Test result</i>	F(2, 205)=.37, p=.69	F(2, 205)=.59, p=.55

### *3.7 Hours spent volunteering and satisfaction with volunteering at 12 months*

Results showed no statistically significant difference in the number of hours spent volunteering between those who expressed satisfaction and dissatisfaction with their volunteering experience. This was the case at both six months and 12 month time points. At 6 months those who expressed satisfaction with volunteering (n=209) recorded a mean of 20.15 hours of volunteering in the previous 4 weeks (SD=20.12), compared to a mean of 20.35 hours (SD=21.28) for the 'dissatisfied group' (n=17). At 12 months those who expressed satisfaction with volunteering (n=184) recorded a mean of 23.89 hours of volunteering in the previous 4 weeks (SD=24.18), compared to 35.85 hours (SD=45.46) for the 'dissatisfied' group (n=13).

In general, the percentages expressing satisfaction with volunteering at 6 and 12 months were high (91.8% and 92.4% respectively). Thus, given the disparity in numbers between those expressing satisfaction and dissatisfaction with volunteering, any comparison of these two groups on hours spent volunteering should be treated with caution. As noted, only 13 volunteers comprised the 'dissatisfied' group at 12 months with a small number of these reporting high hours, thus inflating the mean score.

### *3.8 Volunteer views at 12 Months*

In general, the majority of volunteers at 12 months expressed positive views about their respective volunteer organisations (table 4). These views were largely consistent for both men and women and for the younger (50-69 years) and older (70+ years) age groups. The vast majority reported being suitably placed, able to cope with their volunteering activities and felt that their efforts were appreciated by their volunteer organisations. Research in other contexts has found that older volunteers appear to derive greater benefit from volunteering than younger volunteers (Van Willigen, 2000; Li & Ferraro, 2006b). These studies have compared the perceived benefits of volunteering across the adult life span but little work has been within the older age range specifically. Findings from this study do not support the notion of differential benefits of volunteering for the younger and older old.

Approximately two thirds of volunteers said that they were given the opportunity to influence the development of their organisations with similar rates of agreement for men and women across all ages. Fewer respondents stated that they found it difficult to balance their volunteering commitments with their work/home commitments with women (16.5%) being more likely to agree with this statement than men (9.4%). The younger age group were also more likely to endorse the statement about too much paperwork and concerns about risk (23.9%) compared to 15.4% of older volunteers.

### 3.9 *Role strain*

A recent report by Nazroo & Matthews (2012) pointed to the potential negative impacts of volunteering on wellbeing arising from 'role strain' due to multiple roles, excessive time commitments and trying to balance volunteering with other commitments. The evidence from this study relating to recruitment and support practices, satisfaction with volunteering and age differences in the hours spent volunteering suggests that role strain among formal volunteers is not a problem in the Northern Ireland context.

### 3.10 *Reciprocity*

Two recent studies have examined reciprocity in relation to involvement in voluntary activities in later life. Wahrendorf et al.'s (2006) study in mainland Europe found that volunteers who reported being 'appreciated' had better quality of life and less depressive symptoms than non-volunteers, while volunteers who reported feeling no appreciation did not. McMunn et al.'s research in England (2009) also concluded that volunteers who reported being 'appreciated' scored higher on quality of life and lower on depression than those who reported not being appreciated.

The majority of volunteers in the current study have positively endorsed the question relating to reciprocity (Table 4, question 5) with only 19 volunteers (7.9% of the sample at 12 months) stating that they did not feel 'appreciated' by their volunteer organisation. The current study found no evidence of differences in health or quality of life between those who felt appreciated and those who did not 12 months after baseline. However, having such small numbers in the 'unappreciated' group makes health comparisons with those reporting reciprocity difficult to formally test in the context of this study.

The high numbers expressing feelings of reciprocity is also consistent with the high percentages expressing satisfaction with their volunteering experience, the roles in which they are engaged, and the numbers feeling supported in their volunteer roles. It is noteworthy that relatively lower numbers of volunteers felt they were given the opportunity to influence the development of the organisation (65%), but this was not related to satisfaction levels expressed on other aspects of the volunteering experience.

Table 4.

**Percentages of volunteers agreeing with various statements about their volunteer organisations at 12 months by age category and gender.**

Volunteer views	Age group		Sex	
	50-69 years	70+ years	Men	Women
<i>1. I am given the opportunity to do the sort of things I like to do</i>	97.2	98.3	96.9	97.9
<i>2. I get bored and lose interest in my involvement</i>	9.2	8.0	8.3	9.4
<i>3. I can cope with the things I am asked to do</i>	96.6	94.7	97.8	95.1
<i>4. The organisation has reasonable expectations in terms of workload</i>	91.6	93.0	93.9	90.5
<i>5. My efforts are appreciated by the organisation</i>	91.6	93.3	94.0	90.6
<i>6. There is too much paperwork / concerns about risk</i>	23.9	15.4	20.6	22.9
<i>7. I find it difficult to balance my volunteering commitments with my work/home commitments</i>	12.6	16.7	9.4	16.5
<i>8. I am given the opportunity to influence the development of the organisation</i>	64.0	66.0	68.4	61.4
<i>9. I am supported to carry out my role</i>	90.9	92.9	93.8	89.7
<i>10. My volunteering is becoming too much like paid work</i>	17.5	7.7	85.4	84.8
<i>11. My needs as an older volunteer are recognised</i>	86.1	82.1	85.4	84.8
<i>12. The organisation does a good job of making sure my volunteer role fits my needs</i>	88.8	92.7	89.7	89.8

### 3.11 Comparing health, physical activity and body mass index over 12 months

Table 5 summarises the general trends over the three time points. For reported physical health, there was a general improvement in scores over time as assessed by the WHOQUAL-BREF. The WHOQUAL-BREF's psychological well-being scores displayed a pattern of maintenance over the time period as did reported levels of social support, moderate / mild activity and self-report body mass index (BMI). There

was a slight decline in vigorous activity during the period. Further analysis of these trends by age group and sex is provided in figures 7-17.

Table 5.

**A comparison of the mean scores on reported physical health, psychological health, attitudes to ageing and activity levels at baseline, 6 and 12 months.**

	6 months	12 months	18 months	Matched Sample size	Changes over period
<i>WHOQUAL-BREF Physical health</i>	14.97 (2.26)	16.34 (2.06)	16.23 (2.16)	249	Increase
<i>WHOQUAL-BREF Psychological health</i>	15.97 (2.18)	15.75 (2.35)	15.82 (2.08)	250	Maintenance
<i>Vigorous Physical Activities (No. of days in last week)</i>	2.79 (1.80)	2.33 (2.16)	2.34 (1.94)	244	Decrease
<i>Moderate Physical Activities (No. of days in last week)</i>	3.91 (1.94)	3.82 (2.21)	3.70 (2.17)	242	Maintenance
<i>Mild Physical Activities (No. of days in last week)</i>	3.55 (1.11)	3.53 (2.30)	3.25 (2.20)	244	Maintenance
<i>Body Mass Index (BMI)</i>	26.72 (4.79)	26.79 (4.87)	26.71 (4.85)	239	Maintenance
<i>Social support</i>	4.14 (.97)	4.16 (.90)	4.24 (.94)	243	Maintenance

Note : Figures in brackets represent standard deviations.

### 3.12 Physical well being (WHOQUAL-BREF) over 12 Months

A total of 249 respondents provided matched data over the three time points and results revealed a statistically significant improvement in WHOQUAL-BREF Physical Health scores from baseline (M=14.97, SD=2.26) to 6 months (M=16.34, SD=2.06) and this change was sustained at the 12 month time point (M=16.23, SD=2.16). Figures 9 and 10 show that both women and men reported an improvement in physical health from baseline to 6 months with a leveling off at 12 months. This was true for both the younger and older age groups with men in the 70+ age group starting at the lowest point and showing the biggest improvement (figure 10).

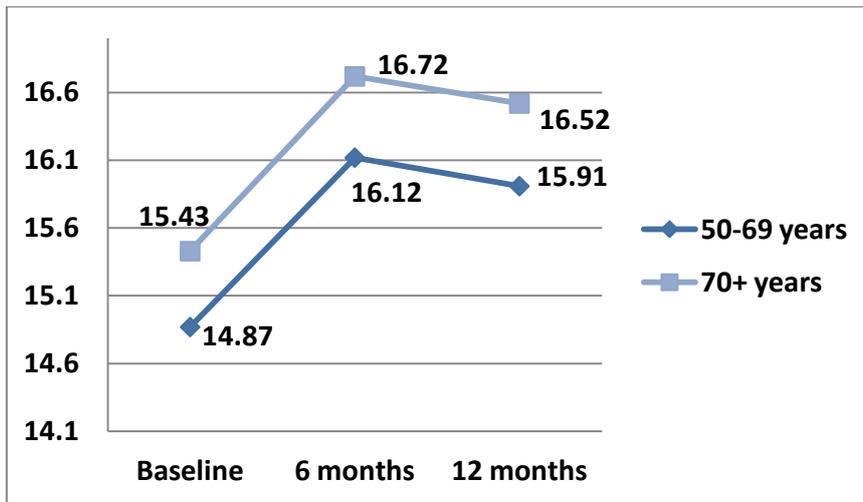


Figure 9.  
Mean WHOQUAL-BREF Physical Health scores over time (Women).

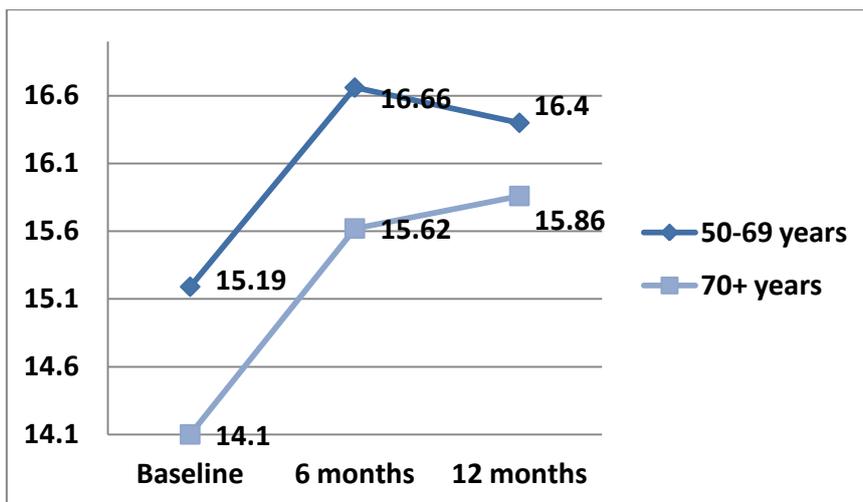


Figure 10.  
Mean WHOQUAL-BREF Physical Health scores over time (Men).

### 3.13 Psychological well being (WHOQUAL-BREF)

A total of 251 respondents provided matched data over the three time points and results revealed no statistically significant change in WHOQUAL-BREF Psychological Health scores from baseline (M=15.97, SD=2.18) to 12 months (M=15.82, SD=2.08). The pattern for mental health scores was therefore one of maintenance over the time period [F(2,492)=2.28, p=.104].

Figures 11 and 12 show that mental health scores reduced in the period from baseline to 6 months with slight improvements again at 12 months for both men and women in the 50-69 age group. The pattern for the 70+ age group was more stable over time with men scoring consistently lower than women. It should however be noted that the difference between men and women in this (70+ years) age category was not statistically significant.

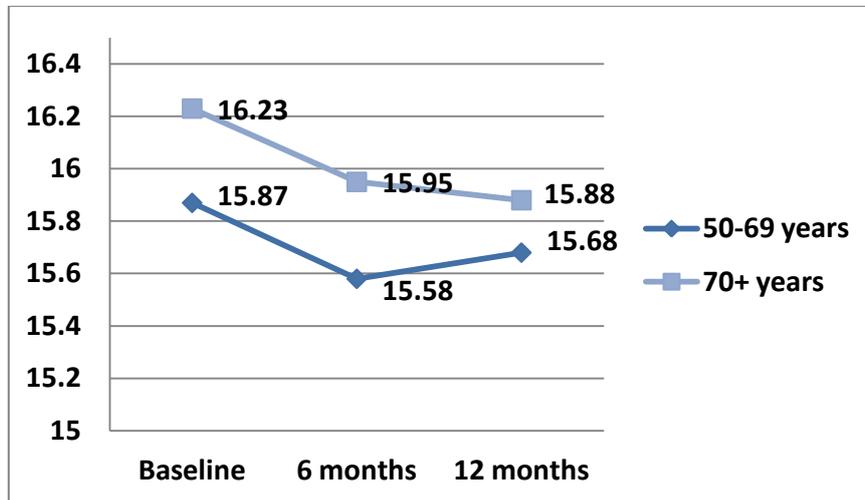


Figure 11.  
Mean WHOQOL-BREF Psychological Health scores over time (Women).

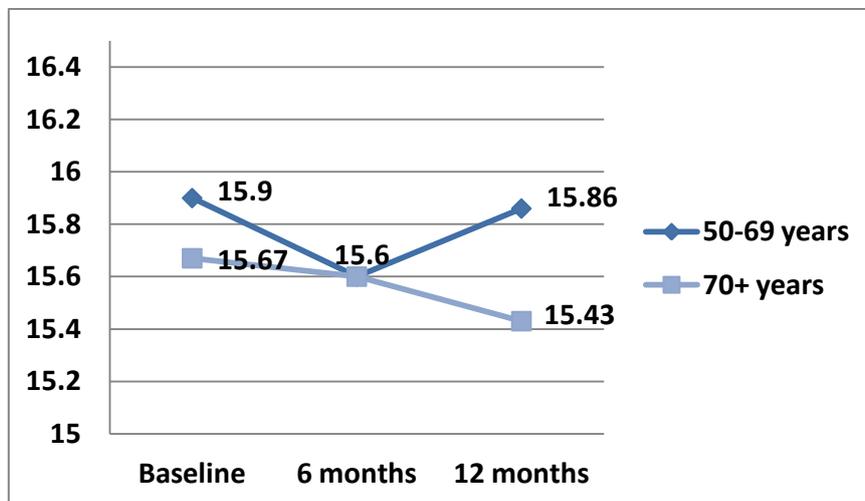


Figure 12.  
Mean WHOQOL-BREF Psychological Health scores over time (Men).

### 3.14 Comparing WHOQOL-BREF physical /mental health scores with other studies

Health Comparing figures obtained in this study with other population studies in the UK, Ireland, Europe or the US is difficult since there is no consensus on the use of measures aimed at assessing quality of life. The British Household Panel Surveys (BHPS 1991-2008) have included a Northern Ireland cohort since 2001 and employed

the SF-36 (Ware & Sherbourne, 1992) in the 2004 wave only. The BHPS was replaced by the Understanding Society Survey in 2009/10 and this has used the CASP-19 (Hyde, Wiggins, Higgs & Blane, 2003) to assess Quality of Life measure. The English Longitudinal Study on Ageing (ELSA) and the U.S. Health and Retirement Study (HRS) also employ the CASP-19 and the Survey of Health Ageing & Retirement in Europe (SHARE) uses a modified version of the CASP-19 (CASP-12).

More recently, several studies in the UK have used the WHOQOL-BREF to assess quality of life in adults and older people (e.g. Skevington, Loft & O’Connell, 2004; Deary, Gow et al., 2007; Murray et al., 2011; Brett, et al., 2012; Möttus, Gale, Starr & Deary, 2012). Möttus et al., (2012) examined community dwelling older people living in Scotland using data from the 1936 Lothian Birth Cohort (LBC1936). They reported that adults whose ages ranged from 67.7 - 71.3 years at the time of assessment recorded a mean physical health score of 4.03 (SD=.66). Using the same scoring method employed by Möttus et al., (2012), the current study shows similar levels of physical health scoring among the volunteers at each time point. (M=3.69, 4.05 and 4.02, SD = .57, .73 and .73 respectively). The Scottish study reported a mean mental health score of 3.92 (SD=.45) and this compares to the current study values at each time point of 3.97, 3.88 and 3.94 (SDs = .53, .60 and .52 respectively). Bret et al., (2012) employed the same scoring method for the WHOQOL-BREF as was used in the current study. The authors compared domain scores for both the 1936 Lothian Birth Cohort LBC1936 (aged around 70 at the time of assessment) and the 1921 Lothian Birth Cohort (LBC1921) aged 79+. Table 6 shows that the physical health scores of the older volunteers in Northern Ireland were on average lower at baseline than community dwelling adults aged 70 living in Scotland and were indeed more similar to the older Scottish adults (aged 79+). The subsequent increases in volunteer physical health scores over time produced higher average health scores in the Northern Ireland sample than both the Scottish age groups. The psychological health scores were also consistently higher among the volunteer sample.

*Table 6*

**Comparison of means (and standard deviations) of WHOQOL-BREF Physical and Psychological Health domains WITH older age cohorts in Scotland (Bret et al., 2012).**

<i>Mean Scoring method</i>	Physical health	Psychological health
VN study (Baseline)	14.97 (2.26)	15.97 (2.18)
VN study (Time 2)	16.34 (2.06)	15.75 (2.35)
VN study (Time 3)	16.23 (2.16)	15.82 (2.08)
<i>Bret et al., (2012)</i>		
LBC1936 (aged 70) (n = 1091)	16.1 (2.6)	15.7 (1.8)
LBC1921 (aged 79+) (n = 550)	14.8 (2.8)	15.3 (2.1)

In addition, the current results can be benchmarked against a recent large scale study comparing WHOQOL-BREF scores for healthy and unhealthy people across twenty-seven disease groups/ health conditions at 38 UK sites in a wide range of settings (N = 4628) (Skevington & McCrate, 2011). This study employed an alternative 0-100 scoring scale for all domains of the WHOQOL-BREF as described in the official manual (Harper, 1996) and domain scores for the volunteer sample have been re-calculated using this scoring method to aid comparisons here. Table 7 shows that the volunteer sample scores were consistently higher than all sub-samples of people with specifically diagnosed health problems. Compared to 'well' samples the volunteers reported lower physical health scores at baseline but their improvements in physical health over time brought their scores closer to these 'well' groups. In terms of psychological wellbeing, the volunteer sample scored on average consistently higher than both the well and unwell samples.

*Table 7*

**Comparison of means (and standard deviations) of WHOQOL-BREF Physical and Psychological Health domains for current study against samples of people in the UK with various health conditions (Skevington & McCrate, 2011).**

	Physical health	Psychological health
VN study (Baseline)	66.21 (15.65)	73.42 (14.24)
VN study (Time 2)	74.55 (19.71)	71.87 (14.02)
VN study (Time 3)	74.41 (19.27)	72.66 (12.47)
<i>Skevington &amp; McCrate (2011)</i>		
Well (n = 1324-1328)	76.49 (16.19)	67.82 (15.56)
Lifestyle problems (n = 121-123)	54.06 (20.20)	54.15 (16.76)
Psychiatric (n = 77-80)	54.57 (20.62)	45.93 (25.99)
Neurological (n = 45)	54.84 (20.09)	57.31 (17.99)
Musculoskeletal (n = 493-495)	40.37 (20.44)	54.81 (18.13)
Dermatological (n = 67-70)	63.36 (18.82)	68.49 (14.22)
Cardiovascular (n = 57-59)	45.19 (22.05)	54.74 (21.47)
Endocrine (n = 519-524)	67.84 (19.55)	67.66 (16.10)
Gastrointestinal (n = 656-666)	54.99 (20.62)	56.03 (18.45)
Urogenital (n = 86-87)	66.20 (19.63)	50.93 (20.33)

### 3.15 Quality of Life perceptions (Table 8)

Comparing the percentages agreeing with various quality of life statements (table 8) shows a similar maintenance pattern over the three time periods with the majority of respondents expressing positive views in relation to quality of life, enjoyment of life, a meaningful life and mobility. Relatively fewer endorsed negative attitudes (limited by pain, negative feelings) over the time period.

Table 8.

**A comparison of percentage responding to various quality of life measures at baseline, 6 and 12 months (matched sample)**

	% OF MATCHED SAMPLE		
	Baseline	6 Months	12 Months
<i>Quality of Life (Well /very well)</i>	95.9	91.9	91.1
<i>Enjoys life (Very/extremely)</i>	82.9	77.0	84.1
<i>Meaningful life (very/extremely)</i>	76.8	72.2	77.2
<i>Energy (mostly/completely)</i>	80.0	79.8	77.9
<i>Able to get around (Well/very well)</i>	92.7	88.9	85.3
<i>Satisfaction with health (Yes/Very)</i>	80.4	78.6	79.4
<i>Satisfaction with sleep (Yes/Very)</i>	72.7	68.3	68.3
<i>Pain limits you (Very/extremely)</i>	4.9	4.0	5.3
<i>Negative feelings (Never/seldom)</i>	79.5	80.7	81.1
<i>Negative feelings (Quite often)</i>	16.7	14.5	15.2

### 3.16 *Physical Activity levels and Body Mass index (BMI)*

Physical activity can be defined as all forms of activity, such as everyday walking or cycling, work or voluntary-related activity, active recreation such as going to a gym, dancing, jogging, gardening or playing active games, as well as organised and competitive sport. Three questions on physical activity were included in the questionnaire at all three time points. These questions related to definitions of vigorous, moderate and mild activity levels (See section 2.3.2 describing measures, p10).

There is a growing body of evidence worldwide of the health benefits of engaging in regular physical activity throughout the lifespan. A number of recent systematic reviews have shown that regular physical activity has an inverse dose– response association with coronary heart disease, stroke, type 2 diabetes and some types of cancer (Kesaniemi, Riddoch, Reeder et al., 2010; Warburton, Charlesworth, Ivey et al., 2010; Paterson & Warburton, 2010). Studies involving older adults (65+) have demonstrated an inverse relationship between physical activity and cardiovascular disease risk that is similar in magnitude to that observed for younger individuals (Sherrington, Whitney, Lord et al., 2008). In addition, some studies have concluded that regular physical activity helps maintain and improve muscle strength, thus reducing the risk of falls in older people (Portegijs et al., 2007; O’Donovan, Blazeovich, Boreham et al., 2010).

Among volunteers in this study, the overall pattern of physical activity levels was also one of maintenance for mild and moderate activities in the period from baseline to 12 months with a reduction in vigorous activities from baseline to 6 months and a subsequent levelling off in the period 6-12 months. Figures 13-18 describe activity levels for men and women separately.

### 3.17 *Vigorous activity (Figures 13 and 14)*

For vigorous activities there was some variation by age group and sex over time. Men in the younger age category (50-69 years) reported spending more time engaged in vigorous activities than women of this age. For men also, age differences in activity levels were more pronounced with younger men reporting higher levels of vigorous activity at 6 and 12 months than their male counterparts in the 70+ age group. For women, vigorous activity levels were generally lower than men’s. Younger women recorded slightly more vigorous activity than older women but these age differences were less pronounced than the men’s at both 6 and 12 months.

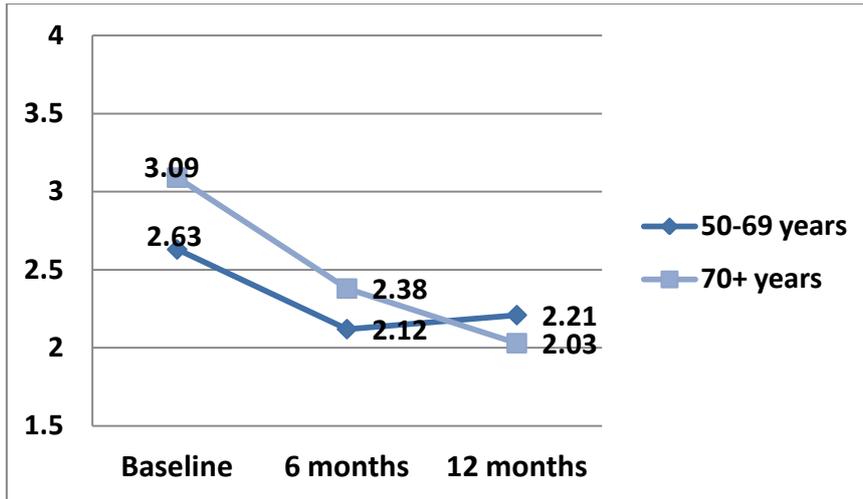


Figure 13.  
**Mean number of days in previous week engaged in VIGOROUS physical activity (Women).**

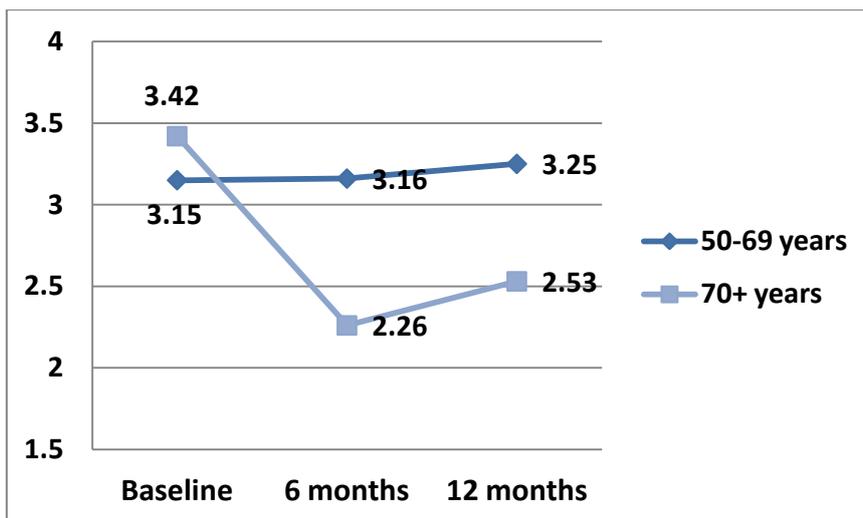


Figure 14.  
**Mean number of days in previous week engaged in VIGOROUS physical activity for at least 10 minutes at a time (Men).**

### 3.18 Moderate activities (Figures 15 and 16)

For the cohort as a whole, there was a slight decline over the 12 month period in the mean number of days reportedly spent on moderate activities but this reduction was not statistically significant. For women in the 70+ age group, there was a decline in moderate activity from baseline to 12 months whereas women in the 50-69 age category reported a modest reduction in moderate activities from baseline to 6 months and a levelling off at 12 months. For men in the 70+ age group, moderate

activity levels increased from baseline to 6 months and went down a little at 12 months with the overall trend being upward during the entire period. For men aged 50-66, the general trend over the period was also upward.

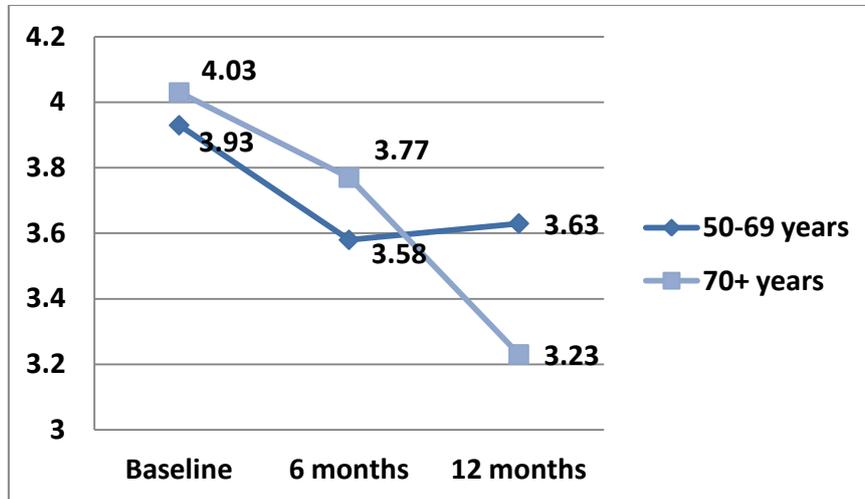


Figure 15.  
**Mean number of days in previous week engaged in MODERATE physical activity (Women).**

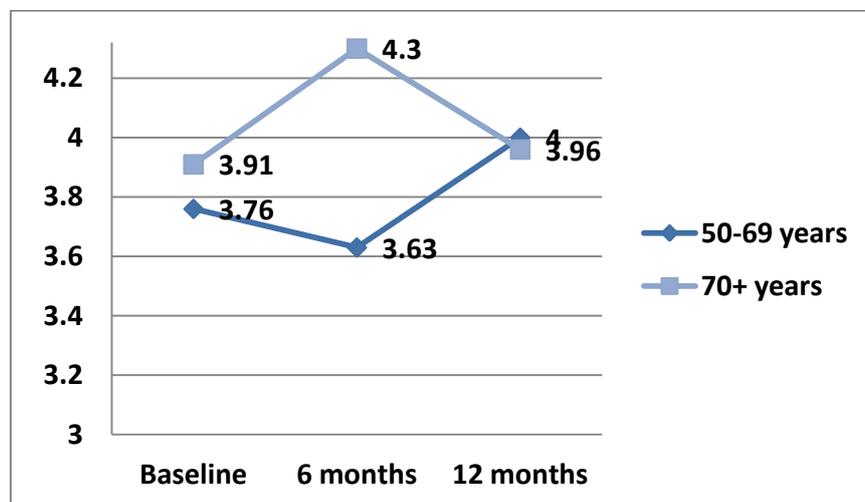
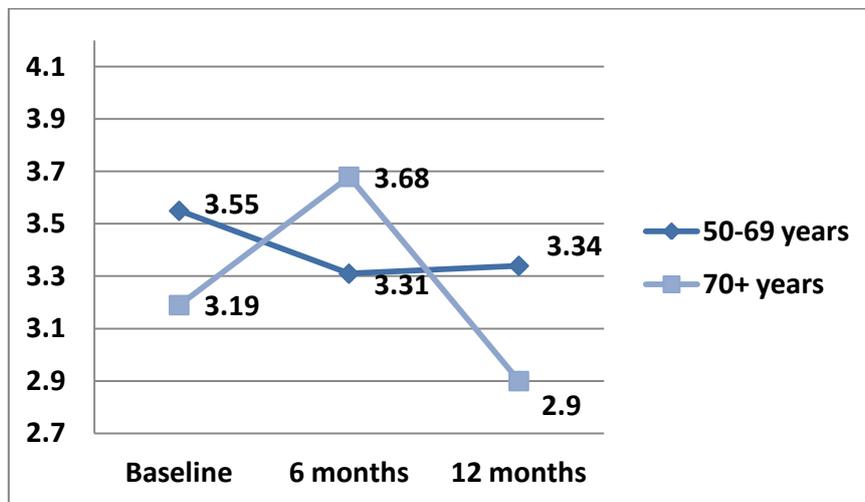


Figure 16.  
**Mean number of days in previous week engaged in MODERATE physical activity for at least 10 minutes at a time (Men).**

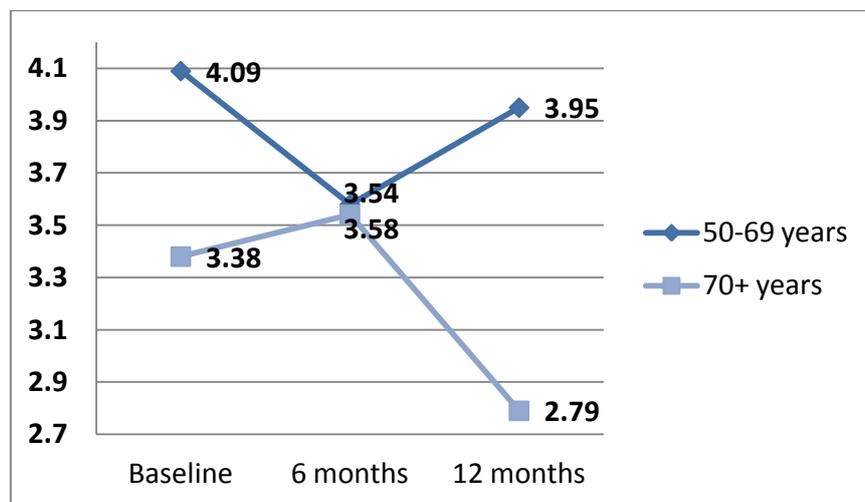
### 3.19 Mild activities (Figures 17 and 18)

The overall pattern for mild activities was one of maintenance for the cohort as a whole over the 12 month time period and this was especially so in the 50-69 age

group. For the older group (70+ years), mild activities were generally maintained from baseline to 6 months and declined from 6-12 months for both men and women.



*Figure 17.*  
**Mean number of days in previous week engaged in MILD physical activity for at least 10 minutes at a time (Women).**



*Figure 18.*  
**Mean number of days in previous week engaged in MILD physical activity for at least 10 minutes at a time (Men).**

### 3.20 Seasonality

The reductions observed in activity levels from baseline to six months may in part be attributed to seasonal influences. Wave 1 data was collected during the spring, summer and early autumn months, whereas the data at wave 2 was collected largely during the autumn, winter and early spring time. The increase in activity levels recorded for the 12 month period coincided with the wave 3 data collection period

which largely occurred during the summer and autumn and beginning of winter. Klenck, Buchele, Rapp et al., (2012) found that weather conditions are a factor in walking duration and physical activity among older people living in Germany. Tucker & Gilliland's (2007) review of 37 primary studies published from 1980-2006 from eight countries (USA, France, Australia, Cyprus, Holland, Canada, Guatemala and Scotland) found that season and weather conditions have an integral effect on physical activity patterns across all age groups. Haggarty et al., (1994) reported seasonal effects in the Scottish context with increased activity levels in the spring/summer. Lower activity levels among older people in winter may therefore be associated with decreased fitness levels and consequential increases in blood pressure. Goodwin, Pearce et al., (2001) have cited evidence showing that older adults have raised blood pressure levels in winter compared to summer. This study also linked lowered deep body temperature among older people in winter to increases in blood pressure. Other studies have also implied a possible causative role of increased blood pressure in the higher number of strokes and heart attacks in the winter (Keatinge et al., 1992; Donaldson et al., 1997). Although it is generally advantageous for older people to be physically active to prevent circulatory disease, Goodwin et al., (2001) suggest that some older people should avoid vigorous or intense activities at particular times of the day during the winter when blood pressure is more elevated (mornings, evenings). Consequently, the drop in vigorous physical activity at 6 months for men in the 70+ age group (figure 12) due to a possible seasonal dip in activity levels could paradoxically be beneficial to health among this older group.

### 3.21 Body Mass Index (BMI) (Figures 19 and 20)

Self-reported Body Mass Index displayed a maintenance pattern over the 12 month time period and this was the case for both men and women as well as for the younger and older age groups. On average, the older age group (70+ years) reported higher BMI scores than the younger age group and age group differences were more pronounced for men over the three time points (figure 20).

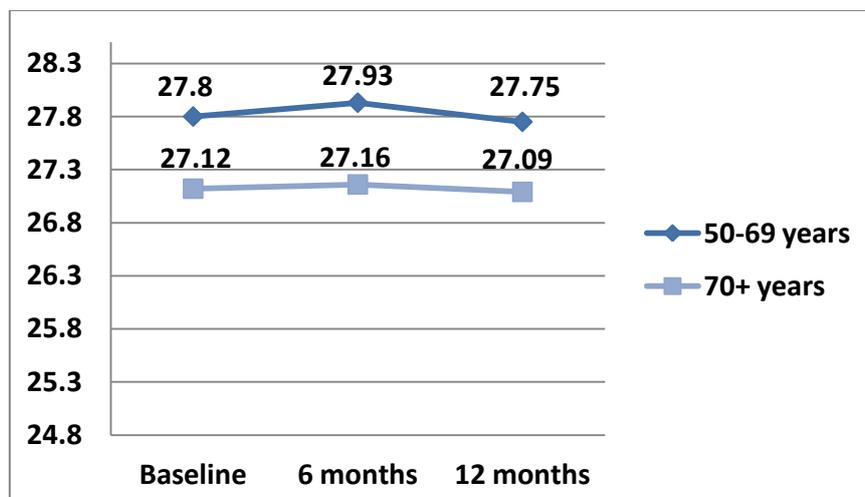


Figure 19.  
Mean self-reported Body Mass Index (Women).

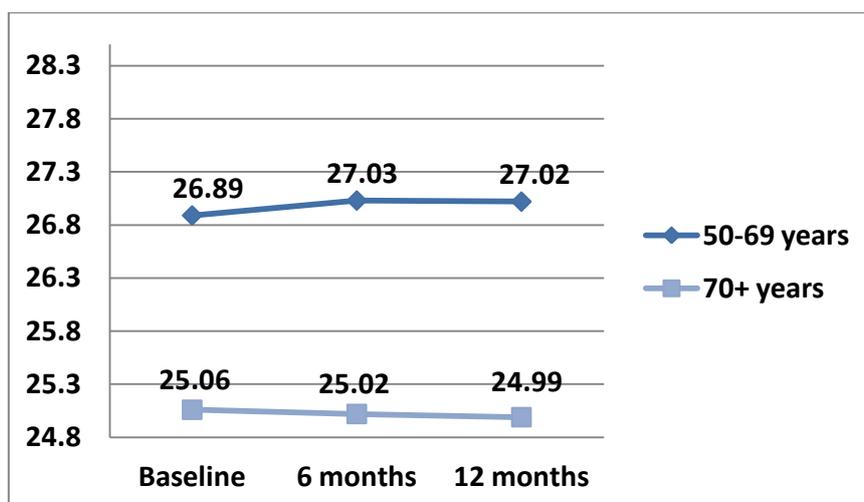


Figure 20.  
Mean self-reported Body Mass Index (Men).

### 3.22 Obesity in Northern Ireland

The prevalence of obesity in Northern Ireland is increasing in all age groups, including older persons (A Fitter Future for All Consultation report 2010-11, DHSSPS). Data from large population studies show that mean body weight and BMI gradually increase during most of adult life and reach peak values at 50–59 years of age in both men and women. Data from longitudinal cohort studies in the US and Finland suggest that body weight and BMI do not change, or decreases only slightly, in older adults (60–70 year old at study entry) Rissanen, Heliovaara & Aromaa, 1988; Fogelholm, Kujala, Kaprio & Sarna, 2000). Results from the Health Survey for England (2010) indicate that overweight and obesity rates peaks in the 55-64 age group (table 10). For older people, being overweight can be accompanied by health complications due to risk of stroke, coronary heart disease and diabetes and losing weight or being underweight brings potential harmful effects on muscle and bone mass. These concerns affect healthcare providers, policy makers, and the public.

Tables 9a-c show that the majority of the volunteer cohort are in the normal and underweight categories with only small percentages in the severely underweight and obese categories. These percentages persist over the three time periods for both men and women. The stability in reported BMI over the three time points is related to relatively high activity levels among this cohort. In addition, table 10 compares those classified as overweight and obese in the volunteer cohort at each time point with population estimates taken from a recent study in England (2010). Although these figures compare self-report BMI in the Northern Ireland cohort with more objective anthropometric assessments in the English context, the comparison nevertheless serves to highlight that that volunteers in the Northern Ireland context have consistently healthier BMI ranges than general population estimates.

Table 9a.

**A comparison of percentage of volunteer cohort in various BMI classifications at baseline, 6 and 12 months (matched whole sample)**

<i>(WHO)</i> <i>CLASSIFICATION</i>	BMI range (kg/m <sup>2</sup> )	% OF MATCHED SAMPLE		
		Baseline	6 Months	12 Months
Very severely underweight	< 15.0	0	0	0
Severely underweight	15.0 to 15.99	4.1	3.4	3.4
Underweight	16.0 to 18.5	34.7	35.3	35.7
Normal (healthy weight)	18.51 to 24.99	41.7	39.6	39.6
Overweight	25 to 29.99	13.2	14.9	14.5
Obese Class I (Moderately obese)	30 to 34.99	3.7	3.8	4.7
Obese Class II (Severely obese)	35 to 39.99	2.5	3.0	1.7
Obese Class III (Very severely obese)	over 40	0	0	0

Table 9b.

**A comparison of percentage of volunteer cohort in various BMI classifications at baseline, 6 and 12 months (matched whole sample MEN ONLY)**

<i>(WHO)</i> <i>CLASSIFICATION</i>	BMI range (kg/m <sup>2</sup> )	% OF MATCHED SAMPLE (MEN)		
		Baseline	6 Months	12 Months
Very severely underweight	< 15.0	0	0	0
Severely underweight	15.0 to 15.99	2.0	2.0	1.1
Underweight	16.0 to 18.5	30.3	25.7	27.4
Normal (healthy weight)	18.51 to 24.99	46.5	48.5	49.5
Overweight	25 to 29.99	14.1	15.5	15.8
Obese Class I (Moderately obese)	30 to 34.99	6.1	6.2	5.3
Obese Class II (Severely obese)	35 to 39.99	1.0	1.0	1.1
Obese Class III (Very severely obese)	over 40	0	0	0

Table 9c.

**A comparison of percentage of volunteer cohort in various BMI classifications at baseline, 6 and 12 months (matched whole sample)**

<i>(WHO)</i> CLASSIFICATION	BMI range (kg/m <sup>2</sup> )	% OF MATCHED SAMPLE (WOMEN)		
		Baseline	6 Months	12 Months
Very severely underweight	< 15.0	0	0	0
Severely underweight	15.0 to 15.99	5.6	4.3	5.0
Underweight	16.0 to 18.5	37.8	41.3	41.4
Normal (healthy weight)	18.51 to 24.99	38.5	33.3	32.9
Overweight	25 to 29.99	12.6	14.5	13.6
Obese Class I (Moderately obese)	30 to 34.99	2.1	2.2	4.3
Obese Class II (Severely obese)	35 to 39.99	3.5	4.3	2.9
Obese Class III (Very severely obese)	over 40	0	0	0

Table 10.

**A comparison of percentages classified as being overweight (BMI $\geq$ 25) and obese (BMI $\geq$ 30) among the general population in England 2010 and the volunteer cohort at baseline, 6 and 12 months**

<i>Age in years</i>	BMI CLASSIFICATION	Health Survey for England 2010	Volunteer Cohort (%)		
			Baseline	6 Months	12 Months
45-54*	Overweight	44	33*	28*	31*
	Obese	35	0*	6*	6*
55-64	Overweight	44	13	13	12
	Obese	36	7	9	6
65-74	Overweight	53	14	20	17
	Obese	28	6	5	4
75+	Overweight	50	17	9	18
	Obese	25	0	3	3

Note: \* indicates that volunteer cohort percentages are based on those aged 50-54.

### 3.23 Continuous Household Survey for Northern Ireland 2011-11

Recent figures from the 2010-11 Continuous Household Survey (CHS) for Northern Ireland indicate that sedentary activity tends to increase with age. Table 11 shows that approximately 68% of the 50-69 year olds reporting 'No days per week' normally spent in sport or physical activity. The figure for sedentary behaviour increases to 81% of those aged 70+ years. In addition, the figures on the actual amount of time spent on sport and physical activity mirror these findings.

By contrast, figures from this study indicate strikingly much higher rates of physical activity among older volunteers and much lower rates of sedentary behaviour. Direct comparisons with the CHS figures presented in tables 9 and 10 are not possible due to differences in the questions used but the general trends are clear. Responses to the three separate questions on physical activity (vigorous, moderate, mild) were combined to arrive at percentage figures for sedentary behaviour in the previous seven days. The percentage indicating that they had been engaged in 'no days' of physical activity in the previous seven days was 3.2% at baseline. This figure rose to 4.7% at 6 months and dropped again to 3.5% at 12 months, thus indicating that sedentary behaviour was low and stable for the first 12 months of the study.

Table 11

**Continuous Household Survey (2010-11) figures for the number of days per week normally spent participating in sport and physical activity**

	% of respondents participating...								Base
	0 days	1 day	2 days	3 days	4 days	5 days	6 days	7 days	
<i>All</i>	59	14	10	8	3	2	1	3	3,529
<i>Aged 50-</i>	68	12	9	4	1	1	0	3	1,125
<i>Aged 70+</i>	84	8	5	3	0	1	0	0	542
<i>Aged 50-</i>	67	13	10	4	1	1	0	3	872
<i>Aged 65+</i>	81	9	5	3	0	1	0	1	795

Table 12

**Continuous Household Survey (2010-11) figures for time normally spent per week participating in sport and physical activity**

Profile of respondent	% of respondents participating for following times during a week				Base
	No time	Less than 2.5 hrs	2.5 and less than 5 hrs	Over 5 hours	
All respondents	55	20	15	10	3,216
Aged 50-69	66	15	11	8	1,053
Aged 70 and over	83	6	7	4	525
Aged 50-64	64	16	12	8	809
Aged 65 and over	80	8	7	5	769

3.24 *New Guidelines on recommended activity levels*

A new report in 2012 entitled ‘Start Active, Stay Active’ issued by the four Chief Medical Officers (CMOs) of England, Scotland, Wales and Northern Ireland includes new guidelines on recommended activity levels for older people for the first time in the UK. The report highlights that across the UK, participation in physical activity declines significantly with age for both men and women and also varies between geographical areas of the UK and socio-economic position (table 13). Self-reported physical activity levels are highest in Scotland with 45% of men meeting recommended levels, compared to 33% of men in Northern Ireland, 36% in Wales and 40% in England. In addition a recent British Heart Foundation Report (2010) points to also a considerable difference in activities levels by age, with those aged 65 or above consistently less likely to meet the recommended amounts.

Table 13.

**Self-report measures of the percentage of adults meeting UK physical activity guidelines (2011).**

	Men	Women
Northern Ireland	33%	28%
England	40%	28%
Wales	36%	23%
Scotland	43%	32%

These figures show that more than half of adults do not meet the recommended levels of physical activity. However, the true position is likely to be worse than this

as individual self-report surveys tend to over-estimate the amount of physical activity people do. The 'Start Active, Stay Active' report further highlights the risks of excessive sedentary behaviour and stresses the importance of physical activity for people of all ages. Emerging evidence from systematic reviews highlighted by the Sedentary Behaviour and Obesity Expert Working Group in the UK (2010) showed an association between sedentary behaviour and overweight and obesity, with some research also suggesting that sedentary behaviour is independently associated with all-cause mortality, type 2 diabetes, some types of cancer and metabolic dysfunction. This report explicitly recognises that older adults (65+) who participate in any amount of physical activity gain some health benefits, including maintenance of physical health and cognitive function.

According to the guidelines set out for older people in the CMOs report

*"...older adults should aim to be active daily. Over a week, activity should add up to at least 150 minutes (2½ hours) of moderate intensity activity in bouts of 10 minutes or more – one way to approach this is to do 30 minutes on at least 5 days a week." (p56).*

However, the evidence suggests that the overall volume of activity is key to the beneficial effects of physical activity rather than specific types of activity or combinations of intensity or frequency. Accordingly, the report suggest that

*"...older adults should aim to achieve the recommended amount of activity in a manner that is most convenient and comfortable for them" (p 40).*

The report also cites evidence from the US, Canada and UK that those older adults who regularly engage in moderate physical activity are likely to benefit from more vigorous exercise (75 minutes spread over a week) or combinations of vigorous and moderate activities. It is important to stress that individuals should seek medical advice on increasing their activity levels and that activity level increases need to be built up gradually over time (Kesaniemi, Riddoch, Reeder et al., 2010; Warburton, Charlesworth, Ivey et al., 2010; O'Donovan, Blazeovich, Boreham et al., 2010; Patterson & Warburton, 2010).

### 3.25 Summary- work in progress

Data to date suggest a pattern of maintenance in moderate and mild activity levels and BMI with some variability over time according to age and sex. It was also noted that physical health scores have indeed improved over time but psychological health scores remained stable. The relative stability in these scores over time suggests a situation of general health and activity maintenance among formal volunteers as a group. Analyses to date have necessarily been at an aggregate or group level in order to highlight the general temporal trends.

Work is currently in progress to collate and analyse the questionnaire data 18 months after baseline and analysis of the data will begin in August 2012. When data are available at 4 time points, the final report will be able to explore some of the factors (socio-economic, personal, organisational) contributing to individual differences in baseline health, activity levels and BMI scores for this group of older formal volunteers. The final report will also explore whether these factors relate to the changes trajectories over time in individual self-reported health and activity levels. With data available at four points in time, multilevel statistical analyses will be used to examine the factors associated with individual improvement, maintenance or decline in health and activity levels from baseline to 18 months.

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