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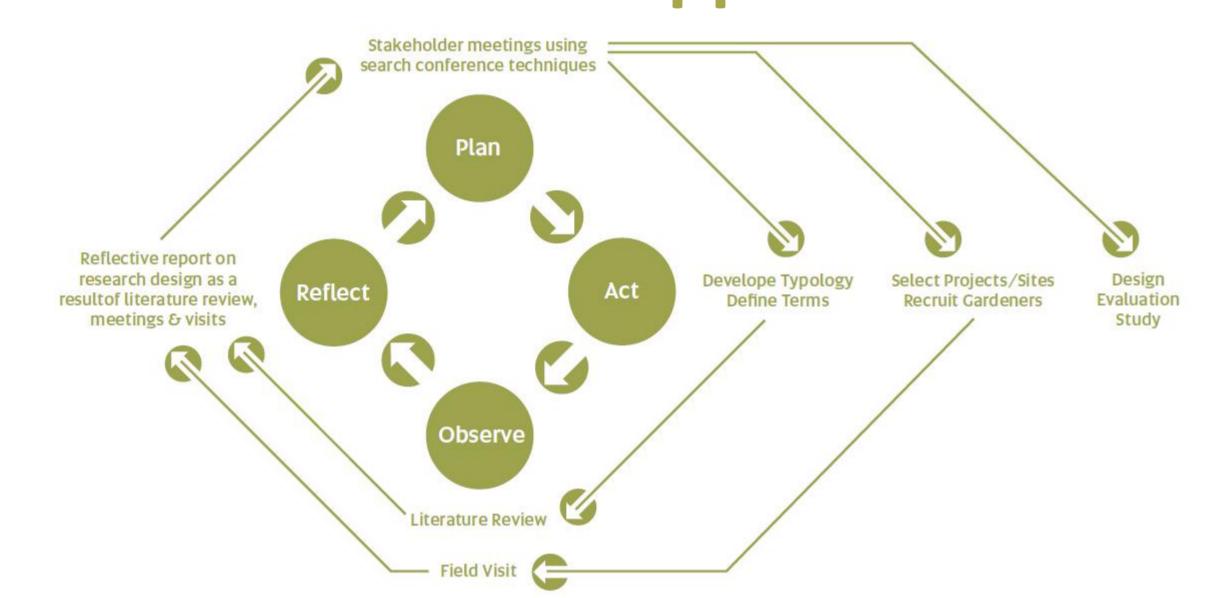




Allotment and Community Gardening for Health & Well-being in Later Life.

The GHOP project is exploring the ways in which different types of gardening activity may be beneficial for healthy ageing using a range of quantitative and qualitative research techniques. In 2012, we recruited adults aged over 50 who were gardeners at an allotment plot or community garden project into a 4-month prospective study. During this time we monitored their health and well-being using objective measures of physiological health and a questionnaire containing psychometric scales of psychological health and well-being. We also asked our participants to record their gardening activities and experiences using an activity log. The same methods were used to monitor a comparison group of non-gardeners recruited from allotment site waiting-lists. Following this we conducted semi-structured interviews to explore the experience of being a newcomer to allotment gardening with participants who were within a couple of years of taking on their plot.

An Action Research Approach.



To ensure the methodology was feasible and addressed the research aims effectively, we used an action research approach to design the study. This involved a 12-month scoping process where relevant stakeholders were brought together to input their ideas and experience into the study design. Stakeholders included governmental and charity organisations linked to ageing or environmental/green initiatives and their service users, as well as allotment officers and coordinators of community garden projects. The research team also made visits to allotment sites and community garden projects to scope suitable locations and the potential for recruiting participants from these sites.

Improvements in Health and Well-being.

- On the whole participants who were allotment gardeners spent more time gardening than those who were community gardeners, as shown in Figure 1.
- A significant decrease in body mass index was observed for allotment gardeners and male community gardeners. Time spent gardening may be important for this effect as the decrease was not observed for gardeners with low levels of physical activity.
- In keeping with previous findings^{1,2} decreases in perceived stress were observed in the gardener group, whilst an increase was observed in the waiting-list control group.
- Levels of self-esteem increased in the allotment and community gardener groups but decreased in the control group. This was only significant for female community gardeners.

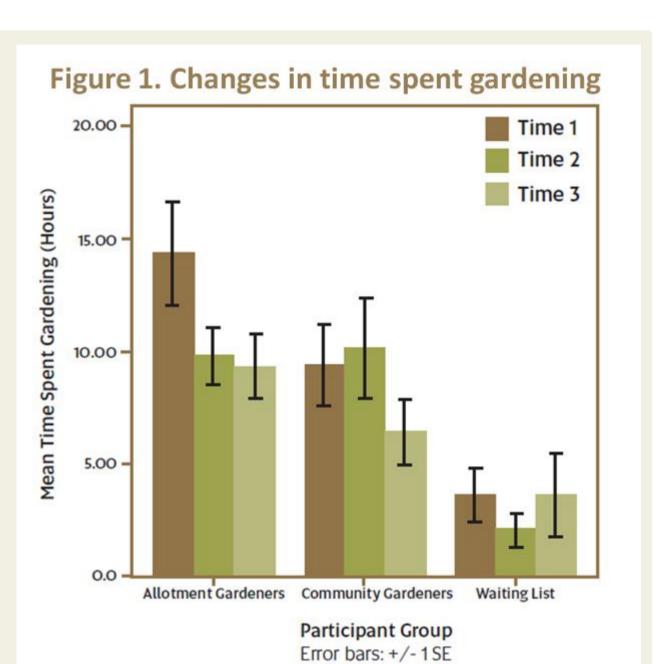
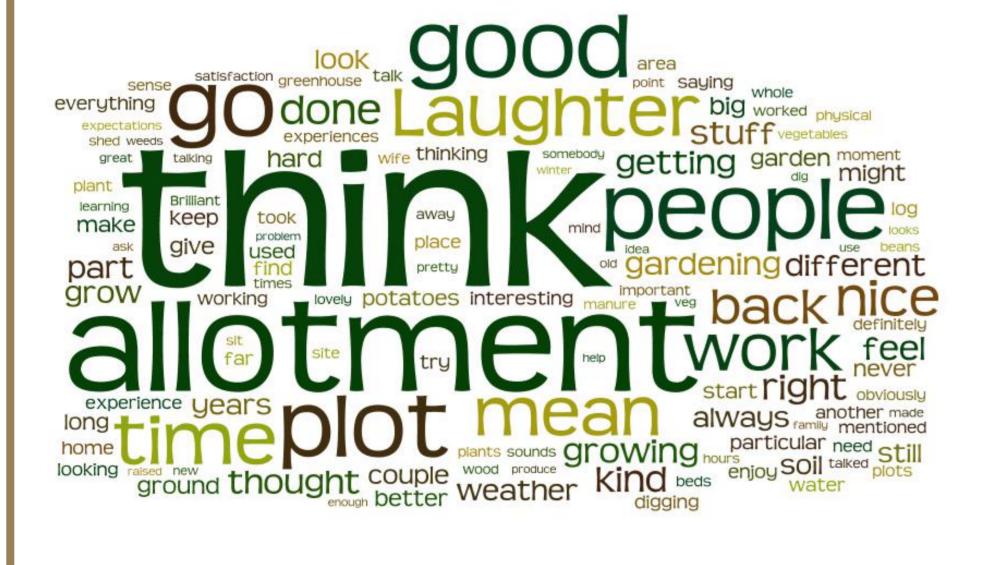


Figure 2. Changed in perceived stress Allotment Gardeners Community Gardeners Waiting List **Participant Group** Error bars: +/- 1SE



Qualitative Findings. The findings from a thematic analysis of the interviews with new allotment gardeners highlight additional benefits that were not picked up by our quantitative methods, and which reflect some of our previous findings³. The experiences discussed by the gardeners were categorised into six overarching themes, suggesting that allotment gardening affords meaningful and productive activity, offers escape into the natural environment, promotes mental well-being, creates a sense of community, provides physical activity and requires resilience. We are currently conducting more interviews specifically with community gardeners to supplement these findings.

> "The satisfaction of putting it in the ground, nurturing it ... harvesting it, putting it on the table and eating it. There is nothing to equal that benefit."

Future Directions. We have learned a lot about the benefits and challenges of conducting this type of field research and evaluation. The importance of taking into account seasonal effects as well as types and frequency of gardening is crucial to effective measurement of the benefits of gardening activity. We plan to develop a robust evaluation toolkit for use in future studies and to also follow-up this cohort in order to learn more about the long-term benefits of gardening activity. We would be very interested in hearing from other groups or researchers who would like to collaborate on future work.

REFERENCES

1] Hawkins et al. [2011] Allotment gardening and other leisure activities for stress reduction and healthy aging. Horttechnology, 21, 577-585. 2] van den Berg & Custers [2010] Gardening promotes neuroendocrine and affective restoration from stress. Journal of Health Psychology, 16, 3-11.

3] Hawkins et al. [2013] 'Doing' gardening and 'Being' at the allotment site: Exploring the benefits of allotment gardening for stress reduction and healthy aging. Ecopsychology, 5, 110-125.





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