



# WHAT'S COOKING?

## EVALUATION OF THE LONG-TERM IMPACTS OF THE STEPHANIE ALEXANDER KITCHEN GARDEN PROGRAM

Karen Block, Lauren Carpenter, Dana Young, Gabrielle Hayman, Petra Staiger, Lisa Gibbs



THE UNIVERSITY OF  
MELBOURNE

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## Executive Summary

### *Background*

The Stephanie Alexander Kitchen Garden Foundation is a not-for-profit charity that provides the inspiration, information, professional development and support for educators to deliver pleasurable food education to children in Australia. Delivered through the Stephanie Alexander Kitchen Garden Program (SAKGP), pleasurable food education teaches children to grow, harvest, prepare and share fresh, seasonal, *delicious* food in order to form positive food habits for life. The Kitchen Garden Foundation was established by Stephanie Alexander AO in 2004. The motivation for this work came from Stephanie's awareness of the growing childhood obesity problem in Australia. The aim of a kitchen garden program is for children to gain life skills, self-confidence, and a healthy relationship with food through practical learning that is integrated with the curriculum. The program also provides meaningful opportunities to engage students, parents and communities.

Building on a successful kitchen garden pilot program at Collingwood College in Melbourne from 2001, the Foundation worked to expand the program into 87 Victorian schools by 2012. This program model, developed from the pilot program, targeted Grades 3-6 (aged 8-12 years) and included a weekly minimum of 45 minutes in the garden with a garden specialist and 90 minutes in the kitchen classroom with a kitchen specialist, as an ongoing part of the school curriculum.

In 2019, the Foundation supports almost 2000 early childhood centres, primary, secondary and special schools nationally to deliver kitchen garden programs. The original program model has been adapted to allow greater flexibility and enable it to be translated appropriately for early childhood and secondary school settings. Schools and centres deliver the program to children from 0-18 years using a range of delivery formats and dedicated, shared or portable kitchen and garden infrastructure.

Evaluations of the short-term outcomes of the SAKGP conducted in Victoria (completed in 2009) and nationally (completed in 2012) indicated that the program increased children's willingness to try new foods and improved child knowledge and confidence in relation to growing, preparing, cooking and eating a diverse range of fresh foods (Block et al., 2009; Gibbs et al., 2013; Yeatman et al., 2012). Qualitative findings indicated that the program also had a positive impact on the social and learning environment of the school; promoted appreciation of cultural diversity within schools; provided benefits to students and volunteers through the volunteering component; and that skills and enthusiasm for cooking were transferred to the home environment (Block, Gibbs, Macfarlane, & Townsend, 2015; Block et al., 2012; Townsend et al., 2014).

The unanswered question at the time of these evaluations was whether the changes in primary school children's knowledge, attitudes and behaviours would have longer-term impacts and would influence food-related attitudes and behaviours when participants became independent young adults. It is now 10 years since the original evaluation of the SAKGP was completed in Victoria and the students involved in those first program schools are aged from 18-23 years. This provides a unique opportunity to examine the life course impacts of the program and to contribute new evidence internationally to understanding of the long-term influence of kitchen garden programs.

### *Evaluation aims and approach*

This mixed-methods evaluation aimed to explore the longer-term influence of the SAKGP by comparing the cooking, eating and gardening attitudes and behaviours of young adults who had participated in the program in primary school with those who had not undertaken the program. Consistent with theoretical models of the influence of cooking and gardening programs, the evaluation also assessed other potential impacts such as on health, wellbeing, and education.

While the recruitment methods, using a targeted social media campaign, were successful in reaching a large number of eligible participants, they were much less successful in reaching the number of SAKGP participants required to detect meaningful differences between the two evaluation groups.

A total of 1,168 respondents completed the online survey, of whom 10.1% (n=118) had participated in at least one year of the SAKGP in primary school and 89.9% (n=1,050) had not experienced the program. The evaluation had aimed to recruit at least 758 people into each arm of the study based on sample size calculations indicating that this was the number required to detect meaningful differences between those who had and had not participated in the SAKGP.

### *Evaluation findings*

When asked whether the SAKGP had influenced their lives in any way, 84% of survey respondents in the SAKGP group answered 'yes'. SAKGP participants who reported program influence listed a wide range of impacts. These included cooking skills (76%); cooking behaviours (65%); enjoyment of school (59%); gardening (52%); food choices (52%); health (46%); wellbeing (32%); study choices (13%); and career aspirations (11%).

These influences also featured strongly in the interviews, with participants generally agreeing that the program had encouraged them to be more open to trying new foods and to enjoying a wide range of vegetables and fresh produce. Interviewees also commonly attributed their confidence, enjoyment and skills in cooking to their participation in the SAKGP. Many discussed the specific skills they had learned and favourite dishes that they continued to cook with pride.

Some of the those interviewed reported cooking frequently, while for others – especially those still living with parents – cooking frequency was limited by circumstances. Through its influence on food choices and cooking skills, the program was also seen by those interviewed as having a positive impact on their ongoing health and wellbeing.

A particularly strong theme to emerge from the interviews was the influence of the SAKGP on participants' enjoyment of school. They all thoroughly enjoyed the program itself and, for several, it had been the highlight of their primary school years. Engendering positive feelings towards school is undoubtedly an important impact of the program. Participation in the SAKGP had also directly influenced the career choices of several of the participants, with two chefs, one pastry chef and two nutritionists forming part of that group. All interview participants enthusiastically endorsed the continuation of the program and most felt it should be made available to as many children as possible with several also urging that it continue into secondary schools.

Survey results compared those who undertook the SAKGP in primary school with those who did not. The reported results assessed respondents' willingness to try new foods; cooking confidence, behaviours, and identity; influences on cooking habits; food growing behaviour; fruit and vegetable consumption; self-rated health and wellbeing; and BMI based on self-reported height and weight. While, for the majority of these results, trends were detected indicating that those who had participated in the SAKGP scored more positively than those who did not, no statistically significant differences were observed for any of these measures. There were no survey items where SAKGP participants scored negatively compared with the comparison group. When reporting the age at which they learned to cook, SAKGP participants were much more likely to recollect learning most of their skills before the age of 12. This is an important finding, given evidence from other studies (Lavelle et al., 2016) that learning to cook at a younger age is associated in adults with increased cooking and food skills and confidence, healthier cooking practices and attitudes, and overall better diet quality when compared with those who learn to cook as adults.

### *Limitations of the sample*

Overall survey responses strongly suggested that the comparison group (as well as the SAKGP group) was particularly interested in food and cooking. This was probably the reason why these individuals were motivated to complete the survey, but it means they are unlikely to be representative of the wider population, and probably reduced the chances even further of detecting meaningful differences between the two groups. The evaluation's overall sample also comprised more females than males and was more highly educated than the general population in that age group.

Given the small sample size achieved for SAKGP participants, this study was not powered to detect meaningful differences and cannot be assumed to be representative of all those in the target group for this evaluation. While the survey results showed positive trends consistent with the qualitative findings, a larger trial is required to test the program. Consistent with other studies which have shown benefits of learning to cook in childhood, participants in the qualitative interviews reported positive program impacts related to both health and education.

## Background

### *Evidence of positive outcomes from the Stephanie Alexander Kitchen Garden Program for primary school children*

The Stephanie Alexander Kitchen Garden Foundation is a not-for-profit charity that provides the inspiration, information, professional development and support for educators to deliver pleasurable food education to children in Australia. Delivered through the Stephanie Alexander Kitchen Garden Program (SAKGP), pleasurable food education teaches children to grow, harvest, prepare and share fresh, seasonal, delicious food in order to form positive food habits for life. The Kitchen Garden Foundation was established by Stephanie Alexander AO in 2004. The motivation for this work came from Stephanie's awareness of the growing childhood obesity problem in Australia. The aim of a SAKGP is for children to gain life skills, self-confidence, and a healthy relationship with food through practical learning that is integrated with the curriculum. The program also provides meaningful opportunities to engage students, parents and communities.

Building on a successful kitchen garden pilot program at Collingwood College in Melbourne from 2001, the Foundation worked to expand the program into 87 Victorian schools by 2012. This program model, developed from the pilot program, targeted Grades 3-6 (aged 8-12 years) and included a weekly minimum of 45 minutes in the garden with a garden specialist and 90 minutes in the kitchen classroom with a kitchen specialist, as an ongoing part of the school curriculum.

In 2019, the Foundation supports almost 2000 early childhood centres, primary, secondary and special schools nationally to deliver kitchen garden programs. The original program model has been adapted to allow greater flexibility and enable it to be translated appropriately for early childhood and secondary school settings. Schools and centres deliver the program to children from 0-18 years using a range of delivery formats and dedicated, shared or portable kitchen and garden infrastructure.

A mixed methods, pre and post, matched comparison study design was used to evaluate the impact of the SAKGP in Victorian Schools over a 2½ year period from 2006-2009 (Block et al., 2009). That early evaluation found that the program improved child knowledge and confidence in relation to growing, preparing, cooking and eating a diverse range of fresh foods and there was strong evidence that children participating in the program had a greater willingness to try new foods compared with their peers at schools not receiving the program (Block et al., 2009; Gibbs et al., 2013). Qualitative findings indicated that the program also had a positive impact on the social and learning environment of the school; promoted appreciation of cultural diversity within schools; provided benefits to students and volunteers through the volunteering component; and that skills and enthusiasm for cooking were transferred to the home environment (Block et al., 2015, 2012; Townsend et al., 2014). Following national expansion of the SAKGP, a new evaluation was conducted to assess the impacts in states outside Victoria. This national study reported similar impacts to those identified in the Victorian evaluation (Yeatman et al., 2012).

### *Longer-term impacts*

The unanswered question at the time of these evaluations was whether the changes in primary school children's knowledge, attitudes and behaviours would have longer-term impacts and, of particular interest, whether program participation would influence food-related attitudes and behaviours when participants became independent young adults.

To date there have been no long-term follow-up studies of the impacts of school-based garden or kitchen garden programs assessing their influence years after implementation (Ozer, 2007; Ratcliffe, Merrigan, Rogers, & Goldberg, 2011). Although there is a lack of empirical evidence, theoretical

models suggest the potential for longer-term outcomes. A socio-ecological conceptual framework for the impact of school gardens developed by Ozer (2007) identifies pathways between potential short-term (“proximal”) and long-term (“distal”) academic, environmental, health and social effects at the student, school, and family level. Building upon Ozer’s social ecological model, Ohly and colleagues (2016) also presented a conceptual model for the potential long-term outcomes of school gardening. These include healthier eating habits, including greater consumption of fruit and vegetables; academic and behavioural improvements; improved wellbeing; and enhanced social and cultural cohesion. Further support for the potential longer-term impacts of the Stephanie Alexander Kitchen Garden Program is provided by research conducted in Ireland by Lavelle and colleagues (2016). Their study, which comprised a nationally representative cross-sectional survey of 1049 adults aged 20-60 years, found that adults who had learned cooking skills as children or teenagers had increased cooking and food skills and confidence, healthier cooking practices and attitudes and better overall diet quality when compared with those who had learned cooking skills as adults.

It is now 10 years since the original evaluation of the SAKGP was completed in Victoria and the students involved in those first program schools are aged from 18-23 years. This provides a unique opportunity to examine the life course impacts of the program and to contribute new evidence internationally to understanding of the long-term influence of kitchen garden programs.

## Evaluation Approach and Methods

The aim of this mixed-methods evaluation was to assess the long-term impact of participation in the SAKGP. It included online surveys with young adults (aged 18-23) who did, and did not, participate in the program to enable comparison between the two groups. In-depth interviews were conducted with a smaller subsample of the survey participants who had experienced the SAKGP to explore their experiences, behaviours, and beliefs about program impact in greater depth.

Specifically, the surveys and interviews sought to explore:

- associations between current eating, cooking and gardening attitudes and behaviours of young adults and participation in the SAKGP
- any associations between health, wellbeing and career aspirations of young adults and participation in the SAKGP
- other influences on young adults’ eating, cooking and gardening attitudes and behaviours.

## Recruitment and data collection

### *Surveys*

All young adults who attended primary school for any time period between Grades 3 – 6 in Victoria, and who were aged between 18 and 23 years at the time of recruitment (April to December 2018) were eligible to participate in the study. Determination of previous exposure to the Victorian SAKGP was based on self-report of which primary school/s participants attended, cross-checked against records provided by the Stephanie Alexander Kitchen Garden Foundation.

Participants were recruited using a targeted awareness campaign via social media including Facebook, Instagram and Twitter; social media posts to Victorian TAFEs; advertising on closed university student Facebook groups and student portals; posting via Reddit; and distributing flyers through local sporting clubs and around the University of Melbourne. In response to relatively low numbers of respondents completing the survey who had taken part in the SAKGP, additional recruitment strategies were employed in the last few months. These included intensive advertising through the Kitchen Garden Foundation website and networks; boosted Facebook posts by the Kitchen Garden Foundation; ‘tagging’ of SAKGP schools in Facebook posts requesting them to share the post to their alumni; and



'tagging' of well-known SAKGP supporters in Facebook posts requesting them to share the post to their networks. Entry into a 'prize draw' was also offered to all participants as an incentive.

Interested participants clicked on a link embedded within online posts that took them to the online survey. Data were collected and managed using an online survey through the REDCap (Research Electronic Data Capture) an online data collection tool hosted at The University of Melbourne (Harris et al., 2009).

### *Interviews*

Survey participants could also indicate their interest in taking part in an additional face-to-face or telephone interview. Past participants of the SAKGP who indicated willingness to participate in the interview were then selected to represent a range of characteristics, to the extent that was possible, in terms of gender, geographic location of the primary school they attended, living situation, and their food, cooking and gardening behaviours and attitudes. Nineteen interviews were conducted.

## Evaluation Findings

As already noted, the evaluation aimed to explore the longer-term influence of the SAKGP by comparing the cooking, eating and gardening attitudes and behaviours of young adults who had participated in the program in primary school with those who had not undertaken the program. Consistent with theoretical models of the influence of cooking and gardening programs, the evaluation also assessed other potential impacts such as on health, wellbeing, and education.

For the quantitative (survey) component of the evaluation the outcomes of interest investigated were specified in advance as:

1. Primary outcome: Willingness to try new food
2. Secondary outcomes:
  - a. Cooking confidence and preparation of home-cooked meals
  - b. Consumption of fresh, seasonal produce
  - c. Eating a wide variety of fruit and vegetables
  - d. Increased self-reported health and wellbeing
  - e. Retention in the education system

For the qualitative component of the evaluation, the interviews explored these same themes in greater depth and were semi-structured to allow unanticipated outcomes to emerge. The use of open-ended questions allowed participants to focus on what was most important to them regarding their experiences of and opinions about the SAKGP.

While the evaluation recruitment methods were successful in reaching a large number of eligible participants, they were much less successful in reaching the number of SAKGP participants required to detect meaningful differences (of statistical significance) between the two groups. A total of 1,168 respondents completed the online survey, of whom 10.1% (n=118) had participated in at least one year of the SAKGP in primary school and 89.9% (n=1,050) had not experienced the program. We had aimed to recruit at least 758 people into each arm of the study based on sample size calculations indicating that this was the number needed to detect meaningful differences between those who had and had not participated in the SAKGP. Despite our intensive and extended recruitment efforts however, we fell well short of this target for those who had undertaken the SAKGP.

Given the inherent difficulty of reaching the relatively small proportion of the population who undertook the SAKGP when it was first offered (in far fewer schools compared with the number in

which it is currently offered), it is unlikely that any other recruitment methods would have been more successful. The following results should be interpreted in light of this important limitation.

For each of the primary and secondary outcomes of interest, the interview findings are presented first, followed by the survey findings (percentages, means and standard deviations). An additional section, comprising participant recommendations concerning the program, consists of qualitative findings only.

## Participant characteristics

### Surveys

As noted above, 118 survey participants had taken part in the SAKGP and 1,050 made up the comparison group. The majority of survey respondents were female, born in Australia and the average age was 20 years. Few respondents identified as Aboriginal or Torres Strait Islander (1%), and most had completed, or were currently completing year 12. The majority were still studying (77% of the SAKGP group and 85% of the comparison group) and still living at home with their parents (76% of the SAKGP group and 65% of the comparison group).

When asked whether the SAKGP had influenced their lives in any way 84% of those in the SAKGP group answered 'yes'. It is interesting to note that 11% of the comparison group also answered yes to this question, suggesting some confusion, possibly with other school-based cooking and gardening activities, and/or diffusion of program influences beyond those people directly involved as primary school students.

The characteristics of the survey participants are displayed in Table 1.

Table 1. Characteristics of the SAKGP evaluation survey participants

	SAKGP		Comparison	
	N	% or mean[sd]	N	% or mean[sd]
<i>Gender</i>				
Female	103	87.3	903	86.0
Male	15	12.7	134	12.8
Other	0	0	13	1.2
<i>Age (years)</i>	118	20.2 [1.7]	1046	20.9 [1.8]
<i>Born in Australia?</i>				
Yes	92	87.6	871	90.5
No	13	12.4	91	9.5
<i>Identify as Aboriginal/Torres Strait Islander</i>				
Yes	1	0.9	10	1.0
No	106	99.1	971	99.0
<i>Currently studying?</i>				
Yes	82	76.6	836	85.1

No	25	23.4	146	14.9
<i>What currently studying?</i>				
Secondary school	18	22.2	26	3.2
Certificate	6	7.4	23	2.8
Diploma	5	6.2	12	1.5
Undergraduate degree	44	54.3	612	74.3
Postgraduate Degree	3	3.7	123	14.9
Other <sup>1</sup>	5	6.2	28	3.4
<i>Living Arrangements<sup>2</sup></i>				
Share house	14	13.1	168	17.1
Halls of residence	1	0.9	54	5.5
With parents	81	75.5	633	64.5
With siblings	25	23.4	232	26.7
Living alone	6	5.6	23	2.3
With other relatives	5	4.7	33	3.4
With partner	2	1.9	102	10.4
With your child(ren)	0	0	9	0.9
<i>Has SAKGP influenced your life?</i>				
Yes	99	83.9	115	11.0
No	19	16.1	935	89.5

<sup>1</sup>Combination of listed options; <sup>2</sup>Respondents could select more than one option.

### Interviews

Of the 19 interviews conducted, 17 were with females and only two with males (this represented all the eligible male participants who consented to take part in interviews). Three of the interview participants were born in countries other than Australia – two in India and one in China. Thirteen participants were living with family and six were living independently (either in share houses, with a partner or alone). All but two of the participants were studying at the time of the interview with 11 reporting Year 12 as the highest level of education completed; three reporting completion of a bachelor's degree; and five completing a diploma, certificate course or apprenticeship. Participants represented a range in terms of program exposure (1 year only – 5 participants; 2 years – 6 participants; 3-4 years – 8 participants) and location of primary school attended (4 at regional schools; 6 outer-metropolitan; and 9 inner-metropolitan).

### Willingness to try new foods

#### Interviews

Most of the interview participants discussed ways in which the SAKGP had influenced their willingness to try new foods as a child. A number remarked that they had previously been 'fussy

eaters' and that the program widened their horizons. Several remembered the program exposing them to new foods, especially vegetables, that they weren't previously eating at home.

*I think it was that you would try things that you normally wouldn't try at home. You were eating vegetables. I know certainly in my household, we weren't eating vegetables, so it was quite an interesting kind of thing... I'd come home and be like, "Mum, we made these at school," and she'd be like, "Okay, we can try it." It did expose me to different food and stuff that I probably wouldn't be eating if it wasn't for that. (P1)*

*I found things that I ate that I wouldn't eat at home... because my mum and my dad wouldn't cook at home as such, but I would explore myself as I got older, trialling different things - like when I was 13, I tried to make ravioli. It broadened my horizons to what was out there rather than just packaged meals. (P7)*

Some interviewees reflected on the way the program introduced them to foods from different cultures.

*There was some kind of a vegetable soup, there was potato and leek soup and I'd never had that before, because most of the things I have at home are Indian cuisine. So, I was introduced to a lot more Western cuisine. (P3)*

*That's what I think the main thing that it taught me was, from a young age, sophistication of flavours. You know, I remember being around that age, like 8, and every Friday my mum would give us \$5, it's treat day and I would always go and get pickled octopus from the market, Greek stuff, whereas most kids would be going and getting an ice cream or a donut or something. (P9)*

While those interviewed almost invariably described themselves as being open to eating a wide range of unfamiliar foods, only one seemed completely sure that they could link this current trait to their participation in the program.

*I think I did learn a whole lot more from the actual thing. I was surprised about how much I actually did enjoy it - being fussy I was very against all fruits, vegetables, that sort of thing... I guess that led me to now my ability to just try things. Even if I don't like it, I'll always try something because I never know when I'll be surprised. (P7)*

It was more common however, for interview participants to reflect on how the program had influenced their willingness to try new foods as a child without explicitly linking that to their current attitudes to new foods.

### *Surveys*

Of the SAKGP participants who indicated that the program had influenced their lives, 52% nominated 'food choice' as one of the program influences.

The proportion of respondents who rated their willingness to try new foods at 6 or higher was similar in the SAKG (93.6%) and comparison groups (91.2%). As shown in Figure 1 below, a very high proportion in both the program and comparison rated themselves as willing or very willing to try new foods. No statistically significant differences were observed between the groups.

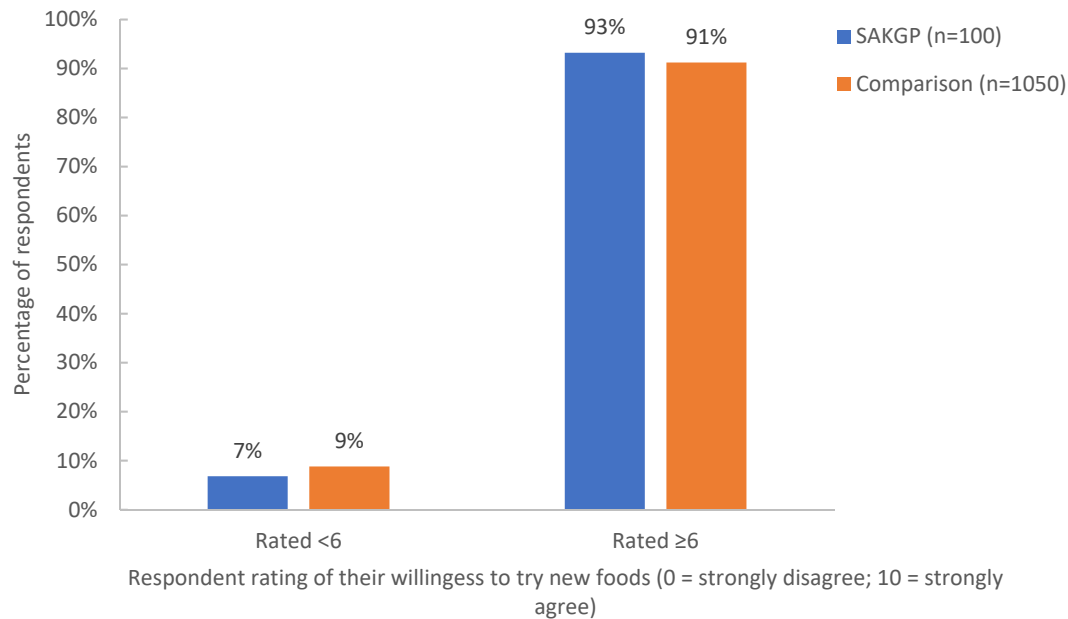


Figure 1 Proportion of respondents who reported they were willing to try new foods above or below 6 on rating scale

## Cooking confidence, skills and behaviours

### Interviews

All interview participants talked about the influence of the program on their cooking skills, confidence and behaviours. Most described themselves as competent and confident cooks and generally attributed this, at least in part if not completely, to the SAKGP.

*Fairly confident...That's 100 percent a mix between the kitchen garden [program] influence and that continued at home as well. Learning to cook... I think doing the kitchen garden got you into the mood of you had to do it yourself. (P11)*

*I cook all of my meals at home, pretty much. I don't really eat out a lot... I do cook for friends and share dinners often, too. I'd say I'm quite confident, I can follow recipes but can also make stuff up and am happy to just go for it in the kitchen without any assistance from books, videos and that sort of thing. (P.13)*

*[The program] really helped my understanding of how to cook healthy food and flavours and also conceptualising flavours as well (P.9)*

Many recalled learning specific skills such as time management, food handling and, particularly, knife skills.

*I learned tons, like food handling, knife skills – I probably remember the knife skills the most. I learned tons! (P.6)*

*Probably being able to manage time... Basic knife skills as well, I'd watched my mum in the kitchen previously, but it wasn't until I'd been involved in the process myself that I could go on and cook my own meal at home with my sisters who did the program too. It was a really eye-opening experience... I now have the skills to*

*be able to cook my own meals, rather than getting one of those microwave dinners all the time. There are cost savings, too. I have a lot to thank that program for, I'm able to be more self-sufficient and it has set me up for life. (P.14)*

*My knife skills definitely, because before I even got to my apprenticeship I already had knife skills from being in Garden Foundation. So, knife skills, the knowledge of how food grows and all that sort of stuff. The Foundation gives you basically your first six or seven months of your apprenticeship in like 2 years. That's how big it is. I don't think we actually realised the first six months of your apprenticeship you're literally learning what you could be learning at seven or eight even. (P. 12)*

Several participants also described a favourite dish – such as risotto or homemade gnocchi – that they had learned to make in the program, then introduced to their families at home, and continued to cook now with pride. A number of others talked about continuing to use recipes that they had first encountered through the program.

While most of the interview participants reported that they enjoyed cooking, and several talked about cooking for pleasure or relaxation, frequency of cooking in many cases was also strongly determined by life circumstances. Participants who reported cooking relatively rarely generally said that it was because of busy lives and that they lived with family members who cooked for them. One participant reported that she had become the chief cook for her family since her mother died. Another recounted how much her cooking had changed since she moved out of home:

*Doing the Stephanie Alexander program, I cooked a lot with zucchinis because that's what we grew, but the only person in my family that eats zucchinis is my mother. My dad, my brother and sister don't, so if I wanted to make zucchini fritters or stuffed zucchini or something, I couldn't. Now that I'm living by myself, I have that freedom to have whatever I want... Living by myself and only needing to feed one person, I find I can't cook every single day. I meal prep, so I'll choose two different recipes and make them then I'll freeze it away in portion sizes and just defrost and eat that. Only because I like cooking with fresh ingredients and I can't do so if I'm doing it every day because they go bad in the fridge. (P. 16)*

### Surveys

Of those SAKGP participants who stated that the SAKGP had influenced their lives, 76% nominated cooking skills and 65% nominated cooking behaviours as being amongst those impacts.

Both SAKGP participants and the comparison group rated themselves highly (8.3 and 8.1 out of 10 respectively) in terms of cooking confidence (Figure 2) and both groups reported making a meal from fresh ingredients an average of 4.2 days out of 7 per week. No statistically significant differences were observed between the two groups of respondents regarding their cooking confidence or the days per week they reported making a meal from fresh ingredients.

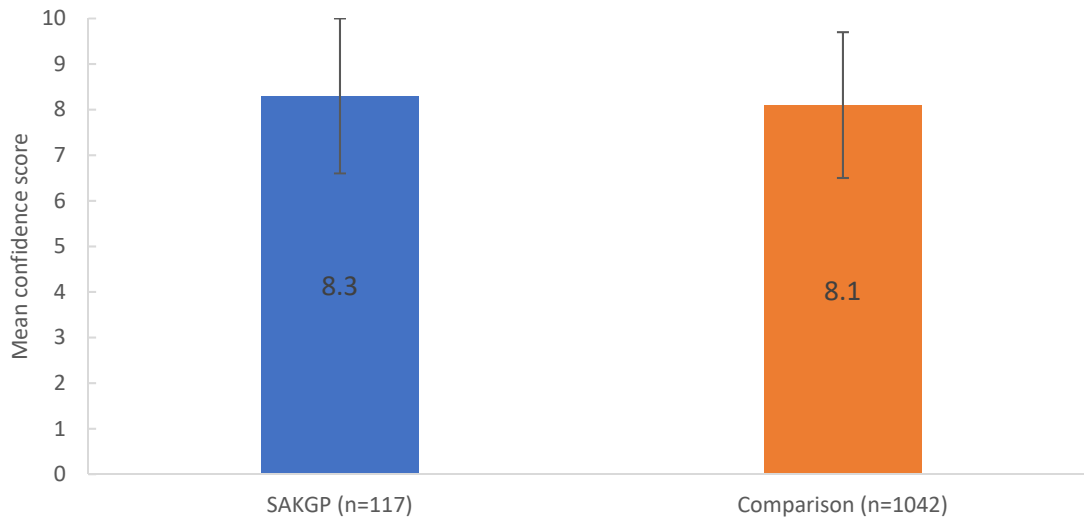


Figure 2 Mean cooking confidence score for SAKGP and Comparison respondents based on 10pt scale: 0 (not confident) to 10 (very confident)

We also asked participants to estimate on how many days in a usual week they prepared a meal by themselves or with someone else. SAKGP participants reported that they prepared a meal on their own 4.5 days per week and with someone else 2.1 days per week while the comparison group reported 4.1 and 1.9 days for those questions (Figure 3). Again, there were no statistical differences between the two groups.

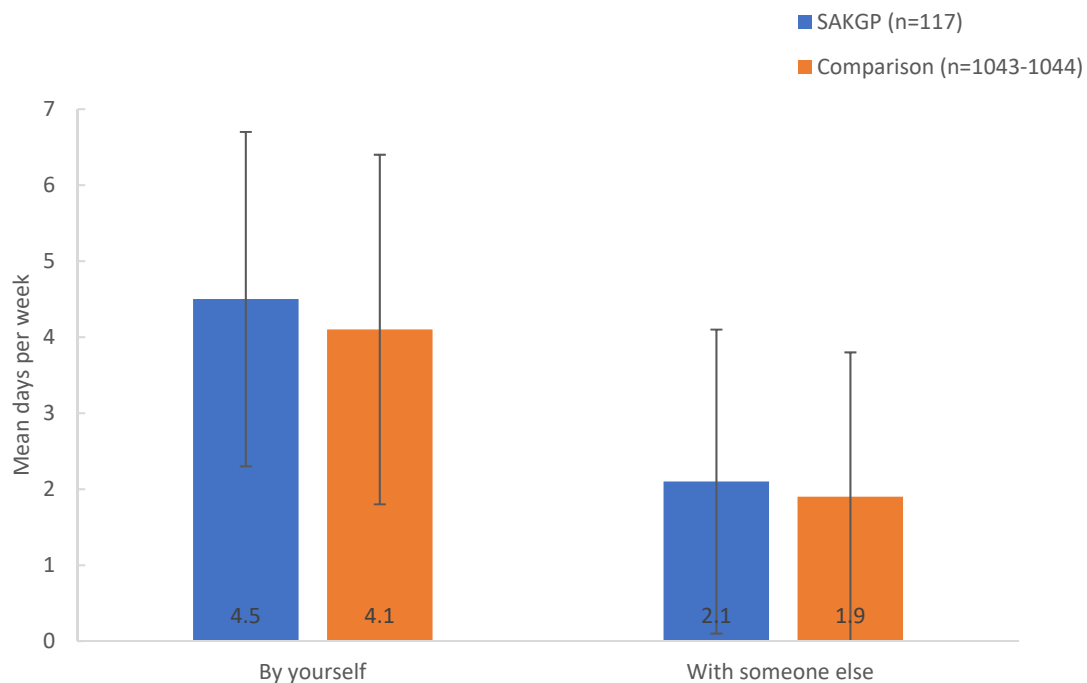


Figure 3 Mean days per week respondents reporting cooking meals by themselves or with someone else

Figure 4 below provides participants' self-ratings concerning their 'cooking identity'. While there were no statistical differences between the two groups, SAKGP participants rated themselves slightly higher on questions concerning perceived cooking competence and satisfaction with preparing meals, while the comparison group scored slightly higher when responding to the statement: "I would describe myself as a foodie".

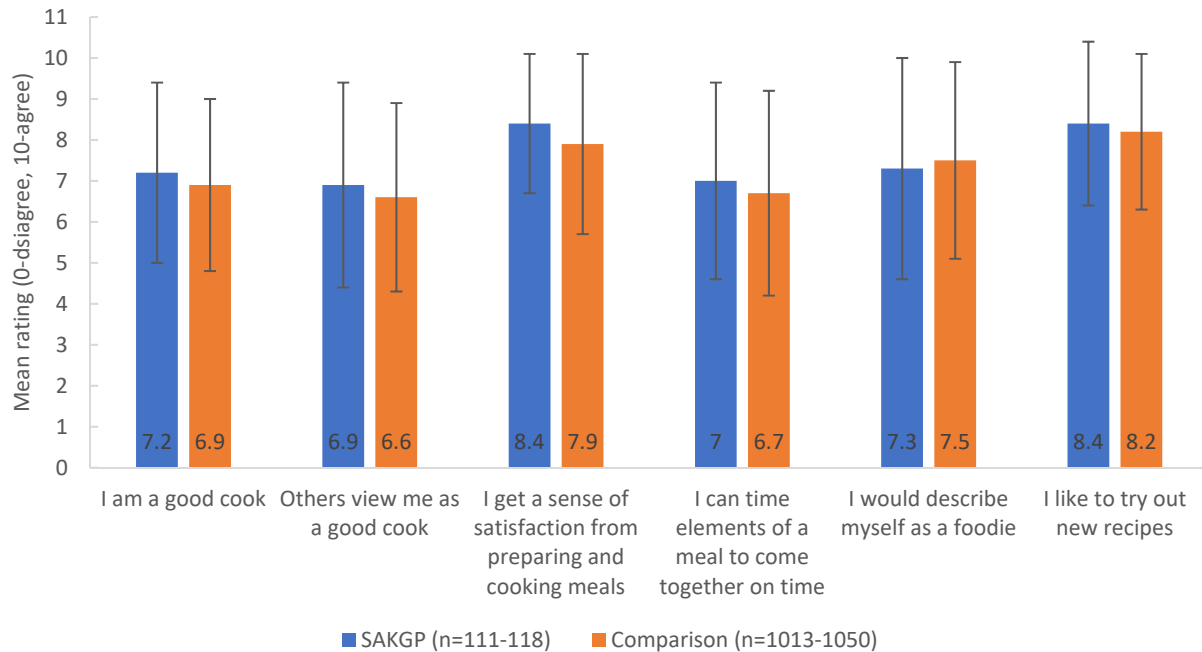


Figure 4 Mean respondent ratings for cooking identity measures on a scale ranging from 0 (disagree) to 10 (agree)

The survey also asked respondents to report the age at which they had learned most of their cooking skills (Figure 5), with SAKGP participants much more likely to report acquiring their skills before the age of 12 (48%) compared with the comparison group (22%).

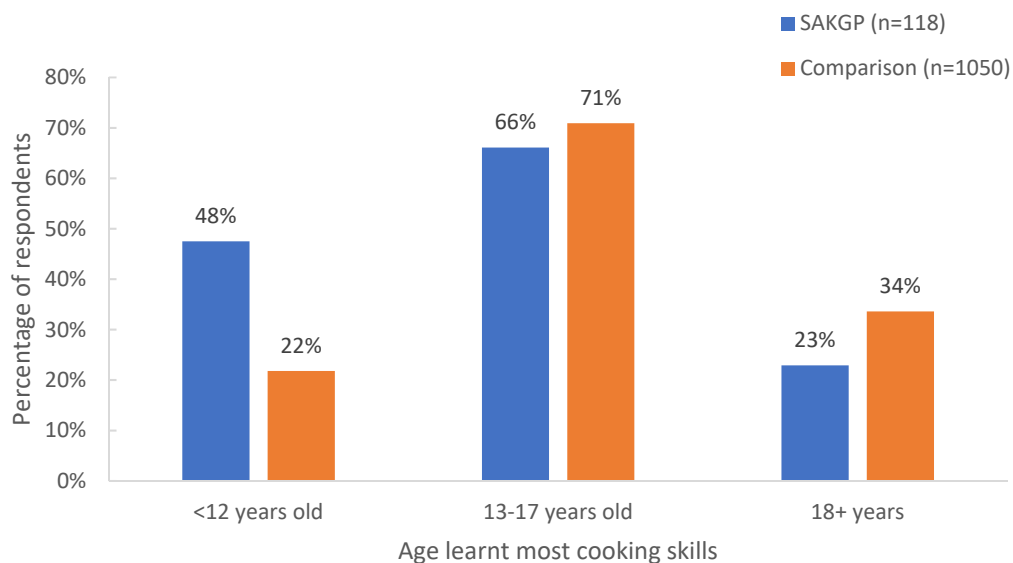


Figure 5 Percentage of respondents who reported learning most of their cooking skills at specific ages



Survey respondents were also asked to nominate specific people and factors that had influenced their cooking habits. As shown below in Table 2, both groups of respondents reported their mothers most often as a key influence, followed by their fathers. Just over half of the SAKGP participants nominated the program as influencing their cooking habits as well. Many of the other possible influences were nominated by a greater proportion of the comparison group. These included social media, cooking websites, TV shows, magazines, their partner, secondary school and cultural background. This broad array of cooking-related interests might also be perceived as aligning with this group’s slightly greater tendency to describe themselves as ‘foodies’ as noted above.

Table 2 Proportion of respondents who reported specific people and factors had influenced their cooking habits

	SAKGP		Comparison	
	N	%	N	%
Mother	98	83.1	938	89.3
Father	61	51.7	496	47.2
SAKGP	60	50.9	21	2.0
Social Media	51	43.2	518	49.3
Friends	41	34.8	453	43.1
Primary school	40	33.9	56	5.3
Grandparents	38	32.2	363	34.6
Budget/finances	36	30.5	337	32.1
You Tube	36	30.5	282	26.9
Cooking websites	34	28.8	363	34.6
Books	29	24.6	241	23.0
TV shows	23	19.5	270	25.7
Partner	22	18.6	267	25.4
Secondary school	21	17.8	227	21.6
Cultural background	18	15.3	254	24.2
Other relatives	16	13.6	166	15.8
Magazines	14	11.9	197	18.8
Employer	13	11.0	92	8.8
Culinary training	7	5.9	38	3.6
Other cooking skills programs	4	3.4	16	1.5

## Consumption of fresh, seasonal produce

### Interviews

Many of those interviewed proclaimed a love of fresh fruits and vegetables and emphasised that these ingredients formed the basis of their cooking. A number traced this back to the SAKGP, describing how their horizons with respect to fresh produce had been ‘broadened’ through the program. One or two also explicitly raised the topic of eating produce that was seasonal.

*[My family] weren't eating a lot of eggplants, artichokes and stuff like that. It was very much the traditional three veg, carrots and stuff like that. Frozen veggies and stuff... Yeah, so [the program] was designed to have the seasonal foods and making the most of seasonal produce. That was emphasised in the garden as well... I think the good thing was you were provided with all the recipes, so you could take them home and you're like, "Mum, this is in season now; it's cheaper now, you can get it from the grocery". So, I guess it provided the impetus to go out and buy it... I think we definitely [still] shop for seasonal produce, but we'll always have our go-to staples that are always in there, whether or not they're seasonal or not. But definitely with fruit and stuff, you know when particular melons or strawberries are in. You can see by the price. (P. 1)*

### Surveys

No statistically significant difference was observed between the SAKG and comparison respondents in relation to how often they use in-season produce when they cook (Table 3). Approximately 20% of respondents were unsure, with 19.7% (n=23) of SAKG respondents and 22.9% (235) of comparison respondents reported that they did not know how often they used in-season produce when they cooked meals.

Table 3 Mean scores for use of in-season produce when cooking meals

	SAKGP		Comparison	
	N	Mean [sd]	N	Mean [sd]
How often use in-season produce when cook meals <sup>1,2</sup>	94	6.7 [2.2]	792	7.0 [2.1]

<sup>1</sup>Rating on 10pt scale: 0 (never) to 10 (very often); <sup>2</sup>Included only those who reported having access to a kitchen in which to cook

## Growing food

### Interviews

Only a small number of interview participants reported that they were actively growing their own food, other than herbs, though in some cases they lived in a family home where their parents were active gardeners. Others reported that they grew a few herbs only or were unable to grow anything due to living in an apartment. Despite this, several commented that they nonetheless appreciated the gardening skills and knowledge they had gained from the program.

*Probably at the time I wasn't as appreciative of the gardening section, but as I've grown up I'm really glad that I have a little bit of knowledge from that and a greater appreciation of gardening as well. (P. 13)*

*I still do it with my mum and she's really into gardening, so I just leave that to her. She went to Europe, so I was in charge of the garden. Although I feel like the gardening side didn't stick with me, but I still have the interest. So, I just Googled how to prune cucumber plants and then pruned them and then they went off and there were so many cucumbers. Although I might not have the memories of the gardening things I still have the motivation. I still have that enjoyment of, "I want to grow food". (P. 9)*

Some participants also anticipated they would take up gardening later in their lives even if they were not doing it now.

*Not now. I have my own little herb garden but because I'm always at work and because I'm travelling a lot I don't get to go back to my roots as much as I would have liked to. After about five years... hopefully when I get a high position job then I can go back to growing my own food. (P. 12)*

Several participants appreciated having learned through the SAKGP about sourcing and growing food in ways that minimised the environmental impact.

*I think [growing your own food is] a very good practice. When I was younger I know we used to have our own little vegie patch. Even if it's just small, growing chillies or something. I only studied here 'til grade eight, then I went back to India, so I wasn't here. So, because of moving, and travelling and stuff as well, we didn't really get the time. My mum is very passionate about plants in general, like flowers, and growing things, but we don't really do it anymore. But, I think it's a very good way of connecting to the environment. It makes you feel what sustainability is as well, from a young age. Even when you don't understand the importance, you feel like you connect more to the environment. If you're growing something, you're taking care of it, you're nurturing it, it's a different sort of responsibility. It's a different sort of discipline, as well. And, you enjoy it because when things grow it makes you happy. (P. 18)*

*So, I'm studying at the moment at Uni and I'm still living at home and I volunteer on a couple of environmental campaigns... So, that's always what I've been really passionate about and I think that kind of ties into doing kitchen/garden as well 'cause it's about appreciating where your food comes from and not just being okay with eating any old crap out of a packet. (P. 17)*

### Surveys

Most respondents reported that they had access to somewhere they could grow food (SAKG: 82.9%, comparison 74.4%). Rates of growing at least some food at home were high amongst these respondents – 79.1% for the SAKGP group and 78.7% for the comparison group (Table 4), but no statistically significant difference was observed. Of SAKGP respondents who reported program-related influences, 52% nominated gardening as one of those influences.

Table 4. Proportion of SAKGP and Comparison participants who reported growing herbs, fruits or vegetables at home<sup>1</sup>

	SAKGP (n=91)		Comparison (n=747)	
	N	%	N	%
Yes	72	79.1	588	78.7
No	19	20.9	159	21.3

<sup>1</sup>Analysis includes only participants who reported they had access to somewhere they could grow food.

## Eating a wide variety of fruit and vegetables

### Interviews

As noted above, many of the interview participants spoke about loving to eat and cook with fresh vegetables. One participant described how they felt that the SAKGP had ‘normalised’ healthier eating.

*[My parents are] pretty healthy eaters as well. So, that would be a big basis of it and definitely the kitchen garden, because I think in my formative years and probably the reason why stuff was with me so much was because I was so young and it's one thing to have something being taught to you at home, but it's a whole different thing to have it reinforced in an institution. It sets you up to think that that is acceptable – that is like a norm in society that that's how you eat, even though as an adult I can recognise it's not a norm in society at all and quite the opposite (P. 9)*

### Surveys

On average, SAKG and comparison respondents reported consuming 3-4 different types of fruit and 6-7 different types of vegetables in a usual week. No differences were observed between the groups.

Table 5 Mean number of fruit and vegetable types consumed per week by SAKGP and Comparison groups

	SAKGP		Comparison	
	N	Mean [sd]	N	Mean [sd]
Fruit	108	3.5 [1.5]	997	3.5 [1.7]
Vegetables	105	6.4 [2.4]	982	6.4 [2.3]

There was no statistical difference between the two groups in their answers to the question of how many serves of fruits and vegetables they consumed per day, with both groups close to the recommended standard of two serves of fruit daily but neither meeting the recommended standard of five serves of vegetables daily.

Table 6 Mean daily serves of fruit and vegetables for SAKGP respondents and Comparison respondents

	SAKGP		Comparison	
	N	Mean [sd]	N	Mean [sd]
<b>Serves (daily)</b>				
Fruit	108	1.9 [1.3]	998	1.8 [1.8]
Vegetables	105	3.1 [1.5]	992	3.2 [1.7]

## Self-reported health and wellbeing

### Interviews

While the interview questions did not really explore whether participants thought of themselves as 'healthy', most described themselves as preferring to eat healthy food and several felt that they acquired this preference through the program.

*It was definitely there, I don't think the nutrition as a theory side was there, but you could tell in the meals, because I was a very, very fussy kid and there'd always be things like salads and really actually healthy food. Things like the beetroot: you wouldn't cook a chocolate cake unless it had a healthy component to it. Kids understood that, [though] at times I found it hard because I was quite a fussy kid, but then you learn to suck it up and actually deal with it because you understand that you've got to eat healthy to live properly and be healthy. (P. 7)*

*I think it was the catalyst that grew my interest in health, wellbeing, food and nutrition. I always had been naturally inclined that way but having the Kitchen Garden experience really accelerated things. (P. 13)*

### Surveys

A greater proportion of SAKGP respondents reported their general health to be good, very good or excellent compared to comparison respondents (Figure 6). SAKGP respondents also had slightly higher mean scores on the personal wellbeing index which assesses subjective feelings of wellbeing (Figure 7), however neither of these differences reached statistical significance. Of SAKGP participants who reported program influences, 46% stated that it had influenced their health.

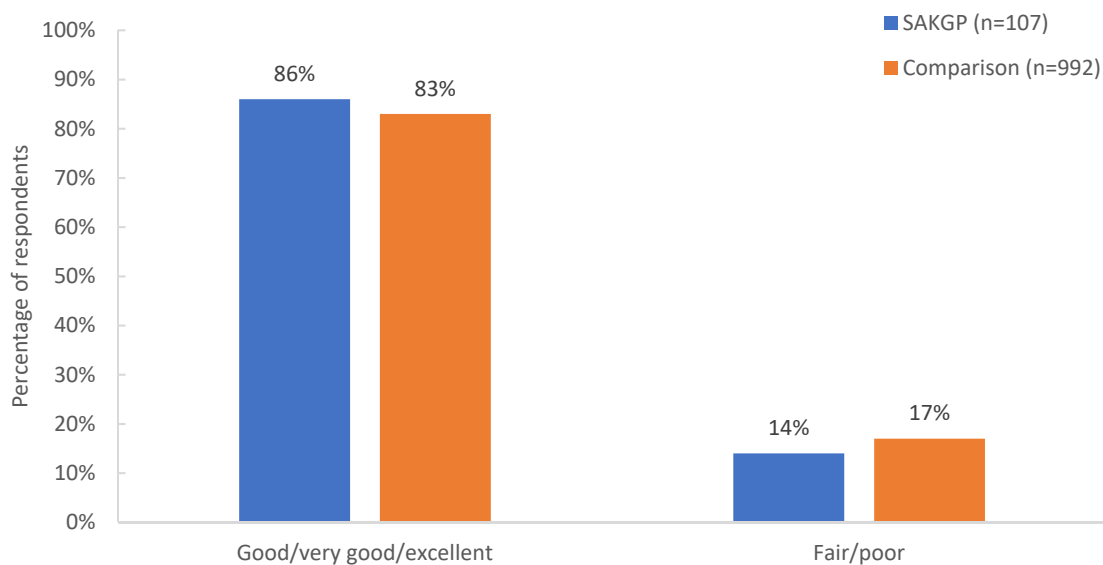


Figure 6 Respondents rating of their general health by SAKGP and Comparison group

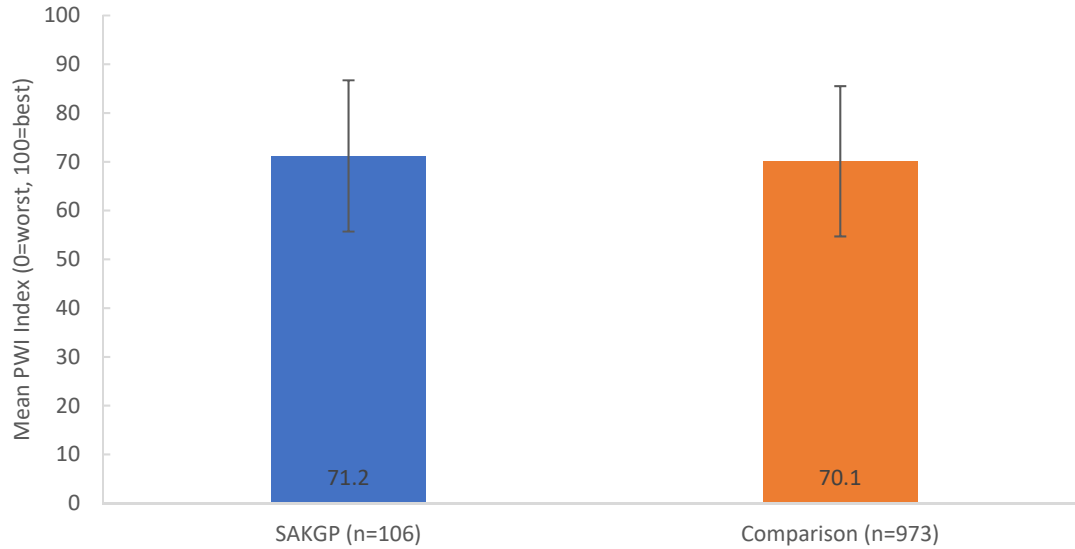


Figure 7 Mean Personal Wellbeing Index (PWI) score for SAKGP and Comparison respondents

Participants were also asked to rate their attitude towards food in terms of its 'healthiness' with no differences found between the two groups.

Table 7 Mean rating by participants for their attitude towards food

	SAKGP		Comparison	
	N	Mean [sd]	N	Mean [sd]
Attitude <sup>1</sup>	108	6.2 [2.2]	999	6.2 [2.2]

<sup>1</sup>Question response was a scale ranging from 0 (I eat what I like and do not worry about the healthiness of food) to 10 (I am very particular about the healthiness of the food I eat).

More of the SAKGP participants reported height and weight that placed them in 'the healthy weight' category (73.1%) compared with the comparison group (68%) but these differences were not statistically significant.

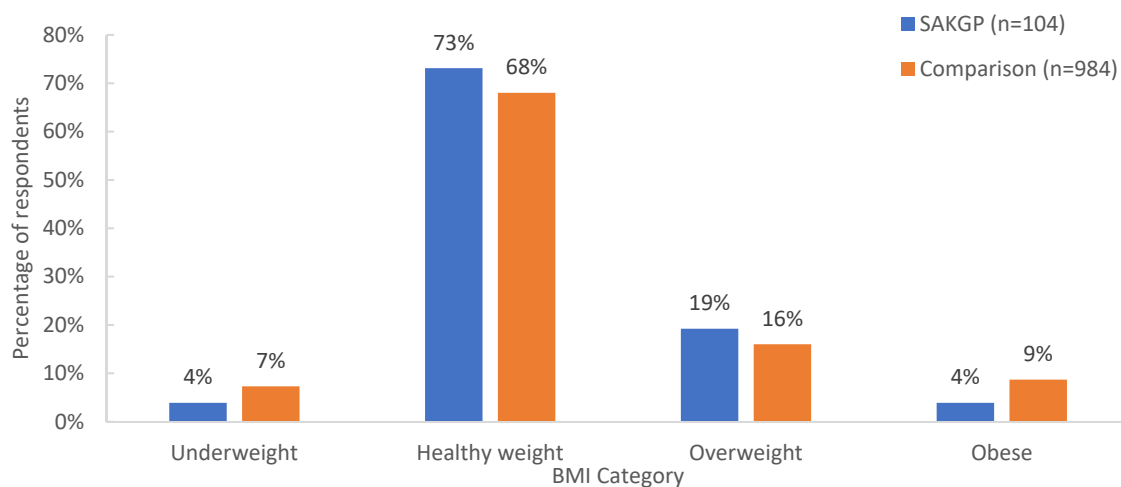


Figure 5 Percentage of respondents in BMI categories by SAKGP and Comparison group according to WHO guidelines (NHMRC, 2013)

## Retention in the education system, attitudes to school and influence on future career

### Interviews

While interview participants did not speak directly about an association between the program and continuing their education, it was clear that many attributed their positive feelings about primary school to their participation in the SAKGP. Almost all of the interview participants began or concluded the interview by talking about how much they enjoyed the SAKGP. Many spoke about specific aspects that they enjoyed such as sitting down to share the food, looking after chickens, or setting up the garden. For some, the program clearly also invoked a sense of pride in the school.

*I would definitely recommend it to people. I feel like it was a really big highlight of my schooling. My school was pretty good on the creative/performing side, the other highlight would be the Stephanie Alexander gardening and cooking side. I definitely would recommend it. (P. 13)*

*I remember all the kids loved it. No one really disliked it at all. It wasn't something like music or sport, where some kids didn't like some of it. Everyone really liked it. I know a lot of people in my year level were disappointed that it happened so late to our school because we were all leaving. I thought it was a very positive experience. (P. 4)*

Several of those interviewed recalled that the program was the highlight of their primary school years and for some it was an aspect of school that allowed them to 'fit in'.

*It was really good. I've actually been thinking about it for the past week or whatever when you guys contacted me. I was thinking about it and I got bullied a lot at [my school] and I think that that was the only thing that actually kept me going through school and wanting to go to school. I have really my only memories of that school are – the only good memories are at the garden or in the kitchen. That was really cool. (P. 9)*

*Yeah, but it was just because it broke up the day a little bit more and was something a lot more different than what we're usually doing. I wasn't a very sporty kid, so it was kind of good that the thing that was getting us out of the classroom wasn't just going to play basketball or something; it was cooking. (P. 2)*

A number of participants also directly linked participation in the SAKGP to their subsequent choice of career. One participant described themselves as a pastry chef, two as chefs and two had gone on to study nutrition. The participant quoted below is now a chef and attributed this choice of career and her success to the program:

*I think so because I didn't come up from a cooking background at all. I'd usually have packet pasta meals, things like that with family - the family didn't cook at all. So I guess it was an interest, a creativity, something I wasn't used to which I got to express myself in some way. I think in a way it did help. (P. 7)*

Another described how the passion for food she developed through the program led her to seriously consider becoming a chef, though she ultimately headed in a different direction.

*I think the passion that I've gained from it. I would say the passion I developed has got me to where I am today. There are a few friends that I still talk to from the*

*program that I went to school with, and they still use the recipes as well. They thought it was an amazing experience. I think the fact that I almost did an apprenticeship from that shows what an influence it had. I did go in the other direction, but it is still a big passion that I'm not letting go of at all. (P. 14)*

Others reported drawing on skills gained through the SAKGP to gain and succeed in part-time jobs while studying.

*I was a kitchen hand, but semi-apprentice without actually being apprentice. Because I had such a passion for cooking the chefs took me more seriously and would be like, "Yeah, come on, we'll teach you how to fillet this fish or do this stuff". Then I actually became the manager of the café kitchen, so like making sandwiches and salads and stuff. It was pretty cool. (P. 9)*

### Surveys

The vast majority of respondents were classified as having a high level of education, as they had either completed year 12 or were currently studying (Table 8). Of the SAKGP respondents who reported program influences, 59% said that it influenced their enjoyment of school, while 13% reported that it influenced their study choices and 11% that it influenced their career aspirations.

Table 8 Proportion of respondents who were classified as having higher or lower education

	SAKGP		Comparison	
	N	%	N	%
<i>Education<sup>1</sup></i>				
Lower	1	0.9	6	0.6
Higher	106	99.1	977	99.4

<sup>1</sup>Lower: Did not complete year 12 AND not currently undertaking tertiary education; Higher: Completed year 12 (and/or currently undertaking higher education)

### Participant recommendations

When asked whether they would support the continuation of the SAKGP in primary schools, interview participants were unanimous and unequivocal in their endorsement. As one interviewee put it: "There's no downside to getting kids into cooking early!" The interviewee quoted below explained in some detail why she felt it was important for the program to continue:

*Because I think it's important that people are aware where their food comes from, especially with a kind of modern disconnect from food sources. Just in relation to shopping at supermarkets or even little stores, it's all relatively packaged and it's easy to just eat packaged food. So, I think that's important. But also cooking is a pretty fundamental skill. If you get to be an adult and you can't cook that's kind of an issue. I never understood when people said, "I can't cook." I get being not a good cook or not a confident cook, but you can't not be able to cook, that's not an option, you've got to be able to feed yourself. So, I think that's really important. If for whatever reason you're not getting the opportunity to cook at home, if it's just because your parents are busy and they don't have time to teach you or for whatever reason, it doesn't matter, it would be great if all schools offered you just those basic skills in being able to prepare a salad and chop some vegetables and*



*fry stuff. It's not that hard and it's kind of essential that people know how to do that. (P. 10)*

Many also went on to recommend that the program should be offered to all primary schools.

*A hundred percent. Yeah. I wish it was everywhere. I loved it so much. I can't imagine primary school without it really because I had it for the whole time that we did get to do it there. I hope it can get taken to as many schools as possible. (P. 17)*

Several recommended the program be extended to high schools.

*Yes. I just wish it went into high school, because I think that swap over year from year 6 to 7, it would be really good to have that same constant throughout... You're doing a program for three years, then you go to a school that doesn't have the program. My high school had nothing in that respect. I did one unit of cooking for two terms and that's it. Then I never did cooking again at school. (P. 5)*

A couple lamented the fact that the 'food tech' subjects they encountered in secondary school had failed to live up to the standards they had become used to with the SAKGP in terms of engagement, enjoyment and the sophistication of the food being prepared.

*It was a fun part of primary school. Looking back on it now, it was a good thing to have, I think, just being able to learn to cook and stuff before you got to high school. We had 'home ec' classes and you could tell the difference between the people who went to my primary school and had already been in the kitchen before and the kids who went to the other primary schools around the area. (P.2)*

## Discussion

This study aimed to assess the long-term (approx. 10 year) impacts of primary school participation in the Stephanie Alexander Kitchen Garden Program. A social media campaign was undertaken to recruit young adults aged 18-23years who attended primary school in Victoria. While it was successful in recruiting over 1,000 participants, the number of participants who had experienced the SAKGP in school was too small to provide sufficient power to detect a meaningful difference when compared to those who had not experienced the program. There were however, many self-reported benefits and influences that participants attributed to the program. When asked whether the SAKGP had influenced their lives in any way, 84% of survey respondents in the SAKGP group answered 'yes'. Of these, the most common influences reported were cooking skills (76%); cooking behaviours (65%); enjoyment of school (59%); gardening (52%); food choices (52%); health (46%); wellbeing (32%); study choices (13%); and career aspirations (11%).

It is interesting to note that 11% of the comparison group also answered yes to this question, suggesting some diffusion of program influences beyond those people directly involved as primary school students. This may be due to those participants having a sibling or friend undertaking the program, other reasons for awareness of the program, or perhaps because of the widespread ownership and influence in Australia of cookbooks authored by Stephanie Alexander. It is also possible that participants in the comparison group were thinking of other school-based cooking and gardening activities in which they may have participated.

The interviews conducted with a sub-group of SAKG participants also revealed insights about the nature of those influences, with participants generally agreeing that the program had encouraged

them to be more open to trying new foods and to enjoying a wide range of vegetables and fresh produce. Interviewees commonly attributed their confidence, enjoyment and skills in cooking to their participation in the SAKGP. Many discussed the specific skills they had learned and favourite dishes that they continued to cook with pride

Some of those interviewed reported cooking frequently, while for others – especially those still living with parents – cooking frequency was limited by circumstances. Although fewer of the interview participants were actively growing food, apart from herbs, this was often attributed to their life stage and living circumstances as well. Most still appreciated the gardening knowledge they had acquired, and some expected to grow their own food more extensively in the future. Through its influence on food choices and cooking skills, the program was also seen by those interviewed as having a positive impact on their ongoing health and wellbeing.

A particularly strong theme to emerge from the interviews was the influence of the SAKGP on participants' enjoyment of school. They all thoroughly enjoyed the program itself and, for several, it had been the highlight of their primary school years. Engendering positive feelings towards school is undoubtedly an important impact of the program. Participation in the SAKGP had also directly influenced the career choices of several of the participants, with two chefs, one pastry chef and two nutritionists forming part of that group. All interview participants enthusiastically endorsed the continuation of the program and most felt it should be made available to as many children as possible with several also urging that it continue into secondary schools.

Survey results compared those who undertook the SAKGP in primary school with those who did not. The reported results assessed respondents' willingness to try new foods; cooking confidence, behaviours, and identity; influences on cooking habits; food growing behaviour; fruit and vegetable consumption; self-rated health and wellbeing; and BMI. While, for the majority of these results, trends were detected indicating that those who had participated in the SAKGP scored more positively than those who did not, no statistically significant differences were observed for any of these measures. There were no survey items where SAKGP participants scored negatively compared with the comparison group. When reporting the age at which they learned to cook, SAKGP participants were much more likely to recollect learning most of their skills before the age of 12. This is an important finding, given evidence from other studies (Lavelle et al., 2016) suggests that learning to cook at a younger age is associated in adults with increased cooking and food skills and confidence, healthier cooking practices and attitudes, and overall better diet quality when compared with those who learn to cook as adults.

### *Limitations of the sample*

The evaluation's overall sample comprised more females than males and was more highly educated than the general population in that age group. Given the small sample size achieved for SAKGP participants, this study was not powered to detect meaningful differences. Therefore, one cannot rule out the possibility of program effects, based on the lack of statistical significance.

Of interest, when it came to 'cooking identity', SAKGP participants scored slightly higher than the comparison for questions concerning perceived cooking competence and satisfaction with preparing meals, while the comparison group scored slightly higher when responding to the statement: "I would describe myself as a foodie". The comparison group also nominated more other influences on their cooking habits than the SAKGP group. These responses, along with the rest of the findings - where in general both groups scored highly with respect to positive eating and cooking attitudes and behaviours – strongly suggests that the comparison group was particularly interested in food and cooking. This was probably the reason why these individuals were motivated to complete the survey,

but it means they are unlikely to be representative of the wider population, and probably reduces the chances even further of detecting meaningful differences between the two groups.

## Conclusion

This is the first study to evaluate the long-term impacts of a primary school kitchen garden program. Notwithstanding extended recruitment efforts, only a relatively small sample size was achieved for SAKGP participants, meaning that the study was not powered to detect meaningful differences of statistical significance. Despite this, positive trends and survey findings of self-reported benefits suggest that the program is promising in terms of long-term impacts, with a larger trial needed to confirm these. Consistent with other studies which have shown benefits of learning to cook in childhood, participants in the qualitative interviews reported positive program impacts related to both health and education.

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# Survey

Please answer the following questions

1. What is your date of birth?

\_\_\_\_\_  
(DD/MM/YYYY)

2. Which primary school did you attend for most of the year in Grade 3?

\_\_\_\_\_  
(School name)

Suburb/Town of primary school

\_\_\_\_\_  
(Suburb/Town)

State of primary school

- VIC
- NSW
- QLD
- NT
- SA
- TAS
- WA
- Country other than Australia  
(Please select from the drop down list)

Country (if other than Australia)

\_\_\_\_\_  
(Country name)

3. What year did you complete Grade 3?

\_\_\_\_\_  
(YYYY)

4. Did you attend the same primary school as above in Grade 4?

- Yes
- No

4a. If not, which primary school did you attend for most of the year in Grade 4?

\_\_\_\_\_  
(School name)

Suburb/Town of primary school

\_\_\_\_\_  
(Suburb/Town)

State of primary school

- VIC
- NSW
- QLD
- NT
- SA
- TAS
- WA
- Country other than Australia  
(Please select from the drop down list)

Country (if other than Australia)

\_\_\_\_\_  
(Country name)

---

5. Did you attend the same primary school as above in Grade 5?

- Yes  
 No

---

5a. If not, which primary school did you attend for most of the year in Grade 5?

\_\_\_\_\_  
(School name)

---

Suburb/Town of primary school

\_\_\_\_\_  
(Suburb/Town)

---

State of primary school

- VIC  
 NSW  
 QLD  
 NT  
 SA  
 TAS  
 WA  
 Country other than Australia  
(Please select from the drop down list)

---

Country (if other than Australia)

\_\_\_\_\_  
(Country name)

---

6. Did you attend the same primary school as above in Grade 6?

- Yes  
 No

---

6a. If not, which primary school did you attend for most of the year in Grade 6?

\_\_\_\_\_  
(School name)

---

Suburb/Town of primary school

\_\_\_\_\_  
(Suburb/Town)

---

State of primary school

- VIC  
 NSW  
 QLD  
 NT  
 SA  
 TAS  
 WA  
 Country other than Australia  
(Please select from the drop down list)

---

Country (if other than Australia)

\_\_\_\_\_  
(Country name)

---

7. What year did you complete Grade 6?

\_\_\_\_\_  
(YYYY)

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- 
8. Do you identify as?  Female  
 Male  
 Other  
(Please select from the drop down list)
- 
9. What is your residential postcode?  
[If you are living overseas please enter 0000] \_\_\_\_\_
- 
10. Did you participate in the Stephanie Alexander Kitchen Garden Program while at primary school?  Yes  
 No  
 I don't know
- 
- 10a. Did you have a different kitchen garden program at any primary school you attended?  Yes  
 No  
 I don't know
- 
- 10b. What was the kitchen garden program called? \_\_\_\_\_
- 
11. Has the Stephanie Alexander Kitchen Garden Program influenced your life in any way? (Even if you did not participate in the program at school)  Yes  
 No
- 
- 11a. If yes, in what way?  Study choices  
 Career aspirations  
 Enjoyment of school  
 Health  
 Wellbeing  
 Cooking Skills  
 Cooking behaviours  
 Gardening  
 Community Connections  
 Friendship group  
 Food choice  
 Other  
(Please pick the as many choices that are true for you from the list)
- 
- 11b. Please specify 'Other' \_\_\_\_\_
-



**FOOD PREPARATION & COOKING SKILLS**

Please indicate the extent to which you agree or disagree with the following statements on the scale below

(0 = Strongly disagree - 10 = Strongly agree)

	0	1	2	3	4	5	6	7	8	9	10
12a. I like to try new foods that I have never tasted before	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12b. I like to try out new recipes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12c. I would describe myself as a foodie (I am interested in food and seek out food experiences)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**How confident do you feel...**

(0 = Not at all confident - 10 = Very confident)

	0	1	2	3	4	5	6	7	8	9	10
13a. about being able to cook from basic ingredients	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13b. about following a simple recipe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13c. about preparing and cooking new foods and recipes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13d. that what you cook will 'turn out' well	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13e. about tasting foods that you have not eaten before	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13f. about being able to grow herbs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13g. about being able to grow fruit or vegetables	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- 
14. At what stage of your life did you learn most of your cooking skills?
- Child (under 12 years)  
 Teenager (13 - 17 years)  
 Adult (18 + years)  
 (Please select as many that are true)
- 

15. Thinking about where you live, do you have access to a kitchen you can cook in?
- Yes  
 No
- 

---

**How many DAYS in a usual week do you...**

- |  | 0                     | 1                     | 2                     | 3                     | 4                     | 5                     | 6                     | 7                     |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 16a. Prepare a meal by yourself?         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16b. Prepare a meal with someone else?   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 16c. Make a meal from fresh ingredients? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
- 

17. How often do you use produce that is in season when you cook meals?  
(0 = Never - 5 = Sometimes - 10 = Very often)  
(? = I don't know)
- 0  
 1  
 2  
 3  
 4  
 5  
 6  
 7  
 8  
 9  
 10  
 ?
-

**How many DAYS in a usual week do you eat meals from...**

	0	1	2	3	4	5	6	7	na
18a. Fast food restaurants (eg McDonalds, KFC, Hungry Jacks etc) (this includes fast food meals delivered by Ubereats, Deliveroo etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18b. Restaurants and cafes (this includes restaurant/cafe meals delivered by Ubereats, Deliveroo etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18c. Halls of residence at your school	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18d. Fresh/Frozen ready meals purchased from the supermarket (eg Lean Cuisine)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18e. Fresh/Frozen ready meals delivered to your home and don't require preparation (eg Lite N Easy)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18f. Meal kits that are delivered to your home and you prepare (eg Hello Fresh, Marley Spoon etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**COOKING INFLUENCES**

19. How much influence do you have over the ingredients that are used for cooking in your house? (either through buying them yourself or asking someone else to buy them)
- (0 = No influence at all - 10 Lots of Influence)
- 0  
 1  
 2  
 3  
 4  
 5  
 6  
 7  
 8  
 9  
 10

20. Who or what has influenced your cooking habits and food choices?
- Please tick all that apply
- Mother  
 Father  
 Grandparents  
 Other relatives  
 Your partner  
 Friends  
 Social media (eg Facebook, Instagram, Twitter)  
 YouTube  
 Cooking Websites  
 T.V. Shows  
 Magazines  
 Books  
 Budget/Finances  
 Primary School  
 Secondary School  
 Stephanie Alexander Kitchen Garden Program  
 Other cooking skills program/s (Please specify)  
 Culinary Training (eg chef apprenticeship)  
 Employer  
 Cultural background  
 Other (please specify)  
 (Tick all that apply)

Please specify the 'Other cooking skill program/s' that have influenced you

\_\_\_\_\_

Please specify any 'Other' influences on your cooking habits and food choices

\_\_\_\_\_

21. Who do you believe you have influenced with your cooking habits and food choices?
- Mother  
 Father  
 Grandparents  
 Siblings  
 Other relatives  
 Friends  
 Partner  
 Housemates  
 Your children  
 I haven't influenced anyone  
 Other (please specify)

If you selected 'other' please specify who else you have influenced

\_\_\_\_\_

**COOKING IDENTITY****To what extent do you agree or disagree with the following statements?****(0 = Strongly disagree - 10 = Strongly agree)**

	0	1	2	3	4	5	6	7	8	9	10
22a. I am a good cook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22b. Others view me as a good cook	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22c. I get a sense of satisfaction from preparing and cooking meals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22d. I can time different elements of a meal to come together on time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

---

**GROWING FOOD**

23. Do you have access to somewhere you can grow food?  
(Either where you live or elsewhere?)  Yes  
 No

24. Do you grow herbs in your house or garden? (eg basil,  
rosemary, mint)  Yes  
 No

If yes, do you eat the herbs you have grown?  Yes  
 No

25. Do you grow fruit in your house or garden?  Yes  
 No

If yes, do you eat the fruit you have grown?  Yes  
 No

26. Do you grow vegetables in your house or garden?  Yes  
 No

If yes, do you eat the vegetables that you have  
grown?  Yes  
 No

**YOUR DIET**

27. How many serves of fruit do you usually eat each DAY?  0  1  2  3  
 4  5  6  7  
 8  9  10 +  
 (1 serve = 1 medium piece or 2 small pieces of fruit or 1 cup of diced pieces) (Please pick the most appropriate answer from the drop down list)
- 
28. In a usual WEEK, how many different types of fruit do you eat (eg bananas, blueberries, oranges, apples)  0  1  2  3  
 4  5  6  7  
 8  9  10 +  
 (Please pick the most appropriate answer from the drop down list)
- 
29. How many serves of vegetables do you usually eat each DAY?  0  1  2  3  
 4  5  6  7  
 8  9  10 +  
 (1 serve = 1/2 cup of cooked vegetables or 1 cup of salad) (Please pick the most appropriate answer from the drop down list)
- 
30. In a usual WEEK, how many different types of vegetables do you eat (eg lettuce, carrot, broccoli, capsicum)  0  1  2  3  
 4  5  6  7  
 8  9  10 +  
 (Please pick the most appropriate answer from the drop down list)
- 
31. How would you rate your attitude towards food?  0  
 1  
 2  
 3  
 4  
 5  
 6  
 7  
 8  
 9  
 10  
 (0 = I eat what I like and do not worry about the healthiness of food -  
 10 = I am very particular about the healthiness of the food I eat)
-

**YOUR HEALTH**

32. How would you rate your general health?

- Excellent
- Very good
- Good
- Fair
- Poor

(Please pick the most appropriate answer from the drop down list)

33. What is your height in centimeters?

\_\_\_\_\_ (cms (if you are not sure just use your best estimate))

34. What is your weight in kilograms?

\_\_\_\_\_ (kgs (if you are not sure just use your best estimate))



**Please select the number along the scale that best reflects how you feel**

**(0 = No satisfaction at all - 10 = Completely satisfied)**

	0	1	2	3	4	5	6	7	8	9	10
35a. How satisfied are you with...your life as a whole	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35b. How satisfied are you with...your standard of living	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35c. How satisfied are you with...your health	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35d. How satisfied are you with...what you are achieving in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35e. How satisfied are you with...your personal relationships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35f. How satisfied are you with...how safe you feel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35g. How satisfied are you with...feeling part of the community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35h. How satisfied are you with...your future security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



36. What is the highest level of education that you have currently achieved?

(Please only include your highest qualifications that is complete)

- Year 10 or below
  - Year 11
  - Year 12
  - Diploma/Certificate
  - Apprenticeship/Trade
  - Bachelor degree (including with honours)
  - Postgraduate degree (ie Masters, PhD)
- (Choose one option only)

37. Are you currently studying?

- Yes
- No

If yes, what are you studying?

- Secondary school
  - Certificate
  - Diploma
  - Undergraduate degree
  - Postgraduate degree
  - Other (please specify below)
- (Tick all that apply)

Please specify 'other' in regards to your study

\_\_\_\_\_

38. Are you...?

- Working full time
  - Working part time
  - Working casually
  - Looking for work
  - Caring for your children
  - Caring for your parents
  - Other
- (Tick all that apply)

Please specify 'other'

\_\_\_\_\_

**You have nearly completed the survey, we just have a few last questions about you...**

39. Where were you born?
- Australia
  - Afghanistan
  - China
  - India
  - Indonesia
  - Iraq
  - Ireland
  - Japan
  - Malaysia
  - New Zealand
  - Pakistan
  - Phillipines
  - Singapore
  - South Africa
  - South Korea
  - Sri Lanka
  - Sudan
  - Thailand
  - United Kingdom
  - USA
  - Vietnam
  - Other
- (Please select the Country from the drop down list)

If other, please specify \_\_\_\_\_

40. Which of the following best describes your living arrangements?
- Share house
  - Halls of residence
  - Living with your parents
  - Living with your siblings
  - Living alone
  - Living with other relatives (eg grandparents, aunts, uncles)
  - Living with your partner
  - Living with your children (with or without a partner)
  - Other (please specify)
- (Tick all that apply)

If other, please specify \_\_\_\_\_

41. Do you identify as Aboriginal or Torres Strait Islander?
- Yes
  - No

42. Have you participated in the Stephanie Alexander Kitchen Garden Program in any other capacity (other than during Primary School)
- Yes
  - No
  - I don't know

If yes, in what have you participated?

- Volunteer
- Teacher/student teacher
- Parent
- Other

43. Do you have any additional comments?
- Yes
  - No

Additional comments \_\_\_\_\_

**Thank you for completing our survey.**

**Please provide your details below to be in the draw for a \$100 gift voucher.**

**You also have the option to participate further through an interview and to receive a summary of the results of this study.**

Would you like to go into the draw to win one of ten \$100 gift vouchers for a store of your choice?

Yes  
 No  
(If yes, you will be required to provide your email or phone number)

Please select the gift card you would most like to receive

Coles Groceries  
 Woolworths Essentials  
 Myer  
 Kmart  
 The Iconic  
 Rebel Sport  
 JB HIFI  
 Dymocks  
 BCF  
 Supercheap Auto  
 Netflix  
(Please select from the drop down list)

Over the next few months we will be conducting interviews with some of the people who completed this survey.

Yes  
 No

Would you be happy to be contacted for an interview? You will be provided with a \$25 gift voucher for your time.

Would you like to receive a summary of the results from this survey?

Yes  
 No

Your name \_\_\_\_\_

Please provide your best contact details below (email or phone number) so we can follow up with you. \_\_\_\_\_

# Appendix 2



## Interview Theme Guide

### Project name

What's Cooking?

### Introduction:

Explain Plain Language Statement, what the research is about, voluntary to participate, all results are confidential, record the discussion, need to sign the consent form. Allow time for questions.

### Question guide:

- Can you tell us about your experience of doing the SAKG Program at your primary school?
- Has the SAKGP influenced your life? (prompts: cooking, gardening, food choice, career aspirations)
- What are your cooking behaviours like? (prompts: times cooking at home, ordering takeout, having someone cook for you)
- How confident do you feel to cook a meal? (prompts: for yourself, for others)
- Can you tell me about what you like to eat?
- What has influenced what you like to eat?
- How do you feel about gardening? Do you garden or grow food?
- Have you had any involvement with the SAKGP as an adult?
- Would you recommend the SAKGP to other people?
- Is there anything that you would change about the program?
- Has there been anything unexpected come from experience of participating in the SAKGP?
- Would you support the continuation of the SAKGP in primary schools? Why?