



Curtin University

CRUNCH&SIP FORMATIVE RESEARCH: SCHOOL STAFF SURVEY RESULTS

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EXECUTIVE SUMMARY

Formative research into the Crunch&Sip program was commissioned by the Cancer Council Western Australia to investigate whether various stakeholders would support moving to a vegetable consumption focus for the program. An additional aim was to gather information to facilitate the development of strategies to implement the change in focus. There were three stages to the research: focus groups with school staff in metropolitan Perth and Kalgoorlie, an online survey of Western Australian parents, and a postal/online survey of Western Australian school staff. This report presents information related to the latter data collection phase, with reports previously provided for the first two phases.

In total, 606 Western Australian primary school staff (primarily teachers: n=501, 83%) responded to the school staff survey. Data were collected in October/November 2015. The survey examined general attitudes to the Crunch&Sip program and views on refocussing Crunch&Sip to increase vegetable consumption.

Just over half of the respondents (n=359, 59%) reported that their school is certified as a Crunch&Sip school. Attitudes to the Crunch&Sip program were generally very positive, and there was a high level of support for moving Crunch&Sip to a vegetable focus. The primary reasons for this support were because it would help teach children to eat healthily, increase their vegetable intake, and decrease their overall sugar intake. However, concerns were raised about children refusing to eat vegetables and the difficulties associated with gaining parental support for the provision of vegetables. In addition, those from rural schools noted that it is often difficult to get access to fresh vegetables, and those who taught upper primary were more likely than those who taught lower primary to report time constraints as a barrier to including Crunch&Sip breaks during the school day. Respondents suggested that resources for the classroom (e.g., posters and lesson plans) and educating parents and children about the benefits of vegetable consumption would assist in the adoption of a vegetable focus. It was also suggested that it would be helpful to provide information to parents about interesting vegetable options.

In conclusion, the survey results indicate that moving to a vegetable focus for Crunch&Sip is likely to be supported by primary school staff. Gaining parental support was perceived to be one of the major barriers to implementing a vegetable focus. This concern appears to be largely misplaced given the positive views reported in the parents' survey.

INTRODUCTION

In May 2005, the Crunch&Sip nutrition education program was introduced into Western Australian primary schools. The program involves allocated breaks for children to eat fruit or vegetables in the classroom and has been supported by the Department of Health, Cancer Council WA, and the National Partnership Agreement on Preventive Health. The Crunch&Sip program aims to (i) increase awareness of the importance of eating fruit and vegetables every day, (ii) encourage parents to provide their children with fruit and vegetables, and (iii) develop strategies to increase fruit and vegetable consumption among children who do not have regular access to these products.

In mid-2015, Healthway took over the funding of Crunch&Sip. At this point, the program was modified to incorporate a specific focus on vegetables in an attempt to improve low consumption rates among Western Australian children. Formative research was undertaken to (i) investigate whether various stakeholders would support the refocussing of the Crunch&Sip program on vegetable consumption and (ii) gather information to assist the development of strategies for the conversion to a vegetable focus. This report provides the results of a survey that examined school staff members' general attitudes to Crunch&Sip and their views on vegetable consumption during Crunch&Sip.

SURVEY METHOD

Respondents were recruited for the survey via a mail out to all 960 primary schools in Western Australia. Each school was sent six paper versions of the survey for staff members to complete. A covering letter explained that the survey was intended for Year 2 and Year 5 teachers, health teachers, Crunch&Sip co-ordinators, and senior administrators. Respondents were also given the option of completing the survey online via a provided link. Both the online and paper surveys included identical questions that assessed attitudes to Crunch&Sip and staff members' opinions on a vegetable focus for Crunch&Sip breaks. Data collection occurred between 26th October and 30th November 2015 inclusive. Table 1 shows the demographic characteristics of the respondents surveyed. In total, 606 respondents completed the survey, of whom 501 (83%) were teachers. The remaining respondents held other positions within the schools.

Table 1. Demographic characteristics of the sample

	N (%)
Gender	
<i>Female</i>	526 (86.8)
<i>Male</i>	80 (13.2)
Role at School	
<i>Teacher</i>	501 (82.7)
<i>Principal</i>	31 (5.1)
<i>Crunch&Sip Coordinator</i>	27 (4.5)
<i>Deputy Principal</i>	25 (4.2)
<i>Other</i>	11 (1.9)
Grade Taught	
<i>Lower primary (K-3)</i>	268 (44.2)
<i>Upper primary (4-6)</i>	234 (38.6)
<i>All years</i>	52 (8.6)
Type of School	
<i>Primary only</i>	507 (83.7)
<i>Combined primary/secondary</i>	85 (14.0)
<i>Other</i>	13 (2.1)
<i>Public</i>	325 (53.6)
<i>Independent</i>	167 (27.6)
<i>Catholic</i>	93 (15.3)
<i>Independent Public School</i>	16 (2.7)
<i>Other</i>	2 (0.3)
<i>Co-educational</i>	599 (98.8)
<i>Girls only</i>	4 (0.7)
<i>Boys only</i>	-
School location	
<i>Metropolitan</i>	381 (62.9)
<i>Regional</i>	123 (20.3)
<i>Rural/remote</i>	96 (15.8)

Note: not all values add up to the total sample of 606 due to missing data

RESULTS

CRUNCH&SIP

Respondents were asked to indicate on a 5-point scale ('strongly disagree' to 'strongly agree') the extent to which they agreed it was appropriate for schools to implement fruit and vegetable breaks (i.e. Crunch&Sip) during class time. The sample mean was 4.2, with 77% of respondents selecting point 4 or 5 on the scale (53% strongly agree). These results demonstrate strong support for the concept of Crunch&Sip.

Fifty-nine percent of the respondents reported that their school was certified as a Crunch&Sip school, with a further 17% being unsure. On average, respondents reported that 67% of classes in the schools participated in formal or informal fruit and vegetable breaks during class time. Among schools that were certified, this proportion was 82%.

Respondents reported that around two-thirds of the fruit and vegetables consumed during Crunch&Sip breaks were provided by the parents (71%). Fourteen percent of respondents reported that food was mostly supplied by the parents with the balance topped up by the school. A small proportion of respondents reported that the school supplied most or all of the fruit and vegetables (2%), and some respondents reported that another organisation supplied some (6%) or all (2%) of the fruit and vegetables for Crunch&Sip. The most commonly cited organisation was Foodbank. Other organisations included Woolworths and Manna Industries. Respondents from rural schools were significantly more likely than those from metropolitan (9% vs. 1%, $p<.001$) or regional (9% vs. 2%, $p=.025$) schools to report that their school provided all or most of the fruit and vegetables for Crunch&Sip (Table 2).

Table 2. Origin of fruit and vegetables supplied for breaks

	Metropolitan n (%)	Regional n (%)	Rural n (%)	Total n (%)
Parents	278 (74.9)	80 (66.1)	61 (63.5)	424 (71.4)
Mostly parents, balance topped up by school	44 (11.9)	21 (17.4)	19 (19.8)	85 (14.3)
Our school does not have F&V breaks	46 (12.4)	14 (11.6)	5 (5.2)	65 (10.9)
Some supplied by another organisation	18 (4.9)	13 (10.7)	5 (5.2)	36 (6.1)
All or most supplied by school	3 (0.8)	3 (2.5)	9 (9.4)	15 (2.5)
All or most supplied by another organisation	6 (1.6)	3 (2.5)	5 (5.2)	14 (2.4)

Note: respondents could select multiple options

Respondents were asked to indicate how their school communicated with parents about nutrition-related matters (Table 3). The large majority reported using newsletters to communicate with parents (90%). Substantial proportions also reported the use of notes sent home with children (50%), assemblies (44%), and a school website (40%). Respondents from metropolitan schools were significantly more likely to report using a school website to communicate with parents than those from regional (46% vs. 32%, $p=.006$) or rural (46% vs. 25%, $p<.001$) schools. In addition, respondents teaching upper primary grades were more likely than those teaching lower primary grades to report using a school website (45% vs. 35%, $p=.034$). They were also less likely to report sending notes home with children to communicate with parents about nutrition-related matters (45% vs. 57%, $p=.012$).

Table 3. Methods used to communicate with parents about nutrition-related matters

	Metropolitan n (%)	Regional n (%)	Rural n (%)	Total n (%)
Newsletters	334 (89.1)	113 (94.2)	87 (90.6)	539 (90.3)
Notes sent home with children	186 (49.6)	65 (54.2)	46 (47.9)	301 (50.4)
Assemblies	173 (46.1)	43 (35.8)	43 (44.8)	260 (43.6)
School website	174 (46.4)	39 (32.5)	24 (25.0)	239 (40.0)
Other	52 (13.9)	18 (15.0)	14 (14.6)	87 (14.6)

Note: respondents could select multiple options

VEGETABLE FOCUS FOR CRUNCH&SIP

Several questions assessed the support for and feasibility of focusing on vegetable consumption for Crunch&Sip. Respondents were asked to indicate on a 5-point scale ('not at all supportive' to 'very supportive') how supportive they would be of children bringing mainly vegetables for Crunch&Sip. The sample mean was 4.0, with 66% of the sample selecting a 4 or 5 on the scale (44% very supportive). These results suggest that there is a high level of support for a vegetable focus for Crunch&Sip. Respondents were also asked to indicate on a 5-point scale ('not at all supportive' to 'very supportive') how supportive they thought parents would be of a specific vegetable focus. The mean was 3.4, with 41% of respondents selecting 4 or 5 on the scale (16% very supportive). This suggests that respondents anticipated a moderate level of support from parents for a vegetable focus for Crunch&Sip.

Respondents were asked to list those vegetables they considered best suited to Crunch&Sip breaks. The results are presented in Table 4. The most commonly cited vegetables were carrot, celery, cucumber, and capsicum.

Table 4. Vegetables considered appropriate for fruit and vegetable breaks

	n (%)
Carrot	528 (91.0)
Celery	425 (73.3)
Cucumber	250 (43.1)
Capsicum	235 (41.0)
Peas/snow peas/sugar snap peas	179 (30.9)
Tomato/cherry tomato	170 (29.3)
Broccoli	147 (25.3)
Cauliflower	96 (16.6)
Beans	56 (9.7)
Salad greens	34 (5.9)
Mushrooms	26 (4.5)
Corn	21 (3.6)
Zucchini	20 (3.4)
Radish	11 (1.9)
Other	42 (7.2)

Note: respondents could nominate multiple options

Respondents were asked to nominate the primary potential advantages of a vegetable focus for Crunch&Sip. The most common responses to this open-ended question are provided in Table 5. Overall, the main advantages mentioned were that it would teach children to eat healthily (25%), increase vegetable intake (24%), encourage children to try a range of vegetables (24%), and decrease their sugar intake because fruit is higher in sugar (21%). There was no significant difference in responses according to demographic characteristics, with the exception that respondents from regional schools were more likely to mention that vegetables are more nutritious than those from metropolitan (18% vs. 11%, $p=.038$) or rural (18% vs. 7%, $p=.022$) schools.

Table 5. Perceived primary advantages of a vegetable focus for fruit and vegetable breaks

	Metropolitan n (%)	Regional n (%)	Rural n (%)	Total n (%)
Teaches children to eat healthily	104 (27.3)	29 (23.6)	17 (17.7)	151 (24.9)
It would encourage children to try a range of vegetables	98 (25.7)	26 (21.1)	22 (22.9)	148 (24.4)
Increases vegetable intake	101 (26.5)	25 (20.3)	20 (20.8)	146 (24.1)
Fruit is higher in sugar	81 (21.3)	25 (20.3)	19 (19.8)	127 (21.0)
Increases concentration/decreases disruptive behaviour	59 (15.5)	19 (15.4)	13 (13.5)	92 (15.2)
Vegetables are more nutritious	41 (10.8)	22 (17.9)	7 (7.3)	70 (11.6)
It would teach children that vegetables are tasty/make good snacks	37 (9.7)	16 (13.0)	13 (1.5)	66 (10.9)
Vegetables are not as messy	18 (4.7)	12 (9.8)	3 (3.1)	34 (5.6)
It would help those who don't get it at home or whose parents don't provide for lunch/recess	9 (2.4)	1 (0.8)	4 (4.2)	14 (2.3)
Positive peer influence	7 (1.8)	3 (2.4)	1 (1.0)	11 (1.8)
Vegetables are cheaper	8 (2.1)	-	1 (1.0)	9 (1.5)
Both fruit and vegetables should be encouraged	2 (0.5)	2 (1.6)	1 (1.0)	5 (0.8)
No advantage	7 (1.8)	4 (3.3)	1 (1.0)	12 (2.0)
Don't know/don't have F&V breaks	6 (1.6)	6 (4.9)	6 (6.3)	18 (3.0)

Respondents were also asked to nominate any barriers to making vegetables the primary focus of Crunch&Sip. The main responses are provided in Table 6. The barriers mentioned the most

by respondents were that children don't like vegetables/prefer to eat fruit (44%), an anticipated lack of parental support for the provision of vegetables (26%), and the time it takes to prepare vegetables for Crunch&Sip (17%).

Respondents from metropolitan schools were more likely to mention the preparation time of vegetables as a barrier to the vegetable focus than those from regional (21% vs. 13%, $p=.050$) or rural schools (21% vs. 6%, $p=.001$). Respondents from rural schools were more likely than respondents from metropolitan and regional schools to mention that both fruit and vegetables should be encouraged (7% vs. 2%, $p=.017$; 7% vs. 2%, $p=.036$, respectively) and the limited availability of fresh vegetables (26% vs. 5%, $p<.001$; 26% vs. 6%, $p<.001$, respectively). They were less likely to mention low anticipated parental support (13% vs. 29%, $p=.002$; 13% vs. 26%, $p=.023$, respectively). Finally, respondents who reported teaching upper primary students were more likely to mention that there isn't enough time during class for Crunch&Sip breaks (11% vs. 5%, $p=.025$).

Table 6. Perceived barriers to vegetable focus for Crunch&Sip

	Metropolitan n (%)	Regional n (%)	Rural n (%)	Total n (%)
Children don't like vegetables/prefer fruit	177 (46.5)	48 (39.0)	38 (39.6)	265 (43.7)
Parental support	110 (28.9)	32 (26.0)	13 (13.5)	157 (25.9)
Preparation time	80 (21.0)	16 (13.0)	6 (6.3)	103 (17.0)
Not everyone brings in the food/supply of the vegetables	44 (11.5)	16 (13.0)	8 (8.3)	69 (11.4)
Availability of fresh vegetables	20 (5.2)	7 (5.7)	25 (26.0)	52 (8.6)
The price	27 (7.1)	11 (8.9)	9 (9.4)	48 (7.9)
There isn't any time in the school day for Crunch&Sip	33 (8.7)	6 (4.9)	6 (6.3)	45 (7.4)
Fruit is easier	26 (6.8)	12 (9.8)	5 (5.3)	43 (7.1)
Creating variety	19 (5.0)	3 (2.4)	2 (2.1)	26 (4.3)
It should be a choice/both fruit and vegetables should be encouraged	9 (2.4)	2 (1.6)	7 (7.3)	18 (3.0)
If the focus is on vegetables, fruit intake would decrease	8 (2.1)	2 (1.6)	1 (1.0)	11 (1.8)
Difficult to keep vegetables fresh	6 (1.6)	5 (4.1)	3 (3.1)	14 (2.3)
No barriers	28 (7.3)	16 (13.0)	14 (14.6)	58 (9.6)
Don't know/don't have F&V breaks	-	1 (0.8)	1 (1.0)	2 (0.3)

Suggestions were provided by respondents for resources that would be helpful for their school to make vegetables the focus of Crunch&Sip (see Table 7). The most commonly reported resources were those for the classroom such as posters and lesson plans (45%), those that could be used to educate parents/children about the benefits of vegetable consumption (20%), the supply of vegetables or resources for the school garden (17%), and recipes/suggestions for parents (16%).

Table 7. Perceived useful resources for adopting vegetable focus for fruit and vegetable breaks

	Metropolitan n (%)	Regional n (%)	Rural n (%)	Total n (%)
Resources for the classroom (e.g. posters, lesson plans)	182 (47.8)	51 (41.5)	36 (37.5)	271 (44.7)
Resources for educating parents/children about the benefits of vegetable consumption	72 (18.9)	33 (26.8)	13 (13.5)	119 (19.6)
Supply of vegetables/resources for school garden	62 (16.3)	18 (14.6)	21 (21.9)	102 (16.8)
Recipes/suggestions provided to parents	64 (16.8)	14 (11.4)	15 (15.6)	94 (15.5)
Incentives (e.g., stickers, competitions, charts)	44 (11.5)	18 (14.6)	12 (12.5)	75 (12.4)
Resources for newsletters	49 (12.9)	9 (7.3)	11 (11.5)	69 (11.4)
Resources for preparing the food/making it interesting (e.g. knives, cutting boards, specialty cutter)	20 (5.2)	9 (7.3)	4 (4.2)	33 (5.4)
Increased funding/government subsidy	13 (3.4)	9 (7.3)	10 (10.4)	33 (5.4)
Incursion/guest speaker	19 (5.0)	5 (4.1)	1 (1.0)	25 (4.1)
Facilities at the school to keep the food fresh	5 (1.3)	3 (2.4)	2 (2.1)	10 (1.7)
Nothing	8 (2.1)	4 (3.3)	4 (4.2)	16 (2.6)
Don't know/don't have F&V breaks	11 (2.9)	6 (4.9)	2 (2.1)	19 (3.1)

Compared to respondents from metropolitan schools, those from rural schools were more likely to mention that increased funding or a government subsidy would be helpful (10% vs. 3%,

p=.004). Respondents from regional schools were more likely to mention that resources to educate parents/children about the benefits of vegetables would be useful compared to their rural counterparts (27% vs. 14%, p=.017). Finally, respondents teaching upper primary school students were more likely than those teaching lower primary students to mention that the supply of vegetables or resources for the school garden would be useful (21% vs. 13%, p=.019).

IMPLEMENTATION OF CRUNCH&SIP

Respondents were asked about a number of resources and how useful they are/could be in the implementation of fruit and vegetable breaks at their school. Responses were rated on a 5-point scale from 'not at all useful' to 'very useful'. Table 8 presents the means and frequencies for each resource. Overall, there were high ratings of usefulness for each of the presented resources. Respondents from schools in all three areas rated grants as the most useful resource. There were no significant differences by region or year group.

Respondents were also asked to rate the importance of support (moral, administrative, time, etc.) from a number of groups within the school environment for the implementation of Crunch&Sip. These groups were school administration, parents/parent bodies, school nurses, and 'other staff'. Responses were rated on a 5-point scale from 'not at all important' to 'very important'. All four groups were rated as highly important for the support they provide to the respondents (Table 9). There were no significant differences by region or lower/upper primary school.

Table 8. Perceived usefulness of resources for implementation of fruit and vegetable breaks

	Metropolitan		Regional		Rural		Total	
	Mean (n)	Useful/very useful (%)	Mean (n)	Useful/very useful (%)	Mean (n)	Useful/very useful (%)	Mean (n)	Useful/very useful (%)
Grants	4.7 (333)	89.2	4.5 (105)	85.7	4.3 (82)	80.5	4.6 (526)	87.2
A whole school policy	4.4 (341)	86.6	4.3 (108)	78.7	4.1 (82)	79.3	4.3 (537)	83.8
Parent communications	4.3 (376)	82.4	4.1 (121)	78.5	4.0 (95)	80.0	4.2 (598)	81.3
Promotional resources	4.3 (378)	80.9	4.1 (122)	74.6	4.0 (93)	72.1	4.2 (599)	78.3
Curriculum activities	4.2 (346)	78.6	4.1 (108)	75.9	4.1 (83)	78.3	4.2 (543)	78.1
Promotional events	4.2 (377)	79.6	4.1 (122)	73.8	4.0 (95)	72.6	4.2 (600)	77.3
Teacher education/training	4.0 (374)	72.2	3.9 (123)	67.5	3.8 (92)	67.4	3.9 (595)	70.5

Table 9. Importance of support in the school environment

	Metropolitan		Regional		Rural		Total	
	Mean (n)	Important/very important (%)	Mean (n)	Important/very important (%)	Mean (n)	Important/very important (%)	Mean (n)	Important/very important (%)
Parents and parent bodies	4.8 (366)	94.8	4.7 (120)	89.2	4.6 (94)	91.5	4.7 (586)	93.1
School administration	4.5 (367)	86.9	4.5 (122)	85.3	4.4 (93)	84.9	4.5 (588)	86.2
Other staff	4.5 (342)	85.1	4.4 (114)	82.4	4.3 (87)	78.2	4.4 (549)	83.6
School health nurse	3.7 (285)	59.7	3.6 (88)	53.4	4.0 (78)	71.8	3.7 (454)	60.1

Finally, respondents were asked if they had any other comments about fruit and vegetable breaks in general or Crunch&Sip in particular. The main responses are presented in Table 10. Among those responding to the question, the most common comment was that they and their students enjoyed the Crunch&Sip program and thought it is a great initiative (37%). A small proportion mentioned that Crunch&Sip breaks do not work in their school or that they have no space within the curriculum (7%). Some respondents noted that parents often do not send in appropriate 'healthy' food (or any food at all) for fruit and vegetable breaks (5%). No significant differences were found between the regions or by year group.

Table 10. Comments about fruit and vegetables breaks

	Metropolitan n (%)	Regional n (%)	Rural n (%)	Total n (%)
Consider the Crunch&Sip program a great initiative	148 (38.9)	44 (36.1)	29 (30.5)	225 (37.3)
Crunch&Sip does not work in our school/no time with curriculum	24 (6.3)	10 (8.2)	6 (6.3)	40 (6.6)
Parents do not send appropriate food/do not send any food	22 (5.8)	7 (5.7)	1 (1.1)	30 (5.0)
Agree with the encouragement of vegetables	6 (1.6)	2 (1.6)	-	8 (1.3)
Disagree with the encouragement of vegetables	2 (0.5)	-	-	2 (0.3)
Other	16 (4.2)	7 (5.7)	5 (5.3)	28 (4.6)
Nothing	178 (47.4)	53 (43.4)	55 (57.9)	288 (47.8)

CONCLUSION

Overall, there was a high level of support among primary school staff for the Crunch&Sip program. Just over half the respondents reported that their school was certified as a Crunch&Sip school, and the majority of classes at these schools participated in formal or informal fruit and vegetable breaks. It was reported that parents generally provided the fruit and vegetables for Crunch&Sip, although respondents from rural schools were more likely to report that the school provided all or most of the fruit and vegetables.

There was a high level of support among respondents for moving Crunch&Sip to a vegetable focus. The main advantages identified of a vegetable focus for Crunch&Sip were that it would help teach children to eat healthily, increase their vegetable intake, and decrease their overall sugar intake. The primary anticipated barriers to a vegetable focus were that children may refuse to eat vegetables and that it may be difficult to gain parents' support for the provision of vegetables. In addition, those from rural schools noted that a lack of availability of fresh vegetables would be a barrier to the modified program, and those teaching upper primary school students cited a lack of time during class as a barrier to providing Crunch&Sip breaks in general.

It was suggested that resources to educate children and parents about the benefits of vegetable consumption would assist in the implementation of a vegetable focus for Crunch&Sip. Other suggestions included the supply of vegetables or resources for the school garden, and providing information about recipes or interesting vegetable options.

Overall, the results of this evaluation suggest that a vegetable focus for Crunch&Sip would be largely supported by primary school staff in Western Australia. These results are consistent with those reported in the previous Crunch&Sip reports relating to the focus groups conducted with school staff and the online survey administered to parents of primary school children.