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Tooty Fruity Vegie – a recipe for successful volunteer participation in primary schools

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Tooty Fruity Vegie – a recipe for successful volunteer participation in primary schools

ISSUE ADDRESSED

This study describes volunteer participation in a multi-strategic fruit and vegetable promotion in primary schools in Northern NSW.

METHODS

Parents at 10 intervention and six control schools, and principals from the intervention schools, were surveyed after a two-year intervention. We investigated the strategies implemented by parent volunteers, why they volunteered and the conditions they needed to be effective and satisfied.

RESULTS

A quarter to a fifth of intervention school parents volunteered in some capacity, assisting with implementing a wide range of strategies in all schools. They felt their work was highly satisfying and useful. Principals reflected these views and felt that volunteers responded more positively to this project than other school activities.

CONCLUSIONS

Volunteers can be significant contributors to whole-of school nutrition programs if they are adequately resourced, trained and supported and are offered fun, hands-on strategies to implement.

SO WHAT?

The participation of parent volunteers is one effective way of ensuring school nutrition programs are low budget, able to reach a large number of students and sustainable.

Introduction

Most Australian adults' diets fall well below recommended daily intakes of fruits and vegetables¹⁻³, placing them at increased risk of many cancers, cardiovascular and coronary disease⁴⁻⁶. Whereas intake levels appear adequate among pre-schoolers, they become more inadequate as children get older, with 35% of Australian children aged 8 – 11 years eating no fruit and 20% eating no vegetables in the 24 hours prior to their survey^{3, 7}. Evidence also shows that dietary habits formed early in life tend to continue into adulthood^{8, 9}. A few studies have shown school-based interventions can effectively increase children's fruit and vegetable consumption but these interventions require a high number of intervention contact hours from teachers or health promoters¹⁰. Evidence from overseas also shows that parental involvement enhances the effectiveness of primary school interventions^{10, 11} though the authors could find no similar studies in Australia. Attracting and sustaining the effectiveness of parent volunteers in school interventions can be an important way of increasing the reach of a program. Therefore, we developed a fruit and vegetable promoting intervention for primary schools based on an empowerment based learning process¹², a health promoting schools framework¹³ and using lessons learned from similar projects^{10, 14-19} including using parent volunteers to implement many of the strategies. In this study we investigated the range of the strategies they implemented, why they volunteered and the conditions they needed to be effective and satisfied.

As reported elsewhere, the TFV project significantly improved children's fruit and vegetable knowledge, attitudes, access and preparation skills; parents' knowledge and involvement in, and enjoyment of, fruit and vegetable promoting activities in schools; and teachers' attitudes towards and perceived skills and support for doing school-based fruit and vegetable promotions²⁰

Methods.

The Tooty Fruity Vegie (TFV) project was a two-year, multi-strategic program, which ran in 10 primary schools during 1999 and 2000 across North Eastern NSW. All Catholic, government and independent primary and central schools were invited to take part in the project and 10 of these volunteered after initial interviews with the TFV team.

Project strategies were designed, from available evidence, to create a supportive environment by developing, and helping schools to implement fruit and vegetable promoting educational resources and activities for children, their parents, teachers, schools, school canteens and the broader community. These strategies included promotion of fruit and vegetables in the school canteen, children's cooking classes, fruit and vegetable gardens and incorporating fruit and vegetable activities in school curricula.

Range of Strategies Implemented

Table 1 outlines the key TFV strategies, the settings where they were conducted and who executed them at the individual school level.

TABLE 1 HERE

Analyses

Analyses were largely descriptive and confined to frequency distributions, with some calculations and comparisons of means and cross-tabulations between intervention and control parents.

To maximise schools' ownership, and the project's sustainability beyond the intervention period, each school formed a School Project Management Team (SPMT) consisting of representatives from the whole school community, to oversee the project's implementation in their school. Parent volunteers as well as teachers, were trained and resourced to implement many of the school-based strategies.

Prior to implementation of the project in the 10 implementation schools, another six schools were recruited as demographically and geographically matched controls. At the end of the two-year intervention period, all 16 schools were asked to participate in a range of surveys to assess how well the project was

implemented and received. All parents, volunteers and principals within consenting schools were asked to complete surveys.

As no relevant existing instruments were available, we drafted, pilot-tested and revised survey instruments for each target group (copies available from authors). Each survey assessed a range of process and impact indicators. This paper is limited to the questions relating to volunteer participation in the project. Other process and impact indicators are reported elsewhere²⁰.

Volunteer- related Survey contents

- **Intervention and Control (I&C) parents** completed self-administered surveys assessing their involvement in and enjoyment of three fruit and vegetable promoting school activities.
- **Intervention volunteer parents** (self-identified in parent survey or identified by schools) completed similar surveys about their level of participation in, and enjoyment of, fruit and vegetable promoting activities at school and why they worked as volunteers.
- **Intervention Principals** completed a structured telephone survey assessing their:
 - perceptions of volunteers' reaction to the TFV project;
 - perceptions of the level and acceptability of the TFV project's demands on volunteers and the school community generally;
 - intention to continue with TFV strategies and perceived support necessary.

Ethics

The TFV project was approved by the Northern Rivers Area Health Service Human Research Ethics Committee and by the NSW Department of Education and Training's Strategic Information and Reporting Section.

Results

Response Rate and Sample Characteristics

Nine of the ten intervention and three of the six control schools participated in this evaluation. Completed surveys were received from 613 parents (59%), 34 intervention school volunteers (34%) and 10 intervention school principals (100%). Parental response rates were similar across intervention and control groups and showed good representation across all student years, although the volunteers tended to have younger children.

Recruitment of Volunteers

A quarter to a fifth of intervention school parents reported volunteering in TFV activities at their children's schools. While some volunteers were recruited via school newsletters, a third received personal invitations (see Table 2). The main motivators among TFV volunteers were enjoyment of the activities, participation in their children's class and working with children generally. Few participated out of a sense of duty.

TABLE 2 HERE

According to principals, volunteer recruitment seemed easier for food preparation activities, especially in the second year. Most principals felt volunteers responded more positively to TFV than other activities, attributing this to the training provided for cooking classes, which improved volunteers' confidence (particularly among Aboriginal mothers) and gave them a clearly defined role. Volunteers felt the main reasons for other parents not participating were lack of interest, competing work commitments and having other small children to care for.

Perceived Enablers of / Barriers to Implementing the TFV Project

Volunteer and principal surveys suggested parent participation could be increased further by:

- improving publicity and scheduling of TFV events;
- avoiding clashing with other activities and coinciding with other parent events at the schools;
- improving training and support;
- providing child care.

Parent involvement in fruit and vegetable strategies

Not surprisingly, significantly more intervention than control school parents reported being directly involved in a fruit and vegetable activity at their children's school during 1999 and 2000, including cooking classes (22% vs. 3% involved, $p < 0.00001$), canteen promotions (21% vs. 8% involved, $p < 0.001$) and special event promotions (26% vs. 14% involved, $p < 0.005$). Consequently, intervention school parents reported being involved in more fruit and vegetable activities at school than control parents during the two years (mean 0.69 vs. 0.25 activities, $p < 0.0001$).

Volunteers' Enjoyment of Individual TFV Strategies

As shown in Table 3, most volunteers who responded enjoyed, or really loved, doing each strategy. Over half the hours contributed went into the cooking classes, with virtually all surveyed volunteers involved. This was the most enjoyed activity and, apart from excursions, the one most volunteers were willing to help with again. Almost all volunteers found the TFV activities rewarding, felt their efforts were appreciated by the school community and felt they had made an impact on children's eating habits (Table 4). However, some felt equipment or organisation could be improved for some activities.

TABLES 3 AND 4 HERE*Perceived Sustainability of the TFV Project*

As discussed earlier (see Table 4), volunteers reported high levels of enjoyment of TFV activities, with the majority involved in each activity reporting a willingness to do it again. Furthermore, over half the volunteers reported having spread the fruit and vegetable message to groups outside the primary school, including sporting and social groups and preschools.

Most principals felt their schools were well equipped to continue the project without outside support due to their positive experiences of volunteers and the funding given for cooking equipment. Although some expressed concerns about fitting TFV activities into full curricula and maintaining parental involvement, all planned to continue in some way. Similarly, all SPMTs intended to continue various TFV strategies, including those implemented by volunteers.

The conditions needed for volunteers to feel their work was effective and satisfying are summarized in Table 5.

INSERT TABLE 5 HERE

Discussion

Our results indicate that volunteers implemented a wide range of strategies for the TFV project, finding their work highly satisfying and useful. A quarter to a fifth of all parents reported planning or implementing TFV strategies, including cooking classes, canteen and special event promotions and gardening. The vast majority enjoyed or really loved each activity and was willing to do them again. Almost all found the activities rewarding; felt their efforts were appreciated by the school, TFV staff and their children; and felt they had made an impact on children's eating habits. However, a small proportion felt training, equipment or organisation could be improved for some activities. However, some potential limitations and strengths need to be considered when interpreting these results.

One potential limitation was the less than optimal response rates on some surveys: only 34% of volunteers, and 59% of parents returned completed surveys. Although almost a quarter of intervention school parents reported having been involved in TFV activities, only half this number completed a volunteer survey. However, timing was a major factor in the poor response to the volunteers' survey, which, due to unforeseen delays, could not be distributed until early December. However, we have confidence in the results, as they are very consistent with those from the principal surveys, from spontaneous comments in parents' surveys and from TFV project officers' experiences in the schools.

Prior psychometric testing of the survey instruments was not possible within the project's budget and timeframe. However, standard best practice survey design techniques were employed in developing them all had face validity and were pilot-tested for comprehensibility and obvious gaps. In addition, the similarity of results across the surveys suggests they had convergent validity, giving us confidence in our results.

Another strength of the study is that the intervention schools have had on-going commitment from parents to volunteer for the implementation of these strategies throughout the two-year implementation period and for at least two years beyond this.

Confidence in our results is enhanced by their concordance with those from similar overseas studies: enjoyment of more “hands-on” experiences, co-scheduling activities to coincide with other school events^{16, 17, 21-24}.

Conclusions

Table 5 summarises the conditions we identified for volunteers to work effectively and to feel satisfied. These findings confirm many of the factors cited as contributing to maximizing the retention of volunteers in a recent review of the effective use of volunteers in Australia: rewards and recognition, effective volunteer management, adequate training and resources and job satisfaction²⁵. The TFV project increased parental interest and participation in promoting fruits and vegetables in a way that has been sustained, with all 10 schools still implementing various TFV strategies four years after they started and has already seen the fruit and vegetable promoting message spread beyond the schools involved.

The participation of parents as volunteers in school nutrition programs is an effective way of ensuring school nutrition programs are low budget, able to reach a large number of students and are sustainable.

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Table 1. Key Tooty Fruity Vegie Strategies, Settings and Executors.

Setting	Tooty Fruity Vegie Strategy	Key Executor		
		Volunteers	Teachers	TFV Team
Classroom	Fruit and vegetable cooking classes (Kids in the Kitchen) in the classrooms, with a teacher present	●		
	Teaching about fruit and veg across key learning areas		●	
	Age specific fruit and vegetable competitions		●	●
School canteens	Providing more fruit and vegetable items regularly	●		
	Trialling novel fruit and vegetable items	●		
	Utilising marketing material from the Fruit and Vegetable industry to trial different marketing methods (including free novelties such as tattoos and stickers with fruit and vegetable sales).	●		
	Networking with schools making good profits from healthy canteen sales	●		
School community	Visiting local vegetable growers and markets	●	●	
	Promotional fruit and vegetable tastings aimed at parents	●		●
	School Project Management Team meetings (SPMT)	●	●	●
	Reviewing food policies and practices to promote fruits and vegetables (eg using healthier foods for rewards and fundraising)			●
	Appraisal and feedback about fruits and vegetables in lunchboxes		●	
	Establishing vegetable gardens and fruit orchards within the school and assisting in teaching children how to grow fruits and vegetables in gardens and pots	●	●	
	Using healthier food and drink items for fund raising	●		
Home and community	Fruit and vegetable promoting flyers and school newsletter articles, calendars and fridge magnets			●
	Liasing with local shops, sporting groups, etc to promote using fruits and vegetables			●

Table 2: Volunteers' reasons for becoming involved in Tooty Fruity Vegie activities

Reason for becoming involved in Tooty Fruity Vegie activities	% of volunteers saying (n = 34)	
	A fair bit / a lot	Not at all / a little
I enjoy working with the children	99	0
I like to know what my children are learning at school	80	18
I enjoy cooking or gardening	70	24
I am interested in good nutrition	74	27
I always help with school activities when I can.	62	38
I thought I might learn something	62	31
I enjoy organising things	53	42
I read about it in a school newsletter	39	55
I felt I should do it	33	61
The principal/ teacher asked me personally to help	21	74
I thought I might meet some new people	12	79
I had plenty of spare time and wanted to do something useful	12	83
A friend was involved and asked me to come too	12	82

NB: row percentages may not add to 100% due to missing values

Table 3: Volunteers' levels of involvement in and enjoyment of Tooty Fruity Vegie school activities

Tooty Fruity Vegie Activity	% involved (n = 34)	% enjoyed / loved it^a	% would do it again^a	Total hours spent	Mean hours per volunteer^a
Cooking classes for children	91	87	87	429	13.8
TFV special event promotions (eg: sport days)	87	66	86	56	2.4
Parent cooking and tasting sessions	47	69	73	32	2.0
TFV school canteen promotions	44	73	80	81	5.4
TFV School Management Committee	26	67	75	74	8.0
Helping with school fruit and veg (F & V) gardens	21	57	75	45	5.6
Trips to F & V growers, markets, supermarkets	12	75	100	10	2.5
^a Denominators were the number of volunteers involved in each activity				727	
				TOTAL	

Table 4: Volunteers' opinions about their involvement in Tooty Fruity Vegie activities in schools

Statement	% volunteers saying (n = 34)	
	Agree / strongly agree	Disagree / strongly disagree
My children were pleased I was involved	94	3
I felt appreciated by the TFV staff	94	0
The children enjoyed the activities	91	3
The children seemed to learn from the activities	91	3
I felt appreciated by the principal/teachers	85	9
I feel I've helped make a difference to the children's eating habits	74	15
There wasn't always enough training/equipment to run activities properly	29	62
Some activities seemed poorly prepared and chaotic	15	79
It was a stressful thing to be involved in	9	79
It's put me off getting involved in this sort of thing again	3	88

Table 5: The conditions needed for volunteers to feel their work was effective and satisfying.

- Support from principals and a whole-of-school approach.
- Adequate planning, training and support.
- Good communication with schools and support from TFV team.
- Adequate resources (eg: cooking equipment, recipe books, aprons).
- Having School Project Management Teams to coordinate and sustain project activities. Broad representation is important for maximising the range of activities and minimising the burden on individual members.
- Co-scheduling project activities with existing school events, offering transport and childcare and improving networking among volunteers across schools.
- Fun, hands-on activities (such as cooking classes, food tastings and gardening) for maximising children's and, hence, volunteers' participation and enjoyment.