

Understanding the Longitudinal Study of Australian Children (LSAC) – how can it inform healthy eating and physical activity programs in the NSW early childhood sector?

REFERENCE REPORT

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Part 1 - Introduction

During 2004 over 10,000 children and their families from all states and territories of Australia were recruited to *Growing up in Australia*, the Longitudinal Study of Australian Children (LSAC). The study aims to examine the impact of Australia's unique social and cultural environment on the children who grow up here. The LSAC explores family and social issues and addresses a range of research questions about children's development and wellbeing. It is Australia's first national longitudinal study of children¹

The Longitudinal Study of Australian Children is a dual cohort cross-sequential study. This study design involves biannual cross-sectional surveys, conducted face to face with the parents and care providers of two 12 month age cohorts of children. Each second yearly survey represents a 'wave' of data collection and it is intended interviews will continue until at least 2010. In between the face to face surveys, mid-wave surveys are mailed out for self completion.

The Longitudinal Study of Australian Children is funded by the Australian Government Department of Families, Community Services and Indigenous Affairs (FaCSIA) and has been undertaken in partnership with the Australian Institute of Family Studies (AIFS). A total of \$20.2 million has been allocated to the study over nine years¹.

The data generated from the LSAC study will be used by a range of Commonwealth and State and Territory departments however it has also been made available to the research community and for program planning purposes. This research brief aims to present information from the LSAC study that can guide the development, planning and implementation of health promotion efforts to promote healthy eating and physical activity amongst children in early childhood settings in NSW.

The LSAC has a website which can be found at:

<http://www.aifs.gov.au/growingup/home.html>

Australian researchers who wish to use the LSAC data need to apply for an individual access license. This can be done by completing the forms found at:

<http://www.aifs.gov.au/growingup/data.html>. Once an access license is granted the password protected data files are sent to the user.

This report provides a description of the LSAC data modules that may be of interest to those involved in health promotion programs in early childhood settings in NSW. It provides information on NSW children's general health, childcare arrangements and small screen recreation. The document also provides guidance as to where to find this information amongst the LSAC data files that are available to users.

Note that while the LSAC includes a number of nutrition questions, the questions are different to those typically used in NSW surveys, including the NSW Child Health Population Surveys. Because of these differences, the data is not comparable, and consequently these results are not reported in this document. Further information is available from the authors, if required.

1.1 The Cohorts

Although the LSAC obtains data from parent/s, care providers and children, the child is the sampling unit of interest². Table 1 describes the LSAC cohorts and main wave data collection schedule.

Table 1. Description of the LSAC Australian dual cohort and data collection*

Child factors			Data collection schedule			
COHORT	Children born	N when recruited	Wave 1 2004	Wave 2 April-Dec 2006	Wave 3 March 2008	Wave 4 2010
B-cohort (infant cohort)	March 2003- February 2004	5,107	0-1 yrs	2-3 yrs	4-5 yrs	6-7 yrs
K-cohort (child cohort)	March 1999- February 2000	4,983	4-5yrs	6-7yrs	8-9yrs	10-11 yrs

*Adapted from Soloff, et al 2005

There are two cohorts of children in the LSAC study, both were recruited and had the first wave of data collected in 2004. Children recruited to the B-cohort (also known as the infant cohort) were born between March 2003 and February 2004, making them 0-1 year of age at recruitment. Children recruited to the K-cohort (also known as the child cohort) were born between March 1999 and February 2000, making them 4-5 years of age when recruited.

Children who attend early childhood services are usually aged between 3-5 years of age. Due to the cross-sequential nature of the data collection, Wave 1 (2004) data from the K-Cohort and Wave 2 (2006) data from the B-Cohort are the best currently available LSAC sources to inform initiatives with early childhood services.

In addition a between wave mail-out questionnaire was sent out in August 2007 (Wave 2.5). This wave collected additional data on children's engagement with media and technology, and childcare or out of school hours care attendance. Therefore, children in the B-Cohort would also be in the early childhood target age at Wave 2.5, so this may be a data source worth investigating. Data from the Wave 3 (2008) collection from the B-cohort could also inform initiatives in early childhood services however these data were not unavailable at the time this research brief was conducted.

1.2 Understanding the sampling frame and exclusions with reference to NSW

Children aged less than 12 months and aged 4 years make up just over one percent of the Australian population. Approximately one in 15 Australian households at any one time have a child aged less than 12 months or aged 4 years. Therefore, children and families were recruited from a randomly selected sample of the Medicare enrolment database, the most comprehensive database of Australia's population. Non-permanent residents who had access to Medicare were excluded. This was obtained from Medicare Australia (formerly the Health Insurance Commission (HIC)).

Postcodes were stratified by state or territory and by capital city statistical division (referred to as “Met” postcodes) versus the rest of the state (referred to as “Exmet” postcodes). As a result, of the 676 Australian postcodes with at least one infant or 4 year old child living within it, 260 were “Met” postcodes and 416 “Exmet” postcodes. Some postcodes were then excluded if they:

- had less than 20 target aged children in non-remote regions;
- had less than 80 or fewer target aged children in remote regions;
- were very large in area (more than 100,000 square kilometres);
- were on Indigenous land (these were also of very large area);
- had more than 50 percent of children aged 4 years (at the time of the 2001 ABS census) who were of Aboriginal or Torres Strait Islander origin.

These exclusions were made primarily due to the prohibitive cost of data collection in these areas. Table 2 describes the breakdown of potential, excluded and eligible postcodes by “Met” or “Exmet” regions. As a result only 1.11% of total NSW children and 0.8% of NSW children of Aboriginal or Torres Strait Islander origin in the target age were excluded from a chance of selection for LSAC. A final cluster size of around 20 children per cohort per postcode was deemed to be desirable.

Table 2. NSW postcodes and population eligible for selection*

NSW	Capital city “MET”	Rest of state “EXMET”	NSW TOTAL
Potential postcodes	260	416	676
Postcodes excluded	60	89	149
Total eligible postcodes	261	266	527
Proportion of the total population excluded from chance of selection	0.29%	2.55%	1.11%

*Adapted from Soloff, et al 2005

To reduce the risk of inviting a family of a child who had died but had not yet to informed Medicare of this a matching process was undertaken. All children aged 5 years or younger who had died in the 5 years prior to recruitment were identified from the Registrars’ of Births, Deaths and Marriages ‘fact-of-death’ file. Any child on the on the HIC database with the same name as that recorded in the ‘fact-of-death’ file (regardless of whether the age was the same) was excluded.

In Australia 1.5% of families with children in the target population have multiple births or and 5% have both an infant and a 4 year old. The operational complexity and increased respondent burden meant that only one target child was to be chosen from each family, even if more than one was eligible.

To ensure the sample included children born in all months of the year and were aged at least 6 months at the time of interview a phased sample selection and data collection process was chosen².

Sample selection, opt out and data collection

The selection of postcodes was undertaken by the AIFS in late November 2003. The HIC was then provided with the list of selected postcodes by phase and the number of children to be selected in each postcode for each cohort. The HIC then mailed out and ‘invitation to

participate' letter to the Medicare cardholder and naming the selected child. This was accompanied by a letter of support from the AIFS and a brochure on Growing Up in Australia. Families who did not wish to participate in the study had 4 weeks to 'opt out' by contacting a 1800 number or returning a reply-paid form to the HIC.

At the end of the 'opt out' period the details of the remaining eligible families were transferred to the data collection agency I-view. I-view then sent a letter to the remaining eligible families indicating when an interviewer would be in their area and a 1800 number for queries. Data was then collected by a personal visit to the families by an interviewer².

Final Wave 1 Response

The final Australian infant sample (B-Cohort) recruited was 57% of the mailed out sample. The final Australian child sample (K-Cohort) recruited was 50% of the mailed out sample. Table 3 describes the breakdown of the sample loss.

Table 3. Final Wave 1 response*

	B-Cohort (infants)		K-Cohort (child)	
	N	%	N	%
Mail-out sample	8921	100.0	9893	100.0
Sample loss				
Refusals	2909	32.6	3710	37.5
<i>HIC opt-out</i>	1398	15.7	1587	16.0
<i>I-view 1800 line</i>	335	3.8	398	4.0
<i>Interviewer</i>	1111	12.5	1423	14.4
Non-contacts	970	10.9	1502	15.2
Final recruited sample	5107	57.2%	4983	50.4

*Adapted from Soloff, et al 2005

1.3 Implications for using the LSAC data to inform early childhood healthy eating and physical activity programs

The LSAC data should provide information relevant for the planning and evaluation of healthy eating and physical activity programs in the NSW early childhood sector. NSW specific data may be obtained, however the smallest unit of reporting would be for the Sydney metropolitan region ("Met") and the rest of the state ("Exmet" large and "Exmet" small). These postcode groupings correspond to stratum 11, 13 and 14 respectively (see section 1.5 for further explanation).

The LSAC data for NSW should also contain a representative sample of children who are of Aboriginal or Torres Strait Islander origin.

1.4 LSAC data modules that may inform early childhood healthy eating and physical activity programs

There are a number of questionnaires which are used in each wave of the LSAC. These provide various data modules. The data modules that may inform the planning and evaluation of early childhood programs on healthy eating and physical activity include:

- child's health;
- childcare;
- family activities; and
- physical measurements of the child.

Figure 1 provides a description of the questionnaires that were used for Wave 2 of the LSAC data collection. Some data modules can be used for both the B-cohort and the K-cohort and some data modules have different questionnaires for the B-cohort and the K-cohort.

Child's Health

There are 2 questionnaires (data modules) that relate to the target child's health, these are coded as questionnaire HEAB (used for the B-cohort only) and questionnaire HEAL (used for both the B-cohorts and K-cohort).

Questionnaire HEAB asks the parents of children in the B-cohort only about feeding (breastfeeding, infant formula, solid foods) and if the child regularly drinks any of:

- fruit juices;
- cordial;
- soft drink;
- cow's milk;
- soy milk;
- formula;
- tea or coffee;
- water; or
- other beverages.

Questionnaire HEAL asks the parents of children in the B-cohort and the K-cohort about types of food consumed in the last 24 hours including:

- fruit and vegetables (fresh fruit, fruit juice, cooked and raw vegetables or salad);
- extra foods (meat pie, sausage rolls, hot chips, potato chips or savoury snacks, biscuits, etc);
- dairy products (full cream, skim milk);
- water;
- sugary or diet drinks (soft drinks, cordial);

Questionnaire HEAL also asks if the child had breakfast, if the parents are concerned about the child's weight and questions about the child's general health, vaccinations and medications.

Note that the questions used in these modules differ from the standard nutrition short questions used in NSW Population Health Surveys.

Childcare

There are 2 questionnaires that relate to childcare arrangements for the target child. Questionnaire CHIB relates to the B-cohort and questionnaire CHIK relates to the K-

cohort. Questionnaire CHIB asks the parent of children in the B-cohort about the frequency, main reasons, number and type of child care arrangements.

Family activities

There are 2 questionnaires that related to family activities that the target child participates in. Questionnaire FACTB relates to the B-cohort and questionnaire FACTK relates to the K-cohort. FACTB and FACTK provide information on types of play and recreational activities like games outdoors, e.g. swimming and cycling and small screen recreation.

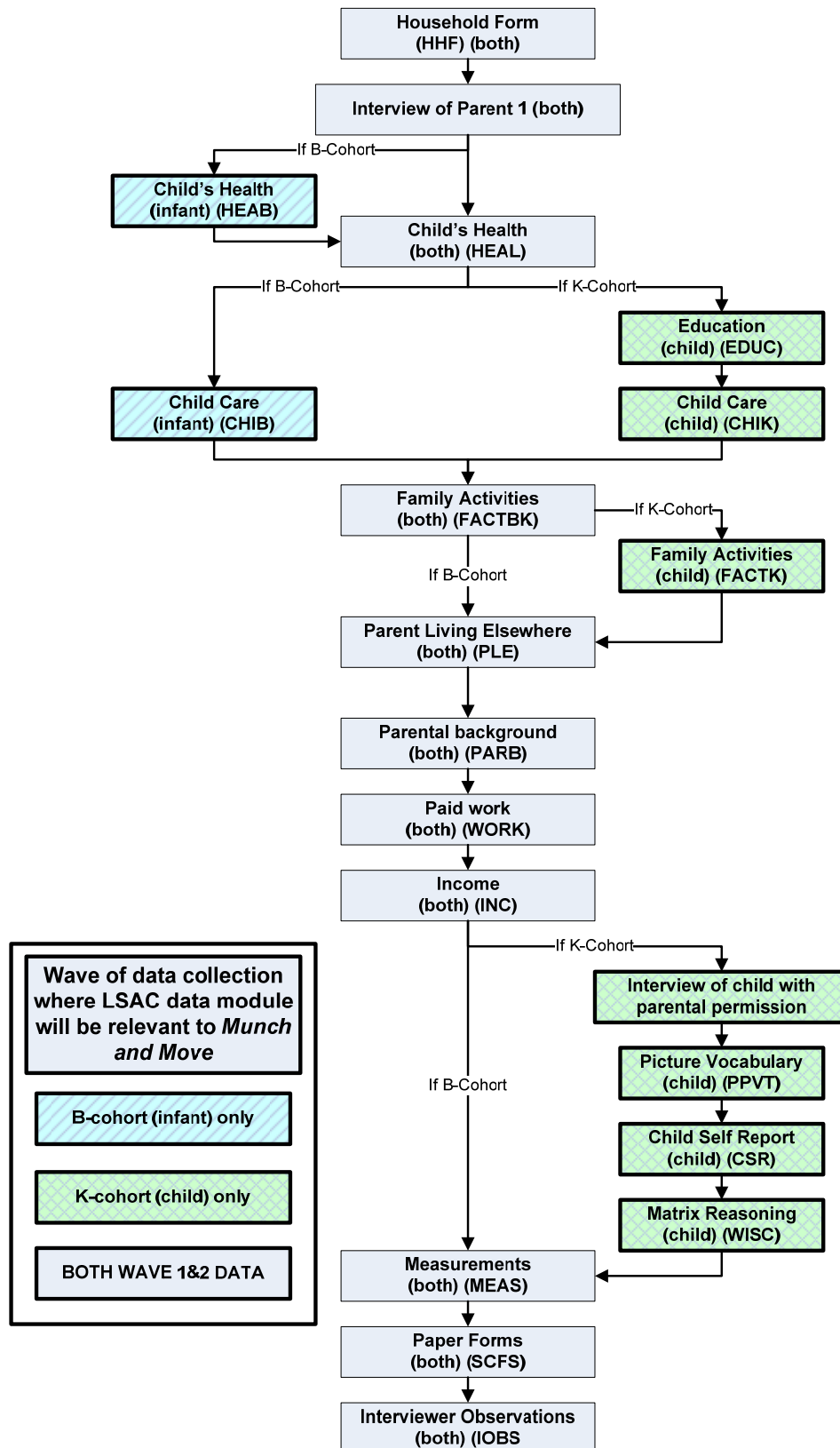
Measurements

Whilst in the home of the child the LSAC interviewers ask for permission to make a number of physical measurements of the target child. If the parent agrees then the following measurements are taken:

- weight;
- height; and
- waist circumference at the navel.

The data modules known as MEAS are recorded for both the B-cohort and the K-cohort.

Figure 1. Data modules from Wave 2 that contain information relevant to early childhood healthy eating and physical activity programs *



*Adapted from information from the LSAC Wave 2 data module descriptions

1.5 Considerations when analysing LSAC data

Location of data relevant to NSW early childhood healthy eating and physical activity programs

The wave and cohort data are found in separate SAS or SPSS data files. There are 2 main data files that are of relevance for informing healthy eating and physical activity among children in early childhood settings in NSW. The Wave 1 (2004) data for the K-cohort (child) are mostly contained in the LSAC data file "LSACCONF4". The Wave 2 (2006) data for the B-cohort (infant) are mostly contained in the LSAC data file "LSACCONF2".

When extracting data from the LSAC data files you will need to keep identifier variables and the variables related to the survey questions of interest. The survey question codes of interest can be found by using the LSAC data dictionary (see section 1.7 for the link). It is also useful to look at the list of topics and constructs (see section 1.7 for the link) to find the variables of interest in the LSAC data dictionary as the variables are not grouped by questionnaire, rather by topic and construct.

Identifier Variables

The following identifier variables are required for data analysis:

- hacid (HIC identifier);
- wave (wave of data collection);
- cohort (B (infant) or K (child));
- stratum (11 = NSW Met; 13 = NSW Xmet large; 14 = NSW Xmet small);
- pcode (postcode);
- weight = child population weight; and
- weights = child sample weight.

Variable naming conventions

All variables have a letter a-e at the beginning of them. This indicates the age of the child at data collection. Therefore the variables of interest should begin with either:

- c for the Wave 1 K-cohort (indicating the child was 4-5 years of age); or
- b for the Wave 2 B-cohort (indicating the child was 2-3 years of age).

Data analysis

Data analysis should be done using SAS procedures like SURVEYFREQ, SURVEYMEANS and SURVEYREG to take into account the survey stratum, postcode clusters and population or sample weights.

1.6 What do we already know from previously reported LSAC data

Childcare usage for Wave 1 cohort K (children)³

Australia-wide

Of the 4983 LSAC children aged 4-5 years in 2004:

- 13.5% (n=671) were enrolled in pre-year 1 program at a school;
- 82.2% (n=4096) were attending a pre-school or long day care centre;
- the remaining 4.3% (n=216) had exclusive parental care or informal care at home;
- a higher proportion of metropolitan children (15%) than non-metropolitan children (11%) were in pre-year 1 at school;
- Lower proportion of metropolitan children (81%) than non-metropolitan children (84%) were in preschool or day care programs.

The mean hours Australian children aged 4-5 years in 2004 attended per week (range) were:

- 13.8 hrs/ wk (10.6 - 15.8 hrs/wk) for preschool programs based in schools;
- 12.2 hrs/wk (9.6 - 13.9 hrs/wk) for preschool programs based in a non-school setting;
- 21.6 (17.7 - 33.1 hrs/wk) for long day care centres.

NSW

- 17.7% of NSW LSAC children attended pre-year 1 program at a school
- 9.7% attended a preschool program based in a school
- 40.4% attended a preschool program based in a non-school setting
- Long day care was the most common early childhood program with 49.9% of NSW children attending this setting
- NSW subsidises preschool programs according to the number and needs of the children attending.

Nutrition for Wave 1 cohort K (children)⁴

Australia-wide

Foods consumed in the past 24-hrs by 4-5year old children

- Almost 90% had at least 1 piece of fruit
- Almost 75% had cooked vegetables
- About 40% had raw vegetables or salad
- Most had eaten biscuits or cakes (70%)
- At least 1/3 had eaten high fat savoury foods
- Most drink water but parents indicated 6% had not drank any water in the past 24hrs
- Almost 2/3rds had fruit juice
- 45% had soft drink or cordial
- Almost all had some milk products
- Almost 90% had full cream milk and just over 10% had skim milk products

1.7 Important resources for understanding LSAC

There are a number of resources that make understanding LSAC and finding the variables of interest a lot easier. Links to these resources have been included below.

1. LSAC Data Users Guide – Version 3.0, 2007
<http://www.aifs.gov.au/growingup/data/userguide.pdf>
2. LSAC Data Dictionary – online version (Microsoft Excel format)
<http://www.aifs.gov.au/growingup/data/datadictionary.html>
3. LSAC topics and constructs
<http://www.aifs.gov.au/growingup/data/datadictionary.html#constructs>
4. LSAC technical papers can be found at:
<http://www.aifs.gov.au/growingup/pubs/technical.html>
 - *Technical paper no.1, May 2005.* [Sample design \(PDF 627K\)](#) | [Word \(493K\)](#)
 - *Technical paper no.4, July 2007* [Children's time use in the Longitudinal Study of Australian Children: Data quality and analytical issues in the 4-year cohort \(PDF 839K\)](#) | [Word \(931K\)](#)
5. LSAC discussion papers can be found at:
<http://www.aifs.gov.au/growingup/pubs/discussion.html>
 - *Discussion paper no.1, June 2002* [Introducing the Longitudinal Study of Australian Children](#)
 - *Discussion paper no.5, June 2007* [Wave 2 Data Management Issues](#)
6. LSAC annual reports can be found at:
<http://www.aifs.gov.au/growingup/pubs/ar.html>
 - 2004 annual report
<http://www.aifs.gov.au/growingup/pubs/ar/annualreport2004.html>
 - 2005-2006 annual report
<http://www.aifs.gov.au/growingup/pubs/ar/annualreport2005-06.html>
7. The LSAC labelled questionnaires and measurement instruments can be found at:
<http://www.aifs.gov.au/growingup/pubs/instruments.html>
8. A list of published journal articles using the LSAC data can be found at:
<http://www.aifs.gov.au/growingup/pubs/journal.html>

Part 2: Methods

To date there is only limited information from the LSAC data on physical activity and healthy eating in NSW children that is published and is available. In order to glean further information from the available data, the author applied for and obtain an individual license to access the LSAC data. In this research, four main topics were covered:

- general health
- childcare usage
- small screen recreation; and
- food intake.

The NSW data were extracted from the data files:

- “LSACCONF4” for the Wave 1 (2004) K-cohort (4-5 year olds); and
- “LSACCONF2” for the Wave 2 (2006) B-cohort (2-3 year olds).

The responses to the variables of interest have been reported as a proportion of the NSW population. To do this SAS 9.1 was used to analyse the survey data. The procedure SURVEY FREQ was used to take into account the LSAC study design and therefore obtain the weighted response for the NSW population.

To address questions of interest to obesity researchers or program planners in NSW, the responses needed to be weighted to represent the NSW population. The weightings were obtained using the SURVEY FREQ functions on SAS 9.1.

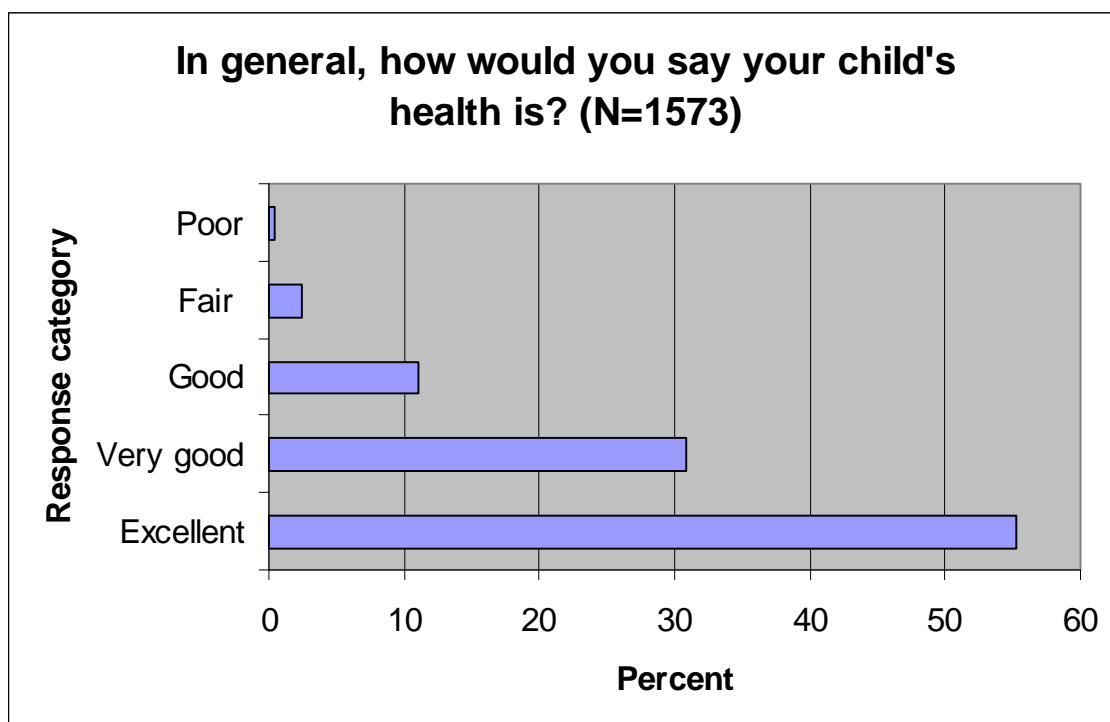
The responses to all questions that may be of interest to obesity researchers or program planners in NSW have been reported in graph format with a data table below.

Part 3: Results

3.1 Wave 1 (2004) K-Cohort (4/5 year olds)

3.1.1 Child's general health

Figure 2. Parent reported child health of NSW 4/5 year olds in 2004



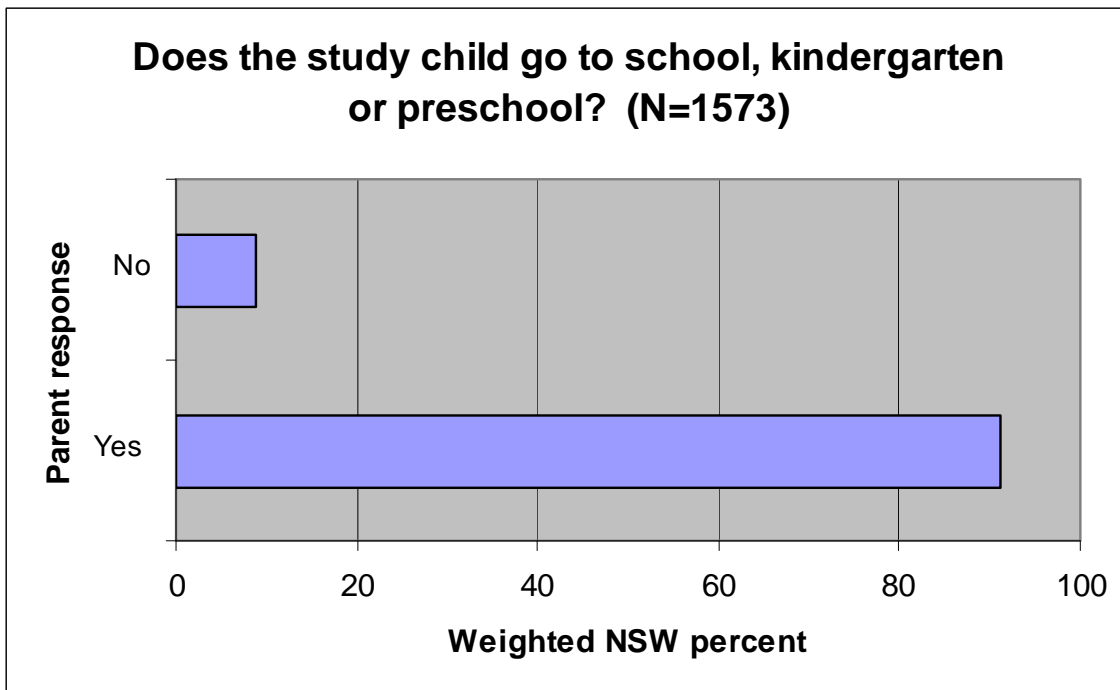
Data table for figure 2.

<i>N = 1573</i>		<i>Variable = chs13c</i>		
Response code	Response category	%	Upper CI	Lower CI
1	Excellent	55.3	52.4	58.2
2	Very good	30.9	28.5	33.3
3	Good	11	9.2	12.8
4	Fair	2.4	1.6	3.2
5	Poor	0.4	0.1	0.7
-2	Don't know			

Using variable chs13c, over 86% of NSW parents reported their child's health as excellent or very good, in response to the question "In general, how would you say your child's health is?"

3.1.2 Childcare arrangements

Figure 3. Early childhood education attendance for NSW 4/5 year olds in 2004

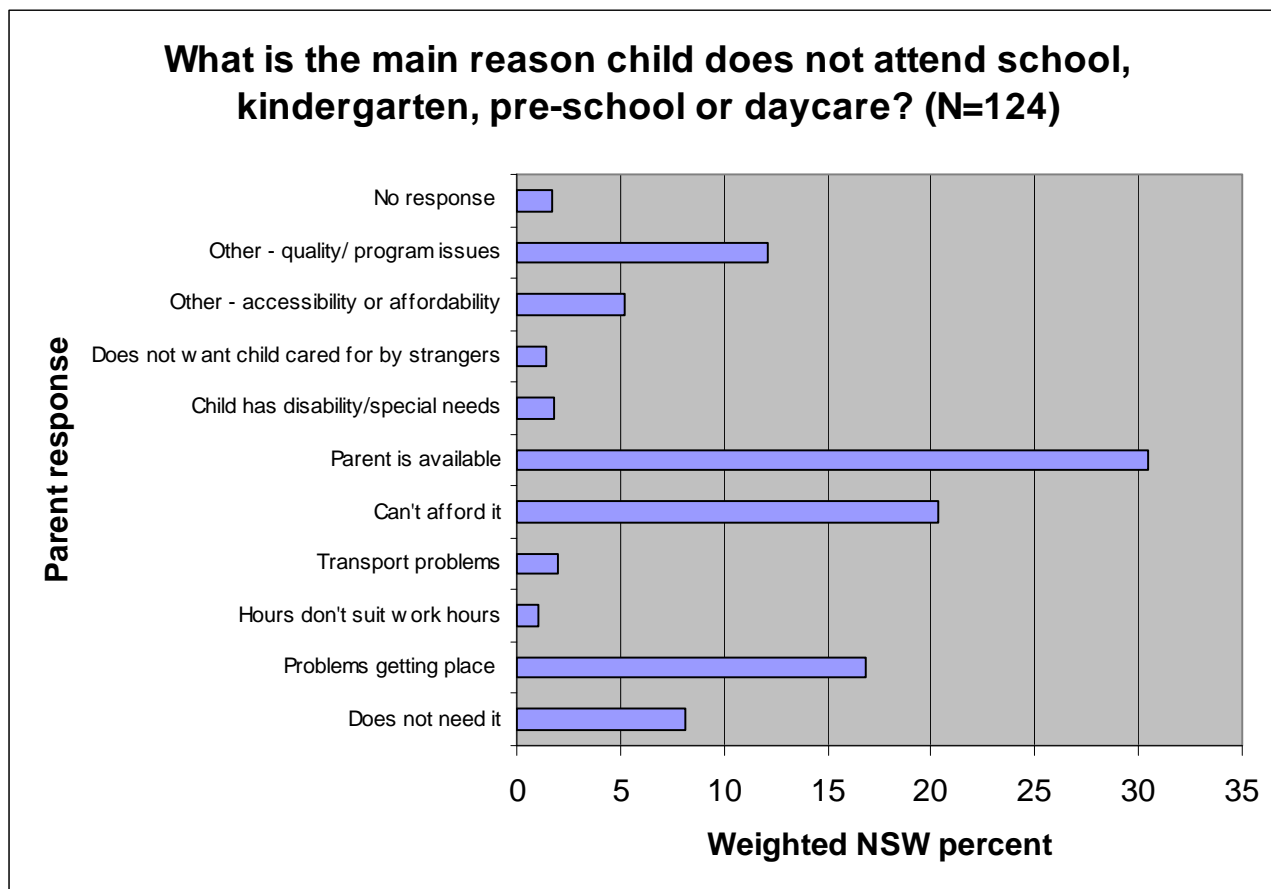


Data table for figure 3

<i>N = 1573</i>		<i>Variable = cpc01b1</i>	<i>type of school etc</i>		
Response code	Response category	%	Upper CI	Lower CI	
1	Yes	91.2	89.5	92.9	
2	No	8.8	7.1	10.5	

Using variable cpc01b1, over 91% of NSW children aged 4-5 years in 2004 went to school, kindergarten or preschool.

Figure 4. Reasons for early childhood education non-attendance in NSW 4/5 year olds in 2004

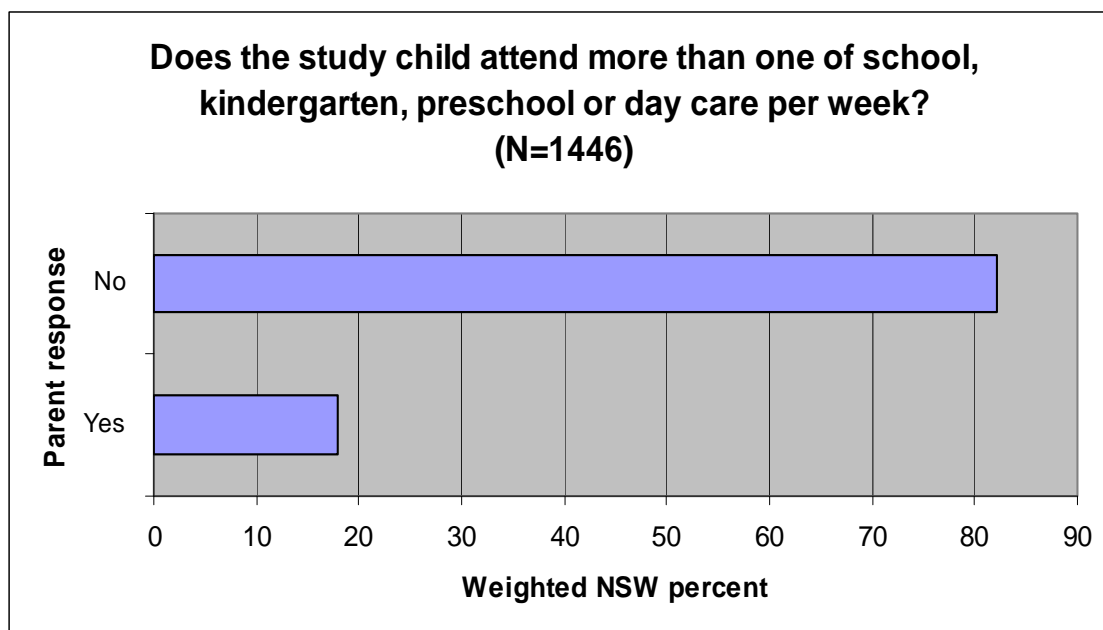


Data table for figure 4

N=124		Variable = cpc02c		
Response code	Response category	%	Upper CI	Lower CI
1	Does not need it	8.1	3	13.3
2	Problems getting place	16.8	6.1	25.4
3	Hours don't suit work hours	1	0	3
6	Transport problems	2	0	4.5
7	Can't afford it	20.3	14.7	25.9
8	Parent is available	30.5	21.6	39.5
10	Child has disability/special needs	1.8	0	4.4
12	Does not want child cared for by strangers	1.4	0	3.4
13	Other - accessibility or affordability	5.2	1.2	9.2
14	Other - quality/ program issues	12.1	6.5	17.7
-2	No response	1.7	0	4.1

Of the 9% of NSW children aged 4-5 years of age in 2004 who did not attend school, kindergarten or preschool, variable cpc02c reports the reasons for non-attendance. The most frequent reasons for non-attendance were that a parent was available to care for the child or that the parent/s could not afford to send their child to an early childhood education program.

Figure 5. Proportion of NSW 4/5 year olds in 2004 that attend more than one early childhood education program

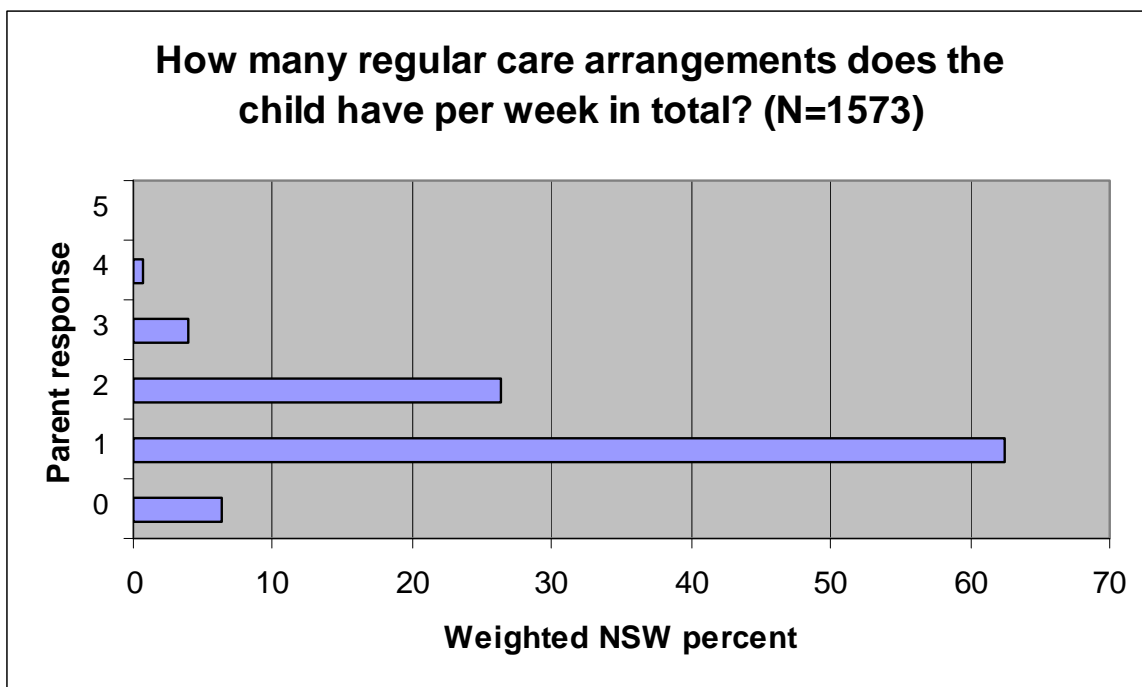


Data table for figure 5

N = 1446		Variable = cpc01b2			
Response code	Response category	%	Upper CI	Lower CI	
1	Yes	17.9	15.7	20	
2	No	82.1	80	84.3	

Of the children NSW children aged 4-5 years in 2004 who attended an early childhood education program, only 18% attended more than one type of educational program.

Figure 6. Number of regular child care arrangements per week for NSW 4/5 year olds in 2004

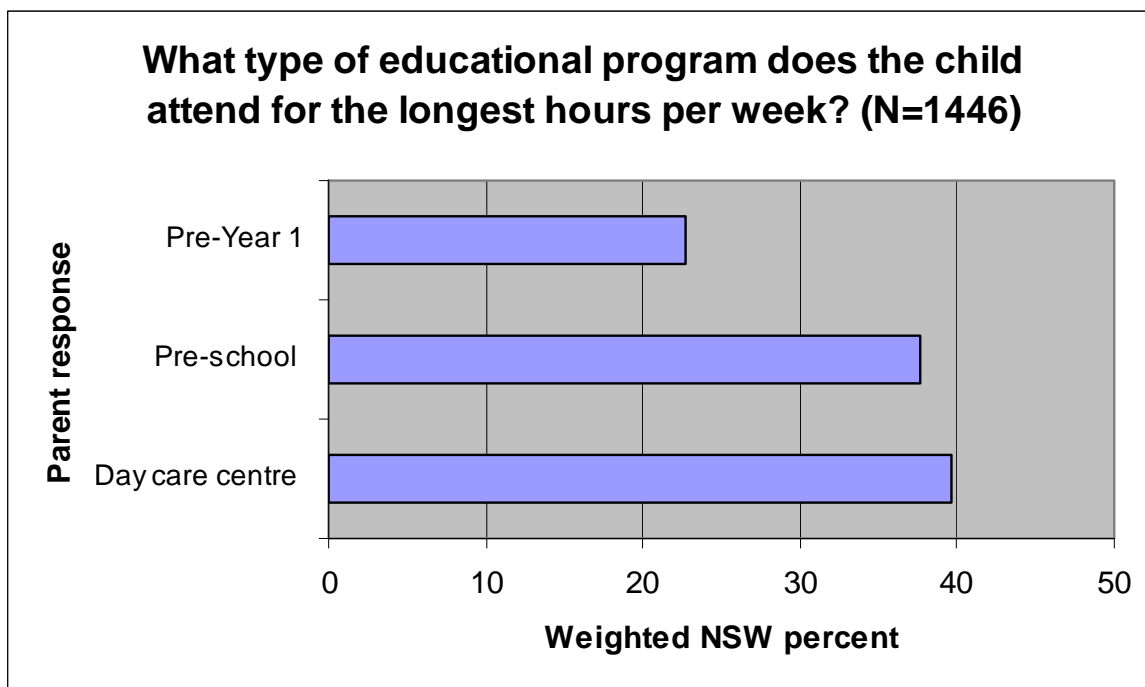


Data table for figure 6

<i>N = 1573</i>		<i>Variable = cpc03a</i>		
Response code	Response category	%	Upper CI	Lower CI
	0	6.4	4.8	7.9
	1	62.5	59.7	65.4
	2	26.4	23.7	29.1
	3	4	3	5
	4	0.6	0.2	1.1
	5	0.1	0	0.2

Of all NSW 4-5 year olds in 2004, only 31% of children had more than one regular childcare arrangement.

Figure 7. Educational programs that NSW 4/5 year olds attended for the longest hours per week in 2004

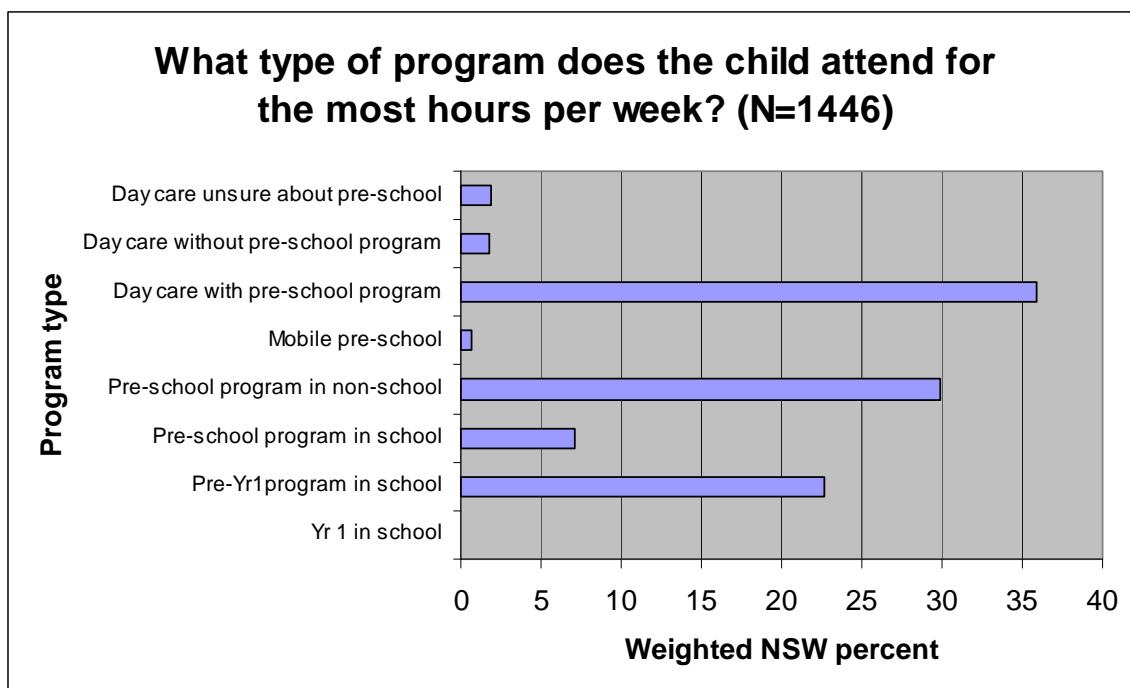


Data table for figure 7

N=1446		Variable = cpc06a1		
Response code	Response category	%	Upper CI	Lower CI
1	Day care centre	39.6	35.7	43.6
11	Pre-school	37.7	33.5	41.8
12	Pre-Year 1	22.7	19.9	25.4

Of the children NSW children aged 4-5 years in 2004 who attended early childhood education programs, 40% attend long day care centres, 38% attend pre-school and 23% attend pre-year 1 programs.

Figure 8. Specific educational programs that NSW 4/5 year olds attended for the longest hours per week in 2004

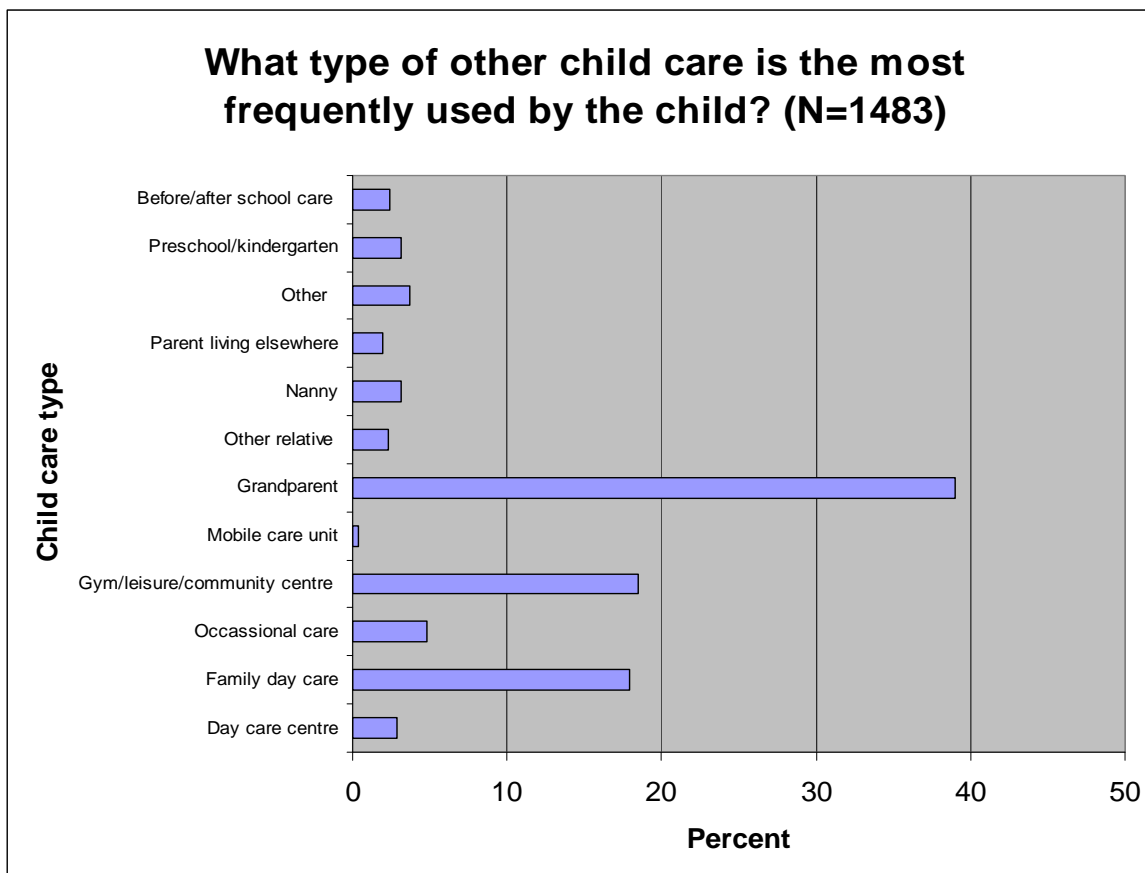


Data table for figure 8

N=1446		Variable = cpc06a4		
Response code	Response category	%	Upper CI	Lower CI
1	Yr 1 in school	0		
2	Pre-Yr1 program in school	22.7	19.9	25.4
3	Pre-school program in school	7.1	5.4	8.8
4	Pre-school program in non-school	29.9	25.8	33.9
5	Mobile pre-school	0.7	0.2	1.2
6	Day care with pre-school program	35.9	32.1	39.8
7	Day care without pre-school program	1.8	1.1	2.5
8	Day care unsure about pre-school	1.9	1.1	2.7

Early childhood programs and care are provided in a number of settings in NSW. The variable cpc06a4 describes the specific types of programs attended by those NSW children aged 4-5 years in 2004 who attend an early childhood education program. It is important to note that pre-school programs are run in many different settings including long day care centres, schools, independent centres and even mobile centres. Therefore the distinction between long day care centres and pre-schools is not clear. A way around this is to always ask both about the education program and the setting in which that educational program is run.

Figure 9. Most frequent other child care arrangements used by NSW 4/5 year olds in 2004



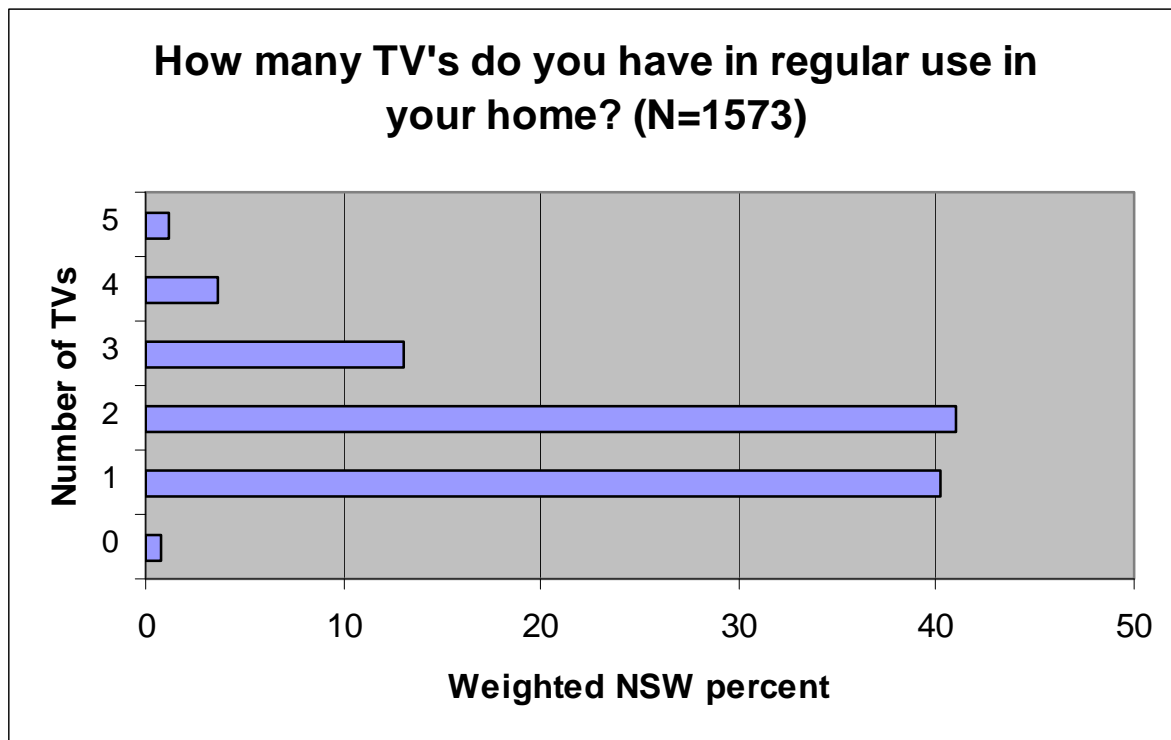
Data table for figure 9

N=1483		Variable = cpc06b1		
Response code	Response category	%	Upper CI	Lower CI
1	Day care centre	2.9	1.9	3.9
2	Family day care	17.9	15.2	20.6
3	Occasional care	4.8	3.5	6.2
4	Gym/leisure/community centre	18.5	15.4	21.6
5	Mobile care unit	0.4	0	0.7
6	Grandparent	39	35.7	42.3
7	Other relative	2.3	1.5	3.1
8	Nanny	3.1	2.1	4.1
9	Parent living elsewhere	1.9	0.9	2.9
10	Other	3.7	2.6	4.9
11	Preschool/kindergarten	3.1	2.3	4
14	Before/after school care	2.4	1.5	3.2

Of the NSW children aged 4-5 years in 2004 who have one or more regular childcare arrangements (rather than educational programs), variable cpc06b1 reports the type. In NSW in 2004 grandparents provided the most frequent childcare arrangement other than educational programs.

3.1.3 Small screen recreation

Figure 10. Number of TV's in regular use in the homes of NSW 4/5 year olds in 2004

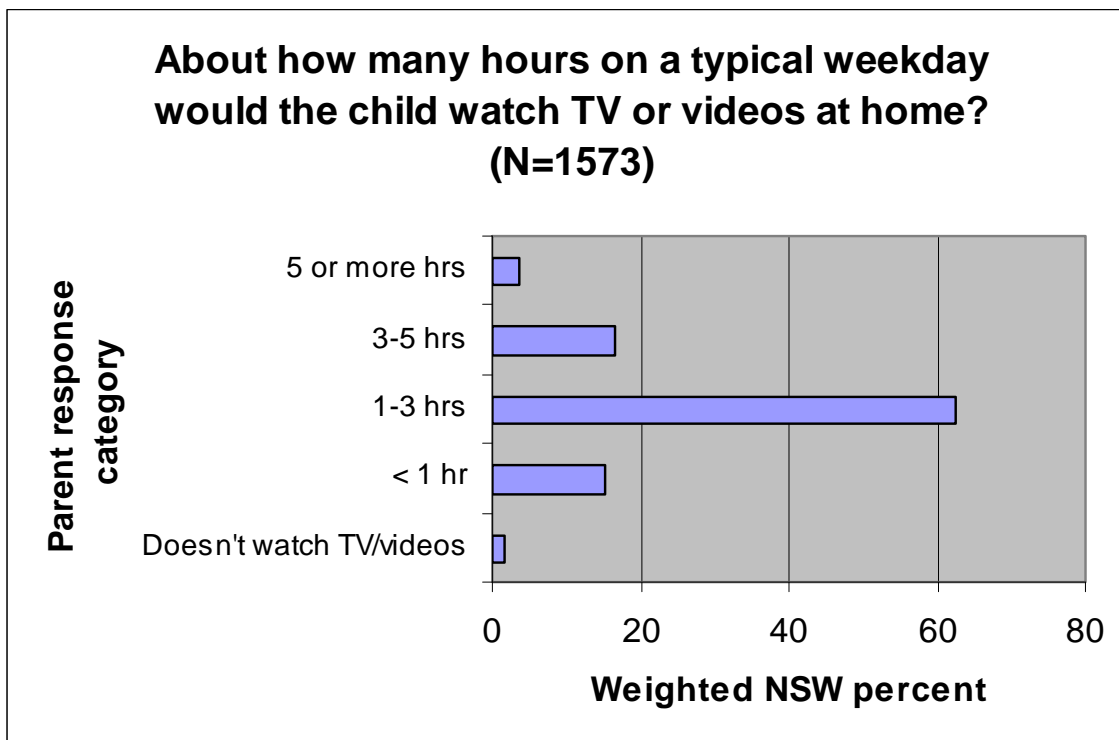


Data table for figure 10

N = 1573		Variable = che06a		
Response category	%	Lower CI	Upper CI	
0	0.8	0.3	1.3	
1	40.2	36.9	43.5	
2	41	38.3	43.7	
3	13.1	11.1	15.2	
4	3.6	2.5	4.8	
5	1.2	0.5	1.9	

In 2004, 59% of households with a 4-5 year old had 2 or more televisions in regular use.

Figure 11. Hours of TV watched on a typical weekday by NSW 4/5 year olds in 2004

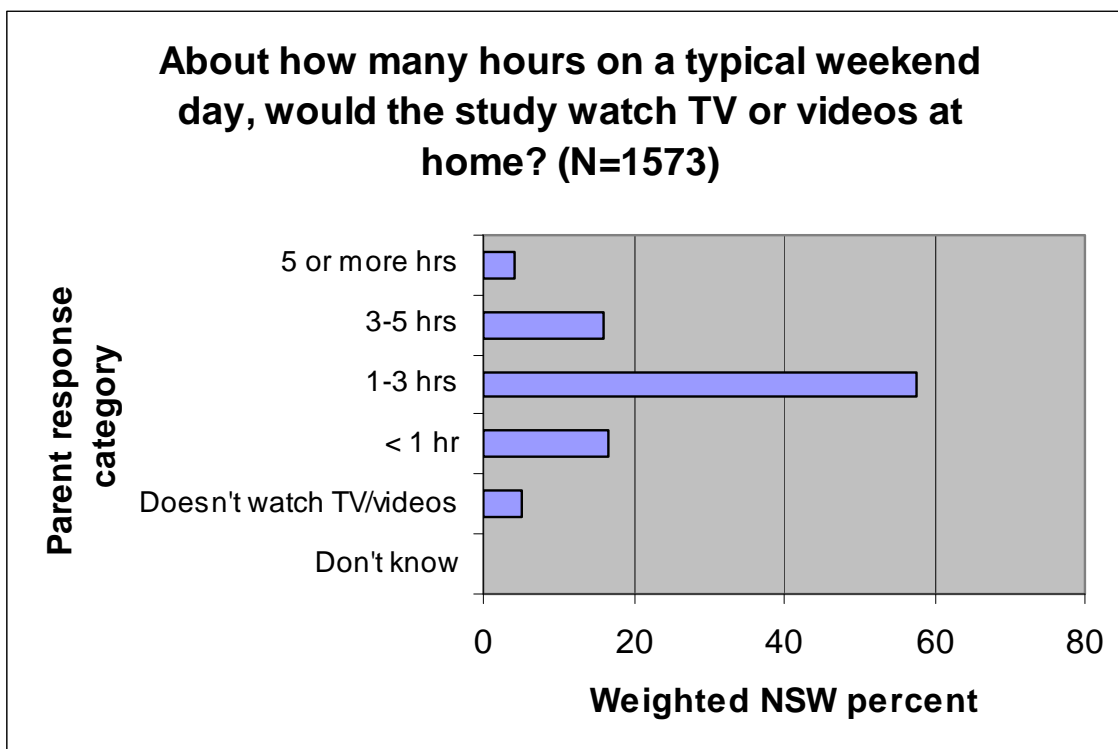


Data table for figure 11

N = 1573		Variable = che06c1		
Response code	Response category	%	Lower CI	Upper CI
1	Doesn't watch TV/videos	1.8	1.1	2.4
2	< 1 hr	15.2	13	17.5
3	1-3 hrs	62.6	60	65.2
4	3-5 hrs	16.6	14.4	18.8
5	5 or more hrs	3.8	2.7	4.9

In 2004, over 20% of NSW 4-5 year olds watched 3 or more hours of television on a typical week day.

Figure 12. Hours of TV watched on a typical weekend day by NSW 4/5 year olds in 2004

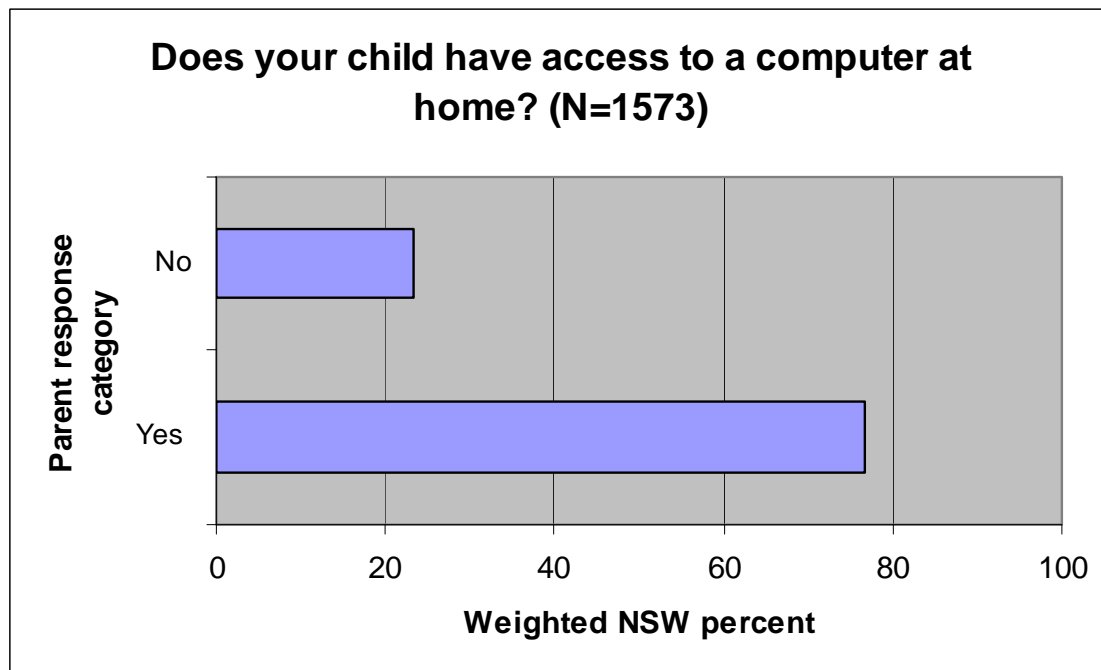


Data table for figure 12

N = 1573		Variable = che06c1		
Response code	Response category	%	Lower CI	Upper CI
-2	Don't know	0.3	0	0.6
1	Doesn't watch TV/videos	5.2	4	6.5
2	< 1 hr	16.7	14.4	19.1
3	1-3 hrs	57.5	54.9	60.1
4	3-5 hrs	15.9	13.8	18
5	5 or more hrs	4.3	3.2	5.6

In 2004, over 20% of NSW 4-5 year olds watched on average 3 or more hours of television on a typical weekend day.

Figure 13. NSW 4/5 year olds' access to a computer in their household in 2004

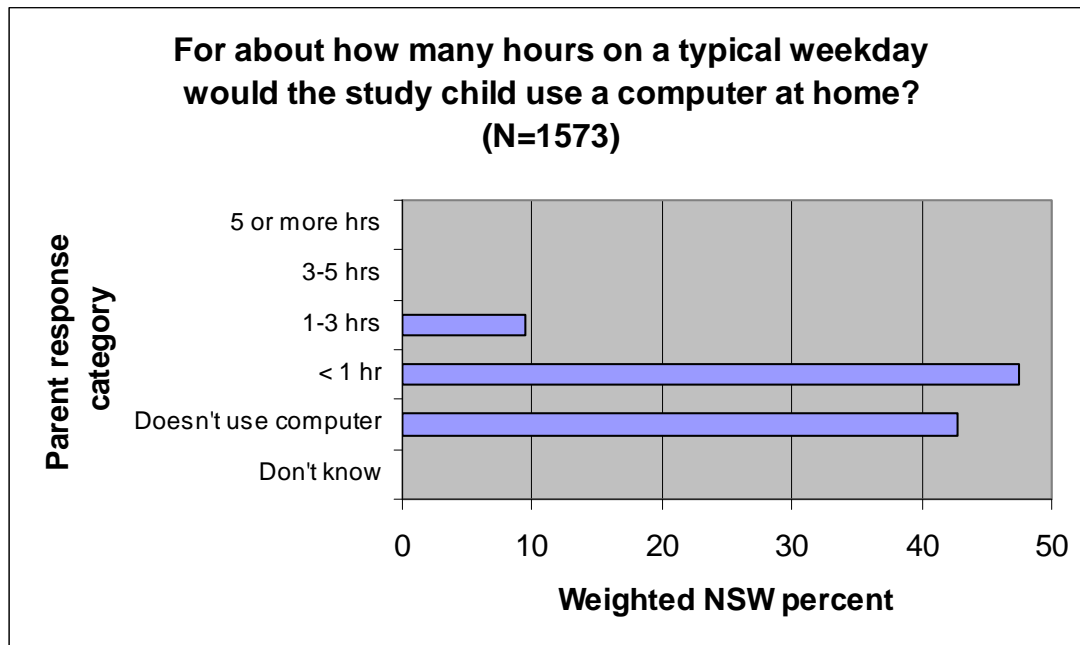


Data table for figure 13

N = 1573		Variable = che07a		
Response code	Response category	%	Lower CI	Upper CI
1	Yes	76.7	73.4	79.9
2	No	23.3	20.1	26.6

In 2004, almost 77% of NSW 4-5 year olds had access to a computer at home.

Figure 14. Hours of computer use on a typical weekday by NSW 4/5 year olds in 2004

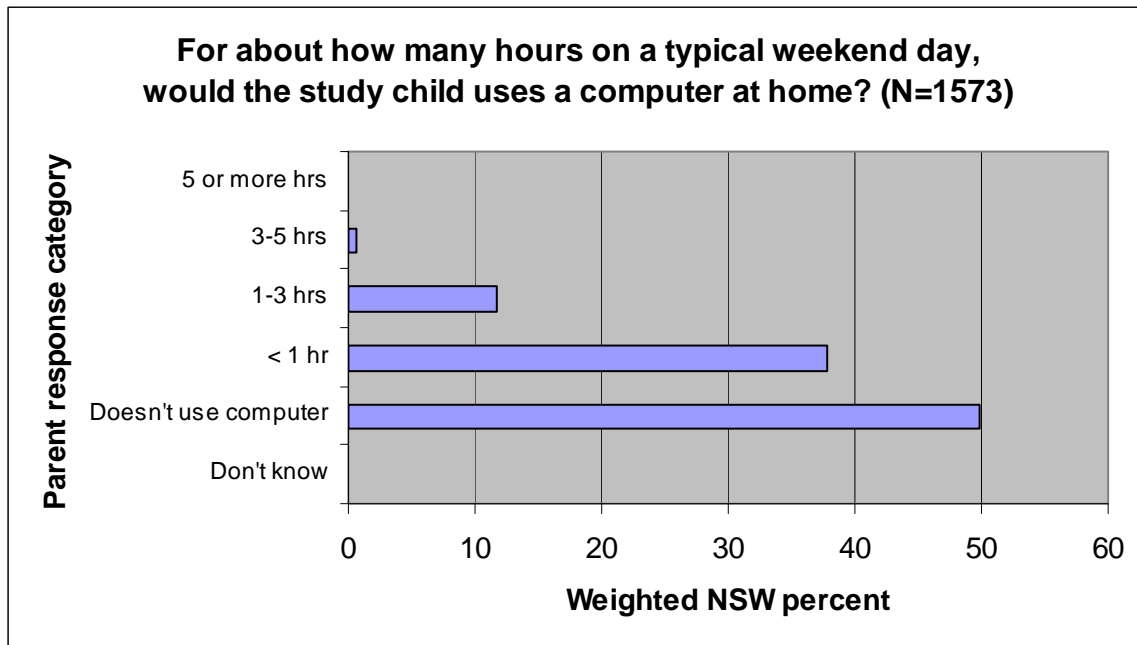


Data table for figure 14

N = 1573		Variable = che07b1		
Response code	Response category	%	Lower CI	Upper CI
-2	Don't know	0.1	0	0.2
1	Doesn't use computer	42.7	39.6	45.7
2	< 1 hr	47.5	44.4	50.7
3	1-3 hrs	9.4	7.7	11.1
4	3-5 hrs	0.2	0	0.5
5	5 or more hrs	0.1	0	0.3

In 2004, almost 10% of NSW 4-5 year olds used a computer for 1 hour or more on a typical week day.

Figure 15. Hours of computer use on a typical weekend day by NSW 4/5 year olds in 2004



Data table for figure 15

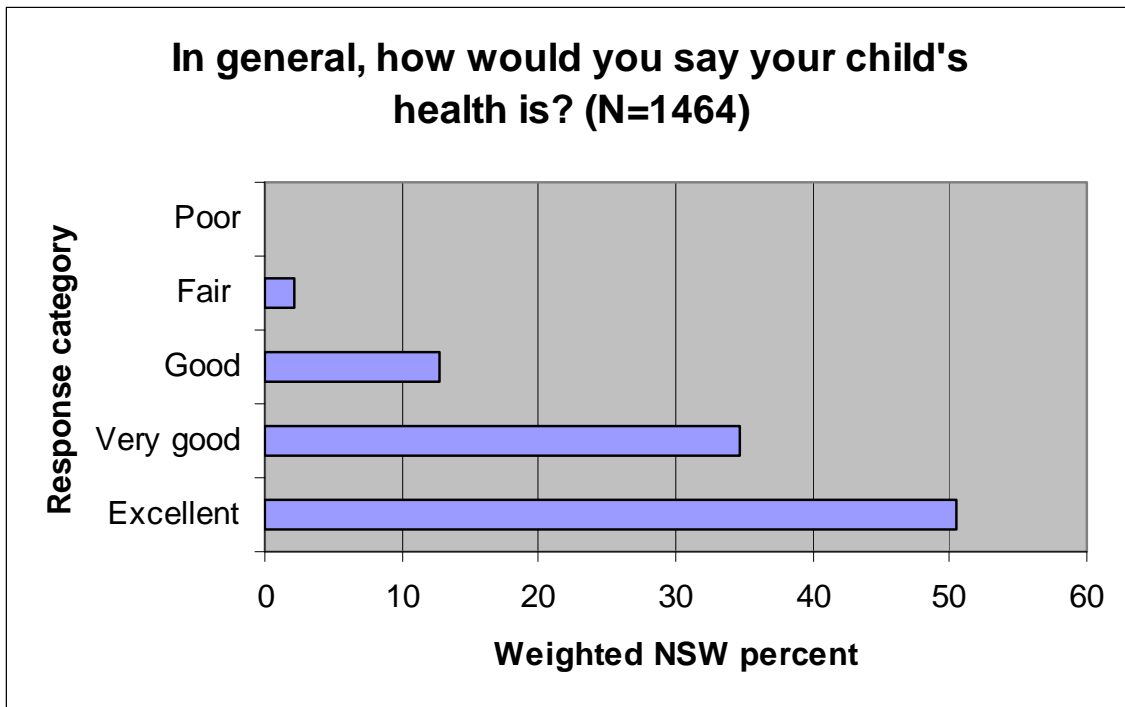
N = 1573		Variable = che07c1		
Response code	Response category	%	Lower CI	Upper CI
-2	Don't know	0.1	0	0.2
1	Doesn't use computer	49.9	46.8	53
2	< 1 hr	37.8	34.7	40.8
3	1-3 hrs	11.7	10	13.3
4	3-5 hrs	0.6	0.2	1
5	5 or more hrs	0	0	0.1

In 2004, over 12% of NSW 4-5 year olds used a computer for 1 hour or more on a typical weekend day.

3.2 Wave 2 (2006) B-Cohort (2/3 year olds)

3.2.1 Child's general health

Figure 28. Parent reported child health of NSW 2/3 year olds in 2006



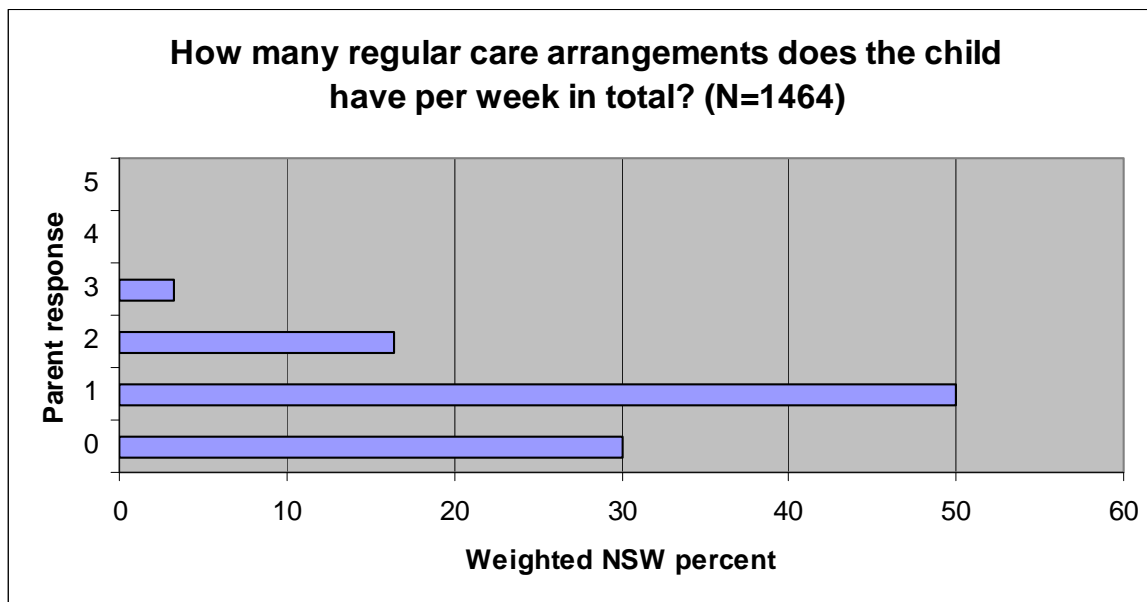
Data table for figure 28

<i>N = 1464</i>		<i>Variable = bhs13c</i>		
Response code	Response category	%	Upper CI	Lower CI
1	Excellent	50.5	47.6	53.4
2	Very good	34.7	32.0	37.3
3	Good	12.7	10.6	14.7
4	Fair	2.1	1.3	3.0
5	Poor	0	0	0.1

Using variable bhs13c, over 85% of NSW parents in 2006 reported their child's health as excellent or very good, in response to the question "In general, how would you say your child's health is?".

3.2.2 Childcare arrangements

Figure 29. Number of regular child care arrangements per week for NSW 2/3 year olds in 2006

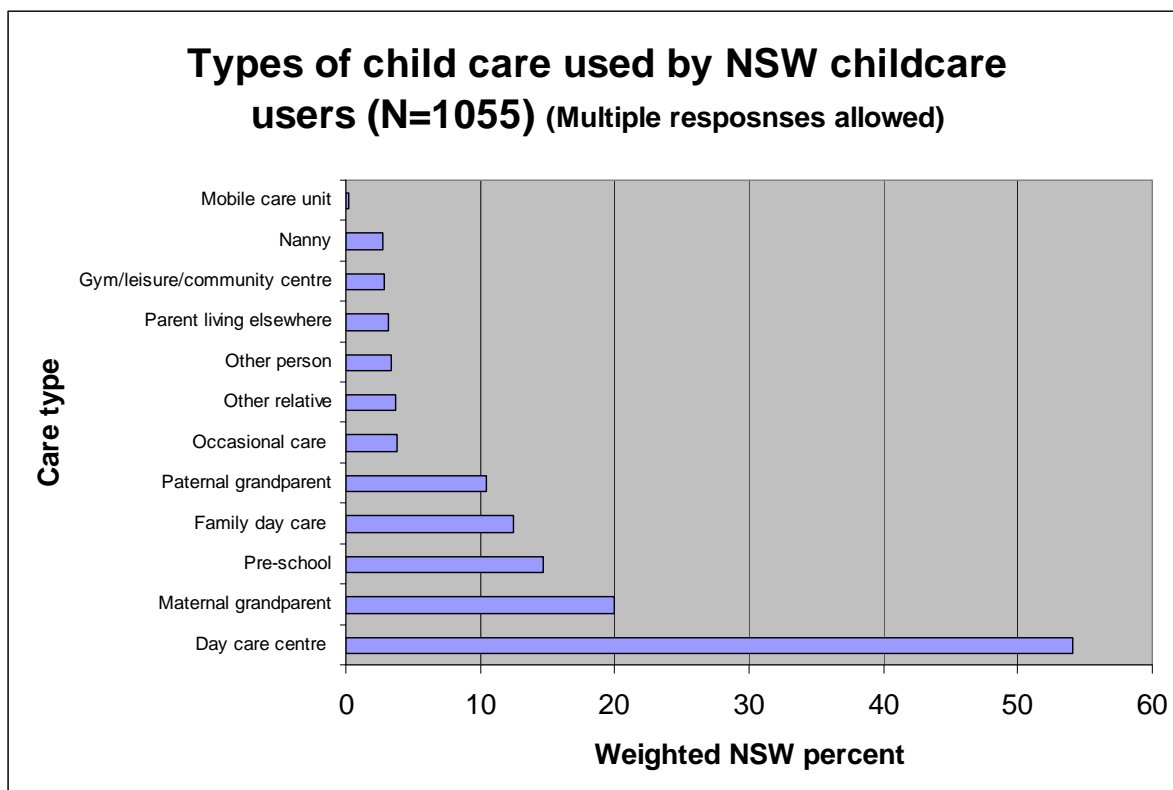


Data table for figure 29

<i>N = 1464</i>		<i>Variable = bpc03a</i>			
Response code	Response category	%	Upper CI	Lower CI	
0	0	30	26.5	33.5	
1	1	50	47.2	52.9	
2	2	16.4	14.2	18.5	
3	3	3.3	2.2	4.4	
4	4	0.1	0	0.4	
5	5	0.1	0	0.3	

Of all NSW 2-3 year olds in 2006, only 20% of children had more than one regular childcare arrangement.

Figure 30. Types of regular child care arrangements used by NSW 2/3 year olds childcare in 2006

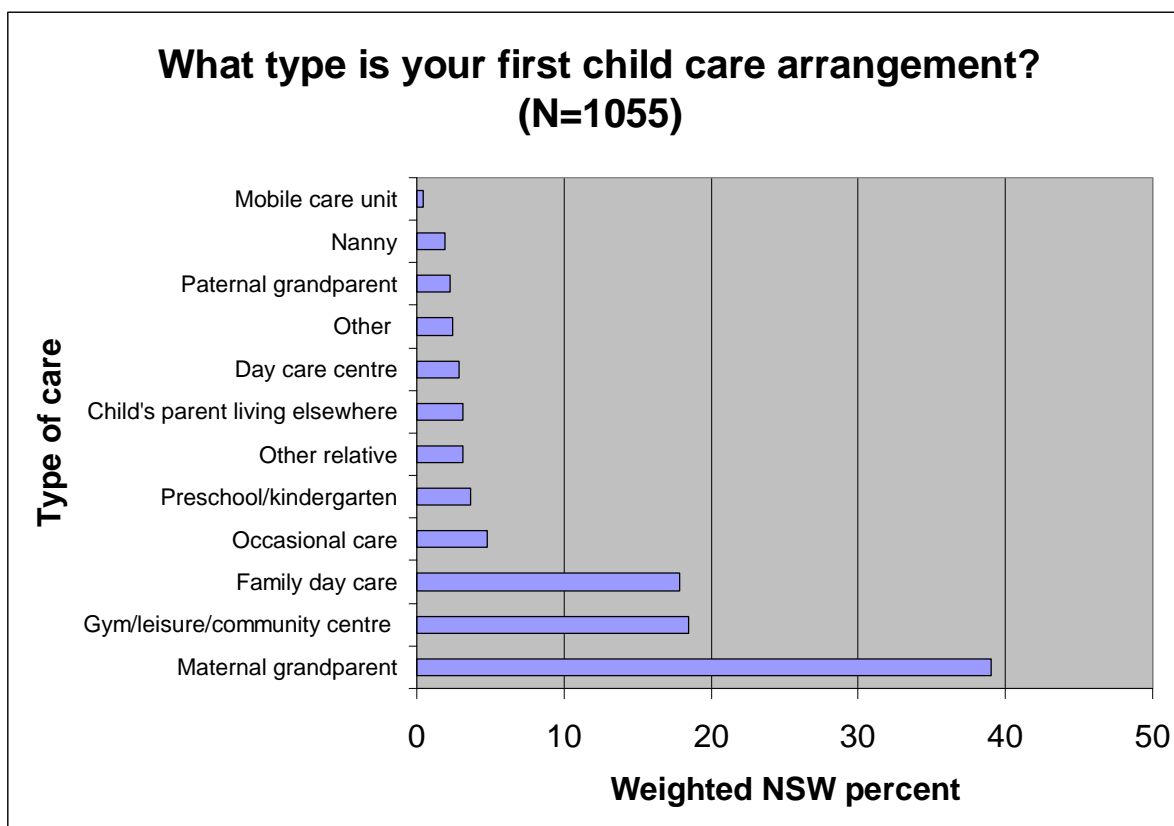


Data table for figure 30

N=1055				
Variables	Response category	%	Upper CI	Lower CI
<i>bpc05a</i>	Day care centre	54.1	50.2	58
<i>bpc05f1</i>	Maternal grandparent	20	17.5	22.6
<i>bpc05k</i>	Pre-school	14.7	11.4	17.9
<i>bpc05d</i>	Family day care	12.5	9.9	15.1
<i>bpc05f2</i>	Paternal grandparent	10.5	8.2	12.7
<i>bpc05c</i>	Occasional care	3.8	2.2	5.4
<i>bpc05g</i>	Other relative	3.7	2.5	5
<i>bpc05j</i>	Other person	3.4	2.3	4.4
<i>bpc05i</i>	Parent living elsewhere	3.2	1.9	4.4
<i>bpc05d</i>	Gym/leisure/community centre	2.8	1.7	4
<i>bpc05h</i>	Nanny	2.7	1.3	4.2
<i>bpc05e</i>	Mobile care unit	0.2	0	0.6

Figure 1 describes the types of childcare arrangements used by NSW parents of 2-3 year olds in 2006. The child care arrangement used most frequently was long day care centres followed by maternal grandparents. In the Wave 2 (2006) interview maternal and paternal grandparents were separated, however it is clear that grandparents again provide the greatest amount of child care outside the early childhood education sector.

Figure 31. Type of first regular child care arrangement attended by NSW 2/3 year olds using childcare in 2006

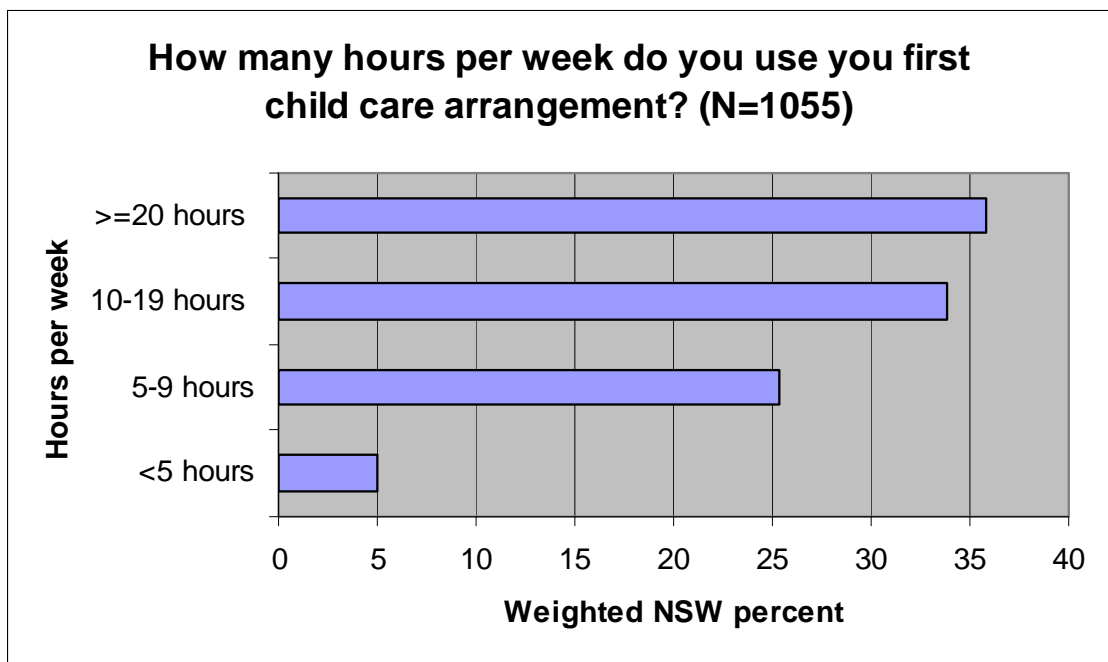


Data table for figure 31

<i>N=1055</i>		<i>Variable = bpc06a2</i>		
Response code	Response category	%	Upper CI	Lower CI
6	Maternal grandparent	39	35.7	42.3
4	Gym/leisure/community centre	18.5	15.4	21.6
2	Family day care	17.9	15.2	20.6
3	Occasional care	4.8	3.5	6.2
10	Preschool/kindergarten	3.7	2.6	4.9
8	Other relative	3.1	2.1	4.1
11	Child's parent living elsewhere	3.1	2.3	4
1	Day care centre	2.9	1.9	3.9
12	Other	2.4	1.5	3.2
7	Paternal grandparent	2.3	1.5	3.1
9	Nanny	1.9	0.9	2.9
5	Mobile care unit	0.4	0	0.7

In NSW in 2006 maternal grandparents provide 39% of the first childcare arrangement for children aged 2-3 years of age.

Figure 32. Hours per week first regular child care arrangement used by NSW 2/3 year olds in 2006

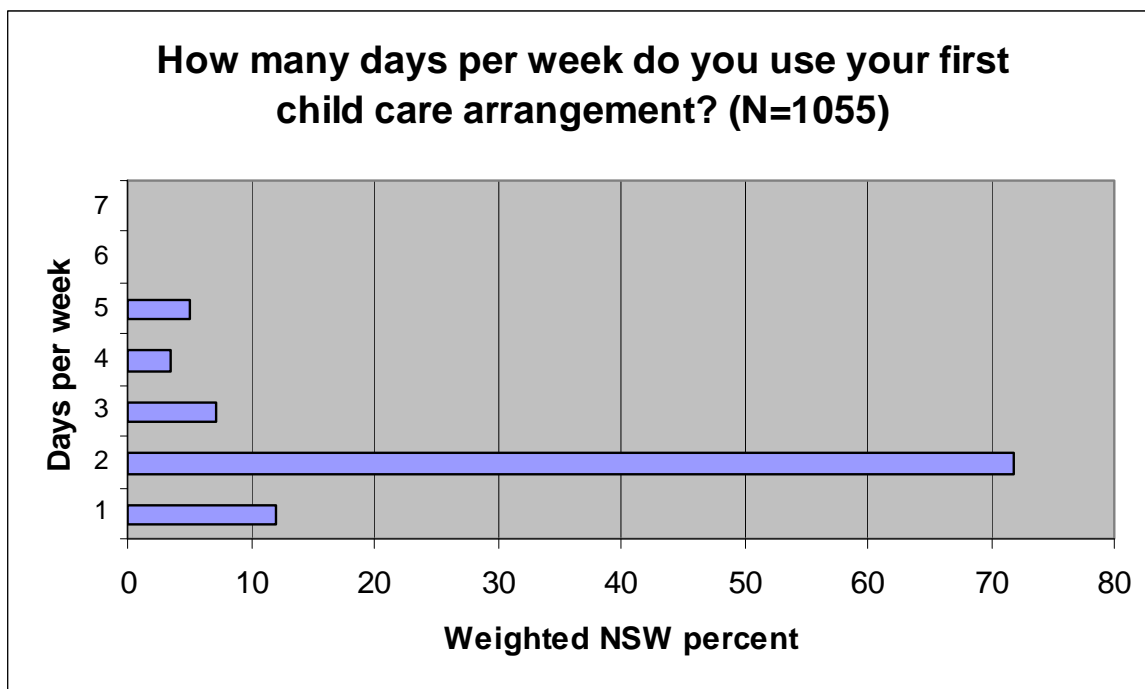


Data table for figure 32

<i>N=1055</i>		<i>Variable = bpc09a2</i>		
Response code	Response category	%	Upper CI	Lower CI
1	<5 hours	5	3.5	6.4
2	5-9 hours	25.4	22.1	28.7
3	10-19 hours	33.8	30.4	37.3
4	>=20 hours	35.8	32.4	39.2

In NSW in 2006, almost 70% of parents of 2-3 year olds used their first child care arrangement for 10 or more hours per week.

Figure 33. Days per week first regular child care arrangement used by NSW 2/3 year olds in 2006

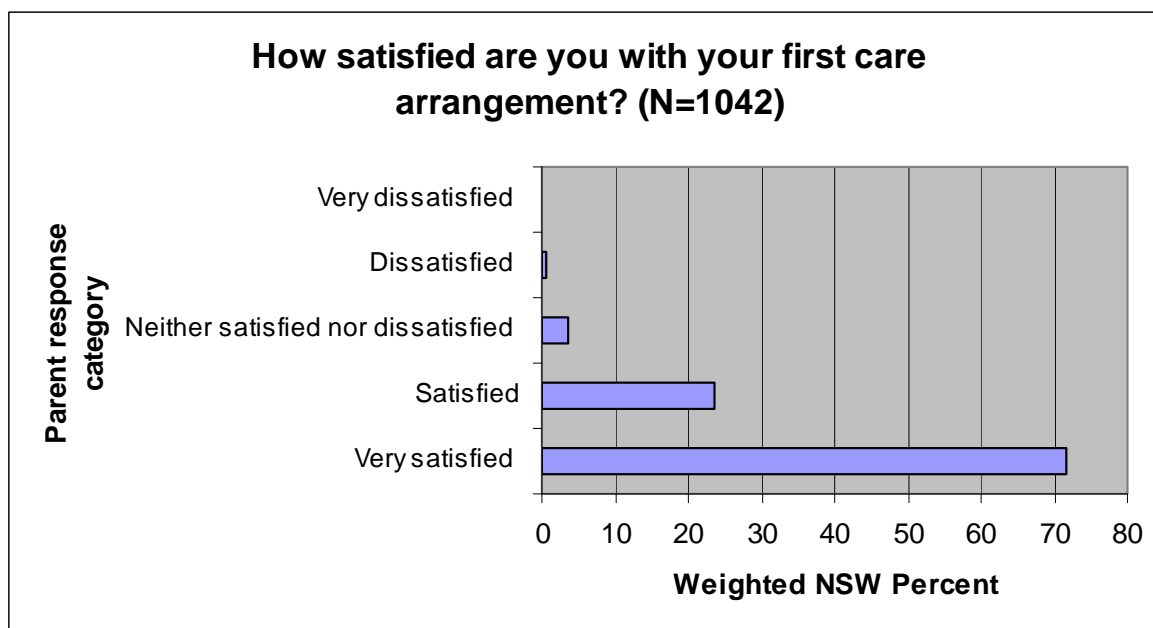


Data table for figure 33

<i>N=1055</i>		<i>Variable = bpc09a2</i>			
Response code	Response category	%	Upper CI	Lower CI	
1	1	12.1	9.9	14.4	
2	2	71.9	68.7	75.1	
3	3	7.1	5.4	8.9	
4	4	3.5	2.3	4.8	
5	5	5.1	3.5	6.7	
6	6	0.1	0	0.3	
7	7	0.1	0	0.4	

In NSW in 2006, the majority (84%) of parents of 2-3 year olds used their first child care arrangement for only 1-2 days per week.

Figure 34. Level of parental satisfaction with first regular child care arrangement used by NSW 2/3 year olds in 2006

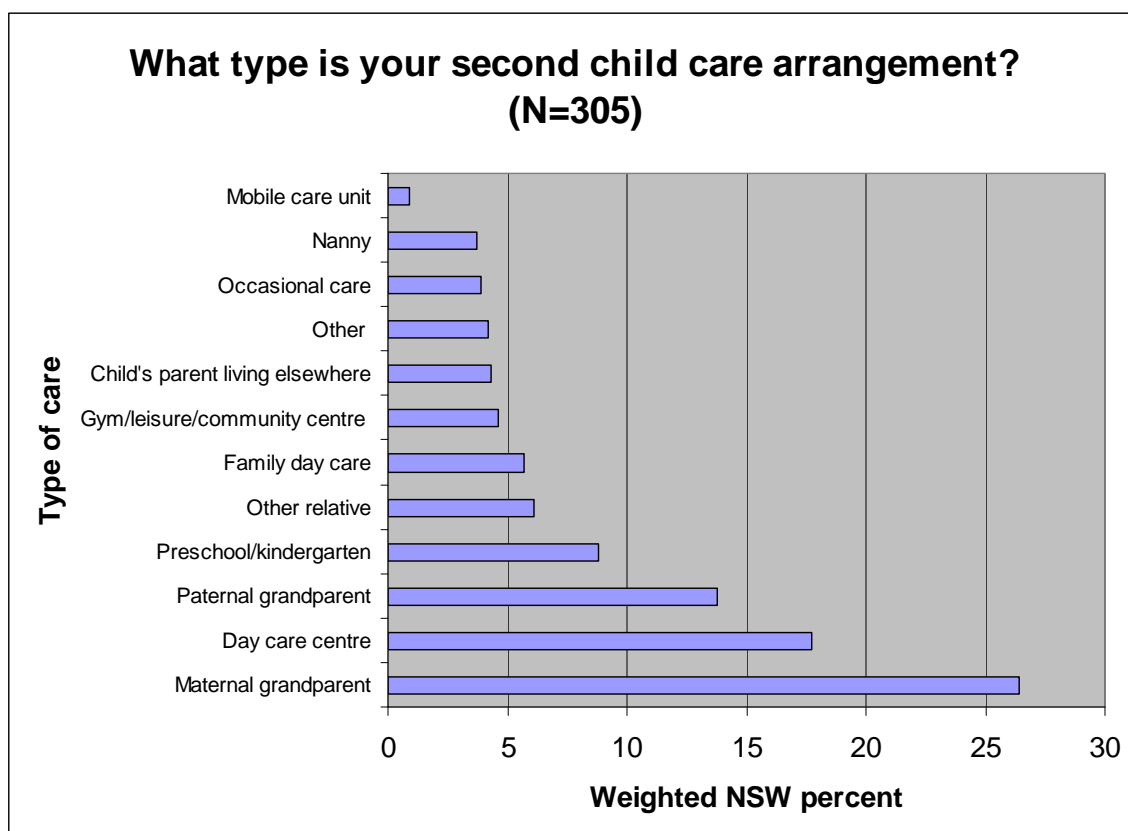


Data table for figure 34

N=1042		Variable = bpc17a		
Response code	Response category	%	Upper CI	Lower CI
1	Very satisfied	71.7	68.6	74.9
2	Satisfied	23.7	20.8	26.7
3	Neither satisfied nor dissatisfied	3.5	2.1	5
4	Dissatisfied	0.6	0.2	1
5	Very dissatisfied	0.4	0	0.8

In NSW in 2006, the majority (95%) of parents of 2-3 year olds were very satisfied or satisfied with their first child care arrangement.

Figure 35. Type of second regular child care arrangement attended by NSW 2/3 year olds using childcare in 2006

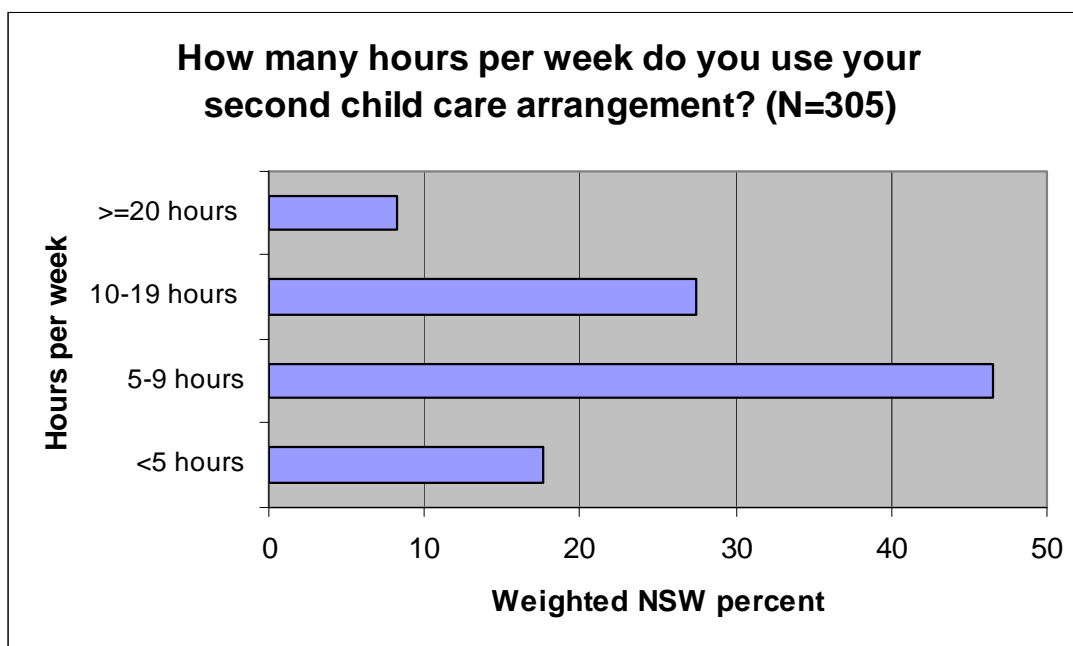


Data table for figure 35

<i>N=305</i>		<i>Variable = bpc06b2</i>		
Response code	Response category	%	Upper CI	Lower CI
6	Maternal grandparent	26.4	21.5	31.3
1	Day care centre	17.7	12.2	23.2
7	Paternal grandparent	13.8	9.3	18.2
10	Preschool/kindergarten	8.8	5.3	12.4
8	Other relative	6.1	3.1	9.1
2	Family day care	5.7	3.1	8.2
4	Gym/leisure/community centre	4.6	1.9	7.2
11	Child's parent living elsewhere	4.3	1.6	6.9
12	Other	4.2	2	6.4
3	Occasional care	3.9	1.4	6.4
9	Nanny	3.7	0.8	6.6
5	Mobile care unit	0.9	0	2.1

Of the NSW 2-3 year olds with a second child care arrangement in 2006, maternal grandparents most frequently (26%) provided the care. This was closely followed by long day care centres and paternal grandparents. Grandparents provided 40% of second regular child care arrangements.

Figure 36. Hours per week second regular child care arrangement used by NSW 2/3 year olds in 2006

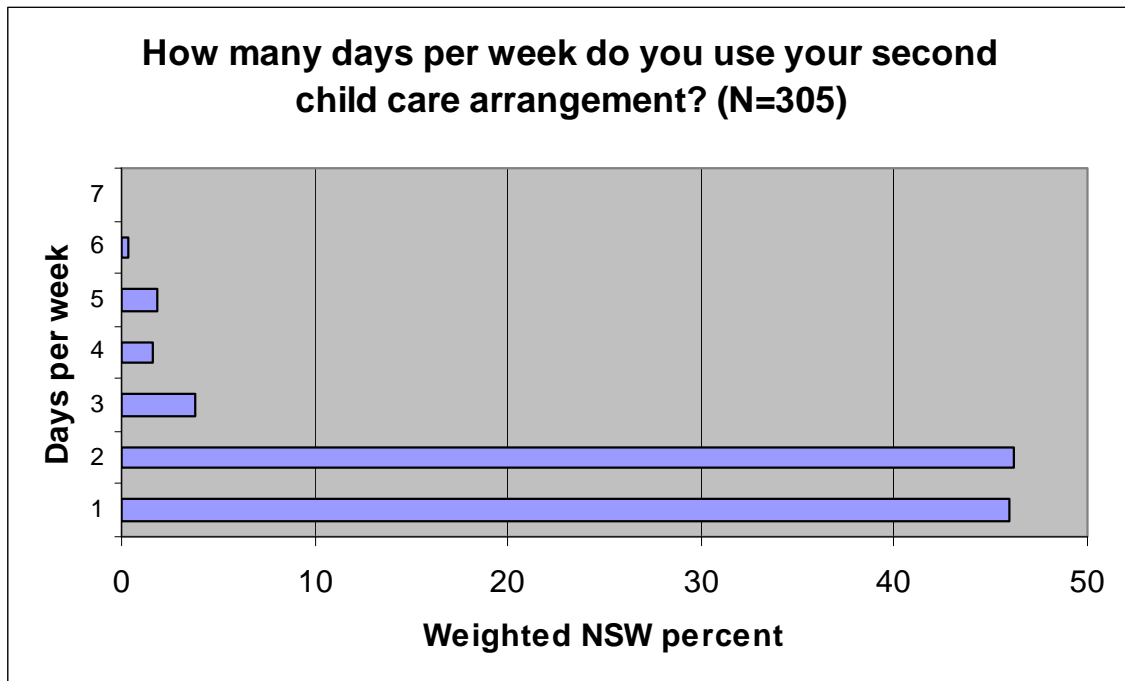


Data table for figure 36

N=305		Variable = bpc09b2		
Response code	Response category	%	Upper CI	Lower CI
1	<5 hours	17.6	13	22.2
2	5-9 hours	46.6	40.5	52.7
3	10-19 hours	27.4	22.3	32.6
4	>=20 hours	8.3	4.6	12.1

Of the NSW 2-3 year olds who had a second childcare arrangement in 2006, 36% used it for 10 or more hours per week.

Figure 37. Days per week second regular child care arrangement used by NSW 2/3 year olds in 2006

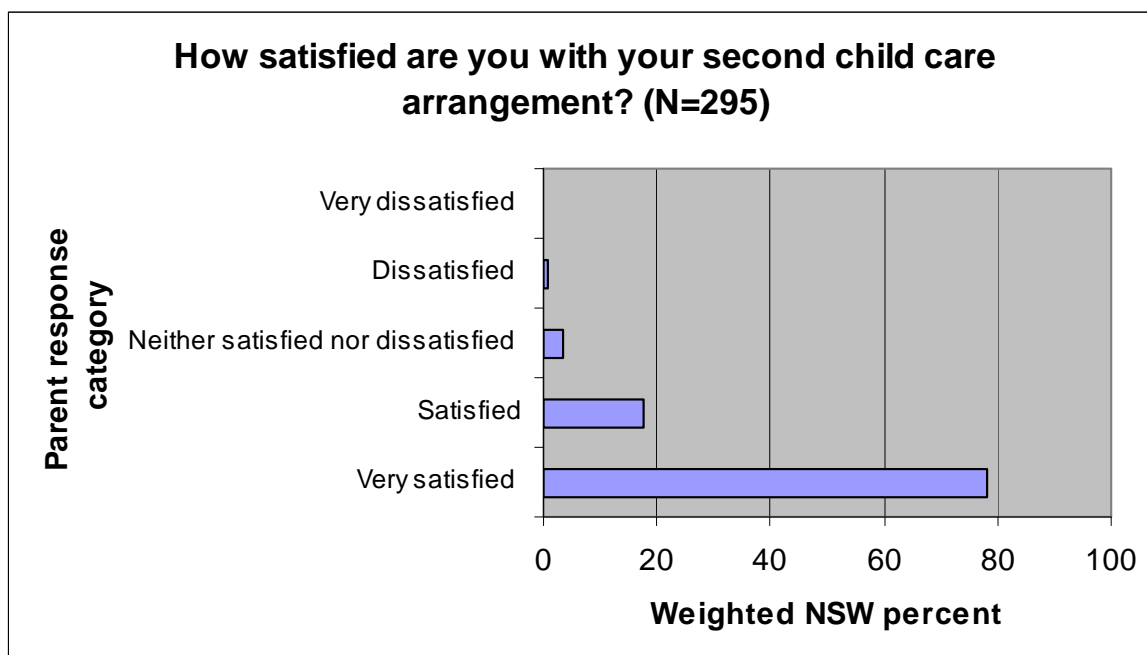


Data table for figure 37

<i>N=305</i>		<i>Variable = bpc10b</i>			
Response code	Response category	%	Upper CI	Lower CI	
1	1	46	38.8	53.2	
2	2	46.2	39.5	52.9	
3	3	3.8	1.5	6.1	
4	4	1.6	0	3.4	
5	5	1.9	0	3.9	
6	6	0.4	0	1.1	
7	7	0	0	0	

Of the NSW 2-3 year olds with a second child care arrangement in 2006, over 92% used it for one or two days per week.

Figure 38. Level of parental satisfaction with second regular child care arrangement used by NSW 2/3 year olds in 2006



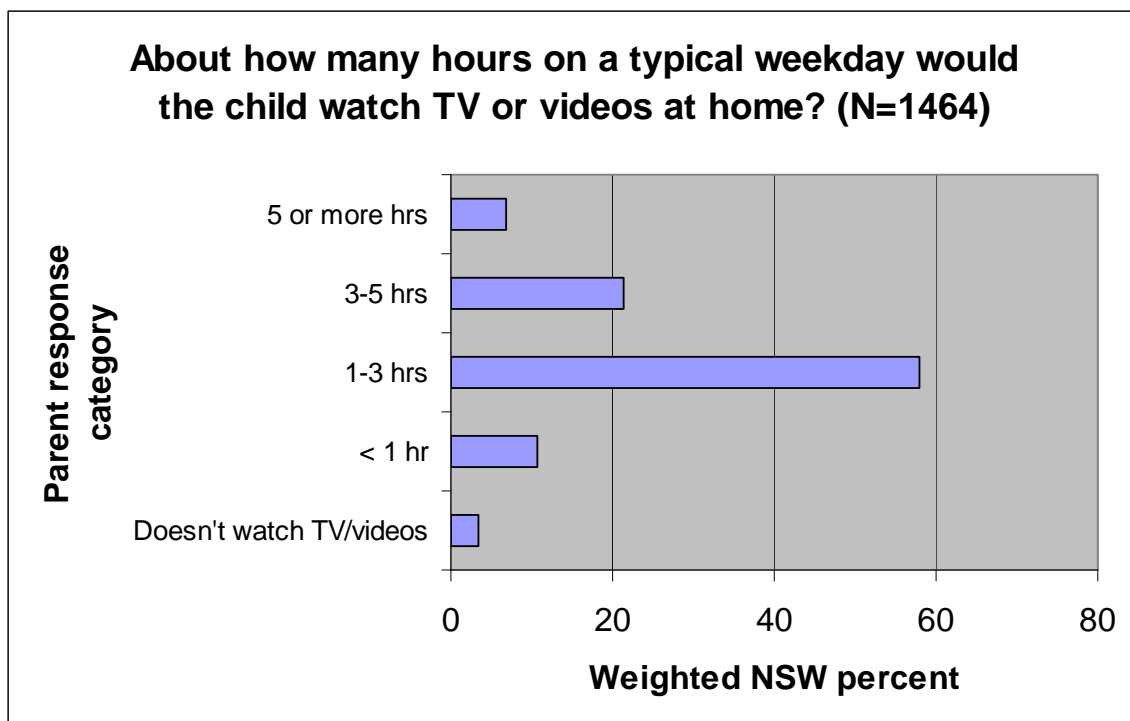
Data table for figure 38

N=295		Variable = bpc17b		
Response code	Response category	%	Upper CI	Lower CI
1	Very satisfied	78.2	73.1	83.3
2	Satisfied	17.5	12.8	22.1
3	Neither satisfied nor dissatisfied	3.5	1.3	5.7
4	Dissatisfied	0.8	0	2
5	Very dissatisfied	0	0	0

Of the parents of NSW 2-3 year olds with a second child care arrangement in 2006, the majority (96%) were either very satisfied or satisfied with the arrangement.

3.2.3 Small screen recreation

Figure 39. Hours of TV watched on a typical weekday by NSW 2/3 year olds in 2006

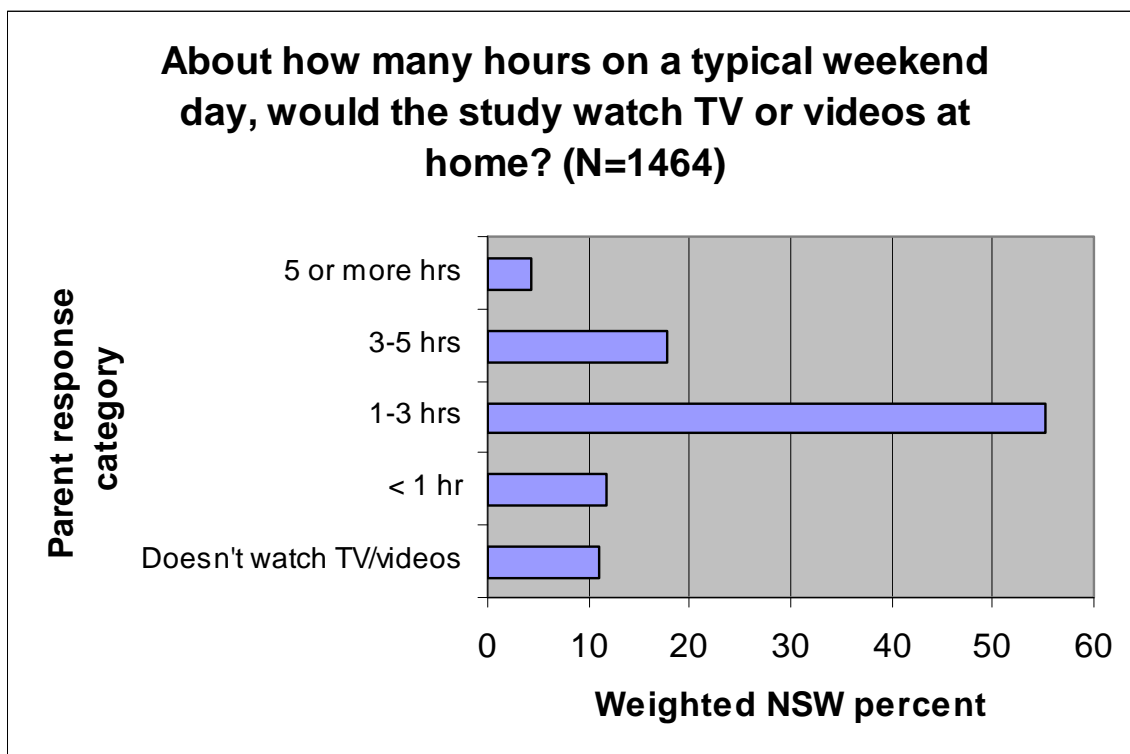


Data table for figure 39

<i>N = 1464</i>		<i>Variable = bhe06b1</i>		
Response code	Response category	%	Lower CI	Upper CI
1	Doesn't watch TV/videos	3.4	2.4	4.3
2	< 1 hr	10.6	8.6	12.5
3	1-3 hrs	57.9	55	60.7
4	3-5 hrs	21.4	18.5	24.4
5	5 or more hrs	6.8	5.3	8.2

In 2006, over 28% of NSW 2-3 year olds watched on average 3 or more hours of television on a typical week day. This is higher than that reported by NSW 4-5 year olds in 2004.

Figure 40. Hours of TV watched on a typical weekend day by NSW 2/3 year olds in 2006



Data table for figure 40

<i>N = 1464</i>		<i>Variable = bhe06c1</i>		
Response code	Response category	%	Lower CI	Upper CI
1	Doesn't watch TV/videos	11	9	12.9
2	< 1 hr	11.8	10	13.6
3	1-3 hrs	55.1	52.1	58.1
4	3-5 hrs	17.7	15.4	20.2
5	5 or more hrs	4.4	3.1	5.6

In 2006, over 22% of NSW 2-3 year olds watched on average 3 or more hours of television on a typical weekend day. This was similar to that reported for NSW 4-5 year olds in 2004.

Part 4: Conclusions

This report describes the NSW findings from the LSAC wave 1 and 2 data regarding:

- the general health of children;
- childcare and early childhood education program usage;
- small screen recreation; and
- food intake.

This report provides the basic data in a way that provides flexibility for those who are researching or planning healthy eating and physical activity programs in children aged 2-5 years of age. The authors have highlighted variables where caution with interpretation is required.

The report also provides background to the study design that will assist interpretation of the LSAC data and provides insight into how to obtain and use the data in NSW.

LSAC questionnaires and variables are refined with each wave, therefore some variables will not be asked at each wave. Work is currently being done on the food intake questionnaires to improve their usefulness and reduce the risk of misinterpretation.

Part 5: References

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3. Harrison L, Ungerer J What can the Longitudinal Study of Australian Children tell us about infants' and 4 to 5 year olds' experiences of early childhood and education and care? *Family Matters*; Summer 2005;72:26-35.
4. Dickenson J, Wilson K. The Growing Up in Australia Study: growth assessment and Nutrition. *Food Chain* 2005;17:3-5.