

Catchment area and health related behaviour

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What effect does where you live have on your lifestyle? In a recent study organised by a District Health Authority, using the Health Related Behaviour Questionnaire, an analysis of 4th-year pupils' responses was made with reference to the schools' catchment areas. The result revealed some differences in the lifestyle of pupils living in the inner-city, outer-city, and rural areas in the sample. These differences have implications for appropriate health education provision in the schools serving these different areas.

For almost a decade the Health Related Behaviour Questionnaire has been used by individual schools in order to discover levels of children's behaviour in the community they serve and so inform their own health education curriculum. More recently, groups of schools from one Local Education Authority or District Health Authority have been invited to join an area study, usually funded by the LEA, DHA or outside organisation concerned with the health of young people, or jointly funded by co-operating organisations. The results are sent back to the schools individually as before, but the opportunity is also there to create summaries of data for the whole LEA or DHA. Many of the large studies have used this facility to explore behaviours for the whole Authority, and it has also allowed schools to examine their own data in the light of results for their own area.

The area-type study offers a great deal to the individual schools as well

as the LEA or DHA: for example, external support to health education work, seminars for teachers and workers involved, setting up working groups, and so on. In this article, as an example of this exciting new approach, we examine the way in which one particular area study was conducted, and present some of the data.

Background to the DHA study

Within this District Health Authority's geographical area of responsibility, the use of the General Health Related Behaviour survey with 2nd- and 4th-year groups in all the secondary schools was made possible through joint funding and other support from the DHA, the LEA and one independent organisation concerned with alcohol abuse. All schools were invited to participate, and 23 out of 31 responded to the invitation.

The programme of events is displayed on the next page, and notes on some of the items follow.

THE PROGRAMME

<i>Autumn 1987</i>	Preliminary discussions between Exeter University staff and officers from the DHA, LEA and the voluntary organisation. Introductory seminar for school co-ordinators.
<i>Spring 1988</i>	Surveys carried out in participating schools.
<i>Spring and early summer 1988</i>	Return of summarised results to individual schools.
<i>July 1988</i>	Seminar for all participants to discuss the use of the results in individual schools and by the interested sponsoring bodies.
<i>Autumn 1988</i>	Preparation of combined statistical summaries and report.

The introductory seminar, autumn 1987 Staff concerned with personal and social education, and related areas of the school curriculum, were invited to attend a whole-day seminar led by staff from the HEA Schools Health Education Unit based in the University of Exeter, together with members of staff from the funding bodies concerned and other interested people.

Within the day's experience the concepts and purposes underlying the use of the questionnaires in schools were examined, for example necessary preparation, the validity of the results, and colleagues' participation. This included a substantial amount of time spent on the ideal method of data collection from young people in schools and the method of sampling, as described in Balding (1988).

Return of the data to schools, spring and summer 1988 A routine part of the service is to return summarised data to each school in bound and indexed volumes together with guidelines to the interpretation of the tables of statistics. Each school participating in the project received their separate volumes, and staff were invited to a second seminar to examine the potential use of their data in their schools and to examine their data alongside data from other schools.

Second seminar, July 1988 The seminar examined in detail various issues raised by the return of data to schools:

1. Interpretation of the data
2. Dissemination to colleagues in school
3. Curriculum planning from the data
4. Dissemination to pupils
5. Use of combined area data

It became abundantly clear that different catchment areas provided different behaviour profiles of the young people served by the different schools. These behaviours reflected many dimensions of the neighbourhoods including socio-economic status, geographical location, amenities available, density of population, etc.

Comparisons of data between schools themselves were both interesting and exciting, but the open publication of such newsworthy information was clearly politically very unwise. However, it was generally agreed that the preparation of summarised data for selected groups of schools within the sample against which each school could compare its own data would give teachers some feeling of 'normal' local or regional levels of behaviour. To this end, DHA and LEA staff agreed on grouping the schools data under five headings in such a way that the individual identity of each school

was protected. The resulting groups were designated:

1. Inner city
2. Outer city
3. Rural
4. Others
5. All schools

The criteria used in grouping the schools fitted within existing administrative procedures, and were also based on existing knowledge of the communities served by the schools. Each school has now been supplied with these summaries, and can compare its own statistics with the 'norm' for its school group and with the totals summarised for all the schools participating in the survey.

The 'catchment area' analysis

For the DHA, LEA and other funding bodies the value of this summarised data is clear. It gives a picture of the health behaviours in the different communities served by the schools, it promotes a health education curriculum fitting for the area, and it helps in assessing the needs for health care provision for young adults. For many of the area surveys organised by the Unit, the summarised data (in whatever form is required by the participants) is now an integral part of the service.

Within this paper we present a selection of data derived from analyses from three of these groups – inner, outer, and rural – for 4th-year pupils only. It must be remembered that the divisions suited those organising the survey, and may not be appropriate for other cities around the country. 'Stratification' of schools by geographical location is obviously a sensible strategy, but one inner-city Health Authority has elected to stratify their schools according to truancy levels!

The numbers of schools and the sample sizes for the three groups described here are shown in Table 1. As a percentage of the whole year group, the rural sample is 43%, the outer-city sample is 44%, and the inner-city sample is 69%.

In the research underpinning the development of the survey method, it

Table 1. The numbers of schools and the sample sizes for the three groups. (It should be noted that some of the inner-city schools were very small, and some amalgamation between them is planned.)

	No. of schools	Sample size Boys	Girls
Inner City	10	352	318
Outer City	6	300	298
Rural	2	101	101

was found that a sample size of 22%, stratified for academic attainment, reliably represented behaviours of the total year group. In examining the behaviour levels from these samples, it should be borne in mind that the percentages in the samples from the schools are very much greater than this. The degree of confidence in the extent to which the differences observed in the results reflects differences for the total year group is therefore very high.

Table 2. Family size, by catchment area.

	% of pupils with 3 or more siblings	
	Boys	Girls
Inner City	31	33
Outer City	16	16
Rural	16	15

In this sample, larger families are twice as prevalent in the inner city community. Since only families with twins are likely to have two children in the same year group, and as this percentage is very small, almost all the boys and girls included in the sample will represent separate families. The data from one sex thus confirms that from the other remarkably closely. The complete tables of data which have been abbreviated in producing Table 2 show that the marked difference between catchment areas highlighted here is confirmed at other values of family size, and is not the outcome of choosing to split the data above and below the 4-children division.

Table 3. Smoking behaviour, by catchment area.

	% pupils responding as smokers	
	Boys	Girls
Inner City	17	24
Outer City	8	13
Rural	10	16

It is noticeable that in all the areas sampled, the levels of smoking by girls are higher than those of boys. This result is compatible with the results from other group studies and national data collected by different agencies. The highest percentages of boy and girl smokers are found in the inner-city communities.

Table 4. 'Do you wash your hands after visiting the lavatory?' by catchment area.

	% pupils responding 'whenever possible'	
	Boys	Girls
Inner City	54	62
Outer City	62	68
Rural	66	75

As expected with any representative sample, more girls than boys wash their hands whenever possible. When comparing the three areas in this study, it is also seen that more rural children report washing their hands 'whenever possible' after using the toilet. However, does this mean that the rural children are the cleanest, or that they have more dirt to wash off? The consistent change in reported behaviour from one group to the next is noteworthy.

Curriculum planning? Use JUST A TICK questionnaires to consult pupils, parents, and teachers. Price £2.50 from the Unit: state if you need the primary or secondary version.

Table 5. Self-esteem measurement, by catchment area.

	% pupils scoring highest values, 17-20/20	
	Boys	Girls
Inner City	21	21
Outer City	36	27
Rural	40	39

The highest percentages of 'high self-esteem children' in this survey sample are found among the rural children, while the inner-city children exhibit the lowest percentages. It is interesting that the percentages for boys and girls in the inner-city and rural samples show no difference; in most surveys there is a higher percentage of boys than girls in this category, as exhibited here by the outer-city children.

Table 6. 'When did you last visit your doctor?' by catchment area.

	% pupils responding 'More than a year ago'	
	Boys	Girls
Inner City	16	13
Outer City	14	11
Rural	28	17

Fewer boys and girls from the rural schools had visited their GP during the past year. The 28% of rural boys not visiting their GP within the past year is particularly noticeable.

Table 7. 'Whenever you ride in the front of a car, how often do you use a seatbelt?'

	% pupils using seatbelt every time	
	Boys	Girls
Inner City	72	79
Outer City	78	86
Rural	65	75

The rural children in this sample exhibit a greater readiness to contravene the law and risk their personal safety. Is there less chance of being caught breaking the law in these rural areas and hence less motivation to take care?

Table 8. 'How many times have you visited a pub within the last two weeks?' by catchment area.

	% pupils who visited pub or bar	
	Boys	Girls
Inner City	40	29
Outer City	41	33
Rural	59	44

To find more boys and girls from rural homes using pubs as a place of recreation may come as no surprise to many who are familiar with the lack of other facilities in

Table 10. Total units of alcohol consumed in the past week, by catchment area.

	% pupils drinking . . .					
	7-10 units		11-20 units		21 or more	
	Boys	Girls	Boys	Girls	Boys	Girls
Inner City	12	8	11	6	6	2
Outer City	11	9	11	4	2	1
Rural	12	15	14	6	1	1

The study of this table may make the reader reach for pencil and paper to perform further calculations in order to understand the content. It is interesting to note that if the two categories '7-10' and '11-20' are combined, making one category of between 7 and 20 units in the past week, it will contain more rural children than city children both for boys and girls. However, there are more inner-city children at the 21+ level - the ones who appear to be 'heavy drinkers'.

Table 11. Items paid for during the past four weeks, by catchment area.

	% pupils spending money on the following in the last 4 weeks . . .											
	Books		Cigarettes		Alcohol		Fares		Records		Pets	
	B	G	B	G	B	G	B	G	B	G	B	G
Inner City	7	9	16	22	26	20	52	57	42	38	24	31
Outer City	13	11	8	13	25	20	61	67	46	31	24	29
Rural	9	21	8	19	24	25	35	42	50	41	27	35

Do the outer-city children in this sample score highest on anything? Yes-fares! Do the rural types get more free lifts, do they not travel as much, or is there less public transport

country districts for young people to go to meet one another in country districts. Does this mean that rural children consume more alcohol than their city counterparts? Tables 9 and 10 explore this suggestion.

Table 9. 'How much cider have you drunk in the past 7 days?' by catchment area.

	% girls drinking any cider
Inner City	13
Outer City	19
Rural	35

With respect to cider, the question posed in Table 8 seems to have been answered, at least for the girls. The boys' results actually show slightly more cider drinkers in the city than in the rural areas, and at percentage levels in the twenties.

available for them to use? The figures relating to spending money on pets are interesting. Here we see that more children in the rural sample have spent money on pets. It might have been expected that rural children would not have so many pets, but this is not the case here. The higher percentages for inner-city boys and girls spending on cigarettes are in keeping with the higher smoking levels reported by these children.

Table 12. Pupils having different injections, by catchment area.

	Tetanus		Polio		BCG	
	Boys	Girls	Boys	Girls	Boys	Girls
Inner City	63	56	34	41	82	88
Outer City	72	61	57	54	87	88
Rural	78	80	57	76	91	95

For all types of injections there is a higher percentage of rural children in this survey sample responding positively, despite the lower frequency of visiting the doctor revealed by Table 6. Are the rural parents more conscientious towards their children's health? The low level of polio injections in the inner-city boys and girls is noteworthy. Is 100% coverage vaccination for these boys and girls desirable?

The answers that the children give to the question on vaccinations in the questionnaire are known to be somewhat unreliable, as they find it difficult to remember which vaccinations they have had, let alone when they had them. The questions are nonetheless retained as they represent a very important dimension of health care provision, since results from the surveys can be compared with the Health Authority records to examine the reliability of the pupils' recall.

Table 13. 'What sort of lunch did you have yesterday?' by catchment area.

	School lunch		Packed lunch		Takeaway		Lunch at home	
	B	G	B	G	B	G	B	G
Inner City	32	34	15	20	18	11	22	22
Outer City	29	26	31	36	11	9	18	13
Rural	58	43	23	30	5	5	5	2

Distance from school to home as a deciding factor is clearly indicated by the statistics. The figures suggest that rural districts offer fewer opportunities for buying takeaway food, and therefore packed lunches and school lunches are obvious alternatives. The high percentage level of school lunches taken in the rural schools in the survey might reflect a good standard of preparation, presentation, and value for money in the two schools concerned.

To re-emphasise a point made above, interpretations of differences between the catchment areas should consider, among other parameters, geographical location, population density, socio-economic status, and available amenities. Those with knowledge of the district and who were instrumental in making the divisions between the school groupings will be best placed to make informed interpretations; but the

authors, and the reader, may nevertheless speculate upon the factors which could underlie the statistics, basing these reasons on personal experience and the extent to which the relevant factors may vary from one part of the country to another.

Reference

- Balding, J. (1988). *Young People in 1987*. Exeter: HEA Schools Health Education Unit.