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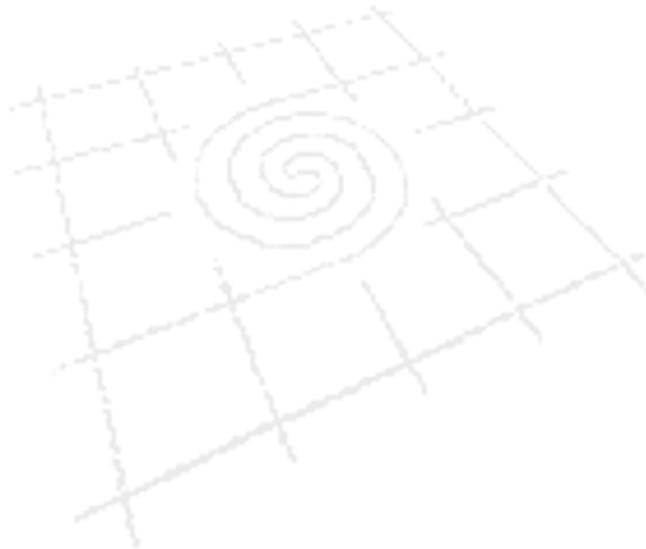
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Communities, Schools and the Diffusion of Healthy Lifestyle Promotion Messages: Experiences and the Results of the Kilkenny Health Project

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Abstract

Between 1985 and 1992 County Kilkenny was the site of an evaluated community intervention project which aimed to reduce the population's heart disease burden by promoting the adoption of a healthy lifestyle. One form taken by this intervention was work within primary and second level schools as well as with community groups and adult education providers. This paper analyses data collected in the project's termination survey on the direct awareness impact on adult respondents of interventions undertaken in collaboration with community groups and/or adult education providers. It also examines the indirect awareness impact on adult respondents of the project's school-based activities. The findings are discussed in the light of the set of national health strategy statements published by the Department of Health after the completion of the Kilkenny project.

Introduction

The two most frequent causes of death in industrialised societies are coronary heart disease and cancer. The risk of developing heart disease or one of the more common cancers is widely agreed to be related to how people live their everyday lives - to the diet they eat, to whether or not they take exercise, to cigarette smoking etc. Many premature deaths and episodes of serious illness could therefore be prevented by changes in currently prevailing lifestyles.¹

In the mid-1990s a White Paper on Education (Department of Education, 1995) identified promotion of the personal social and health education of students as 'a major concern of each school' and proposed the concept of the health-promoting school as the framework within which these health and well-being issues are to be addressed by schools. The three main strands of this framework were stated to be school climate, the involvement both of parents and of the wider community and positive interventions. Within each of these strands initiatives to support widespread adoption of a healthy lifestyle pattern were signalled. In relation to school climate boards of management were, as part of the planning process, to be encouraged to review the degree to which their schools 'encourage staff in setting a good example for students in social, personal and health-related issues'. With special emphasis on disadvantaged areas, parental involvement in the promotion of health and well-being was to be enhanced through the home-school links programme while 'co-operation with voluntary agencies in educational and health promotional initiatives relating to lifestyle-influenced diseases' was to supply a wider community dimension. A positive intervention envisaged as taking place at the national rather than the school level was 'the development of programmes relating to tobacco, alcohol and substance abuse and the promotion of healthy lifestyles'.²

The well-being of pupils is the primary focus of the health promoting school. But practical realisation of the concept would also have an impact on the community's adults diffused through interpersonal networks and through more structured interventions such as the home-school links programme. Some Irish data on this wider community impact of health promotion initiatives undertaken within the education sector were collected in the course of the Kilkenny Health Project's evaluation. These data are presented and analysed in this article, which begins with a description of the Kilkenny Health Project and of the work it undertook in collaboration with the education sector in its host county.

The Kilkenny Health Project: A Comprehensive Community Intervention

The Kilkenny Health Project was set up to promote communitywide adoption of a healthy lifestyle with funding support from government sources and from the Irish Heart Foundation. Launched in 1985, it concluded in 1992. The choice of Kilkenny as the intervention programme's host was influenced by a number of factors. The county has a history of community development and is well known for its civic spirit and county pride. There is a mixture of urban and rural communities in the county. It was accessible to the academic and other national institutions whose support for the development and evaluation of programmes was needed. The South Eastern Health Board, within whose region Kilkenny is located, were willing to collaborate with the Project. The Project was designed as a quasi-experiment in which a 'treatment' community receiving a multi-faceted intervention programme (Kilkenny) is

¹ The author acknowledges the assistance of the following members of the staff and/or Scientific Committee of the Kilkenny Health Project – Nora Brennan, Claire Collins, Leslie Daly, Ian Graham and Emer Shelley.

² A strategy relating to such programme development is set out in a set of government health policy statements (Department of Health, 1994 and 1995).

compared with a similar 'control' community which was not exposed to the intervention (Offaly). The comparison was intended to encompass changes in the extent of public knowledge concerning coronary heart disease, in health behaviours, in major coronary heart disease risk factor levels, as well as in coronary heart disease morbidity and mortality. Data were collected in both of the communities, principally through disease registers and through baseline (pre-programme) and termination (post-programme) surveys. A period of five years separated the baseline and the termination surveys (O'Mahony, Conroy, Shelley *et al.*, 1991; Shelley, Daly, Graham *et al.*, 1991).

The Project was set in motion with a staff of four - a Project Leader, an Education Officer, an Administrative Officer and a Secretary. This later increased to six with the appointment of a Dietitian in 1987 and of a second Secretary in 1989. The registration of heart attacks and strokes had a separate budget and staffing (a Medical Officer and a Secretary). The Project's staff resources were supplemented by a substantial voluntary input of support work which was channelled through its Board of Directors and through its Steering, Scientific, Education and Finance Committees. Within County Kilkenny, Project intervention took a wide variety of forms, spanning innovations in the ways in which health services are provided, use of mass communications media, courses for adults or young people within the educational system and contact with community groups (Kilkenny Health Project 1986: 1987: 1989: 1990 and 1992).

In the health sector the Project directly provided a dietitian counselling service to which clients were referred by general practitioners.³ It organised group work skills training for Public Health Nurses and other professionals. These courses were designed to enable health professionals to enhance their role as health promoters and to use a more participative and experiential model of learning in their work. The Project also coordinated a programme of free health check-ups carried out by general practitioners which was initially offered to all Kilkenny residents in their forties and was extended, after two years in operation, to those in their thirties.

In the communications media field the Project from the outset established links with the local press. In November 1985 a 'Healthy People' column was initiated in the weekly *Kilkenny People* newspaper. Articles on healthy lifestyle were also regularly placed in the *Kilkenny Standard* after its appearance on the scene in 1989. In May 1986 the Project launched its own free newsletter *CATCH*, of which three issues were usually produced each year. *CATCH* was distributed with the *Kilkenny People* and was also available through outlets such as doctors' surgeries and local health centres. With the advent of licensed local radio broadcasting, Project staff became regular contributors to a lunchtime chat show on *Radio Kilkenny*. The Project also devised a series of information leaflets on coronary heart disease risk factors, produced videos on how to make healthy food choices and published its own cookbook.

Primary Schools

Following initial contact through a late 1985 seminar for primary school principals, a one-week in-service training course on health education in the primary school was organised by the Project in July 1987. Twenty-eight teachers, including five principals, attended:

³ From 1989 two additional dietitians were employed on a part-time basis by the Project to help provide this counselling service.

One of the main problems highlighted by teachers during the course was the difficulty of integrating health education into an already overcrowded curriculum. Teachers agreed that, in order to be effective, the health education programme must be incorporated into the Plan Scoile, parents must be familiar with the programme and the school principal must be supportive. (Brennan, 1987a, p.28)

During the course workshops were conducted or presentations were made by the Project's Leader, Education Officer and Dietitian, by a Senior Public Health Nurse and a Senior Social Worker from the South-Eastern Health Board as well as by speakers from the Irish Heart Foundation, the Dental Health Foundation and the Mid-Western Health Board and by the Ossory Diocesan Advisor for primary schools. The participating teachers also had the opportunity to become familiar with the range of materials such as videos and teaching packs available for use in schools.

The focal point for subsequent work by the Project in primary schools was its Kilkenny cat mascot, "Benjy". Accompanied by the Project's Education Officer, Benjy visited all ninety primary schools in the county during the Spring of 1988 and distributed to each child (in a pupil population of around twelve thousand) a copy of a "Snakes and Ladders" game incorporating anti-smoking messages.⁴ A second round of visits was undertaken by the feline Benjy and the Project Education Officer in the Spring of 1989 bringing a poster illustrating healthy choices of contents for school packed lunches. The children were encouraged to bring these posters home to their parents. This round of school visits was linked with a competition running in CATCH which involved pupils surveying the contents of the packed lunches brought to school by members of their class.⁵

In 1990 the Project launched *Race to Health*, an adaptation of a nutrition education programme produced in the USA by the Stanford Heart Disease Prevention Program which is designed for use by nine to ten year olds. The aim was to provide each child in this age group with a set of lessons for the programme and to provide each school with a teacher's guide to running it. This launch followed a pilot phase of testing in a small number of Kilkenny schools. The programme consists of four lessons which identify the food sources of fat, sugar, salt and fibre and give suggestions for limiting or increasing these elements in the Irish diet as appropriate. The programme is intended to involve parents and others in the child's home and so lessons are designed to be completed primarily as homework, with parental participation if needed. In 1992, availing of a donation of film production time by a commercial company, the Project produced *Pack a Healthy Lunch*, an eleven minute video complementing the *Race to Health* lessons which featured a dietitian, a teacher and a group of 4th Class pupils from a co-educational school.

⁴ This game was also featured as a two page centre spread in the Spring 1988 edition of CATCH.

⁵ Competitions for first and second level pupils with a health theme were a regular feature of CATCH.

Second Level Schools

Here again contact was initially made - in October 1985 - through seminars for post-primary school principals and post-primary school teachers. In April 1986 a working party began preparations for the implementation of a health education programme to suit first year post-primary students. The aim was to involve all the relevant schools in the county: however, only 50 per cent of schools responded positively to the invitation to participate. Each participating school had a representative on the working party: some other teachers also joined the working party although they were not in a position to implement the programme at the schools in which they worked.

The working party opted to implement *Learning for Life*, one of a number of Irish lifeskills programmes, which has been developed, researched and evaluated in North Tipperary (McKernan, 1990). This was one of the most widely available classroom resources at the time. A coordinator was designated for each participating school where the programme was to be provided through one class per week. The working party continued to meet and to carry out implementation process evaluation through the programme's three junior cycle years, from 1986/87 to 1988/89. In June 1989 it disbanded. However, many of the schools continued to develop health education programmes in conjunction with the newly established Health Education Unit of the South Eastern Health Board. The Board has actively developed a regional teacher training programme in social and health education (Brennan, 1992).

The majority of teachers on the working party had attended the Health Education Bureau's Teacher Training Programme in Health Education and three of its members attended in-service courses for *Learning for Life* tutors and school coordinators held in North Tipperary in July 1987 (Brennan, 1987b). The Project continued to organise seminars for teachers on individual topics and to act as a resource centre, maintaining a library of videos a catalogue for which was distributed to schools in September 1989: this library and its other materials were extensively used both by teachers and by students working on projects.⁶

Adult Education

The Project's involvement with adult education activities began in October 1985 when a lecture series was included in Kilkenny Vocational Education Committee's programme. In the following two years the programme included cookery demonstrations run in a number of centres: these incorporated information on how to reduce intake of fat, sugar and salt and on how to increase intake of fibre. Subsequently wholefood cookery classes were offered in conjunction with the VEC. While these were well attended in Kilkenny City, there was insufficient demand to form a class in other parts of the county. Thereafter a change in emphasis occurred, with positive results in terms of public response.

In 1989 series of *Look Good, Feel Good* classes were offered in three centres. Each class comprised an exercise component and a discussion of some health related topic. These were oversubscribed and in the following year the number of centres in which classes with this format were offered was increased.

⁶ A survey of Kilkenny post-primary pupils' lifestyles was also carried out in conjunction with the Project in 1987. For the findings of the survey see O'Reilly and Shelley (1991).

The Project and Community Groups in Kilkenny

During the course of the Project speakers gave lectures and talks to a wide range of Kilkenny community groups. In conjunction with the Irish Countrywomen's Association (ICA) meetings were held for all the parishes in the county during the Project's 1985 and 1986. The project's production of education videos structured a second round of intensive contacts with community groups. In the Autumn of 1989 groups which had previously hosted a speaker from the Project were contacted and asked if they would like to view the video *Healthy Food Choices*, with a Project dietitian attending to present the video and facilitate a discussion of healthy eating after it had been viewed. Over a twelve month period, beginning in September 1989, forty six presentations of the video with a dietitian in attendance took place all over County Kilkenny.

Impact of the Project's Work with Community Groups and the Education System

The termination survey carried out in Kilkenny in 1990-91 contained a set of questions about awareness of the Project and of its various forms of message output. A general description of the Kilkenny termination survey's methods has been provided elsewhere (Shelley, Daly, Collins, *et al.*, 1995, pp. 753-754). One methodological aspect which is of particular importance in the present context is that the population sample drawn was an age-restricted one which included only those aged between 35 and 64. Such restriction is a normal feature of heart disease prevention project evaluation surveys and derives a concern with measuring the effects of intervention on mortality, which is rare among the young and uncertain in the quality of its certification among the elderly (Murray, 1992).

In the termination survey contacts with the Project through talks to or meetings with community groups are aggregated with contact through adult education classes by the question "have you ever attended an ICA meeting, a VEC lecture or any other meeting where someone from the Kilkenny Health Project was speaking about the Project or about healthy lifestyles and preventing heart disease?". Another termination survey question "have you, or has someone in your household, seen a Kilkenny Health Project video about choosing or cooking healthy food?" also mainly refers to contact with the Project mediated through the respondent's, or one or more other member of his or her household's, membership of a community group or network.

Twelve per cent of respondents gave a 'yes' reply to the first of these questions, a figure that rose to 19 per cent among female respondents and to 25 per cent among female respondents aged 55-64. Attendance at a meeting etc. was more common among respondents from non-manual classes (14 per cent) than among those from manual classes (8 per cent): this was the case both for men and for women. With the question relating both directly and indirectly to seeing a Project video, the "yes" response was 6 per cent overall. Compared with the attendance at a meeting etc. question, the gender difference remains clear (9 per cent of female respondents replied 'yes') but the age and class contrasts are blurred. In the survey respondent's area of residence was coded into three categories - Kilkenny city and environs, other urban area and rural area. The interlinking of contact through the videos and through meetings etc. is most evident through the highest 'yes' percentages on both questions being found among respondents living in other urban areas, whereas on all the other Project awareness items included in the survey Kilkenny city residents came out on top.

A multivariate analysis examined the influence of a wide range of independent variables measured in the termination survey on the dependent variable of attendance at a meeting etc. These independent variables, which are all defined in detail in the Appendix, fall under three broad headings. First, there are socio-demographic variables such as gender, class and area of residence. Second, there are situational sensitivity variables relating to the respondent's personal

and family heart disease history.⁷ Third, there are variables relating to the respondent's subjective health, current lifestyle pattern and lifestyle change attempts in the previous five years. With a dichotomous dependent variable - 'unsure or don't know' responses (see Table 5 below) have been excluded - logistic regression is the appropriate method of analysis. The forward stepwise method of variable selection was used and significance level criteria set for entry and retention were .10 and .15 respectively. None of the variables which entered the equation were subsequently removed. The results are shown in Table 1. Being a woman has a very strong positive association with meeting or lecture attendance. Less strong positive relationships exist for being older and for having left school at an older age: negative relationships exist for manual social class membership and being currently married. 83 per cent of respondents are currently married: 10 per cent of this group report having attended a meeting etc. compared with 19 per cent of respondents who are not currently married.

Table 1: *Logistic Regression of Attendance at an ICA meeting, a VEC lecture or any other meeting where someone from the Kilkenny Health Project was speaking about the Project or about healthy lifestyles and preventing heart disease*
Number of Respondents = 747

<i>Variable</i>	<i>Regression Coefficient (B)</i>	<i>Standard Error of B</i>	<i>Wald Statistic (1 df)</i>	<i>Significance of Wald</i>
Age	.0249	.0152	2.6937	.1007
Irish Social Class	-.1494	.0731	4.1752	.0410
Female Sex	1.6895	.2982	32.0907	.0000
Currently Married	-.5829	.2946	3.9155	.0478
Left School at 17	.6288	.2834	4.9222	.0265
Constant	-3.5471	.9058	15.3344	.0001

The interpretation of logistic coefficients is not a straightforward matter and a method commonly used to overcome this difficulty is employed in Table 2. This transforms the coefficients to produce a predicted probability, which varies between 0 and 1, of an event - in this case having attended a meeting etc. - occurring. The procedure involves constructing a set of baseline cases, calculating their predicted probabilities and examining how these are affected by introducing specific variations into the baselines (Norusis, 1990, pp. 47-48).

⁷ It has been argued that motivation to acquire information about subjects like cardiovascular health arises primarily out of particular life situations in which individuals find themselves. 'Situationally sensitive' variables may therefore be better predictors of motivation to acquire such information than cross-situational variables of the socio-demographic kind (Ettema, Brown and Luepker 1983). Situational sensitivity would suggest that people who have been medically treated for heart diseases or experience symptoms or have a history of such diseases in their family background would show greater receptivity to messages about prevention.

Table 2: *Predicted Impact of Different Variables on the Probability of Having Attended a Meeting or Lecture Addressed by a Project Speaker*

	(1)	(2)	(3)
Baseline	.31	.05	.15
Age 35	-	.03	.08
Age 50	.39	-	.11
Age 64	.48	.06	-
Higher Professional	.38	-	.27
Other Non-Manual	-	.03	.21
Unskilled Manual	.22	.02	-
Female	-	.21	-
Male	.08	-	.03
Married	.20	-	-
Not Married	-	.08	.24
Left school at 17	-	.08	.25
Left at 18 or before 17	.19	-	-

(1)Baseline = 35 year old, other non-manual social class, female, not married left school at 17.

(2)Baseline = 50 year old, higher professional social class, male, married, left school at 18.

(3)Baseline = 64 year old, unskilled manual social class, female, married, left school at 14.

Those within the termination survey's restricted age range could also potentially come into indirect contact with the Project through its work in the schools. 49 per cent of respondents replied 'yes' to the question "did you see any of the leaflets or posters or other materials which were distributed in schools by the Kilkenny Health Project?".

The results of regressing having seen any Project schools material on the set of variables defined in the Appendix are shown in Table 3. With 'unsure or don't know' responses (see Table 5 below) excluded, the dependent variable is again a dichotomous one and logistic regression is used. Likewise, the forward stepwise method of selection is employed and significance level criteria set for entry and retention are again .10 and .15 respectively. None of the variables which entered the equation were subsequently removed.

Table 3: *Logistic Regression of Seeing Leaflets, Posters or Other Materials Distributed in Schools by the Kilkenny Health Project*
Number of Respondents = 715

<i>Variable</i>	<i>Regression Coefficient (B)</i>	<i>Standard Error of B</i>	<i>Wald Statistic (1 df)</i>	<i>Significance of Wald</i>
Age	-.0251	.0099	6.4423	.0111
Class	-.0970	.0514	3.5650	.0590
Female	.3372	.1695	3.9590	.0466
Currently Married	.7576	.2197	11.8919	.0006
Left School at or before 14	-.4213	.2124	3.9330	.0473
Left School at 16	-.5571	.2076	7.2015	.0073
Health Habits Score	.1009	.0614	2.7054	.1000
Constant	.5492	.6092	.8126	.3673

A negative overall relationship to manual social class membership is indicated here. Two relatively early school-leaving age dummies also appear in the equation, both negatively signed. Age and being currently married appear, as they did in regression of attendance at a meeting etc, but with different coefficient signing. Age's negative signing is consistent with an expectation of finding most of the parents of school pupils at the lower end of the sample's age range. The positive relationship between being currently married and exposure to Project materials for schools has a similar intuitive plausibility: the presence of female sex indicates that these materials were more likely to reach mothers than fathers. Table 3 is accompanied by a table (Table 4) in which, for a set of baseline cases into which specific variations are introduced, logistic coefficients have been transformed into predicted probabilities of the occurrence of the event of seeing Project school materials.

Table 4: *Predicted Impact of Different Variables on the Probability of Having Seen Leaflets, Posters or Other Materials Distribute din Schools by the Project*

	(1)	(2)	(3)
Baseline	.63	.41	.32
Age 35	-	.50	.49
Age 50	.54	-	.40
Age 64	.45	.33	-
Higher Professional	.67	-	-.43
Other Non-Manual	-	.36	.38
Unskilled Manual	.56	.30	-
Female	-	.49	-
Male	.55	-	.25
Married	-	.60	-
Not Married	.44	-	.18
Left School at or before 14	.66	.31	-
Left School at 16	-	.28	.29
Left School at 18	.75	-	.41
Health Habits Score = 2	.53	.35	-
Health Habits Score = 4	.58	-	.36
Health Habits Score = 6	-	.46	.41

(1) Baseline = 35 year old, non-manual social class, female, married, left school at 16, health habits score* = 6.

(2) Baseline = 50 year old, higher professional social class, male, unmarried, left school at 18, health habits score = 4.

(3) Baseline = 64 year old, unskilled manual social class, female, married, left school at or before 14, health habits score = 2.

*Health habits score: maximum value = 7, minimum value = 0, mean value = 3.75, standard deviation = 1.39.

The findings regarding awareness of messages channelled through the education sector are placed in a wider context in Table 5, where the awareness levels for all the various forms of Project message output are reported. Knowledge of the Project's existence had reached almost everyone through one source or another. The *Kilkenny People* articles, *CATCH* and Project leaflets reached around two-thirds of their potential audience at least 'sometimes'. Local radio and material distributed in schools brought the attention of around half the potential audience to the Project. For the Project's cookery book, an awareness impact was reported in less than a third of cases. A similar level of impact was reported for RTE radio and the national television channels.⁸ Meetings drew in 12 per cent of the potential audience at some time or another while the videos, which were used in conjunction with such meetings in the later part of the Project's evaluation period, were seen by 6 per cent.

⁸ The usage of national radio and television was inhibited by evaluation research design contamination fears which are discussed in Murray, Shelley, Daly *et al.*, 1994 and 1995.

Table 5: Awareness of the Kilkenny Health Project Through its Different Forms of Activity or Output

<i>Question</i>	<i>PER CENT</i>		
	<i>Yes</i>	<i>No</i>	<i>Unsure or Don't Know</i>
"Before you were asked to take part in this survey, had you heard of the Kilkenny Health Project?"	93	6	1
"Have you read the articles in the Kilkenny People newspaper which are written by the Kilkenny Health Project?"*	70	30	0
"The Kilkenny Health Project's magazine is called CATCH. Did you read CATCH?"**	66	34	0
"Have you seen a Kilkenny Health Project leaflet about diet or smoking or heart disease?"	67	26	7
"Have you, or has someone in your household, seen the Kilkenny Health Project cookery book?"	29	57	14
"Have you, or has someone in your household, seen a Kilkenny Health project video about choosing or cooking healthy food?"	6	88	6
"Did you ever hear someone from the Kilkenny Health Project on RTE radio?"	29	64	7
"Did you ever see anything about the Kilkenny Health Project on television?"	28	60	12
"Did you hear anything about the Kilkenny Health Project on Radio Kilkenny or on any other local radio?"	46	48	6
"Have you ever attended an ICA meeting, a VEC lecture or had any other meeting where someone from Kilkenny Health Project was speaking about the Project or about health lifestyles and preventing heart disease?"	12	87	1
"Did you see any of the leaflets or posters or other materials which were distributed in schools by the Kilkenny Health Project?"	49	46	5

* Yes= 'Read Kilkenny Health Project articles regularly' and 'Read Kilkenny Health Project articles sometimes'.

No = 'Saw Kilkenny Health Project articles but did not read them', 'did not see any articles written by the Kilkenny Health Project' and 'Do not read the Kilkenny People newspaper'.

** Yes= 'Read CATCH two or three times a year' and 'Read CATCH sometimes'.

No= 'Saw occasional CATCH but did not read it' and 'Never saw CATCH'.

Discussion

Mass media material can reach very large audiences at a relatively low cost but, on its own, produces only very limited effects on the behaviour of audience members (Alcalay and Taplin, 1989). Face-to-face communication is more effective as a behaviour change agent but - unless the audience is, like school pupils, an already captive one - it can be very costly to apply to large target groups (Maccoby and Alexander, 1980). The materials distributed in schools by the Kilkenny Health Project achieved an awareness impact in the county's middle-aged adults only exceeded or equalled by the Project's usage of the locally based mass media or by its own newsletter. The distribution exercise not only achieved widespread diffusion of the materials within the community it also generated at relatively little cost the kind of opportunities for interpersonal communication (involving teachers, pupils and adults) which communications researchers regard as the 'gold standard' in relation to community education campaigns. Thus, while the school setting is one in which youth health promotion is of primary importance, the parental and wider community involvement which is increasingly recognised as being a central component of effective health promotion work with school pupils can have a beneficial secondary impact on the adults who become involved which should be recognised in programme planning and maximised in programme implementation.

The level of schools' materials impact recorded in the termination survey is all the more remarkable since, in developing its work with schools during the second half of the 1980s, the Kilkenny Health Project was operating in a difficult environment. Health education lacked formally recognised status making it vulnerable to exclusion from an overcrowded curriculum - a vulnerability reflected in the 50 per cent participation rate achieved by the efforts of the second level schools' working party to implement the *Learning for Life* programme. Moreover lifeskills programmes developed with the support of the Health Education Bureau were in this period coming under attack on the grounds that they were undermining religious moral values (Manly, 1986; McCarroll, 1987).

The emphatic endorsement the health promoting school concept subsequently received⁹ would seem to indicate that a much more positive environment had come into existence. It should, however, be noted that, when health promotion superseded health education in 1987, the endorsement of a much more complex and demanding policy concept coincided with a reduction of the resources available to develop and operationalise it. At the national level specialist teacher training provision was lost and staff numbers were reduced in the transition from a separate Health Education Bureau to a Health Promotion Unit located within the Department of Health. Health promotion work in schools thus became critically dependent on servicing and support being put in place at the regional level.

By the time the Kilkenny Health Project was concluding in 1992, there was no consistent pattern of organisation for the health promotion function within the regional health boards. Some regions had no dedicated health promotion staff at all: others had very few. Two of eight regions were actively involved in the development of new or the upgrading of existing schools' programmes. Specialist training for teachers of varying length, depth and

⁹ The Report on the National Education Convention, which played a key role in the consultation process which took place between the publication of the 1992 Green Paper and that of the 1995 White Paper, states that 'the view of the health-promoting school, as set out in the Green Paper, has won general endorsement and there is widespread support for its promotion' (Convention Secretariat, 1994, p. 74).

scope was directly or indirectly provided by health boards in five of the eight regions. In three regions, however, no functioning support structure was in place. A statement of the prerequisites for the success of a national strategy for health promotion (Department of Health, 1995) recognised the need to tackle such infrastructural weaknesses and to overhaul health promotion structures at both the national and regional levels. The manner in which these issues have been addressed and the degree of effective collaboration between the health and education sectors that emerges from this process are of crucial importance to the realisation in practice of the health promoting school's potential benefits.

With regard to direct educational contacts with adults, the experiences in implementing the Kilkenny Health Project initiatives described here provided one of the building blocks for the Happy Heart Community Programme developed and co-ordinated by the Irish Heart Foundation. By the time the Project concluded at the end of 1992, seven communities around the country were running or developing this programme which is implemented by volunteers in each community, led by an Education Committee and a Medical Committee (Irish Heart Foundation, 1994). A Happy Heart at Work Programme had also been developed. Alongside the health promoting school, the community and the worksite were being termed 'key settings' for health promotion at the local level by the mid-1990s (Kelleher 1998). The Department of Health was by then committed to supporting the Happy Heart Programme in both.

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Appendix

Variable Description

<i>Variable</i>	<i>Description</i>
	(I) Socio-demographic variables
Age	The age of the individual in years
Irish Social Class	Six point scale entered as a continuous variable (see O'Hare, Whelan and Commins, 1991)
Female Sex:	A binary variable taking the value 1 where the respondent is female; otherwise zero.
City Resident:	A binary variable taking the value 1 where the respondent is a Kilkenny city resident; otherwise zero.
Other Urban Resident:	A binary variable taking the value 1 where the respondent resides in an Other Urban area; otherwise zero.
Married:	A binary variable taking the value 1 where the respondent is married; otherwise zero.
Widowed, Divorced or Separated:	A binary variable taking the value 1 where the respondent is widowed, divorced or separated; otherwise zero.
Full-time Employed:	A binary variable taking the value 1 where the respondent is in full-time employment; otherwise zero.
Unable to Work:	A binary variable taking the value 1 where the respondent is unable to work owing to permanent sickness or disability; otherwise zero.
On Home Duties:	A binary variable taking the value 1 where the respondent is engaged in home duties; otherwise zero.
Left School at 14:	A binary variable taking the value 1 where the respondent left school or full-time study at or before the age of 14; otherwise zero.
Left School at 15:	A binary variable taking the value 1 where the respondent left school or full-time study at the age of 15; otherwise zero.
Left School at 16:	A binary variable taking the value 1 where the respondent left school or full-time study at the age of 16; otherwise zero.
Left School at 17:	A binary variable taking the value 1 where the respondent left school or full-time study at the age of 17; otherwise zero.
Left School at 18:	A binary variable taking the value 1 where the respondent left school or full-time study at the age of 18; otherwise zero.
	(II) Situational sensitivity variables
Medical Treatment Related	A binary variable taking the value 1 where a respondent reported any of the following: having had a heart attack or a

to Heart Disease:	stroke, having been told by a doctor that he or she had diabetes, having been treated for high blood pressure or raised blood cholesterol, having in the past two weeks taken aspirin for heart disease or used other heart tablets. Otherwise zero.
Symptoms Suggestive of Heart Disease:	A binary variable taking the value 1 where responses indicated the presence of any of the following: angina, peripheral vascular disease, dyspnoea or possible infarction; otherwise zero.
Family History of Heart Disease:	A binary variable taking the value 1 where any near relative - parent, sibling or child - of the respondent had a heart attack or coronary thrombosis; otherwise zero.
(III) Health and lifestyle variables	
Self-rating of "your present physical condition"	Five point scale - `very good', `good', `fair', `not very good', `bad' - entered as a continuous variable
Health Habits Score	<p>A score (range 0-7) entered as a continuous variable. Respondent scored a point if he or she:</p> <ul style="list-style-type: none"> (1)engaged in vigorous physical activity for at least 20 minutes once a week or more often (2)ate fresh fruit seven times weekly and also ate vegetables other than potatoes seven times weekly (3)Added no more than 2 spoonfuls of sugar to drinks or cereals per day (4)was in the "acceptable" range for Body Mass Index (4)did not smoke (6)had an alcohol intake within the recommended "sensible drinking limits" (7)had a positive rating on at least 7 out of 10 other healthy eating indicators. A positive rating was made where <ul style="list-style-type: none"> (i)whole milk was not usually drunk (ii)less than 7 eggs were eaten per week (iii)low fat spread or soft polyunsaturated margarine was used (iv)Boil or baked potatoes were eaten five or more times per week (v)chips or roast potatoes were eaten no more than twice a week (vi)fish was eaten at least once a week (vii)chicken was eaten twice or more times a week (viii)other meat was eaten no more than eight times per week (ix)fried food was eaten no more than three times per week (x)take-away food was eaten no more than once per week
Efforts at Lifestyle change score	<p>A score (range 0-7) entered as a continuous variable. Regardless of whether or not his or her habits are currently classified as healthy, a respondent scored a point for an attempt, successful or otherwise, during the past five years to improve</p> <ul style="list-style-type: none"> (i)amount of exercise taken (ii)fruit and vegetable intake (iii)other eating habits (iv)weight for height

- (v) sugar intake
- (vi) cigarette smoking
- (vii) alcohol drinking