

*The Current State of Cooking in Ireland:*

*The*

*Relationship between*

*Cooking Skills and Food Choice*

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## 1. INTRODUCTION

This research investigated the attitudes of Irish people to food to ascertain whether the acquisition of cooking skills influences food choice. Caraher *et al.* (1999) report on the state of cooking in England noted that changing lifestyles has had a significant impact upon the demand of food offerings and on the variance of domestic cooking skills. Caraher *et al.* (1999) found that cooking skills play an important part in healthy eating as a vehicle for lower-paid people to achieve a healthy diet and is an essential life-skill. While these discourses advance, the deficiency of inherently Irish empirical data contributed to inspire the development of this research. The analysis of the relationship of cooking skills to food choice may point to the growing importance of the social role and indeed the contributory role of good cooking skills in the maintenance of health in the Irish context.

## 2. LITERATURE REVIEW

Numerous studies and reports (NACNE, 1983; COMA, 1984; Eurodiet, 2001; EHN, 2002; WHO, 2003; Burke, 2005; IHF, 2007) agree that making the right choices of food can protect against many food-related illnesses. Macionis and Plummer, (2007) suggest that there is a '*nutrition transition*' taking place in western societies, concurrent with growing wealth. Western, and particularly high income societies were the first to generate a series of health problems for themselves through their eating habits: notably an increase in the incidence of '*diseases of affluence*' (Lean, 2006, p. 265) such as coronary heart disease (CHD), diabetes and cancer (Kelleher *et al.*, 2002). It appears these problems are starting to spread to low income societies because of the establishment of global marketing trends (Macionis & Plummer, 2007, p. 224). The Irish Heart Foundation (IHF) agrees with this assertion but asserts that there is considerable evidence that poor diet plays a major part in determining one's health (IHF, 2007).

The North/South Ireland Food Consumption Survey (NSIFCS, 2000) report indicates that the Irish diet is less than optimum, with iron, calcium and folic acid intakes inadequate in women of childbearing age. Micronutrient intakes were adequate due mainly to the consumption of vitamin and mineral supplements. The report further states that food intakes are calorie dense, yet nutrient deficient, with increased risk of chronic degenerative diseases.

Obesity has become a major public issue because of inherent health risks to the individual concerned and the subsequent effect on the public health system (Lupton, 1996). The obesity rate in Ireland is fast mirroring that of the United States of America (USA), where the frequency of obesity in the population is at an all time high (IHF, 2007). Since 1990 obesity has increased in Ireland by 67% (NSIFCS, 2000).

McWilliams (2006) suggests that poor lifestyle choice is now being blamed for the dramatic rise in diabetes in Ireland. Up to the 1990s Type-1 diabetes was generally seen in the five to twenty-year-old age category, and the Type-2 diabetes was found in the fifty to eighty-year-olds. Now people as young as twelve-years old are being diagnosed with Type-2 diabetes (NSIFCS, 2000). A pilot study on diabetes among two thousand Voluntary Health Insurance (VHI) customers in Dublin showed that almost two in every three people tested were at risk of developing Type-2 diabetes (Sligo Champion, 2009, p. 6).

According to the Pre-Hospital Emergency Care Council (PHECC, 2008) Ireland has a high rate of death from coronary heart disease (CHD), with one in five of all deaths being attributed to this cause. It is estimated that approximately 5,000 people die in Ireland each year from sudden cardiac death. This equates to fourteen deaths per day. According to the Irish Heart Foundation (IHF, 2009) website, '*approximately 10,000 people die each year from cardiovascular disease (CVD) - including coronary heart disease (CHD), stroke and other circulatory diseases. CVD is the most common cause of death in Ireland, accounting for 36% of all deaths*'.

The North-South Safe Food foundation, a body responsible for the promotion of food safety on the island of Ireland, suggests that individuals should enjoy good food and make gradual changes to their diet (Safe Food, 2009). In another Irish study of the '*relationship between attitudes towards healthy eating and dietary behaviour*' by Hearty *et al.* (2006, p. 6) they found that:

*respondents with positive attitudes consumed significantly greater amounts of wholemeal bread, breakfast cereals, cream, ice-cream and desserts, yoghurts, vegetables, fruit, and fish and fish dishes than respondents with negative attitudes. Respondents with negative attitudes consumed greater amounts of white bread, wholemilk, butter and spreads, chips, red meat dishes, meat products, alcohol, sugars and confectionery and savoury snacks than respondents with positive attitudes.*

Germov and Williams (1999) suggest that it is imperative that individuals become more knowledgeable about food, alter food shopping patterns, and feel satisfied and good about food in order to maintain or improve health. A characteristic trend in Irish domestic food provision in the last number of years is the increase in the use of convenience food products (Intel, 2006). According to Intel (2006), processed foods are heavily consumed by adults in the 15 – 24-year age brackets, who have grown up primarily on a diet of convenience food. The reheating of these products is not classified as cooking in the true meaning of the word.

Time poverty is an enormous concern for working mothers as they battle to juggle paid work with care of children and the home (Coakley, 2004, p. 217). Researchers argue the necessity of culinary skills and suggest that the consequences of not having these skills will result in an even greater reliance on precooked, convenience foods that are, in general, nutritionally inferior to home-cooked meals (Murcott, 1998; De Boer *et al.*, 2004; Sidenvall *et al.*, 2001; Larson *et al.*, 2006; Soliah, Walter & Antosh, 2006; Ternier, 2010). Ternier (2010, p. 70) suggests that '*cooking competence is important as*

*it affects self-reliability, nutritional knowledge, dietary behaviour and quality, as well as personal health*'.

Bava *et al.* (2007) conducted research in New Zealand on the constraints upon food provisioning practices in 'busy' women's lives. They, like Coakley (2004, p. 217), noted that, for women, work and family responsibilities or lack of knowledge and cooking skills contribute to the degree of reliance on convenience foods in food provisioning. For some food providers, practical issues are a factor (Caraher *et al.*, 1999). Not having the wherewithal to cook food from raw materials has further implications in the passing-on of domestic cooking skills and knowledge to the next generation. Parents who use pre-prepared meals as their food provisioning norm will give their children fewer opportunities to learn cooking skills.

In Britain, Caraher *et al.* (1999) suggested a tentative link between the lack of cooking skills and differences in the health condition of the socio-economic groups. Attitudes are in variance to age. In the Bava *et al.* (2007) study, lack of confidence in cooking ability was prominent amongst younger participants and was found to substantially influence food-provisioning practices. Caraher *et al.* (1999, p. 159) found that having to cook rather than accessing convenient expensive take-away meals might be '*perceived as a sign of poverty*' by some. Stitt (1996, p. 27) concurs and suggests that the ability to cook is unequivocally linked to health as it encourages '*proper attitudes*' to healthy eating by fostering an awareness of '*what food is*'. Nutritional knowledge is not sufficient by itself to implement dietary guidelines, but instead only provides the information of how to form a healthy diet. Active cooking experience combined with nutritional knowledge is what is needed if the message and the means of following through on healthy eating habits are to be realised (Frobisher, *et al.* 2005, p. 201).

The very activity of cooking is all empowering in that it gives back the propensity to individuals and families to have a varied and balanced diet (Caraher *et al.*, 1999; Caraher & Lang, 1999). Both studies found that people wanted to expand their skill base but found it challenging because they had not developed the skills to experiment with cooking. Therefore, access to developing these skills can be construed as a barrier to having a healthy diet. There is some evidence that wide-ranging cooking classes, which run within a health-promoting setting, may influence food choice behaviour in the short term (see Bostock, 1993; Dobson *et al.*, 1994; Demas, 1995; Kennedy & Ling, 1997; Caraher & Lang, 1995). Crotty (1999) further hypothesises that the acquisition and knowledge of food preparation skills is a means that can guard against what he calls '*food insufficiency*'. This might imply that a low-income family, for instance, may be well nourished from a nutritional perspective, but experience deprivation through a lack of access to '*highly valued foods*' or the lack of key food preparation skills (Lang & Caraher, 2001).

According to the Home Economics–Scientific and Social syllabus (NCCA, 2000, p. 2), the programme is '*an applied subject combining theory with practice in order to develop understanding and solve problems*'. Forty-five per cent of the Home Economics leaving syllabus is allocated to food studies. Whilst the learning outcomes' concentration on the principles underlying the cooking of food is important and necessary, the allocation of time for practical cooking lessons may not be enough to

pass on essential cooking skills. In order to act on this knowledge, participants need to experience food preparation and cooking skills first hand (Stitt, 1996). As a lifeskill, the physical activity of cooking encourages higher order cognitive processes, that of reasoning, planning and decision-making (Jabs & Devine, 2006), a fact that may not be recognised by those students (and indeed parents) pursuing purely academic endeavours.

The Irish education system does not seem to mirror the UK system where Stitt (1996, p. 27) alluded to the worry that by '*taking cookery skills out of the education system will further deprive poor households of the means to afford a healthy diet*'. In addition, the overarching academic nature of the programme may as Kearney *et al.* (1997) suggest, influence eating behaviour, but corresponding nutritional knowledge does not equate to good dietary habits when individuals are unsure as to how to apply their knowledge. Research has shown that active cooking experiences combined with nutritional knowledge instead of solely theoretical nutritional knowledge is more effective in changing dietary behaviour, particularly when dealing with children (Liquori *et al.*, 1998; Caraher *et al.*, 1999). Furthermore, increased cooking competence can result in better nutritional knowledge (Levy & Auld, 2004).

### **3. METHOD**

#### **3.1 THEORETICAL PERSPECTIVE**

In food choice paradigms, there is a need to recognise that human behaviour and motivation functions are changing in the context of biological, physical, environmental and cultural systems. Saunders *et al.* (2007) argue that the research approach needs to recognise the existence of multiple perspectives of a situation or problem. For this study, this comes from an approach that concentrates on the research question and is therefore pragmatic.

#### **3.2 PARTICIPANTS**

Two-hundred and fifty-one respondents aged 17-years and over participated. The majority were Irish (86%), while the United Kingdom at almost four per cent (3.6%) had the next highest representation. Of those that originated from countries other than Ireland 10 respondents were males and 26 were females. 17 – 26-year olds made-up almost half, while the 27-years and older made up the rest (52.2%). Of the other 118 Irish respondents, 30 are in the 27 – 36-age group, 45 are in the 37 – 46-age group, 27 are in the 47 – 56-age group, while 16 are in the older (57+) age category. Sixty-eight per cent (68.3%) of the 17 – 26-year olds are female, while thirty-two per cent (31.6%) are male. Sixty-four per cent of the 27 – 36-year olds are female and thirty-six per cent are male. The gender pattern is similar in the 37 – 46-year olds age group with females making up sixty-six percent of the cohort, and males making up thirty-three per cent. More than three-quarters (78.6%) of the 47 – 56-year olds are female. Because the respondents were predominantly from a third-level college it is not surprising that a large number of respondents were well educated. The second level to leaving certificate and the third level [non-degree] categories made up the bulk of respondents. Those

with primary and second level to intermediate/junior certificate tended to be from the older age groups. The level of education among females was evenly split between secondary to leaving certificate (33.3%), third-level with non degree (32.1%) and third level with degree or higher (31%). There were more males as a percentage in the third-level with degree or higher (38.3%) than in any of the other education categories. Thirty-two per cent (32.1%) of the males in the survey had an education to leaving certificate standard, while another twenty-one per cent attained an education to third-level non-degree level.

### 3.3 SAMPLE

Respondents were drawn from staff and students from Athlone Institute of Technology. According to the theory of probability, this geographically heterogeneous sample is representative of the region and therefore the country as a whole (Oppenheim, 1992). According to Oppenheim (1992, p. 43) probability need not necessarily be equal, it just needs to be known. Cooper and Emory (1995, p. 206) concur and suggest that:

*the basic formula for calculating sample size in probability sampling assumes an infinite population. Thus, a sample of 100 drawn from a population of 5,000 has roughly the same estimating precision as 100 drawn from a population of 2 million. The only problem with the sample from the larger population is the difficulty of drawing the sample.*

A sample size of 250 respondents is suggested based on precedence that exists in other didactic jurisdictions. A number of food choice studies at the University of Pavia (Italy), the University of Leuven (Belgium) and McGill University (Canada) where paper-and-pencil questionnaires were collectively administered to first year university students in psychology during a course (Hearty *et al.*, 2006), provides a case in point.

### 3.4 DATA ANALYSIS

The data was analysed using SNAP (SNAP 7 professional) Social Survey Software Package and outputs disseminated on a Microsoft Excel spreadsheet file. Frequency tables were used to tabulate single questions and cross-tabulation tables are used to cross analyse one set of data against a number of other sets. The levels of significance (nominal data) were determined using the Pearson's Chi Square tests (Kane & O'Reilly-De Brún, 2005). Findings with a significance of  $p \leq 0.05$  are noted in the text.

## 4. FINDINGS

Seventy-eight per cent (52%-*always* and 26%-*most of the time*) of respondent's purchase fresh fruit and vegetables on a regular basis. Nearly ten per cent (9.6%) purchase these items *about half the time*. The older you are the more likely you are to purchase fruit and vegetables. This trend is reflected when levels of education are taken into account. The percentage of those that *always* purchase fruit and vegetable grows exponentially with academic achievement. These findings are somewhat confusing as two-thirds of this cohort purchase convenience food regularly, while the findings for fruit and vegetables would suggest that the more educated a person is, the more

importance they place on their diet. It is somewhat unclear if these findings show a relationship with lower cooking competencies or even some lack of nutritional knowledge; because this cohort has the financial means to purchase the more expensive pre-prepared foods products if they want. Eight-and-a-half per cent of the 17 – 26-year old respondents *never* purchase fruit and vegetables in supermarkets, while a further thirteen per cent (12.7%) do not purchase these items often. Almost three-quarters of Irish children (11 – 15-year olds) ate fruit each day: 75% boys and 82% girls of 11-year olds had a daily intake of fruit, which was significantly better than the average EU rate. The other two cohorts fared just as well, with the seventy per cent of 13-year olds boys and seventy-seven per cent of 13-year old girls consuming fruit daily. Sixty-six per cent of 15-year olds boys and seventy-five per cent of girls consumed fruit daily. Now that this age group (17 – 26-year olds) make decisions for themselves on what to purchase, the evidence of carrying through with earlier behaviour is somewhat vague. When gender-purchasing habits are examined, the results show that females purchase fruit and vegetables more often than their male counterparts do. Almost sixty per cent of females *always* purchase fruit and vegetables when purchasing food in supermarkets. Male shoppers by contrast recorded almost forty-five per cent (44.5%-*always*) to this question.

On the protein food groups, respondents purchase fish less than they do chicken or meat. Almost nineteen per cent (18.7%) of respondents *never* purchase fish. A further thirteen-and-a-half per cent do not purchase fish often. The purchase of fish is more popular with females. This survey would suggest that the more educated one is the more likely you are to purchase fish. When the first three attitude dimensions (*always, most of the time and about half the time*) of the Likert scale are added together it shows that over seventy-four per cent (74.4%) of those respondents with a degree or higher [*n*= 83] recorded purchasing fish more than *half the time* when visiting a supermarket. Respondents' recorded that red meats are not purchased as often as chicken in supermarkets. Only fifty-five per cent of respondents purchase red meat on a regular basis, whereas seventy-one per cent purchase chicken regularly. Over seven per cent of respondent's *never* purchase red meat (7.6%) or chicken (7.2%). Ten per cent (10.4%) do not purchase red meat *often*. When gender is compared, it shows that female shoppers purchase red meats less often than males do (10.2%-*not often* and 9.6%-*never*).

#### 4.1 BACKGROUND WHERE HOME COOKING WAS THE NORM

Two-hundred and forty-two respondents replied to this question and the findings show that the majority came from a family where cooking was the norm. All age groups from 27-years and upwards recorded a hundred per cent 'yes' to this question, whereas only ninety-three percent of the 17 – 26-year olds recorded a 'yes'. This statistic may have implications for the future. This cohort has been disadvantaged in two ways. They have missed-out on both the cultural experience aspects of home cooking and on a valuable means of learning to cook.

#### 4.2 HOW HEALTH CONSCIOUS ARE YOU ABOUT THE FOOD YOU EAT?

Over fifty-one per cent of respondents are *moderately health conscious*, while almost thirty-four per cent (33.5%) regard themselves as *very health conscious*. There is no

significant gender difference. Ninety-three percent of females are health conscious to some degree compared to eighty-eight per cent of males. The older and more educated you are the more health conscious you are. Over thirteen per cent (13.3%) of the 17 – 26-year olds recorded not being *very health conscious* to this question. Nevertheless, over half (51.3%) of this cohort (17 – 26-year olds) recorded being *moderately health conscious*. These percentages compared well with all other age groups in this attitude dimension except for the 47 – 56-year olds that recorded fifty-six per cent (55.6%) to being *moderately health conscious*. Fifty-two per cent (51.8%) of those with a degree or higher in education are *very health conscious*. Sixty-nine per cent (69.1%) of those in the secondary to leaving certificate category indicated that they are *moderately health conscious*, seventeen per cent (17.3%) are *very health conscious*, while a further ten per cent (9.9%) are *not very health conscious* at all.

Over fifty-eight per cent of respondents recorded reading labels when purchasing food in supermarkets. Conversely, over twenty-seven per cent (27.5%) of respondents either *never* (6%) read or do *not often* (21.5%) read labels. Female respondents perceive label information to be of significantly greater importance than their male counterparts do. Thirty-two per cent (32.2%) of females and twenty-three (22.8%) of males recorded reading labels *about half the time*. Differences in purchasing patterns vary between age groups. The survey suggests that the older one is, the more likely they are to read labels. Forty-seven per cent (46.7%) of the 57+ year olds read labels *most of the time* and a further seven per cent (6.7%) *always* read labels.

In the purchase of low-fat foods, only ten per cent of respondents *always* purchase these items. A far greater number recorded purchasing these items *most of the time* (35.5%) and *about half the time* (27.1%). Sixty-six respondents do *not often* or *never* purchase these food items. In the purchase of low salt and low sugar foods, most respondents consciously make some effort to purchase these items. However, twenty-three per cent (22.7%) and twenty-one per cent (20.7%) of respondents do *not often* purchase these food items. Eleven per cent *never* purchases low salt food, while a further nine per cent *never* purchase low sugar foods. For the younger age groups in this study much less importance is placed on the amount of sugar, salt or fat a food product possesses ( $p=0.027$ ,  $p=0.027$ ,  $p=0.048$ ). In the 17 – 26-year old age groups fifteen per cent of respondents never purchase *low-fat* or *low salt* foods in supermarkets. They do *not* purchase low fat foods (21.7%), low salt foods (27.5%) or low sugar foods (26.7%) *often*. Whereas in the older groups, particularly those of the 47-years and older are more likely to purchase food products that have low salt, sugar and/or fat content. The study would imply that healthiness as a concept is embedded in the minds of respondents. However, knowing the importance of a healthy diet does not mean you act accordingly, as the earlier findings on attitude to health consciousness and possible eating behaviour showed. Educational attainment contributes to determining whether one is conscious of the food-products they purchase are healthy or not. Those with a higher level of education read labels regularly and are more inclined to purchase low fat/sugar/salt foods than their less educated contemporaries.



#### 4.3 CONSEQUENCES OF NOT HAVING COOKING SKILLS

When respondents were asked about the consequences of not having cooking skills, most respondents felt that it makes one more dependent on other sources of food provision. The percentage statistics below suggest that a fraction of those that responded offered views as to the appropriateness of each tick-box given, whereas each result is in fact a hundred per cent of their view. For example, starting with the top, ninety-one respondents recorded that not having cooking skills made you more '*dependent on takeaway meals*', while eighty-nine respondents recorded that it made one more dependent on '*pre-prepared meals*', and so on. The survey suggests that no class, education or age inferences can be drawn from these results.

### 5. DISCUSSION

#### 5.1 HEALTH

Food labelling is a means for individuals who purchase convenience food regularly to monitor nutritional and calorific intake. Surprisingly, this task is only performed by two-thirds of respondents, with the rest rarely or never reading labels on packaging. Younger respondents in this current survey are the least concerned about their health – less importance is placed on the amount of sugar, salt or fat a food product possesses. Whereas in the older groups, particularly those of 47-years and older are more likely to purchase food products that have low salt, sugar and/or fat content. These results corroborate findings of other researchers (Caraher *et al.*, 1999; Liedman *et al.*, 2001; Hearty *et al.*, 2006; Morse & Driskell, 2009). Supplementing one's diet with or even exclusively depending on convenience foods may leave a person with a deficit of the essential nutrients they need (Gedgaudas, 2009). Despite this, most respondents in the study felt they were reasonably health conscious. There is no significant gender difference in this regard. Ninety-three per cent of females are health conscious to some degree compared to eighty-eight per cent of males. A similar study (Lake, 2007b) found that respondents believed that women choose healthier food more than men did. The older and more educated you are the more health conscious you are. This finding concurs with Kearney *et al.* (1998) who found that '*interest in health and nutrition has been shown to increase with age*' (cited in Hearty *et al.*, 2007, p. 7). Numerous research articles reinforce the need for healthy eating (Oakes & Slotterback, 2004 – 2005; IHF, 2007).

#### 5.2 THE ATTAINMENT OF COOKING SKILLS PROMOTES HEALTHY CHOICE

The majority of respondents to this current study agree that having cooking skills contributes to having a healthy diet. Only 8% disagreed with this statement, with two of those strongly disagreeing. As with earlier trends, agreement to the statement had an age bias. The older the respondent the more likely they are to agree to the statement. For those in the possession of cooking skills, dietary quality can be positively affected, particularly if nutritional knowledge informs the person's ability to prepare and cook a meal. Knowledge of cooking enhances the understanding of food ingredients (Caraher, *et al.*, 1999).

## 6. CONCLUSION

The findings of this study clearly show that there is a link between cooking skills and food choice. It has shown that achieving a healthy balanced diet remains a challenge for many people at all levels of Irish society, but it is particularly important for those that cannot cook. This inability to cook makes them more reliant on takeaway food, pre-prepared meals or other people providing the food. The reliance on convenience food may mean an unconscious over-consumption of fats, salts and sugar on the part of the consumer – the very substances that are a foremost concern among health advocates. Furthermore, the study found that continued consumption of convenience foods without the necessary knowledge of food preparation reduces awareness of a healthy diet.

A number of barriers to home cooking have been identified, namely, the variety of food provisions offered by the foodservice and retail industries. However, these are not the only barriers. The acquisition of cooking skills are dependent on the skills learnt in the home, at school and individual self-directed learning by means of books, magazines or televised cookery programming. Each is under threat. Firstly, changing traditional family dynamics mean that parents are not cooking from fresh raw ingredients possibly due to work commitments. Secondly, the reduction of allocated hours to practical skills learning in schools may have further implications for future skills learning and wider culinary culture in Ireland. The take-up of the subject by students is also a cause for concern. Home economics is not available in all secondary schools. Educators need to make this subject more attractive and accessible to all students. Finally, without having previous experience, those wishing to learn cooking skills may be left without a knowledge base from which to build.

Cooking skills are changing. The study identified that there is degree of plasticity when it comes to what is meant by the term cooking. Many researchers are concerned that this may lead to a de-skilling of cooking skills. It is obvious from both the literature and the primary data that there is growing reliance upon pre-prepared food in the preparation of family meals. Proprietary food products like sauce mixtures in plastic-pouches, cans and jars, are fast-tracking the cooking process for those that can cook. These labour-saving products remove the need to cook food from fresh raw ingredients. Admittedly, they also allow those with limited skills the ability to produce a meal. Interestingly, despite the current recession and possibility of being out of work, people may be lacking the inclination or time to cook meals from scratch. Accordingly, these obstacles may further marginalise cooking skills, as the lack of practice will certainly affect competence.

A limitation of the study is that all the primary data on attitude to cooking and food choice were self-reported. The findings of the study may not be generalised for all the Irish populations' cooking behaviours; however, these findings are in agreement with the limited number of studies published on the topic. The findings suggest that it is time to re-examine the significance of cooking with regard to health and health promotion. If health promoters realistically wish to increase the Irish population's compliance with dietary guidelines then a positive support structure for domestic cooking skills is essential.

## 7. RECOMMENDATIONS

Educators need to develop a strategy that addresses secondary school student's low involvement in Home Economic programmes once the junior certificate cycle is complete. The secondary school curriculum should enable the acquisition of key skills. Changing family circumstances should be taken in to account. Those psychomotive skills that require time to develop should be catered for in the programme. Therefore, this research and its commentaries appeal for more attention to cooking skills as a life-skill in both primary and secondary schools.

Health promoters need to explore practical ways that encourage young people to cook and address their low involvement in food decisions that are rooted in the ideology of healthiness. What emerges from the findings is that more innovative approaches to non-domestic sources of learning to cook are required to ensure that the next generation of Irish children do not miss-out on this essential life-skill. The consequences of not doing this may hinder any attempts at changing dietary behaviour in the future. This should start with a clear commitment from education providers to ensure that cooking from fresh ingredients becomes the norm in Irish homes. Initiatives could include practical food preparation skills based projects which aim to aid and influence food choices at all social levels. Specifically, '*mother and toddler*' groups and youth sporting clubs are an obvious starting point for these initiatives. Indeed, for these or similar initiatives to be effective a formal means of monitoring and validation must be put in place so that any procedures established meet with the projects' aims and objectives.

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