

Children's and Adolescents' Food Choices

Factors influencing the food choices of Irish children and adolescents: A qualitative investigation

Abstract

Food choices established during childhood and adolescence tend to persist into adulthood with consequences for long-term health. Yet, to date, relatively little research has examined factors that influence the food choices of children and adolescents from their perspectives. In this article, previous research is extended by examining developmental differences between children's and adolescents' perceptions of factors influencing their food choices. Focus group discussions were conducted with 29 young people from three age groups (9-10 years, 13-14 years, and 16-18 years). An inductive thematic analysis identified three key factors as influencing food choices. These factors included intra-individual factors: the link between food preferences and awareness of healthy eating; intra-familial factors: the role of the home food environment, and extra-familial factors: eating away from the home. Findings indicate that there were developmental differences between children's and adolescents' perceptions of factors influencing food choice. Among adolescents, parental control began to diminish and adolescents exercised increased autonomy over their food choices compared to children. To develop effective nutrition interventions, it is important to gather child and adolescent input regarding factors perceived as influencing their food choices.

Key words: Children; Adolescents; Food Choices; Ireland

Nutritional intake during childhood and adolescence is important for growth (Story *et al.*, 2002), the development of lifelong eating behaviours (Coulson *et al.*, 1998), and may have long-term health implications. In recent years, the quality of the child and adolescent diet in the Western world has become of growing concern to researchers and health professionals. Studies have consistently shown that many children and adolescents have poor dietary habits that do not meet recommended dietary guidelines (e.g. Gregory *et al.*, 2000; Story *et al.*, 2002). Children and adolescents are increasingly consuming high intakes of foods rich in fat, sugar, and salt and low intake of fruits, vegetables, wholegrains, and calcium-rich foods (Institute of Medicine, 2007).

There is also evidence to suggest that dietary quality declines from childhood to adolescence (Lien *et al.*, 2001; Lytle *et al.*, 2000). For example, Lytle and colleagues (2000) found that as students moved from elementary to junior high and middle school, their consumption of breakfast, fruits, vegetables, and milk decreased, whereas, soft drink consumption increased. Research suggests that the adolescent diet is often poor, lacking in essential nutrients (Shepherd and Dennison, 1996), and opportunities for promoting the nutritional status of adolescents should be identified. Factors such as lifestyle, developmental, social, and environmental influences can account for the shifts in dietary choices as children move into adolescence (Story *et al.*, 2002).

In recent years, several national and international initiatives designed to promote healthy eating have identified the importance of young people's dietary choices for the short-and long-term health of the population (e.g. BMA, 2003; Vereecken *et al.*, 2004b). However, interventions aimed at the modification of young people's food choices have had limited impact. The limited impact of these

interventions may be partly the result of an inadequate understanding of the factors associated with children's and adolescents' food choices (Story *et al.*, 2002; Trew *et al.*, 2006). In a systematic review of the effectiveness of interventions on young people's healthy eating, Shepherd and colleagues (2006) reported that dietary influences may vary with age and many interventions were not tailored to different age groups.

Recently, researchers have proposed more comprehensive theoretical models of eating behaviour that take account of multiple interacting factors (Story *et al.*, 2002; Vereecken *et al.*, 2004b). Story and colleagues (2002) adopted a theoretical framework based on social cognitive theory (SCT) and the ecological model to explain young people's food choices and eating behaviours.

SCT explains behaviour in terms of a triadic, reciprocal model in which a person's behaviour, personal factors, and the environment in which the behaviour is performed interact and influence each other (Bandura, 1997; Glanz, 2008). Key constructs of SCT that are relevant to eating behaviour include observational learning (modelling), reinforcement (responses to a person's behaviour that increase or decrease the chances of its recurrence), self-efficacy (self-confidence to change behaviour), and self-control (Glanz, 1997). The ecological model considers the relationship between individuals and their environments and behaviour is viewed as affecting and being affected by multiple levels of influences including microsystems, mesosystems, exosystems, and macrosystems (Bronfenbrenner, 1994). Microsystems refer to the context in which the child lives and interacts with directly such as parents, peers, and school. The mesosystems are the interrelations among the components of the microsystems. These are the linkages among the various settings in which the individual is involved, such as family, school, or peer groups. The exosystem is

composed of settings that impinge on a child's development but with which the child has largely indirect contact such as the media and community influences. The most distal influence is the macrosystem, which consists of the values, ideologies, and laws of the society or culture. A central concept of SCT and the ecological perspective is reciprocal determinism (McLeroy *et al.*, 1988). This means that behaviour and environment are reciprocal systems and that influence occurs in both directions. That is, the environment largely controls behaviour, but changing environmental variables leads to modification of behaviour.

This integrated theoretical framework based on SCT and an ecological model has identified multiple individual, social environmental, physical environmental, and macrosystem factors that interact to influence young people's food choices (Patrick and Nicklas, 2005; Story *et al.*, 2002). These factors include: hunger (French *et al.*, 1999; Neumark-Sztainer *et al.*, 1999), food preferences (Birch and Fisher, 1998; Shepherd and Dennison, 1996), self-efficacy (Frenn *et al.*, 2003; Long and Stevens, 2004), food appeal, time demands, convenience, cost (Bisonnette and Contento, 2001; Neumark-Sztainer *et al.*, 1999), nutritional autonomy (Videon and Manning, 2003), parental food practices (Wardle *et al.*, 2005, Van Strein *et al.*, 2009), home food availability (Bere and Klepp, 2005; Hearn *et al.*, 1998), socioeconomic position (Vereecken *et al.*, 2004a), peer influences (Contento *et al.*, 2006; Romero *et al.*, 2009), school food environment (Kubik *et al.*, 2003), eating out (French *et al.*, 2001; Guthrie *et al.*, 2002), food advertising (Kraak and Pelletier, 1998), and social and cultural norms of eating (Trew *et al.*, 2006). While some of these factors such as food preferences are consistent and influence food choice throughout life, others are developmental factors uniquely associated with being an adolescent (Neumark-Sztainer *et al.*, 1999; Story *et al.*, 2002; Trew *et al.*, 2006). For example, gaining

autonomy and independence are important developmental factors that influence the eating patterns of adolescents (Bassett *et al.*, 2007).

However, while a broad range of factors have been identified in the literature as important for the food choices of young people (Trew *et al.*, 2006), few studies have set out to qualitatively examine young people's own views (Neumark-Sztainer *et al.*, 1999; Stevenson *et al.*, 2007; Warren *et al.*, 2008). In focus groups conducted with American adolescents, factors perceived as important in influencing food choices included hunger, appeal of food, lifestyle factors, food availability, parental influences, benefits of food, situation-specific factors, mood, body image, media, habit, and vegetarian beliefs (Neumark-Sztainer *et al.*, 1999). Stevenson and colleagues (2007) assessed Irish adolescents' perceptions of, and influence upon, healthy eating behaviour. Consistent with the findings of Neumark-Sztainer and colleagues (1999), there were many interwoven factors influencing adolescents' eating behaviour from personal and cognitive factors to peer, parental, and media influences. Recently, Warren and colleagues (2008) examined age-associated differences in Welsh primary school-aged children's perceptions of food. A key finding was the way in which control over food choice and access to healthy/unhealthy food options differed between younger and older participants across home, school, and eating out settings.

The present study will contribute to the existing literature by exploring children's and adolescents' perspectives on the potential individual, social, environmental, and developmental factors that influence their food choices. The author sought to understand more fully from the young person's own perspective the processes they use to make food choices and how they engage with others in their environment around food choices. While a number of different interpretations of the

phrase 'food choice' exist, the intended definition for this study is that provided by the Food Standard Agency (2004): 'the selection of foods for consumption, which results from the competing, reinforcing and interacting influences of a variety of factors'.

Furthermore, although research has considered relationships between young people's food choices and various factors, no known study has set out to qualitatively explore differences between children's and adolescents' perceptions of factors influencing their food choices. The present study builds on the recent study conducted by Warren and colleagues (2008) by examining developmental patterns with an older sample of children and adolescents. Research on developmental differences in food choice can inform conceptual theories and frameworks useful in understanding and explaining the dynamics of children's and adolescents' eating behaviours. Therefore, the aim of this study was to explore differences between children's and adolescents' perceptions of influences on their food choices. Focus groups were conducted with three different age groups of children (9-10 years, 13-14 years, and 16-18 years). These age groups were chosen in recognition that as children grow older and enter adolescence, social and environmental influences come into play which can change or reverse the eating behaviour established in the home (Hamilton *et al.*, 2000).

For the purpose of this article, participants aged 9-10 years will be classified as children, participants aged 13-14 years will be classified as young adolescents, and participants aged 16-18 years will be classified as older adolescents.

Method

Participants

The participants were 13 boys and 16 girls aged between 9 to 18 years (Mean age =13.67, SD = 3.24). Children and adolescents were recruited from randomly selected Irish primary and secondary schools from the Irish Department of Education and Science published list of schools. One focus group was conducted with older adolescents drawn from a local youth centre. There were six single-sex focus groups, two at each age group, with approximately five participants per group (N = 29).

Materials

A semi-structured interview schedule was developed to guide the focus group discussions. The following key topics were discussed with participants: young people's usual food habits, likes and dislikes, health and nutrition beliefs, meal patterns, views about the home food environment, and the role of peers and school.

Procedure

Ethical approval to conduct the study was obtained from the research ethics committee affiliated with the researchers' university. A parent/guardian of each participating child provided written informed consent and children provided verbal assent prior to commencement of the focus groups. The focus groups lasted between 40 to 60 minutes. The group discussions were tape-recorded, transcribed, and double-checked for accuracy.

Data Analysis

Focus group discussions were analysed separately using the inductive thematic analysis approach (Hayes, 2000). This method permits data analysis to provide a rich and detailed account of data and the themes emerging are strongly linked to the data themselves (Braun and Clarke, 2006). The categories were derived using an inductive

analysis procedure, which means that categories in the data emerged following repeated readings of the transcripts and identification of key concepts. Coding and categorizing was carried out using QSR NVivo 7.0 data management software which facilitated the retrieval of coded chunks of transcripts (Qualitative Solutions and Research, 2006). When all the data were categorized and collated, the different categories were sorted into potential themes and all the relevant coded data extracts were collected within the identified themes. To increase reliability, each individual transcript was systematically re-examined many times. The categories and themes emerging from the data were created and organised by the researcher. The existence of thematic categories was validated by two raters being reliably able to allocate responses to these particular category headings.

Results

Analyses of the child and adolescent data resulted in the development of three key themes. Broadly, these encompassed intra-individual factors: the link between food preferences and awareness of healthy eating, intra-familial factors: the role of the home food environment, and extra-familial factors: eating away from the home. For the purpose of this article, pseudo names have been used for each participant.

Intra-individual influences: Link between food preferences and awareness of healthy eating

Food preferences were consistently identified as a major influence on the food choices of young people. Children and adolescents discussed taste, texture, appearance, familiarity, smell, whether the food goes with other foods, and how the food is prepared as important in influencing their food choice decisions. Taste, texture, and the appearance of food were three factors that appeared to be crucial when making decisions about food.

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I love my cauliflower and gravy because it's all soft and I love toast melted in butter. (Hannah, 9 years)

Interestingly, most young people reported a marked preference for unhealthy foods, despite demonstrating a clear understanding of what it means to eat healthily.

Interviewer: Are there any foods that you like to eat but think you shouldn't eat?

McDonalds (Darragh, 17 years)

Kebabs (Cormac, 16 years)

Interviewer: Why do you think you shouldn't eat those foods?

Full of calories (Darragh, 17 years)

Really greasy (Cormac, 16 years)

The term 'healthy eating' was invariably associated with 'fruit,' 'vegetables,' 'organic food,' 'carbohydrates,' 'vitamins,' and also to a lesser extent 'water,' 'wholegrain cereals,' and 'the right amount of carbohydrates and fat.' Children and adolescents discussed the short-term consequences of healthy eating and included reasons such as 'good for energy,' 'strength,' 'stay slim,' 'it's good for your skin,' and 'helps you move quicker.' Adolescents were more aware of the importance of eating a healthy diet compared to children and many adolescents discussed the long-term consequences of healthy eating:

It's important [to eat healthy] so you can be healthy, so when you are older, it will be good for you. (Isabelle, 14 years)

Links were also made by adolescents between food and appearance, with fast food perceived by adolescents as having negative consequences on weight and facial appearance, and therefore a rationale for eating healthier foods. For example, fast foods were described by adolescents as 'full of calories' (Darragh, 17 years), 'really greasy' (Colin, 18 years), and 'bad for your skin' (Niall, 16 years).

For the most part, there appeared to be a 'gap' between nutritional awareness in theory and putting this knowledge into practice, by young people in their daily food choice decisions. Despite having knowledge of healthy eating, young people's food preferences, particularly in relation to taste, texture and appearance, appeared to override this knowledge when making decisions about food.

Intra-familial influences: The role of the home food environment

Family meals were identified by young people as important in influencing their food choices. Many young people reported that their food choices were somewhat limited during family mealtimes, as the food that was made available at meals was what they ate:

Yeah definitely cos when I come home my dinner is already on made and I have to eat what I'm given, I don't have a chance to say, 'Ugh I don't like that.' (Melissa, 16 years)

Children and adolescents identified several barriers to family mealtimes including school, sports involvement, extracurricular activities, parent work schedules, and being with friends. In addition, adolescents discussed their desire for increasing autonomy and work schedules as potential barriers to family meals. Many young people reported that these barriers to mealtimes often led to less healthful eating:

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Well Saturday we don't really have a good dinner, me and Mam are working so it's usually fast food. (Heather, 16 years)

Young people reported that when there were competing demands for time, family meals were less likely to take place and the convenience of food became an important factor in influencing their food choices. Adolescents, in particular, identified time constraints and convenience as potential contributors to unhealthy eating. Adolescents reported that the amount of time they have or are willing to spend preparing or eating a certain food influences their food choices:

I eat so much junk during the week when I'm rushing and stuff, it's really bad the amount of rubbish I eat. (Emily, 14 years)

Many adolescents also indicated that they wanted food that is convenient and 'handy,' including foods that are quick or easy to prepare, foods that are practical for school lunches, and foods that don't demand clean-up:

Usually when mum is working I make pasta for Dad and we have it then, it's quicker to make and easy. (Olivia, 14 years)

The majority of young people also talked about their parents' use of strategies to encourage consumption of particular foods. Many children and young adolescents reported that certain 'unhealthy' foods were restricted within the home to limit their consumption of these foods:

Like we can just have milk or water with our dinner 'cos orange is bad for you. (Emily, 14 years)

Many young people also described how their parents attempted to structure and control what they ate by having regular mealtimes, 'I eat in the sitting room with the family' (John, 13 years), by setting rules around meals, 'We have to stay there until everybody is finished [dinner] and then we can leave' (Andrew, 9 years), by using food as a reward, 'Mum would say to my little brother, if you eat five piece of chicken you can have something after dinner' (Emily, 14 years), and by using food as a treat, 'Sometimes we can go to McDonald's. . .just to go for a treat' (Matthew, 9 years).

Adolescents reported that, similar to family meals, challenges to parental control came about when lifestyle factors such as time constraints and convenience became important in influencing their food choices. It was interesting to note that as parental control began to diminish and adolescents exercised more autonomy around food, their food choices tended to be less healthy:

But Saturday evening like. . .when you are with your friends say if you're in town, you end up eating fast food. (Nicole, 17 years)

Thus, while parents had the majority of control over children's and young adolescents' food choices, 'she just makes it and she doesn't ask me what I want' (Anthony, 13 years), they appeared to have little control over their older adolescents' choices. Adolescents increased control over their food choices was facilitated by several factors such as an increase in eating away from the home, the ability to self-purchase, the ability to self-prepare food and cook, and their increased autonomy:

See she [Mum] gives me money for lunch so it's hardly expected [that I have] to make lunch. (Grace, 16 years)

Extra-Familial influences: Eating away from the home

It appeared from the data that adolescents placed more value on eating as a social activity with peers than children. Many adolescents reported an increase in eating outside of the home with their peers at the weekends, and some reported that they made less healthful food choices at the weekends:

At the weekend we go into town with our friends. On Saturdays lots of people go to town and we get together town and eat out whenever we want. (John, 13 years)

Many adolescents also talked about consuming more unhealthy foods during school than at home and this was clearly linked to adolescents increased access to money and freedom to purchase sweet and snack foods during school. In contrast, school was not recognized as an important influence on children's food choices mainly because they reported bringing packed lunches to school.

In school you are more tempted to eat fatty foods and sweets. It's really tempting down town, even if you have had something to eat you still might have something down town [during school]. (Heather, 16 years).

Everyone buys Mr. Freeze [ice-pop] in the morning [before school] (Isabelle, 14 years)

One reason why adolescents may consume less healthful diets when eating out with peers or at school is that adolescents have more nutritional autonomy in these situations and can make choices for themselves. As adolescents gain more control

over their food choices, cost becomes an important factor often leading to less healthy eating.

And when your in town, usually you don't have that much money, so you're like, 'Ok let's go to the cheapest place,' you save your money. You pass McDonalds you're like 'Let's go in here.' (Heather, 16 years)

I wouldn't get home till half nine everyday so I'd get something in town, so I'd have a roll with something in it or something like that, whatever I have money for. (Elaine, 16 years)

As illustrated in the extracts above, older participants perceived cost as a major barrier to healthy eating mainly when purchasing foods for themselves.

Discussion

This qualitative study is unique in providing an in-depth account of young people's food choices from the viewpoints of children and adolescents. The qualitative viewpoints and experiences reported by Irish participants are broadly in accordance with previous research (e.g. Story *et al.*, 2002; Patrick and Nicklas, 2005), and suggest that there are multiple individual, social, physical, and environmental factors important for the food choices of children and adolescents. However, the results from our study also contribute to previous research in the area and highlight the importance of understanding how children's perspectives diverge from or converge with the perspectives of adolescents.

Findings from this study indicated that whilst young people do have a good understanding of what it means to eat healthy, nutritional knowledge is not the main determinant of food choice. Rather, food preferences appear to be the central

motivation for young people's food choices. Other qualitative studies found similar perceptions among young people and revealed that factors such as taste, texture, appearance, and smell were more important than nutritional knowledge in influencing food choices (Neumark *et al.*, 1999; Stevenson *et al.*, 2007). Consistent with previous research (e.g. Warren *et al.*, 2008), older participants exercised more control over their food choice decisions at home compared to younger participants. Parental control diminished among adolescents and competed with adolescents' increasing independence around food and lifestyle factors (e.g. convenience, cost, time constraints). Similarly, Neumark-Sztainer and colleagues (1999) identified lifestyle factors such as convenience and time constraints as a primary influence on adolescents' food choices. In this study, adolescents increased independence around food was related to less healthful eating patterns. The findings support research suggesting that autonomy is a risk factor for poor nutrition (Videon and Manning, 2003), and in situations where adolescent have more control, their food choices tend to be less healthy (De Bourdeaudhuij and Sallis, 2002).

The data in this study supports the compatible use of an integrated theoretical framework based on SCT and ecological theory in understanding and explaining young people's food choices. SCT defines behaviour as a triadic, dynamic, and reciprocal interaction of personal factors, behaviour, and the environment. The findings from this study indicate that a broad range of interrelated factors may be associated with food choices: personal factors (e.g. food preferences, taste, appeal of food, convenience, time constraints, cost), socio-environmental factors (e.g. family, home food availability, peers, school food environment, away-from-home eating), and behavioural factors (e.g. meal patterns).

The combined SCT and ecological model describes the interaction and integration of factors within and across different levels of influence (Story *et al.*, 2002; Trew *et al.*, 2006). Some factors identified in this study clearly reflect the complex interaction of several domains in a young person's life (e.g. lifestyle factors such as time constraints and convenience were identified as barriers to family meals for many adolescents and facilitated away-from-home eating).

SCT and the ecological perspective highlight the importance of socio-environmental factors in influencing behaviours (Glanz, 2008). Socio-environmental factors may have a direct influence on eating behaviour, for example, the food made available at family meals is likely to be related to the child's or adolescent's consumption of these foods. Socio-environmental factors may also have an indirect influence on eating behaviour, via attitudes/beliefs. For example, the food made available at family meals will be associated with greater consumption if the child/adolescent views the food to be appealing, taste good, be convenient to eat, and so on. Therefore, the data in this study appear to support a number of major principles described in SCT and the ecological model. Further research is needed to empirically test comprehensive models based on SCT and the ecological perspective explaining factors associated with food intake pattern among children and adolescents.

The aim of this study was to explore differences between children's and adolescents' views regarding influences on their food choices. There were important developmental differences in factors influencing food choice that were identified from the child and adolescent sample. Home environment influences appeared to diminish during adolescence (Brown *et al.*, 2006). For example, older adolescents perceived parental feeding strategies and family meals as less important in influencing their food choices compared to children. Adolescents also appeared to exercise more control

over their food choices at home, at school, and eating outside of the home with their peers than younger children. Furthermore, in contrast to children, adolescents were particularly aware of issues such as lifestyle influences and an increase in eating away from the home which often impinged decisions to make healthy food choices.

Similarly, previous studies have reported that these factors are important in influencing adolescents' food choices (Neumark-Sztainer *et al.*, 1999; Story *et al.*, 2002).

Nutritional independence is an important developmental factor uniquely associated with being an adolescent. It was evident from the data that the transition to secondary school had an important influence on adolescents' independence around food. Increased social activities with peers and financial resources to eat outside the home, and diminished parental control were additional factors perceived as influencing adolescents' autonomy over food choice. However, the findings from this study provide a limited understanding of the process by which adolescents and parents negotiate adolescents' increasing independence around eating. Further research that examines this process is clearly warranted.

Although the focus groups provided a great deal of rich data, the study was not without its limitations. As with any qualitative study of this nature, it is recognised that the findings are specific to the participants in this study and cannot necessarily be extrapolated to the population as a whole. However, in as much as the participants in this study seemed typical of many children and adolescents in Irish society today, it is reasonable to expect that their perceptions were generally representative of those of other young people in a similar situation. These findings can, therefore, be reasonably expected to be informative and useful both in guiding future research and in

informing nutrition education providers of the factors influencing children's and adolescents' food choices.

One of the limitations of the current study is that the sample was not representative of people from different socioeconomic and ethnic backgrounds. Further studies are needed which target a larger number of children and adolescents, from culturally diverse and lower socio-economic groups, in order to establish how people from different groups view influences on young people's food choices.

Another potential limitation of this study is the generic nature of the author's questions in the focus groups. That is, the author asked participants what influenced their food choices in general. Therefore, it is unclear what foods participants categorized as healthy versus unhealthy. Future research may benefit from focus groups that ask specific questions about influences on different categories of food (e.g. fruit, vegetables, carbohydrates, dairy products, sweets, fast food).

It is also possible that some children and adolescents were unwilling to discuss the influence of certain factors (e.g. body image, dieting) in a group setting because of the sensitivity of these issues. However, the advantage of using focus groups with young people is that children and adolescents may be encouraged to give their opinions when they hear others do so and their memory may be prompted by the contribution of other participants (Hill *et al.*, 1996).

This study has interesting implications for clinicians and researchers highlighting a need to be aware of the similarities and differences in children's and adolescents' perceptions of factors influencing food choices. Developing age-appropriate interventions that address the most relevant influences on food choice during childhood and adolescence may be most effective in modifying young people's dietary patterns, and in the longer term, help reduce the risk of obesity.

Finally, because young people's food choices are influenced by a wide range of factors spanning the personal, socio-environmental, and wider societal domains, it is important to develop nutrition interventions that target the different levels at which these influences occur (Patrick and Nicklas, 2005).

Conclusion

This study provided rich, in-depth information about young people's perceptions of factors influencing their food choices. Children's and adolescents' discussions of the multiple individual, social, and environmental influences on food choice offered support for an integrated theoretical framework of eating behaviour based on SCT and an ecological perspective, while providing an understanding of the complexity of the food choice process. The findings from this study add another, deeper layer to our understanding of food choice in young people by showing that there are developmental differences in influences on food choice across childhood and adolescence. It was evident from the data that home environment influences diminished during adolescence and competed with influences such as nutritional autonomy and lifestyle factors. In summary, the sources of influence on Irish children's and adolescents' food choices are multifaceted; support previous food choice research; and demand further inquiry to establish appropriate interventions tailored to the needs of children and adolescents.

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