

# UniS

University  
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## **Changing children's diets: developing methods and messages.**

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*Centre for Nutrition & Dietetics*



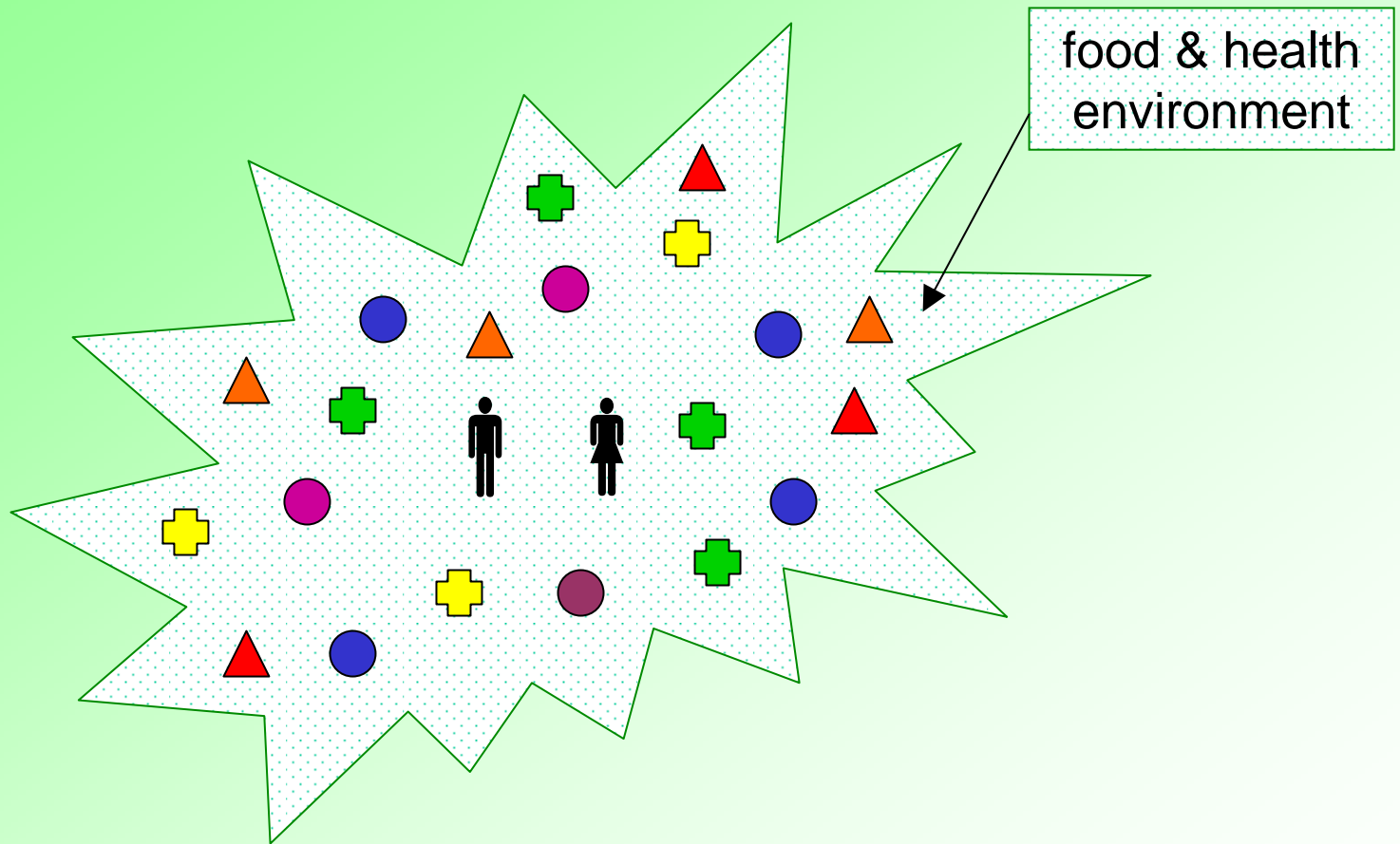
# Background:

## Why do we need dietary change?

- 🍴 NDNS report (*Gregory et al., 2000*) showed no improvement in children's diets
- 🍴 rates of childhood obesity and overweight continue to rise (*Chinn & Rona, 2001*)
- 🍴 'adult' disease states, such as Type II diabetes, are beginning to encroach upon childhood (*Kaufman, 2002*)
- 🍴 potential for physiological 'tracking' of risk factors, e.g. **obesity and raised BP**, and/ or behavioral tracking of health behaviours from childhood to adolescence (*Kelder et al., 1994; Nader et al., 1999*) and from there into adult life.



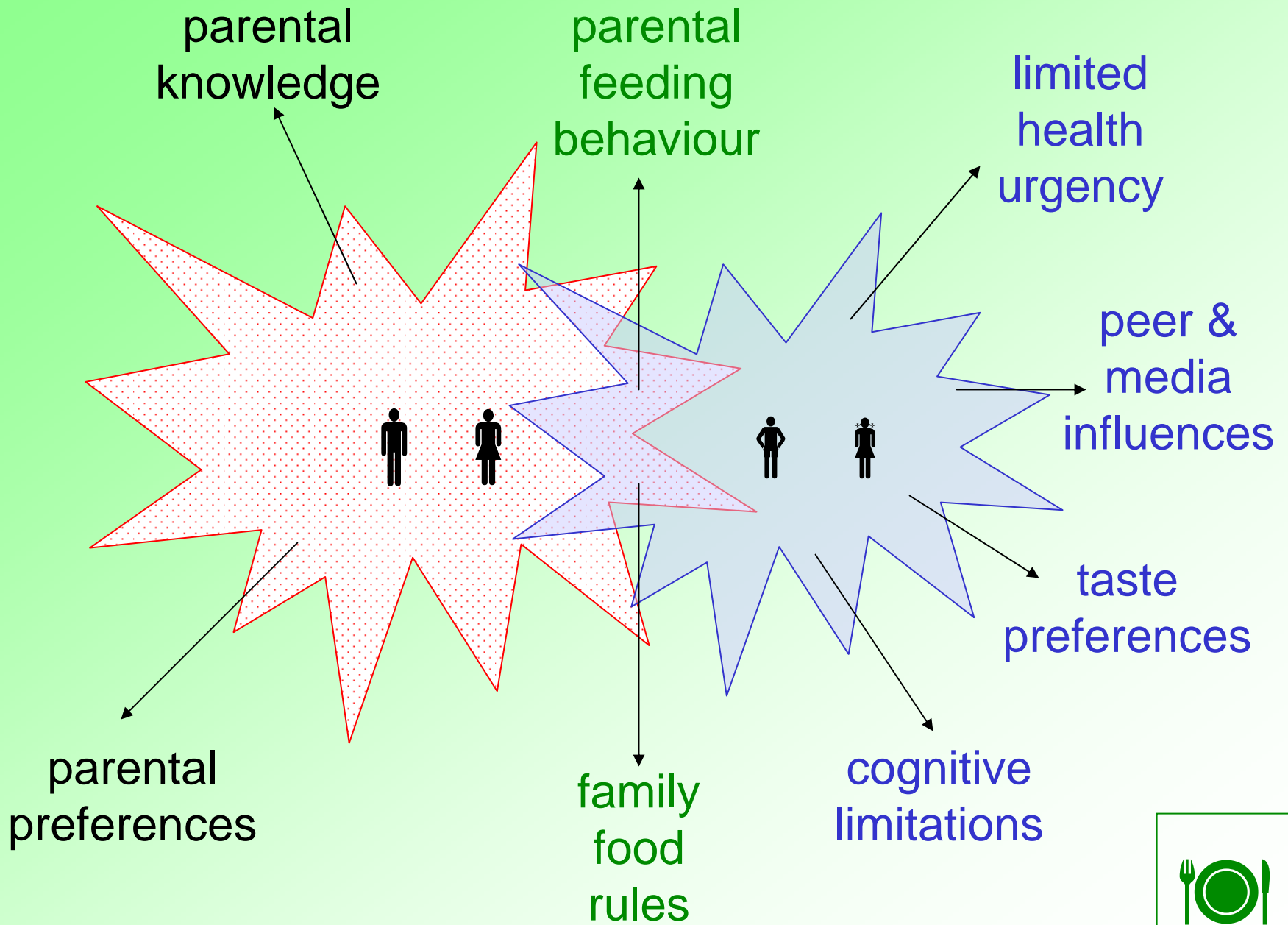
# How do we change health behaviours?



food & health environment

- SES
- culture
- ▲ media
- ▲ family, peers
- ✚ health knowledge
- ✚ taste preferences

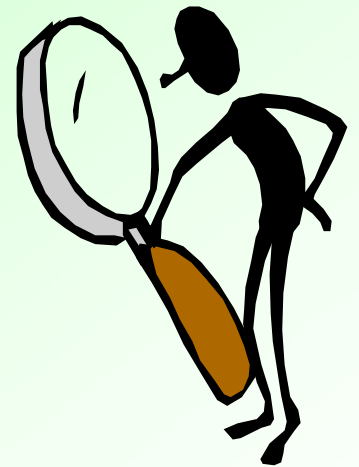




# Presentation plan:

## 1. Constructing the parental / family food environment

- i) **Qualitative exploration** 'What do parents' want?'
- ii) **Quantitative consolidation** 'What affects intention to act?'
- iii) **Pilot study** 'What works in practice?'



## 2. Translating the research into practice

Recommendations for:

- i) **children**
- ii) **parents**
- iii) **adolescents**



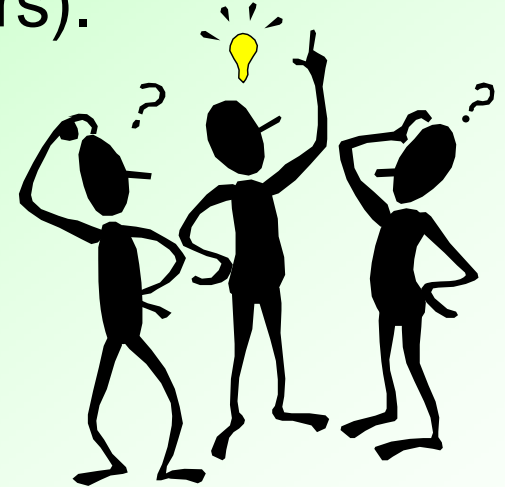
# Study 1. 'What do parents want'

## Aim:

🍴 To qualitatively investigate parental perspectives regarding the promotion of healthy dietary patterns amongst primary school children (7-11 yrs).

## Subjects:

- 🍴 41 parents of primary school children
  - 6 focus groups in Surrey
  - 1 focus groups in Liverpool



## Methods:

🍴 focus group discussions, separated by socio-economic status (SES)

*Hart et al., 2003*



## Results:

### Benefits/ barriers of healthy eating

🍴 parents displayed a predominantly short-term, negative health focus

🍴 subconscious parental barriers to healthy behaviours were seen in all groups:

→ **poor role modelling, inappropriate health beliefs & parental resistance to change**

🍴 parents perceived children's food preferences were fixed, formed by chance and resistant to change

🍴 persistent belief that 'healthy' food must be fresh, home prepared or organic

→ **creation of 'unnecessary' cost and time barriers**



## Changing behaviour

- 🍴 all parents believed nutrition knowledge was largely based on common sense
- 🍴 high SES parents were more confident in their existing knowledge → resistant to education
- 🍴 scepticism re: information sources and general information overload → whole scale rejection of guidelines
- 🍴 existing guidelines perceived to be too inflexible and prescriptive
- 🍴 weight concerns frequently expressed
  - BUT high SES parents more likely to employ potentially negative, covert weight management strategies



# Study 2. What affects intention to act?

## Aim:

🍴 To apply the Theory of Planned Behaviour (TPB) (Ajzen, 1988) to the quantification of parental attitudes, intentions and beliefs towards healthy eating

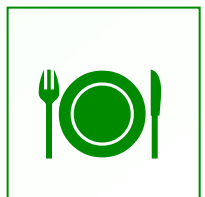
## Subjects:

🍴 199 parents recruited from a range of SES groups in NW and SE England - schools, community and parent groups

## Methods:

🍴 completion of a novel, 72 item questionnaire, based upon the TPB, developed and validated by the research team (Hart, 2003)

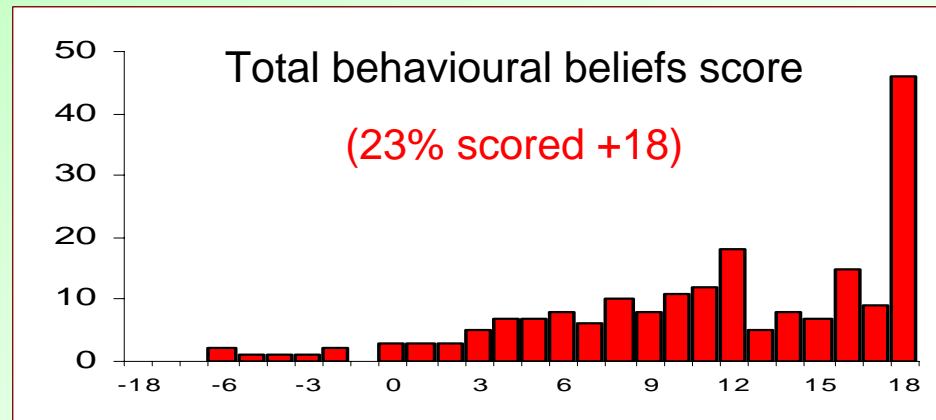
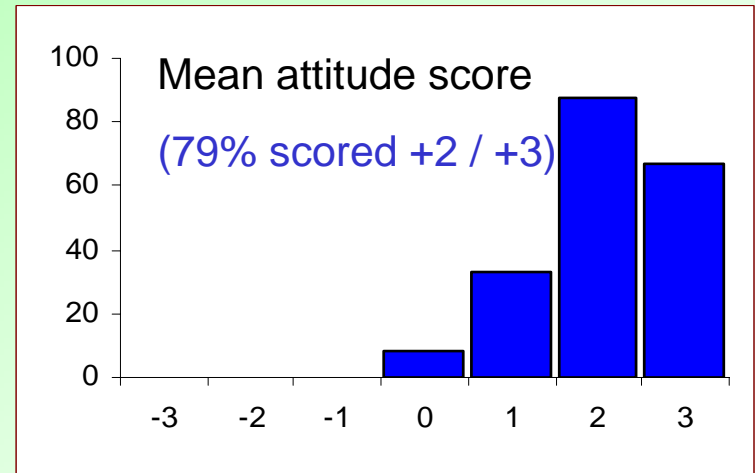
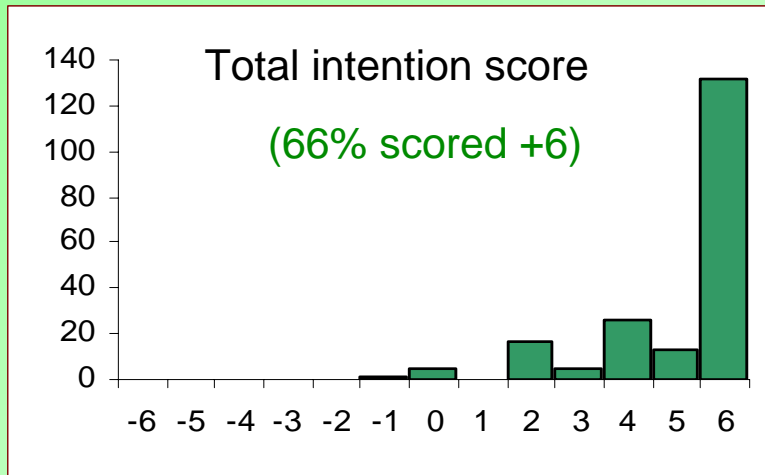
→ demographics, nutritional knowledge, perception of child's diet related disease risk, responsibility for diet & exercise, key constructs of TPB



# Results:

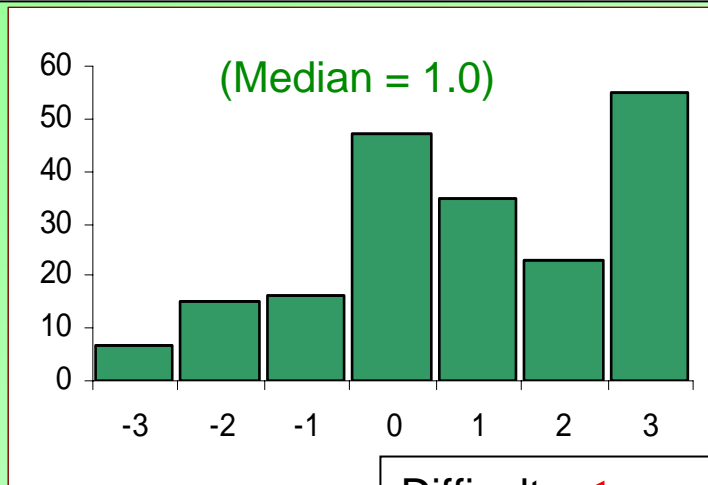
Whole sample (n=199)

🍴 parents possessed strong positive attitudes, intentions and behavioural beliefs with regard to the provision of a healthy diet

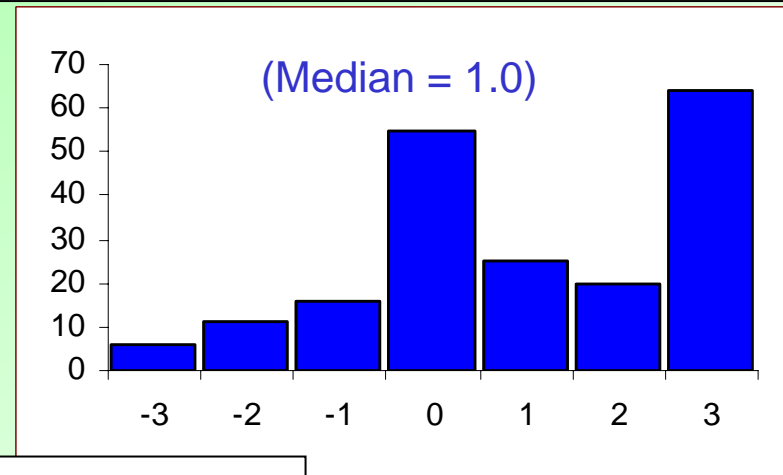


🍴 most negatively rated items related to the time, cost and skills thought to be associated with providing a healthy diet for their children and its affect on enjoyment

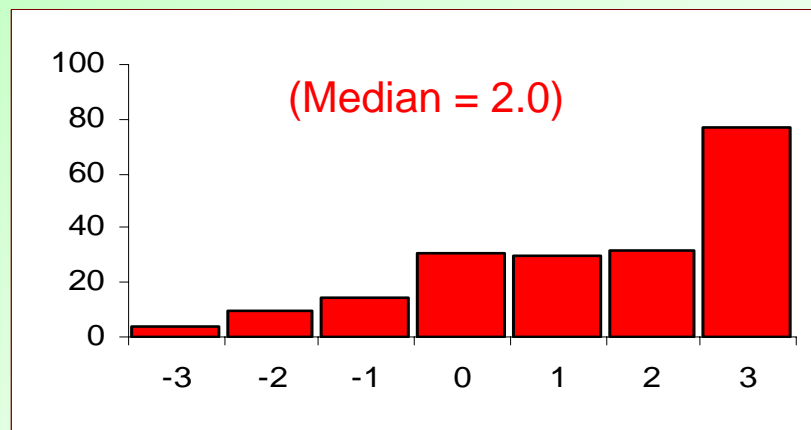
Time consuming ← → Quick



Expensive ← → Inexpensive



Difficult ← → Easy



🍴 most negatively rated items related to the time, cost and skills thought to be associated with providing a healthy diet for their children and its affect on enjoyment

→ **19% of parents believed that healthy eating would reduce their child's enjoyment of eating**

→ **22% agreed that a healthy diet would not taste nice**

🍴 parents perceived a strong subjective norm in favour of providing a healthy diet

→ **BUT motivation to comply with teachers was low**

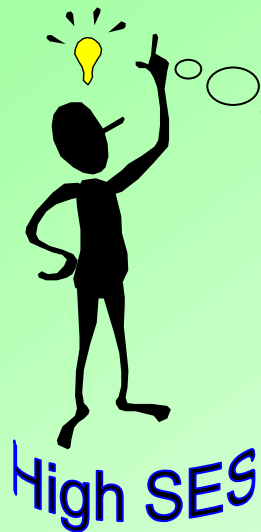
→ **partners and family rated highest overall for normative pressure, indicating their potential role in supporting behaviour change**



## By SES group

high SES parents had significantly more positive attitudes and beliefs about healthy eating than their low SES counterparts


### HEALTHY EATING

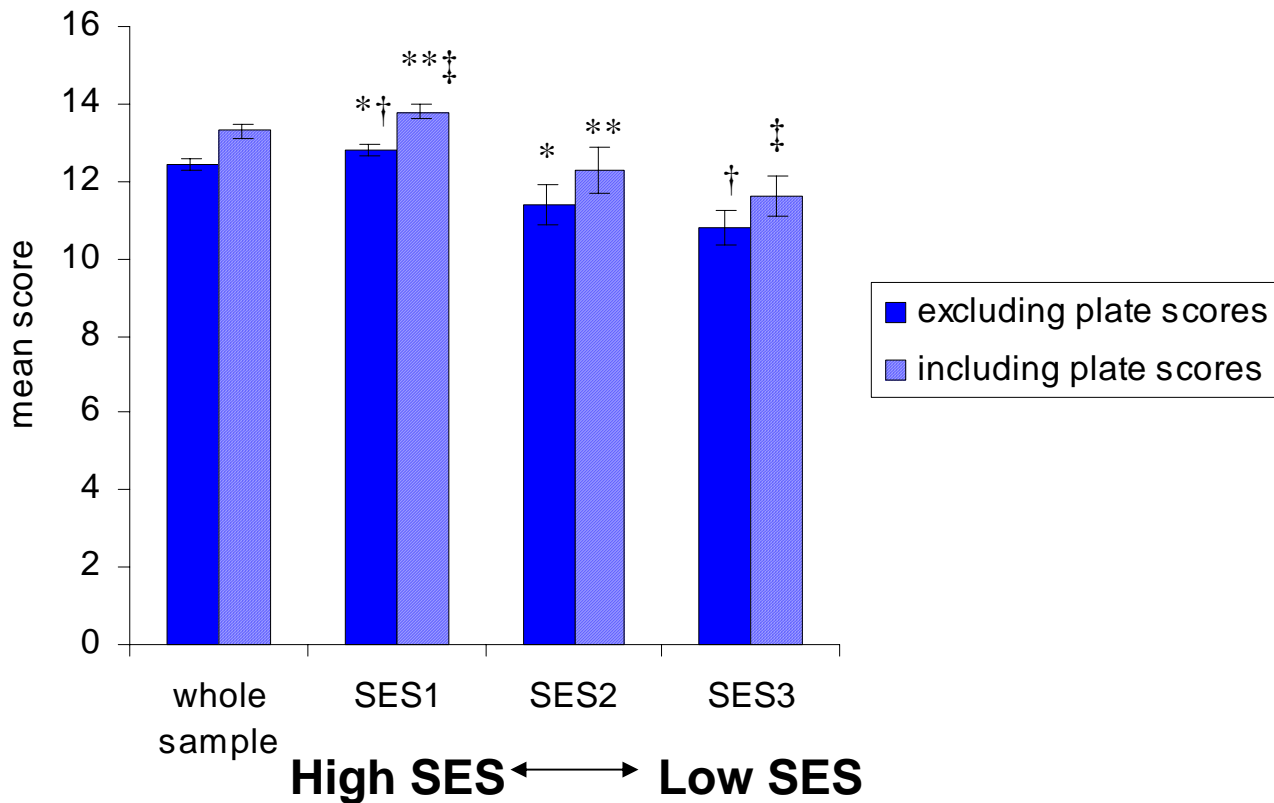


good wise  
decreases disease  
risk  
beneficial

reduces  
enjoyment



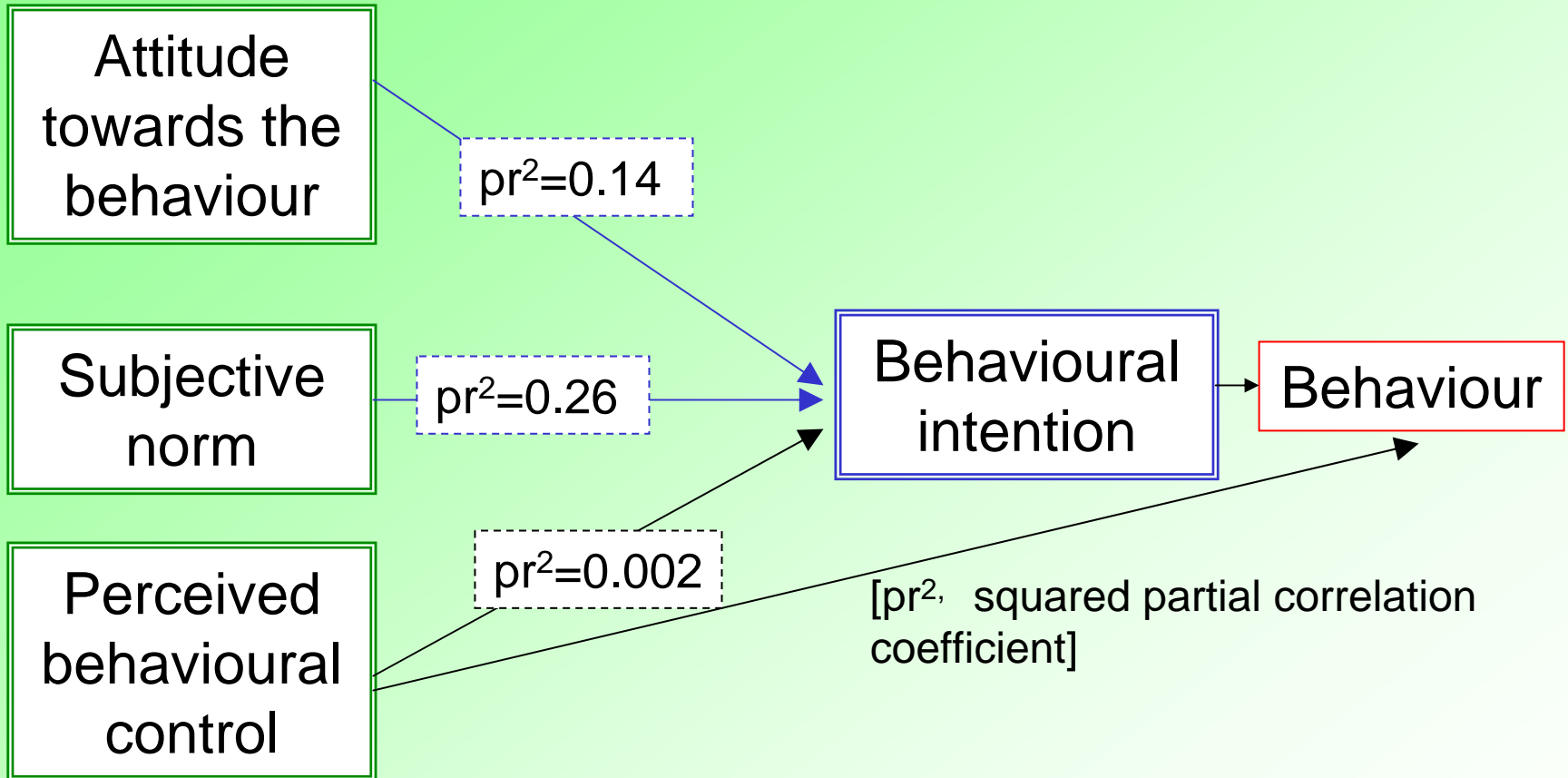
 high SES parents had significantly higher nutritional knowledge scores than their low SES counterparts



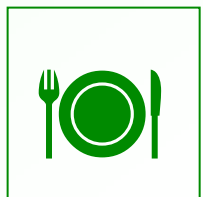
\*/ \*\*  $p < 0.05$ , †/ ‡  $p < 0.01$



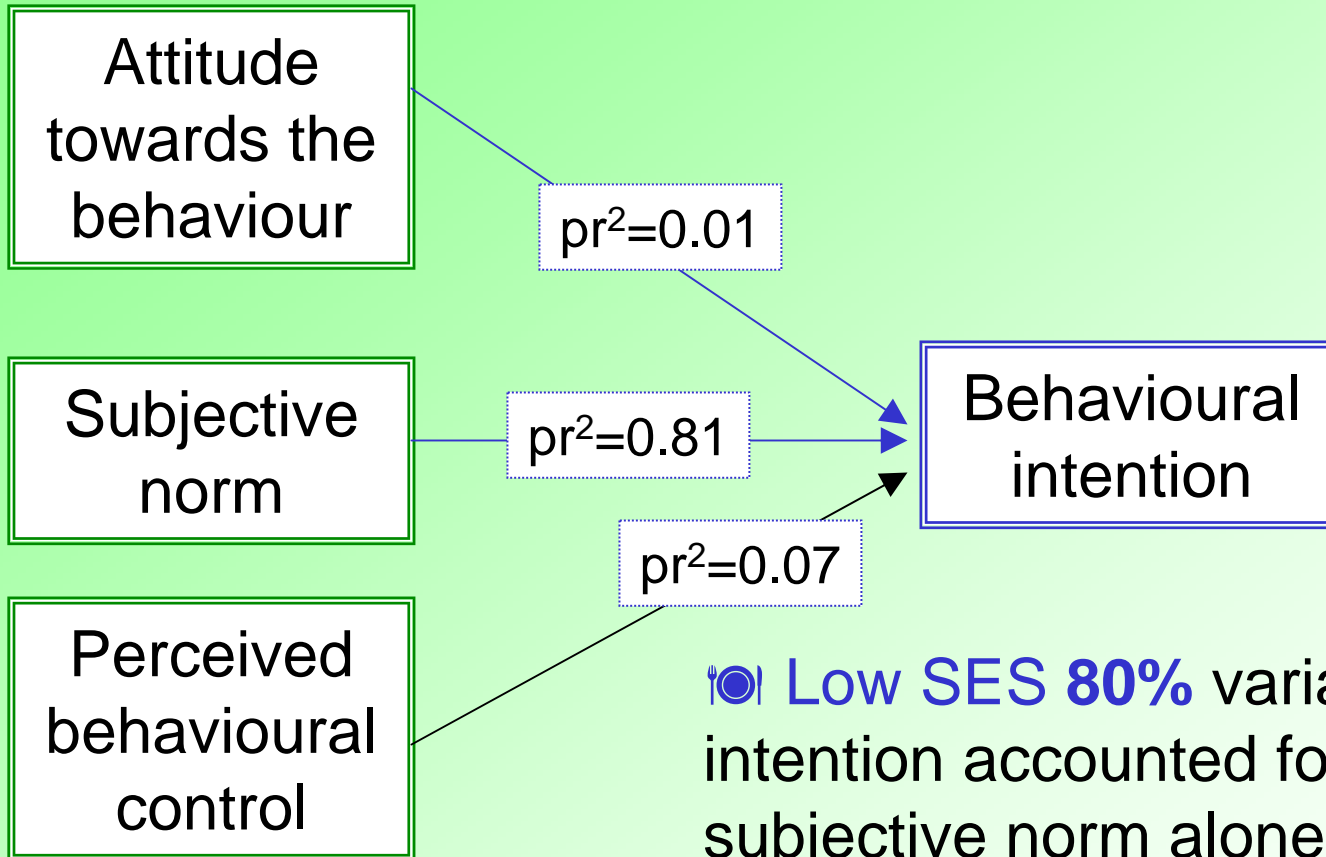
## Predicting intention (whole sample):



🍴 **45%** variation in intention accounted for by attitudes & subjective norm. ( $F=79.2$ ,  $p<0.001$ )



## Predicting intention (comparing SES groups):



🍴 Low SES **80%** variation in intention accounted for by subjective norm alone. ( $F=93.6, p<0.001$ )

🍴 No significant predictive role for **Perceived Behavioural Control** in any of the models tested.



## Study 3. What works in practice?

### Aim:

- 🍴 To design, pilot and evaluate a nutrition education intervention for primary school children in Surrey.

### Subjects:

- 🍴 24 parents recruited via schools in Surrey

### Methods:

- 🍴 development and dissemination of tailored and non-tailored nutrition information (covering vitamin & mineral requirements or weight management)

→ **group sessions** (7 parents)

→ **postal information packs** (14 parents)

- 🍴 process and parental evaluation (13 parents)



## Results:

### Baseline assessment

🍴 confirmation of previous findings

→ high level of perceived parental responsibility for child feeding

→ restriction/ monitoring of high fat or sweet foods

→ pressure to eat exerted by parents and their reported child weight concern, food restrictions and intention to provide a healthy diet all differed as a function of CHILD gender

### Intervention Impact

🍴 small subject numbers prevented robust within and between group comparisons

e.g. tailored 'v' non-tailored, group session 'v'  
postal



- 🍴 >50% of the sample reported making or planning to make changes as a result of the information they had received

## Evaluation

- 🍴 the resources were rated highly by all parents for interest, relevance and perceived accuracy

- 🍴 differences by delivery method were seen

  - **session attendees more likely to rate material as 'very interesting' than postal recipients**

  - **attendees were more likely to report learning something new**

- 🍴 'time' remains a key behavioural influence

  - **session attendees were less likely to work**

  - **non-attendees had more negative attitudes towards the time 'costs' of healthy eating**



What does this all mean..... ... for children?

... for parents?

... for adolescents?



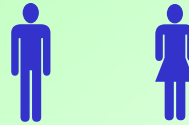
- Cognitive limitations
- Limited health urgency
  - Significant media/  
environmental influences
  - Gender & SES  
differences in nutritional  
awareness
- Importance of taste
- Family/ peer influence

- Reject traditional messages  
& sources
  - Set unrealistic targets
  - Underestimate their  
influence
  - Sub-optimal nutritional  
knowledge
- Negative feeding & weight  
control practices
  - Practical barriers to  
education uptake
  - Social & environmental  
support essential for change
  - SES differences in  
behaviour, beliefs  
and knowledge



- Cognitive limitations
  - **Limited health urgency**
- **Significant media/ environmental influences**
- **Gender & SES differences in nutritional awareness**
- **Importance of taste**
- **Family influence**

- **developing cognitive abilities**
- **desire for autonomy**
- **importance of peers**



- Reject traditional messages & sources
- Set unrealistic targets
- **Underestimate their influence**
- Sub-optimal nutritional knowledge
- Negative feeding & weight control practices
- Practical barriers to education uptake
- Social & environmental support essential for change
- SES differences (beliefs, behaviour & knowledge)



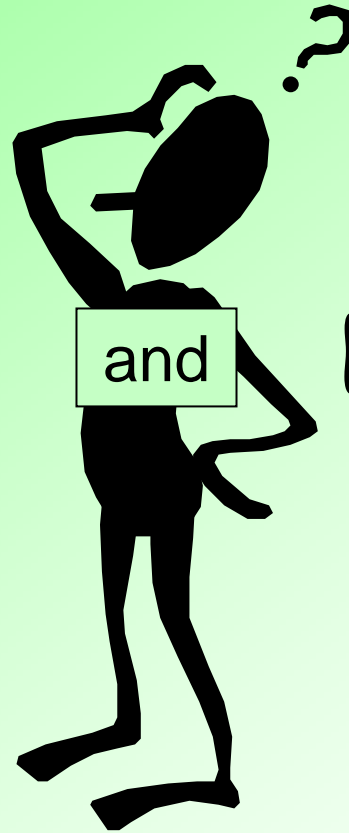
# Conclusions:

How can we improve children's eating behaviour?

methods

and

messages



Via children

methods and messages



Early intervention  
– via young  
children



Via adolescents

Encourage  
family  
communication

Focus on short  
term effects

methods

and

messages

More structured research

- longitudinal studies

- characterise cognitive & psychosocial level



Via parents

**Awareness raising  
and empowering**

Positive role modelling  
Authoritative NOT authoritarian

**Behavioural techniques  
NOT fact acquisition**

Preferences CAN be  
changed, e.g Food Dudes

**methods**

and

**messages**

**SES specific strategies**

Healthy eating IS the  
norm

**Use novel routes**

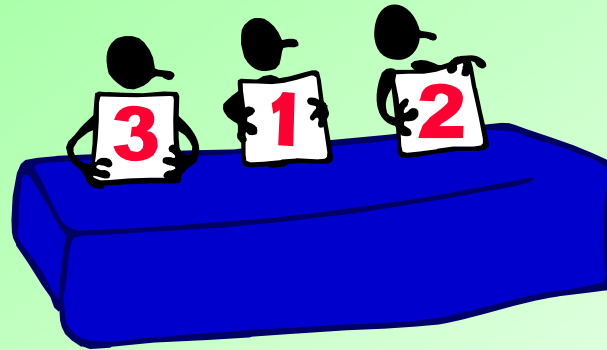
Education can be 'lecture free'  
and suitable for the 'time poor'

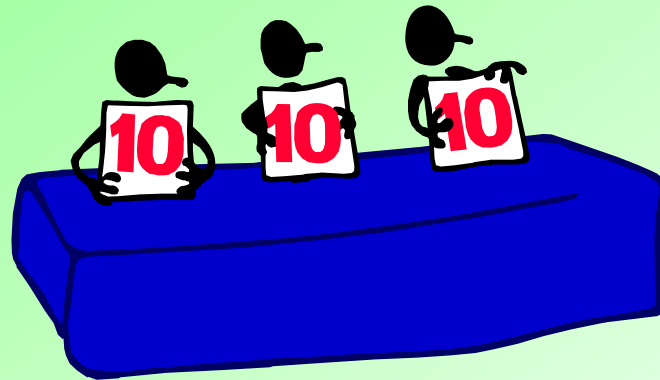
**Promote family cohesiveness**

Family meals,  
conflict resolution



What health professionals feel that parents, children or adolescents need to know may NOT match what they want to know.





By ensuring our research and interventions are based on validated theoretical models and informed by the population themselves we **CAN** improve the current and future diets of our children and adolescents.



# Acknowledgements

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# References

- Ajzen I (1988) *Attitudes, personality & behaviour*. Milton Keynes: Open University Press
- Chinn S, Rona RJ (2001) Prevalence and trends in overweight and obesity in three cross sectional studies of British Children, 1974-94. *British Medical Journal* **322**, 24-26.
- Gregory J, Lowe S, Bates CJ et al., (2000) *National Diet and Nutrition Survey: young people aged 4-18 years- Volume I: Report of the diet and nutrition survey*. London: Stationery Office.
- Hart KH (2003) *Changing children's diets: developing methods and messages. Unpublished Thesis. University of Surrey*
- Hart KH, Herriot A, Bishop JA, Truby H (2003) Promoting health diet and exercise patterns amongst primary school children: a qualitative investigation of parental perspectives. *Journal of Human Nutrition & Dietetics* **16**, 89-96
- Kaufman FR (2002) Type 2 diabetes mellitus in children and youth: a new epidemic. *Journal of Pediatric Endocrinology & Metabolism* **15** (Suppl 2), 737-744
- Kelder SH, Perry CL, Klepp KI, Lytle LL (1994) Longitudinal tracking of adolescent smoking, physical activity and food choice behaviors. *American Journal of Public Health* **84**, 1121-1126.
- Nader PR, Stone EJ, Lytle LA et al., (1999) Three-year maintenance of improved diet and physical activity: the CATCH cohort. Child and Adolescent Trial for Cardiovascular Health. *Archives of Pediatric & Adolescent Medicine* **153**, 695-704



"pizza, pizza, pizza, pizza, chips."

*"Why is pizza good for you?"*

"Because I like them." (Yr6, boy, low SES)

"Chocolate (is bad for your teeth)"

"Yeh, because they go brown...because chocolate is brown."

"What about if you use white chocolate - it'll make your teeth go all white"

(Yr 3, girls, high SES)

"Apparently someone said that cod eats away your brains if you eat it"

"No that's salmon" (Yr 6, girls)



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