Psychological and Social Factors in Predicting Children's Food Choices: The Development of a Theoretical Model

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Introduction

- Nutritional intake during childhood and adolescence is important for growth (Story, Neumark-Sztainer, & French, 2002), the development of lifelong eating behaviours (Coulson, Eiser, & Eiser, 1998), and may have long-term health implications (Lytle & Kubik, 2003)
- The quality of children's and adolescents' diets in the Western world has become a growing concern to researchers and health professionals (Trew et al., 2006)

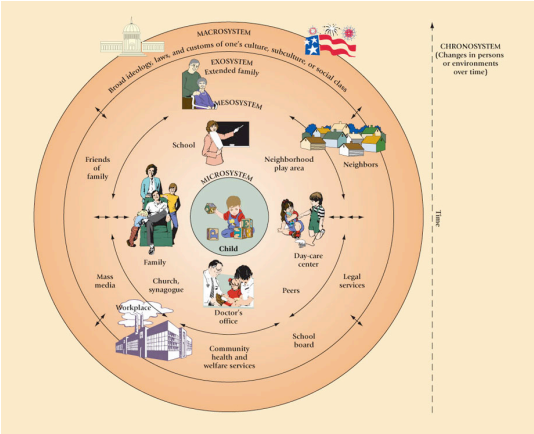
Background Research

- Recent studies show that the dietary intakes of many children and adolescents are inadequate when compared to recommended dietary guidelines (National Children's Food Survey, 2005; National Teens' Food Survey, 2006).
- Interventions aimed at the modification of children's and adolescents' dietary behaviours have had limited success (Story et al., 2002; Trew et al., 2006)

Theoretical Framework

- Multiple individual, socio-environmental, physical environmental and macrosystem factors have been identified as important for the food choices of children and adolescents
- Recently, researchers have endorsed an integrated theoretical framework based on social cognitive theory (SCT) and the ecological perspective to understand the multiple and interacting factors that influence eating behaviours (British Medical Association, 2003; Story et al., 2002; Trew et al., 2006)

Ecological Model of Development



Shaffer & Kipp, 2010

Aims of the Research

- Phase 1: To explore children's, adolescents', and parents' perceptions of the factors influencing the food choices of young people
- Phase 2: To develop and test a theoretical model (based on SCT and Bronfenbrenner's ecological model) of the relative influence of personal factors, socio-environmental factors, and socio-demographic factors in explaining dietary patterns

Development of Conceptual Model

- Key criteria which informed the model
  1) To investigate the role of proximal parent and peer processes within the microsystem level of the ecological model
  2) To include key personal and social processes from both SCT and the ecological model
  3) To include both well-established and less well-established factors
  4) To include parallel processes common to parent and peer domains
  5) To examine the role of parent and peer factors in influencing both healthy and unhealthy dietary patterns
  6) Key principles of Structural Equation Modelling

Development of Conceptual Model

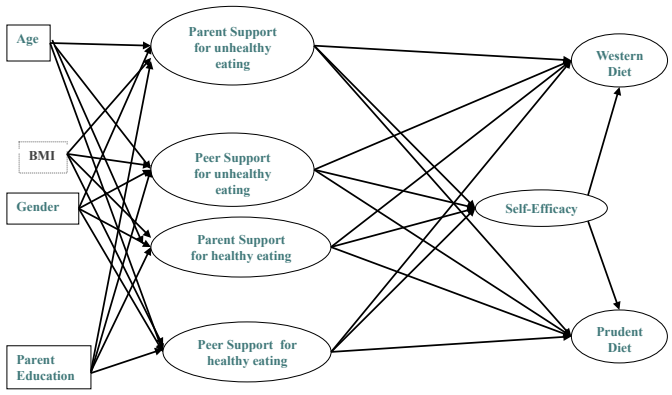


Figure 1. Hypothesised model of individual and social influences on children's and adolescents' dietary patterns. Direct relationships were also hypothesised between potential covariates (age, BMI, gender, parent education) and outcome variables, however, for simplicity, these pathways have not been included in the above diagram.

Method

Research Design

- Cross-sectional design consisting of survey type research and objective measurement of weight and height from participants

Participants

- Recruited 574 participants aged 9-to 18-years from 25 randomly selected primary and secondary schools in the West of Ireland (296 males, 277 females)
- Mean age = 13 years 8 months (SD = 2 years and 5.5 months)

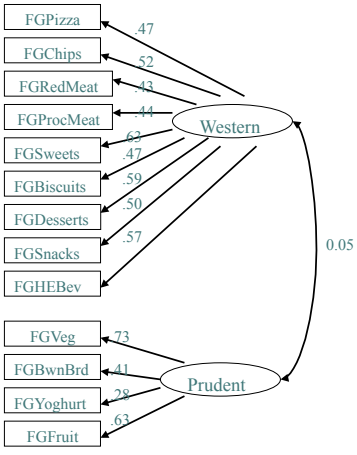
Measures

- Objective BMI (kg/m ²) data
- Food Frequency Questionnaire
- Self-efficacy to Make Healthy Food Choices
- Parent Support for Healthy Eating
- Peer Support for Healthy Eating
- Parent Support for Unhealthy Eating
- Peer Support for Unhealthy Eating
- Demographics- Age, Gender, Parent education, BMI

Results of Dietary Pattern Analysis

- An exploratory factor analysis was conducted on 31 standardised food groups created from the FFQ based on a randomised split of the data in the sample (n = 237)
- Two dietary patterns were identified labelled a “prudent” diet and a “western” diet
- Together, the prudent diet and the western diet explained 30.74% of the variation in food intake

Results of Dietary Pattern Analysis



Chi square = 111.58
df = 64, *p* = .0002
RMSEA = .05
GFI = .91
CFI = .95

Figure 1 Confirmatory factor analysis model of the two-factor solution derived from EFA (*n* = 246).

Testing of Conceptual Model

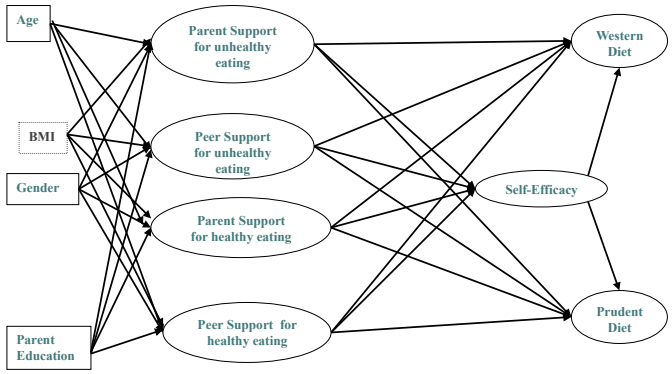
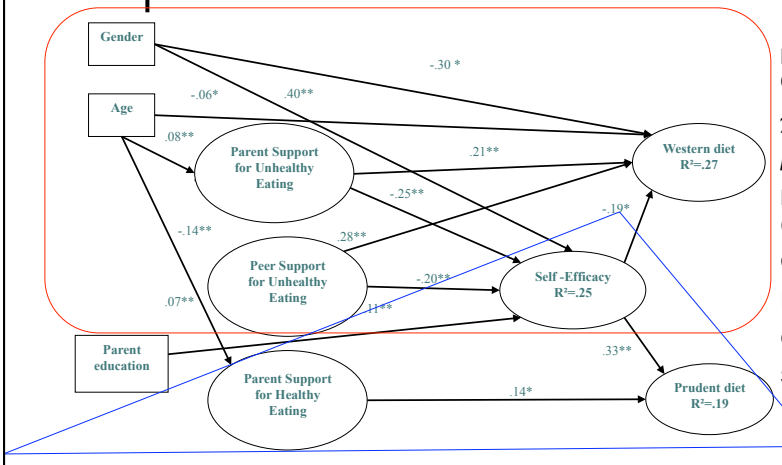


Figure 1. Hypothesised model of individual and social influences on children's and adolescents' dietary patterns. Direct relationships were also hypothesised between potential covariates (age, BMI, gender, parent education) and outcome variables, however, for simplicity, these pathways have not been included in the above diagram.

Results of Model Testing



Model Fit for Overall Sample

$\chi^2(460) = 914.17$,

$p < .05$,

RMSEA = .045 (90% CI: .04; .05),

CFI = .92,

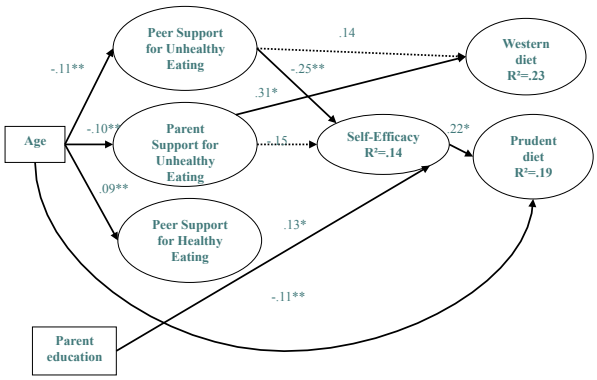
IFI = .92,

GFI = .90,

SRMR = .068

Figure 2. Standardised coefficients for model of individual and social influences on young people's dietary patterns (N = 483), controlling for age, gender, BMI, and parental education. All pathways shown are statistically significant *$p < .05$; **$p < .01$.

Path Model for Boys



Model Fit for Boys

$\chi^2(437) = 671.40$,

$p < .05$,

RMSEA = .047 (90% CI: .04; .05),

CFI = .91,

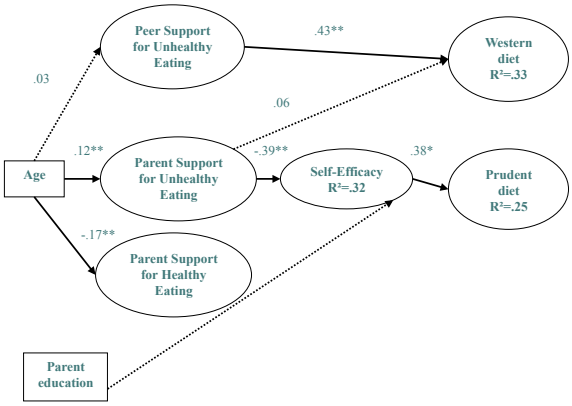
IFI = .91,

GFI = .84,

SRMR = .07

Figure 3. Standardised coefficients for model of individual and social influences on dietary patterns of boys (n = 249), controlling for age and parental education. Dashed lines represent non-significant pathways that are statistically significant pathways for girls. *p < .05; **p < .01.

Path Model for Girls



Model Fit for Girls

$\chi^2(437) = 597.45$,

$p < .05$,

RMSEA = .040 (90% CI: .03; .05),

CFI = .94,

IFI = .94,

GFI = .85,

SRMR = .07

Figure Standardised coefficients for model of individual and social influences on dietary patterns of girls (n = 234), controlling for age and parental education. Dashed lines represent non-significant pathways that are statistically significant for males. *p < .05; **p < .01.

Interpretation of Gender Differences

- The association between peer support for unhealthy eating and the western diet for girls but not for boys may reflect differences in peer activities as a function of gender
- The association between parent support for unhealthy eating and the western diet for boys but not for girls may reflect the notion that parents are the main source of support for eating among boys (Bauer et al., 2009; Larson et al., 2006)

Theoretical Take-Home Message

- Results from the current research provide support for the use of an integrated theoretical framework based on Social Cognitive Theory (Bandura, 1986) and Bronfenbrenner's (1979) ecological model
- The next step in terms of theoretically advancing the literature may be to incorporate physical environmental variables in addition to psychological and social variables into models to more fully explain children's and adolescents' dietary behaviours

Implications for Nutrition Interventions

- Interventions programs to increase healthy eating among young people should include the following components:
  1) an emphasis should be placed on enhancing young people's beliefs about their own self-efficacy to make healthy food choices
  2) involvement of parents for increased social support for engaging in healthy eating behaviours
  3) peer programs to enhance support from friends for eating healthy foods

Thank you!

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