# Cooking and food skills: what impact do they have on achieving a healthy diet?

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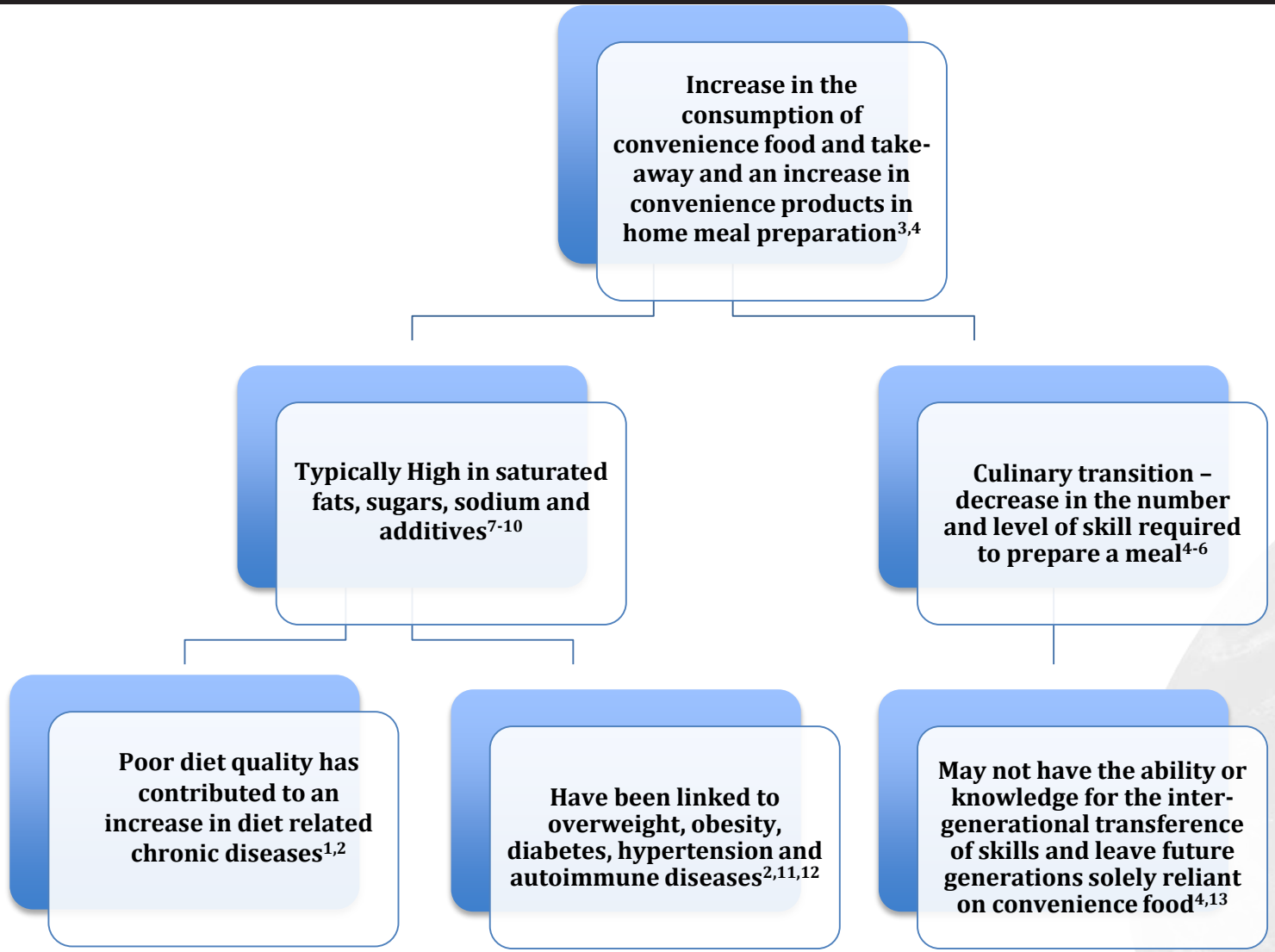
# The more we watch, the less we cook!

- A recent survey in the UK found that only 20% of the participants cooked from scratch once a week!!

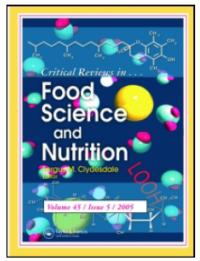
# Importance of cooking skills





# *"The impact of cooking and related food skills on the healthiness of diets on the island of Ireland"*

- Review the current literature (McGowan et al., 2017)
- Deconstruct and understand positives and negatives of current cooking measurement instruments and interventions in terms of BCT (Michie et al, 2011)



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## Domestic cooking and food skills: A review

Laura McGowan, Martin Caraher, Monique Raats, Fiona Lavelle, Lynsey Hollywood, Dawn McDowell, Michelle Spence, Amanda McCloat, Elaine Mooney & Moira Dean

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Critical Reviews in Food Science and Nutrition

ISSN: 1040-8398 (Print) 1549-7852 (Online) Journal homepage: http://www.tandfonline.com/loi/bfsn20

## Identification of Behaviour Change Techniques applied in interventions to improve Cooking Skills and Food Skills among adults

Lynsey Hollywood, Dawn Surgenor, Marla Reiks, Laura McGowan, Fiona Lavelle, Michelle Spence, Monique Raats, Amanda McCloat, Elaine Mooney, Martin Caraher & Moira Dean

# Findings



- Very little theoretical underpinnings
- Measures: had little psychometric testing and validation, not consistent in scales or items used to measure CS
- Some links between cooking and fruit/veg intake

- Deconstruction of cooking interventions using Behaviour Change Techniques (BCTs)
- Most common BCTs: 1) provide information; 2) provide instruction; 3) demonstrating behaviour; 4) providing opportunity to practice
- Including all elements achieved behaviour change in cooking and diet beyond 3 months

# Our design



- 27 Semi-structured interviews – Mix gender, family status, employment, education, interest, age
- Inductive Thematic Analysis to Model Creation

- 1049 Nationally representative Surveys – cooking and food skills, sociodemographic details, diet quality, psychological components
- ANOVAs, $Chi^2$, correlations, regressions

- Cooking from 'scratch' cooking experiment – 141 young mothers
- ANOVAs, Factorial Repeated Measures ANOVAs, Multiple Hierarchical Regression

- 16 Focus Group Discussions with young mothers – 8 in NI, 8 in ROI
- Emergent Topic – Inductive Thematic Analysis to Model Creation

# Cooking/food skills measurement

Lavelle *et al. International Journal of Behavioral Nutrition and Physical Activity* (2017) 14:118
DOI 10.1186/s12966-017-0575-y

International Journal of Behavioral Nutrition and Physical Activity

RESEARCH Open Access

## The development and validation of measures to assess cooking skills and food skills

Fiona Lavelle[1], Laura McGowan[2], Lynsey Hollywood[3], Dawn Surgenor[3], Amanda McCloat[4], Elaine Mooney[4], Martin Caraher[5], Monique Raats[6] and Moira Dean[1*]

**Abstract**

**Background:** With the increase use of convenience food and eating outside the home environment being linked to the obesity epidemic, the need to assess and monitor individuals cooking and food skills is key to help intervene where necessary to promote the usage of these skills. Therefore, this research aimed to develop and validate a measure for cooking skills and one for food skills, that are clearly described, relatable, user-friendly, suitable for different types of studies, and applicable across all sociodemographic levels.

**Methods:** Two measures were developed in light of the literature and expert opinion and piloted for clarity and ease of use. Following this, four studies were undertaken across different cohorts (including a sample of students, both 'Food preparation novices' and 'Experienced food preparers', and a nationally representative sample) to assess temporal stability, psychometrics, internal consistency reliability and construct validity of both measures. Analysis included T-tests, Pearson's correlations, factor analysis, and Cronbach's alphas, with a significance level of 0.05.

## Cooking Skills

| Cooking Methods |
|---|
| 1.Chopping, mixing and stirring foods, e.g. chopping vegetables, dicing an onion, cubing meat, mixing and stirring food together in a pot/bowl |
| 2. Blending foods to make them smooth, like soups or sauces (using a whisk/blender/food processor etc.) |
| 3. Steaming food (where the food doesn't touch the water but gets cooked by the steam) |
| 4. Boiling or simmering food (cooking it in a pan of hot, boiling/bubbling water) |
| 5. Stewing food (cooking it for a long time (usually more than an hour) in a liquid or sauce at a medium heat, not boiling) e.g. beef stew |
| 6. Roasting/baking food in the oven, for example raw meat/chicken, fish, vegetables etc. |
| 7. Frying/stir-frying food in a frying pan/wok with oil or fat using the hob/gas rings/hot plates |
| 8. Microwaving food (not drinks/liquid) including heating ready meals |

| Food Preparation Techniques |
|---|
| 1. Baking goods such as cakes, buns, cupcakes, scones, bread etc., using basic/raw ingredients or packet mixes |
| 2. Peeling and chopping vegetables (including potatoes, carrots, onions, broccoli etc.) |
| 3. Preparing and cooking raw meat/poultry (i.e. chicken) |
| 4. Preparing and cooking raw fish |
| 5. Making sauces and gravy from scratch (no ready-made jars, pastes or granules) |
| 6. Using herbs and spices to flavour dishes |

## Food Skills

| |
|---|
| **Meal Planning and Preparing** |
| 1…plan meals ahead? (e.g. for the day/week ahead) |
| 2…prepare meals in advance? e.g. packed lunch, partly preparing a meal in advance |
| 3…follow recipes when cooking? |
| **Shopping** |
| 4…shop with a grocery list? |
| 5…shop with specific meals in mind? |
| 6…plan how much food to buy? |
| **Budgeting** |
| 7…compare prices before you buy food? |
| 8…know what budget you have to spend on food? |
| 9…buy food in season to save money? |
| 10…buy cheaper cuts of meat to save money? |
| **Resourcefulness** |
| 11…cook more or double recipes which can be used for another meal? |
| 12…prepare or cook a healthy meal with only few ingredients on hand? |
| 13…prepare or cook a meal with limited time? |
| 14…use leftovers to create another meal? |
| 15… keep basic items in your cupboard for putting meals together? e.g. herbs/spices, dried/tinned goods? |
| **Label reading/consumer awareness** |
| 16…read the best-before date on food? |
| 17…read the storage and use-by information on food packets? |
| 18…read the nutrition information on food labels? |
| 19…balance meals based on nutrition advice on what is healthy? |

# Assessment of cooking/food skills

- 13 CS questions
- 19 FS questions

- Participants state whether they use each skill – if yes
- Then rate on a scale of 1 to 7 (1 being very poor 7 being excellent) on how good they are at the skills they use
- Their answers are summed to create the *cooking skills confidence* score and the *food skills confidence* score

# Validation of measures



**Temporal Stability**

- Test Re-test approach – Sample complete measure twice, 2 weeks apart
- Correlations between T1 + T2 – CS (r=.815, P<0.001) and FS (r=.872, P<0.001)
- T-tests between T1 + T2 – CS (P=0.774) and FS (P=0.553)

**Psychometrics + Internal Consistency**

- Psychometrics – Factor analysis indicated original CS and FS measures (*microwaving and baking)
- Internal consistency (Cronbach's Alpha) – CS: 0.78 to 0.93 and FS: 0.85 to 0.94

**Construct Validity**

- Correlation – Positive between CS and FS (r=0.76, P<0.001)
- Discriminant Validity – High and low skilled individuals: CS (P=0.036) and FS (P=0.007)

*Lavelle et al. (2017), IJBNPA*

# Are cooking skills linked to a better diet?

McGowan *et al. International Journal of Behavioral Nutrition and Physical Activity* (2016) 13:111
DOI 10.1186/s12966-016-0440-4

International Journal of Behavioral Nutrition and Physical Activity

RESEARCH Open Access

## The influence of socio-demographic, psychological and knowledge-related variables alongside perceived cooking and food skills abilities in the prediction of diet quality in adults: a nationally representative cross-sectional study

Laura McGowan[1], Gerda K. Pot[2,3], Alison M. Stephen[4], Fiona Lavelle[5], Michelle Spence[5], Monique Raats[6], Lynsey Hollywood[7], Dawn McDowell[7], Amanda McCloat[8], Elaine Mooney[8], Martin Caraher[9] and Moira Dean[5*]

**Abstract**

**Background:** Interventions to increase cooking skills (CS) and food skills (FS) as a route to improving overall diet are popular within public health. This study tested a comprehensive model of diet quality by assessing the influence of socio-demographic, knowledge- and psychological-related variables alongside perceived CS and FS abilities. The correspondence of two measures of diet quality further validated the Eating Choices Index (ECI) for use in quantitative research.

**Methods:** A cross-sectional survey was conducted in a quota-controlled nationally representative sample of 1049 adults aged 20–60 years drawn from the Island of Ireland. Surveys were administered in participants' homes via computer-assisted personal interviewing (CAPI) assessing a range of socio-demographic, knowledge- and psychological-related variables alongside perceived CS and FS abilities. Regression models were used to model factors influencing diet quality. Correspondence between 2 measures of diet quality was assessed using chi-square and Pearson correlations.

# Are cooking skills linked to a better diet?

- CS are correlated with Eating Choice Index (making healthy food choices) – $r=0.26$, $P<0.001$
- CS negatively correlated with Saturated Fat Intake – $r=-0.22$, $P<0.001$
- Using regression analysis to predict Dietary Fat Intake, cooking skills were the greatest significant predictor for Dietary Fat Intake – greater cooking skills associated with a lower Fat intake ($\beta=-0.296$, $P<0.001$)

# Modern Cooking

- Modern cooking has been shown to include the use of convenience products
- Convenience products are typically high in fats, sugars and additives which have been linked to numerous negative side effects including weight gain and autoimmune diseases.
- Using these products in your cooking – does it really matter to your diet?

# Fresh Cooking -Vs- Convenience Cooking

- Participa
- Categor
  Ingredie

meal

| | Range | Overall Sample | F (df) | Significance | Basic Ingredients (n = 569) | Convenience Ingredients (n = 478) |
|---|---|---|---|---|---|---|
| | | M (SD) | | P | M (SD) | M (SD) |
| ***Cooking + Food Skills*** | | | | | | |
| **Cooking Confidence** | 0-98 | 47.80 (29.31) | 18.09 (1,1045) | <0.001 | **51.31 (29.01)** | **43.63 (29.16)** |
| **FS Confidence** | 0-133 | 45.86 (38.67) | 14.66 (1,1045) | <0.001 | **50.02 (39.97)** | **40.90 (36.48)** |
| ***Cooking Practices*** | | | | | | |
| **Time spent cooking midweek** | 0-240 | 45.46 (34.05) | 35.61 (1,1033) | <0.001 | **51.16 (38.13)** | **38.68 (26.96)** |
| **Time spent cooking weekend** | 0-280 | 53.81 (36.55) | 21.45 (1,1045) | <0.001 | **58.56 (38.07)** | **48.16 (33.84)** |
| **Food Safety** | 0-5 | 2.78 (1.54) | 19.24 (1,1045) | <0.001 | **2.97 (1.51)** | **2.55 (1.54)** |
| **Meal Preparation Frequency** | 2-6 | 1.65 (1.15) | 6.82 (1,1045) | <0.01 | **1.74 (1.12)** | **1.55 (1.17)** |
| ***Cooking Attitudes*** | | | | | | |
| **Cooking Creativity** | 6-30 | 18.69 (4.79) | 42.13 (1,1045) | <0.001 | **19.55 (4.67)** | **17.66 (4.74)** |
| **Cooking Identity** | 7-35 | 24.46 (5.39) | 52.02 (1,1045) | <0.001 | **25.53 (4.76)** | **23.18 (5.80)** |
| **Food Neophilia** | 3-15 | 10.47 (2.67) | 14.17 (1,1044) | <0.001 | **10.75 (2.67)** | **10.13 (2.64)** |

# Basic Ingredients -Vs- Convenience Ingredients

| | Range | Overall Sample | F (df) | Significance | Basic Ingredients (n = 569) | Convenience Ingredients (n = 478) |
|---|---|---|---|---|---|---|
| | | M (SD) | | P | **M (SD)** | **M (SD)** |
| ***Knowledge*** | | | | | | |
| **Nutrition Knowledge** | 0-11 | 7.20 (2.20) | 8.13 (1,1045) | <0.01 | **7.38 (1.96)** | **6.99 (2.44)** |
| ***Diet Quality*** | | | | | | |
| **ECI** | 4-20 | 12.26 (2.95) | 1.77 (1,1045) | NS | **12.33 (2.94)** | **12.08 (2.95)** |
| **DINE (Sat Fat)** | 8-92 | 35.55 (13.02) | 1.10 (1,1045) | NS | **35.93 (13.26)** | **35.09 (12.72)** |
| **DINE fruit intake** | 0-8 | 5.90 (2.58) | 3.42 (1,1045) | NS | **6.03 (2.48)** | **5.74 (2.68)** |
| **Consumption of Takeaway** | 1-6 | 2.55 (0.92) | 44.84 (1,1045) | <0.001 | **2.38 (0.86)** | **2.75 (0.95)** |
| **Consumption of Takeaway style food** | 1-6 | 2.29 (0.97) | 53.60 (1,1045) | <0.001 | **2.10 (0.87)** | **2.53 (1.04)** |
| **Portions of Veg per day** | 0-5 | 1.88 (1.00) | 13.56 (1,1045) | <0.001 | **1.99 (1.00)** | **1.76 (0.99)** |
| ***Health + Wellbeing Indicators*** | | | | | | |
| **BMI** | 13.03-46.42 | 24.45 (4.20) | 2.98 (1,757) | NS | **24.69 (4.19)** | **24.16 (4.21)** |
| **Food Choice and health (GHI)** | 2-10 | 6.85 (1.62) | 5.82 (1,1045) | <0.05 | **6.96 (1.58)** | **6.72 (1.66)** |

# Basic Ingredients -Vs- Convenience Ingredients

## LIMITATIONS

- Classification into categories – "toast," "chicken curry"
- Only asked about their most common main meal
- Not asked about their cooking methods in preparing these meals
- Further study needed

# Barriers and Facilitators to cooking from scratch

Appetite 107 (2016) 383–391

Contents lists available at ScienceDirect

Appetite

journal homepage: www.elsevier.com/locate/appet


## Barriers and facilitators to cooking from 'scratch' using basic or raw ingredients: A qualitative interview study

Fiona Lavelle [a], Laura McGowan [a], Michelle Spence [a], Martin Caraher [b], Monique M. Raats [c], Lynsey Hollywood [d], Dawn McDowell [d], Amanda McCloat [e], Elaine Mooney [e], Moira Dean [a, *]

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ABSTRACT

*Background:* Previous research has highlighted an ambiguity in understanding cooking related terminology and a number of barriers and facilitators to home meal preparation. However, meals prepared in the home still include convenience products (typically high in sugars, fats and sodium) which can have negative effects on health. Therefore, this study aimed to qualitatively explore: (1) how individuals define cooking from 'scratch', and (2) their barriers and facilitators to cooking with basic ingredients.
*Methods:* 27 semi-structured interviews were conducted with participants (aged 18–58 years) living on the island of Ireland, eliciting definitions of 'cooking from scratch' and exploring the reasons participants cook in a particular way. The interviews were professionally transcribed verbatim and Nvivo 10 was used

# What stops people cooking from 'scratch'?

- Time Pressures
- Desire to save money
- Desire for effortless meals
- Family Food Preferences
- Effect of Kitchen Disasters

→ Barriers

*Lavelle et al. (2016), Appetite*

# What helps people to cook from 'scratch'?

Desire for health and wellbeing

Ability to plan + prepare meals ahead of time

Creative Inspiration

Greater self-efficacy in one's cooking ability

# When and where to learn?

Lavelle *et al. International Journal of Behavioral Nutrition and Physical Activity* (2016) 13:119
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International Journal of Behavioral Nutrition and Physical Activity

RESEARCH Open Access

## Learning cooking skills at different ages: a cross-sectional study

Fiona Lavelle[1], Michelle Spence[1], Lynsey Hollywood[2], Laura McGowan[1], Dawn Surgenor[2], Amanda McCloat[3], Elaine Mooney[3], Martin Caraher[4], Monique Raats[5] and Moira Dean[1*]

**Abstract**

**Background:** Cooking skills are increasingly included in strategies to prevent and reduce chronic diet-related diseases and obesity. While cooking interventions target all age groups (Child, Teen and Adult), the optimal age for learning these skills on: 1) skills retention, 2) cooking practices, 3) cooking attitudes, 4) diet quality and 5) health is unknown. Similarly, although the source of learning cooking skills has been previously studied, the differences in learning from these different sources has not been considered. This research investigated the associations of the age and source of learning with the aforementioned five factors.

**Methods:** A nationally representative (Northern/Republic of Ireland) cross-sectional survey was undertaken with 1049 adults aged between 20–60 years. The survey included both measures developed and tested by the researchers as well as validated measures of cooking (e.g. chopping) and food skills (e.g. budgeting), cooking practices (e.g. food safety), cooking attitudes, diet quality and health. Respondents also stated when they learnt the majority of their skills and their sources of learning. The data was analysed using ANOVAs with post-hoc analysis and $Chi^2$ crosstabs with a significance level of 0.05.

# When should you learn to cook?

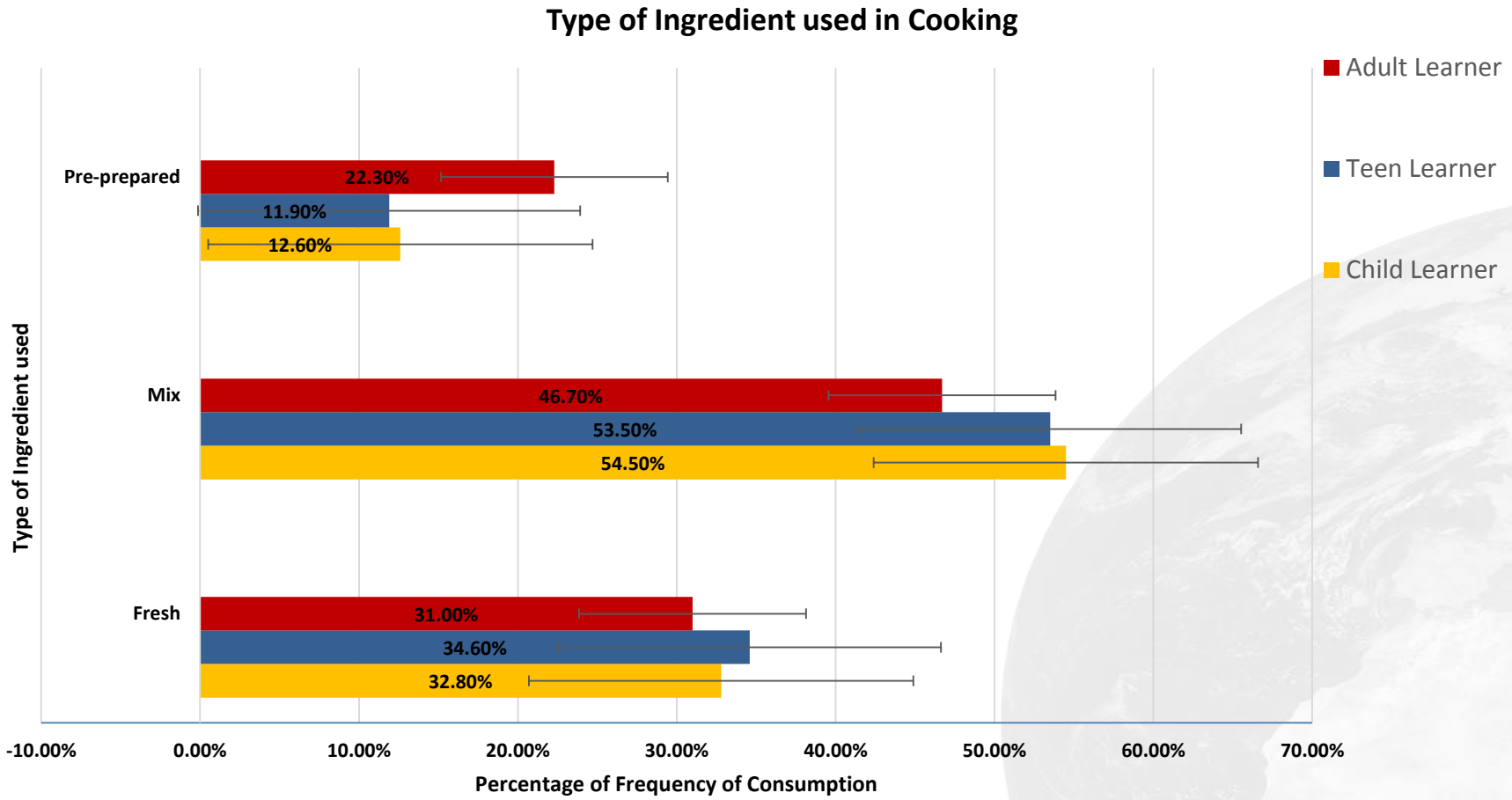
| | Child (n = 198) | Teen (n = 286) | Adult (n = 381) |
|---|---|---|---|
| | M (SD) | M (SD) | M (SD) |
| | | | |
| **Cooking Confidence** | 53.40 (27.30) [b] | 57.37 (31.64) [a] | 47.76 (25.44) [b] |
| **No. of CS** | 9.31 (3.98) [a] | 9.36 (4.55) [a] | 8.39 (4.05) [b] |
| **FS Confidence** | 46.50 (35.97) [b] | 61.26 (46.13) [a] | 44.81 (32.89) [b] |
| **No. of FS** | 7.86 (5.34) [b] | 9.96 (6.75) [a] | 7.91 (5.52) [b] |

*Lavelle et al. (2016), IJBNPA*

# When should you learn to cook?

| | Child (n = 198) | Teen (n = 286) | Adult (n = 381) |
|---|---|---|---|
| | M (SD) | M (SD) | M (SD) |
| | | | |
| **ECI** | 12.91 (2.99) [a] | 12.21 (2.71) [b] | 12.50 (2.89) [ab] |
| **DINE (Sat Fat)** | 35.99 (14.01) | 34.46 (10.95) | 35.03 (13.00) |
| **DINE (Fibre)** | 35.19 (9.68) [ab] | 33.41 (10.61) [b] | 37.35 (11.07) [a] |
| **Consump. Fried Food** | 2.35 (0.80) [ab] | 2.29 (0.70) [a] | 2.49 (0.74) [b] |
| **Consump. Of Takeaway** | 2.27 (0.87) [a] | 2.49 (0.87) [b] | 2.48 (0.87) [b] |
| **Portions of Fruit per day** | 2.69 (1.04) [a] | 2.59 (0.87) [ab] | 2.47 (0.94) [b] |
| **Portions of Veg per day** | 1.98 (1.02) | 2.01 (0.97) | 1.93 (1.00) |

# When should you learn to cook?

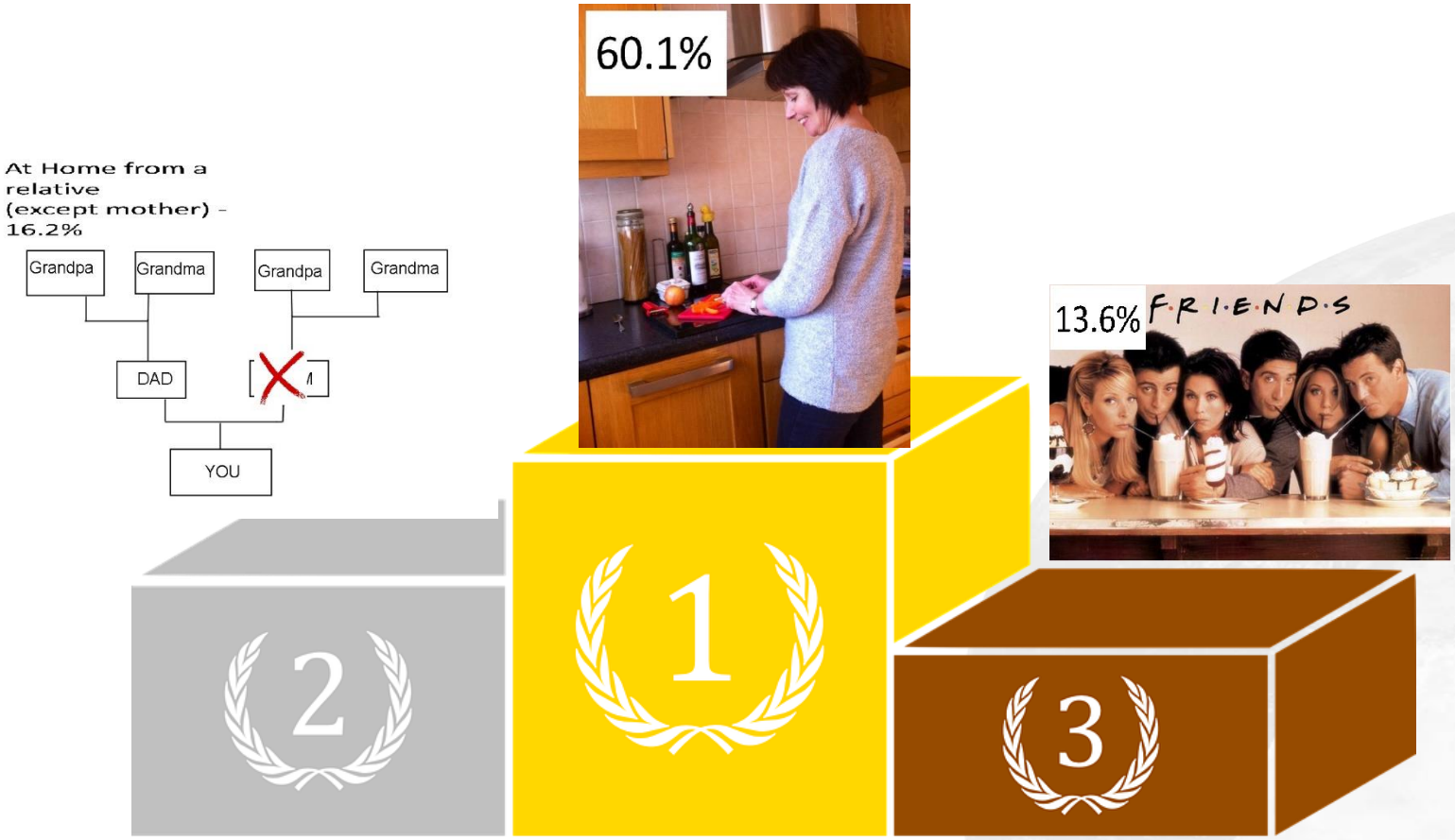


# Where do people learn to cook?

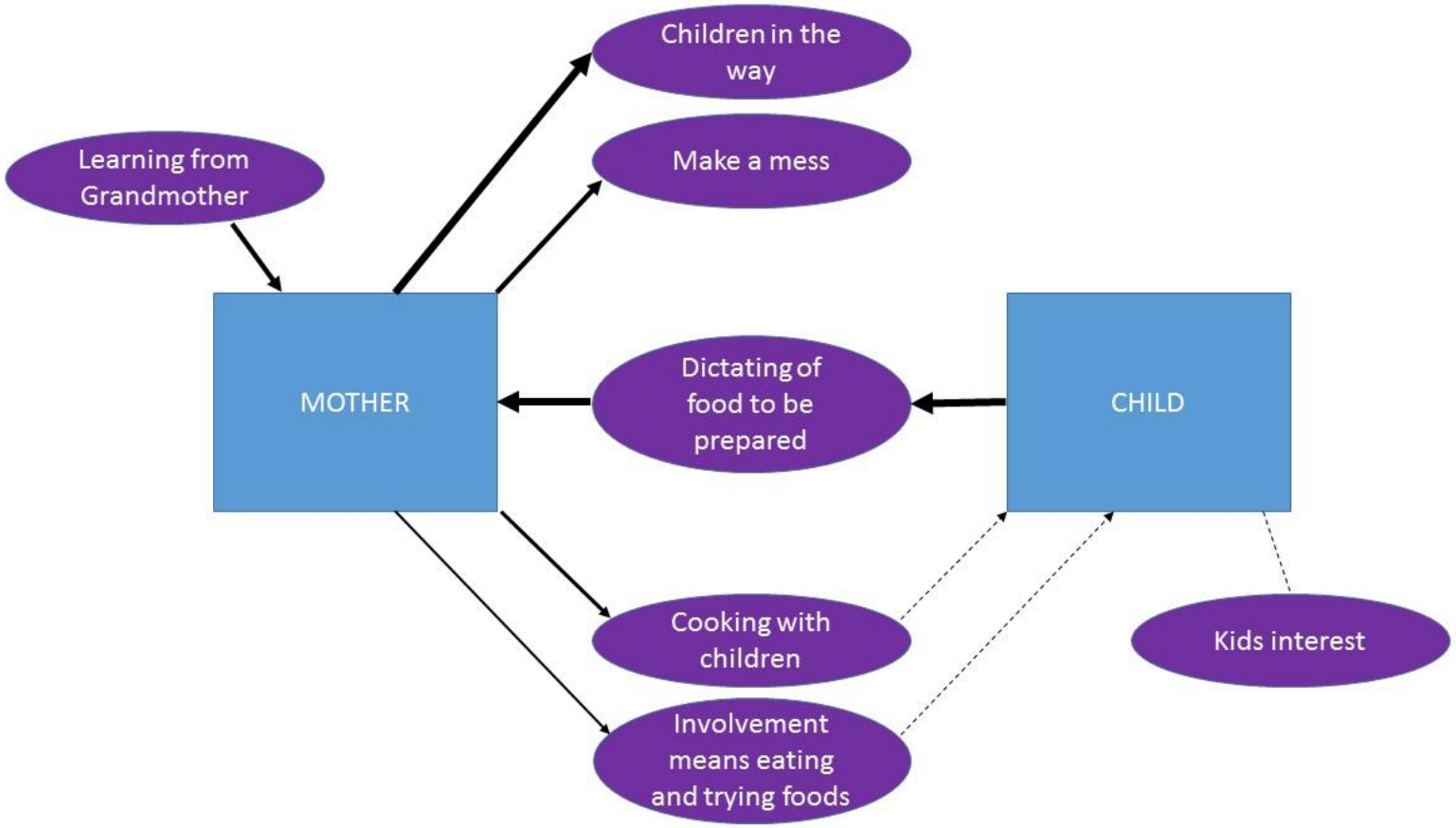
# Where are people learning?

| | | |
|---|---|---|
| 10. | Recipe books/ Magazines - | 2.6% |
| 9. | Internet Websites - | 4.0% |
| 8. | Cookery Class - | 4.7% |
| 7. | Self Taught - | 5.5% |
| 6. | Partner - | 5.6% |
| 5. | Food Packet - | 7.1% |
| 4. | Post-Primary School (Home Ec) - | 9.3% |

# Where are people learning?



# What do mothers think about children cooking?



# How to change behaviour?

- How to tea
- We let the
- Will they c

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## Increasing intention to cook from basic ingredients: A randomised controlled study

Fiona Lavelle [a], Lynsey Hollywood [b], Martin Caraher [c], Laura McGowan [d], Michelle Spence [a], Dawn Surgenor [b], Amanda McCloat [e], Elaine Mooney [e], Monique Raats [f], Moira Dean Professor [a, *]

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ABSTRACT

The promotion of home cooking is a strategy used to improve diet quality and health. However, modern home cooking typically includes the use of processed food which can lead to negative outcomes including weight gain. In addition, interventions to improve cooking skills do not always explain how theory informed their design and implementation. The Behaviour Change Technique (BCT) taxonomy successfully employed in other areas has identified essential elements for interventions. This study investigated the effectiveness of different instructional modes for learning to cook a meal, designed using an accumulating number of BCTs, on participant's perceived difficulty, enjoyment, confidence and

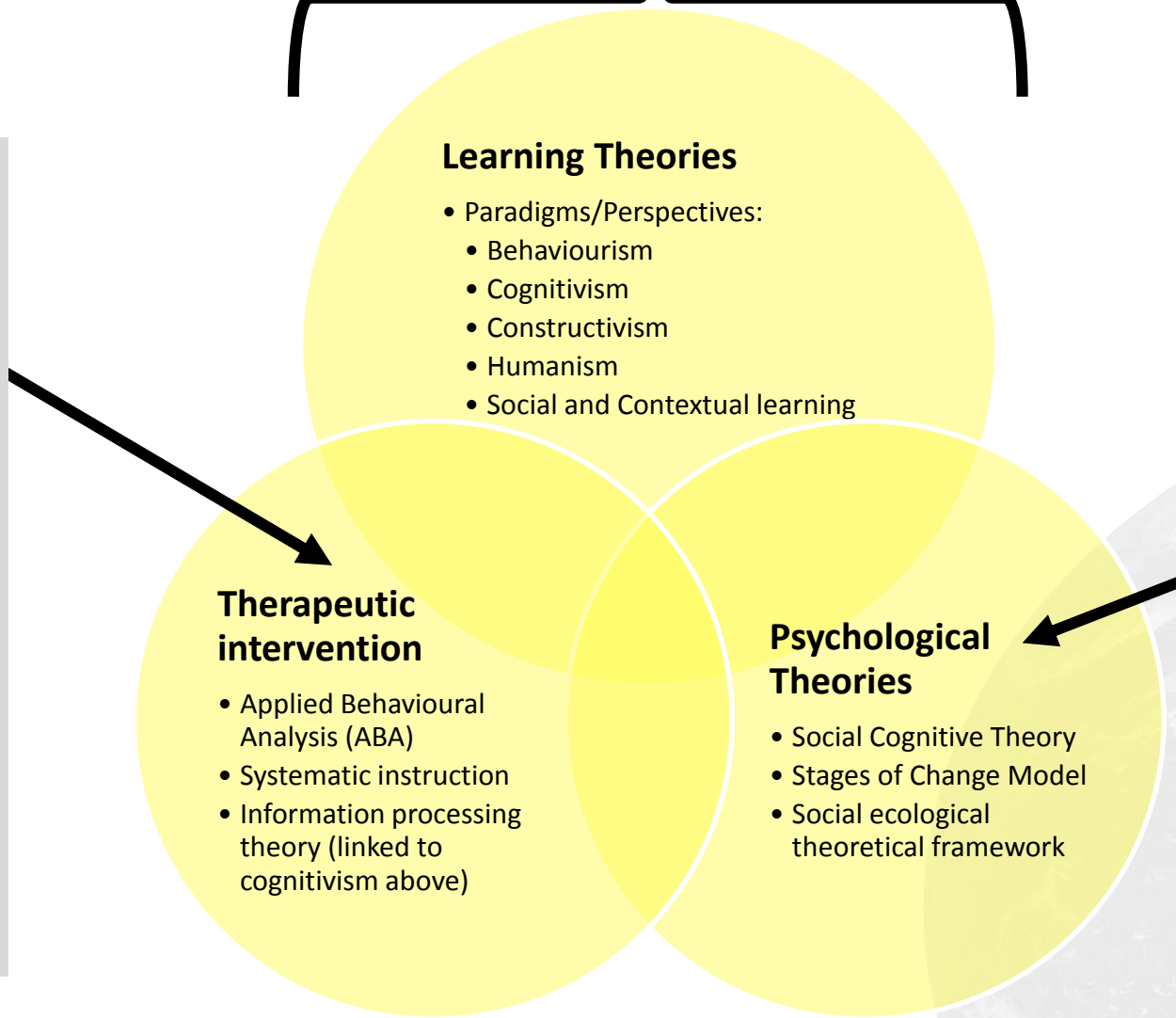
*Lavelle et al. (2017), Appetite*

# Cooking from 'scratch' task

Bloom's Taxonomy (1956): *Taxonomy of Educational Objectives, the classification of educational goals.*

Bloom's Taxonomy Revised by Anderson et al. (2001): *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives.*

Cross-over area where there are parallels between overarching learning theories and specific psychological theories such as SCT. Also within the therapeutic literature there was some evidence of parallels being drawn between systematic instruction and elements of SCT – observation/modelling key.




Cooking interventions with adults/children/ communities tend to cite these type of theories in terms of intervention development. None specifically mention learning theory approach.

# Experimental Conditions

| Condition 1 | Condition 2 | Condition 3 | Condition 4 |
|---|---|---|---|
| **Recipe plus picture only – static cookbook condition – CONTROL**<br><br>*Ecological validity - Similar to traditional cookbook* | **Video modelling (plus recipe)**<br>- (**watch full demo** as a group, then -> cook - with recipe + pic)<br><br>*Ecological validity - Similar to seeing on TV* | **Video prompting (plus recipe)**<br>- (do it in a sequence, step by step – > cook - with recipe + pic)<br><br>*Step by step with support/ reassurance <u>from video only</u> but steps completed in a guided sequence – user doesn't control this.* | **Video prompting via 'elements' (plus recipe)** – user has total control over what to watch/re-watch) –> cook - with recipe + pic<br><br>*User total control**<br>*N.B.' Elements' include both practical/technical skills e.g. chop onion/chicken as well as conceptual skills e.g. how to know when the onions or chicken are cooked etc.* |
| **BCT 21** - provide instruction on how to perform behaviour | **BCT 21** - provide instruction on how to perform behaviour<br>**BCT 22** – Model or demonstrate the behaviour | **BCT 21** - provide instruction on how to perform behaviour<br>**BCT 22** – Model or demonstrate the behaviour<br>**BCT 9** – Set graded tasks | **BCT 21** - provide instruction on how to perform behaviour<br>**BCT 22** – Model or demonstrate the behaviour<br>**BCT 9** – Set graded tasks<br>**BCT 26** - Behavioural practice/rehearsal- As regardless of whether the participants watch the podcasts or not, they are being advised to 'practice' |

# Screening Tool

| | |
|---|---|
| Adult must live at the address | 1 |
| Female | 1 |
| Age must be 20 -39 years | 1 |
| Have child/children (under 16) living at home | 1 |
| C2DE household | 1 |
| Not vegetarian | 1 |
| Not lactose intolerant or dairy allergies | 1 |
| Must not have dietary requirements/illnesses which severely restricts food choice/intake | 1 |
| Sufficient level of English to understand survey and a recipe etc. | 1 |

Thinking of a **typical week** (7 days), how often are you responsible for **cooking the main meal** in your household? *By 'main meal' we mean the biggest or most substantial meal of the day eaten at home.* ***By 'cooking' we mean anything you do to food to make it ready to eat, that might mean cooking it from scratch, reheating a ready-meal or preparing something cold, like a salad.***

| | | |
|---|---|---|
| Never | 1 | ➔ Thank and close |
| 1 or 2 times per week | 2 | ➔ Thank and close |
| 3 or 4 times per week | 3 | **PROCEED TO NEXT SCREENING ITEM** |
| 5 or 6 times per week | 4 | |
| Everyday | 5 | |

After reading out the information on **SHOWCARD A1**, please ask the person to choose one option from the scale below which best matches how they prepare or cook their main meals **(CHOOSE ONE ONLY)**

| Buy it ready-made and reheat it | Use mostly pre-prepared ingredients and I assemble the dish | Use mostly pre-prepared ingredients and some fresh, basic or raw ingredients | Use mostly fresh, basic or raw ingredients and some pre-prepared ingredients | Use only fresh, basic or raw ingredients | Something else not listed here |
|---|---|---|---|---|---|
| **ELIGIBLE TO RECRUIT** | **ELIGIBLE TO RECRUIT** | **ELIGIBLE TO RECRUIT** | **NOT ELIGIBLE FOR TASK** | **NOT ELIGIBLE FOR TASK** | **NOT ELIGIBLE FOR TASK** |

# Measures

- **Dependent variable:** intention to cook meal again from scratch (*1- not at all to 7 – extremely*)

- **Independent variables:**
  - Confidence
  - Enjoyment
  - Perceived difficulty

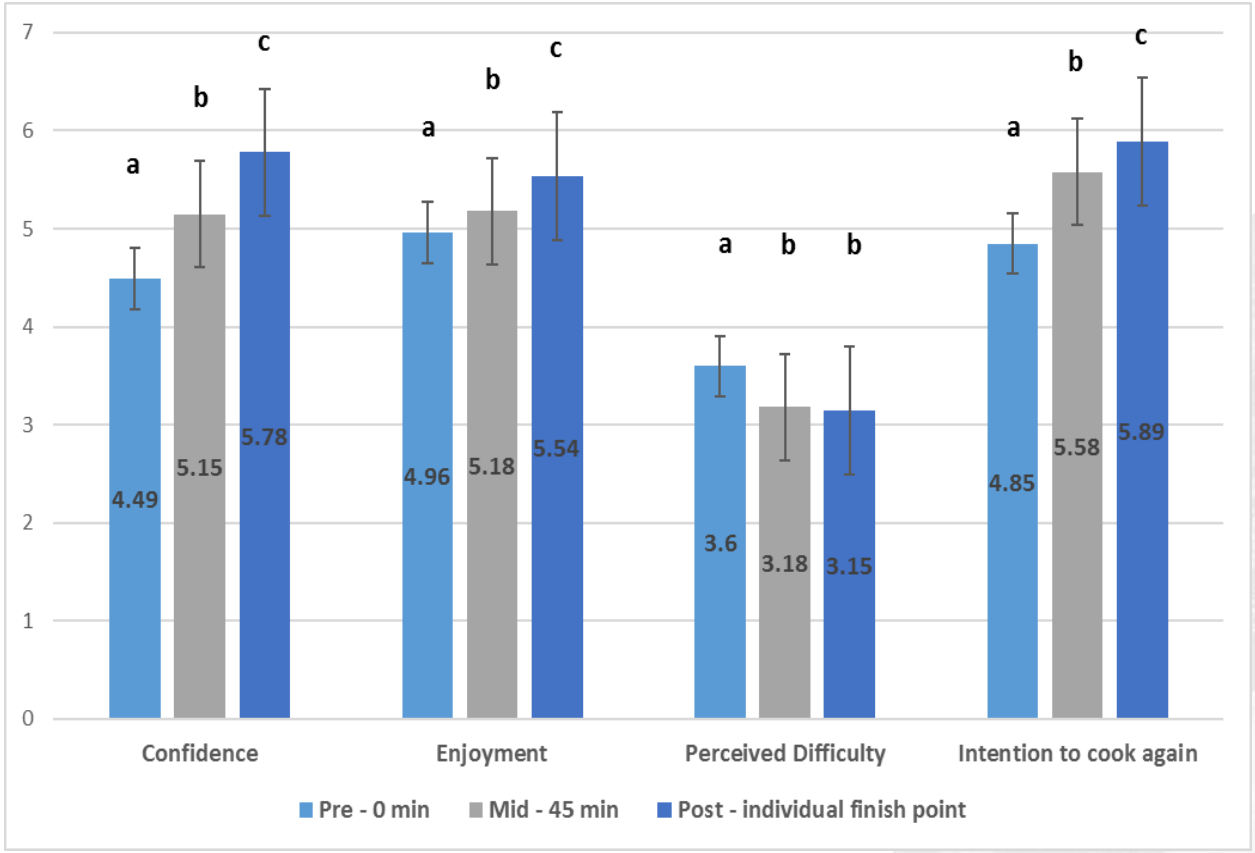
  Asked to record their confidence, enjoyment and perceived difficulty about the task (BASELINE, MID-WAY, END)

# Sample

- Final sample of 141 participants

| Condition 1 | Condition 2 | Condition 3 | Condition 4 |
|---|---|---|---|
| • 34 participants | • 33 Participants | • 35 participants | • 39 participants |

# The effect of the experiment on confidence, enjoyment, perceived difficulty and intention to cook



# Predicting Intention to cook from 'scratch' again

| Variables | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| | B (SE) | β | B (SE) | β | B (SE) | β |
| Intention to cook from scratch again at start (N=141) | .455 (.062) | .535*** | .417 (.074) | .491*** | .351 (.072) | .413*** |
| Confidence at start (N=141) | | | -.152 (.092) | -.153 | -.196 (0.92) | -.197* |
| Enjoyment at start (N=141) | | | .287 (.091) | .272** | .178 (.090) | .169* |
| Perceived Difficulty at start (N=141) | | | -.007 (.086) | -.007 | -.035 (.084) | -.032 |
| Confidence at end (N=138) | | | | | .263 (.100) | .208** |
| Enjoyment at end (N=137) | | | | | .292 (.102) | .233** |
| Perceived Difficulty at end (N=138) | | | | | -.010 (.074) | -.010 |
| | | | | | | |
| F | 54.007*** | | 16.773*** | | 14.854*** | |
| Adjusted $R^2$ | .28*** | | .32* | | .42*** | |

# Summary



- We have a validated measure for CS + FS for adults
- Basic ingredient cooks have better cooking skills and confidence, consume less Takeaway and eat more veg compared to Convenience Ingredient cooks. Need further study
- Participants highlighted time pressure, effortless meals, multiple meals for family, cheap meals and previous disasters as barriers to cooking from scratch
- Facilitators –health and wellbeing, self efficacy, creativity, pre-planning used in the promotion of cooking from scratch

# Summary



- Learning to cook at younger ages is better for skill maintenance and diet quality
- Most learn cooking/food skills from their mothers
- Mothers want their children to learn but can't cope with the mess
  - Lack of transgenerational skill transference in the home environment
  - Change in culture of children in kitchen
- From a behaviour change theory driven cooking experiment:
  - Practical experience key, recipe was enough except when structural changes
  - Enjoyment and confidence significant contributors to intention to repeat the behaviour

# Impact of cooking skills on a healthy diet?

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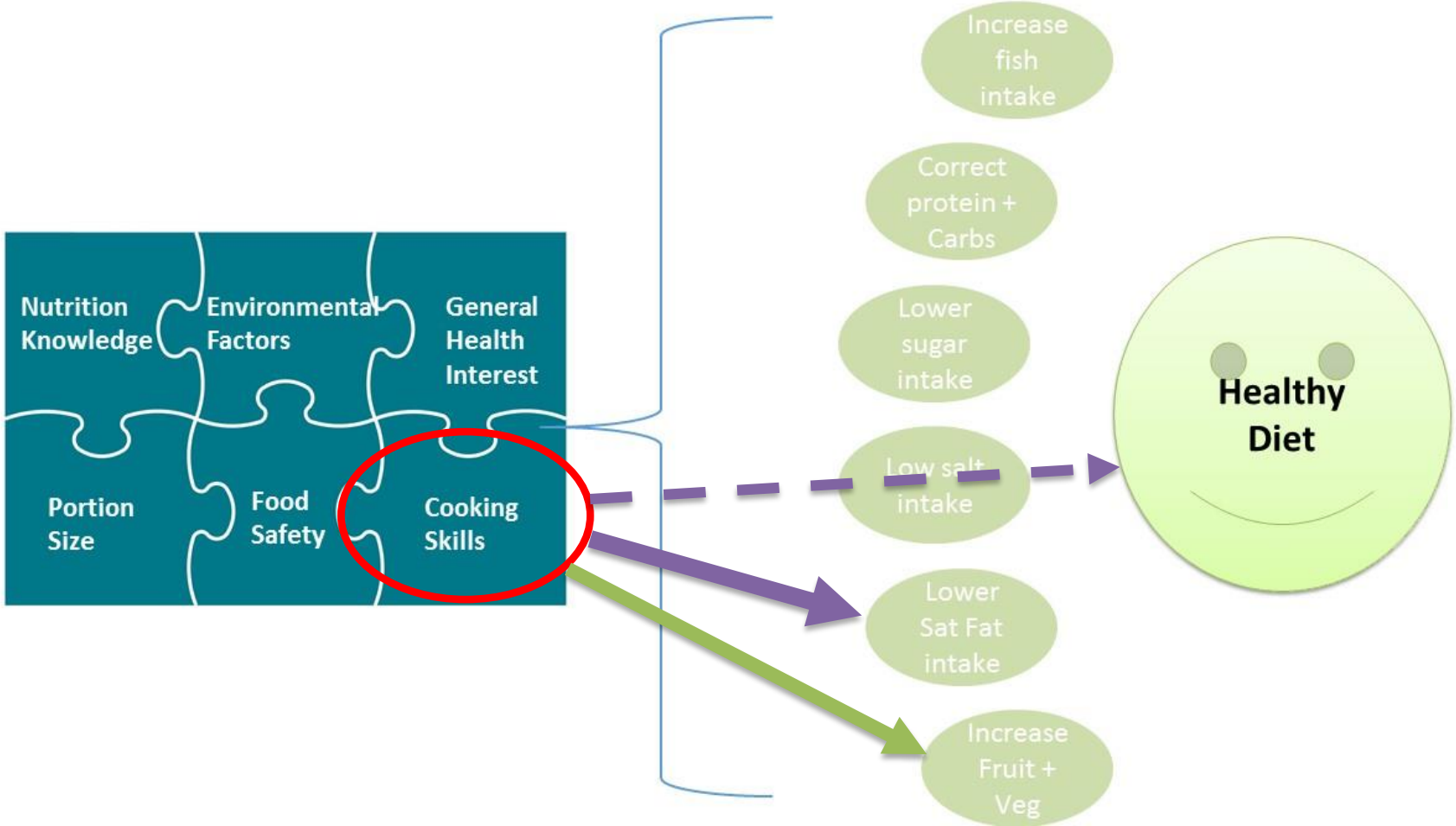

# Collaborators

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- Dr Lynsey Hollywood — Ulster University
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# Publications from this research:

1. McGowan, L., Caraher, M., Raats, M., Lavelle, F., Hollywood, L., McDowell, D., Spence, M., McCloat, A., Mooney, E. and Dean, M., 2017. **Domestic cooking and food skills: A review.** *Critical reviews in food science and nutrition*, *57*(11), pp.2412-2431.
2. Lavelle, F., McGowan, L., Spence, M., Caraher, M., Raats, M.M., Hollywood, L., McDowell, D., McCloat, A., Mooney, E. and Dean, M., 2016. **Barriers and Facilitators to cooking from 'scratch' using basic or raw ingredients: A qualitative interview study.** Appetite, 107, pp.383-391.
3. McGowan, L., Pot, G.K., Stephen, A.M., Lavelle, F., Spence, M., Raats, M., Hollywood, L., McDowell, D., McCloat, A., Mooney, E. and Caraher, M., 2016. **The influence of socio-demographic, psychological and knowledge-related variables alongside perceived cooking and food skills abilities in the prediction of diet quality in adults: a nationally representative cross-sectional study.** International Journal of Behavioral Nutrition and Physical Activity, 13(1), p.111.
4. Lavelle, F., Spence, M., Hollywood, L., McGowan, L., Surgenor, D., McCloat, A., Mooney, E., Caraher, M., Raats, M. and Dean, M., 2016. **Learning cooking skills at different ages: a cross-sectional study.** International Journal of Behavioral Nutrition and Physical Activity, 13(1), p.119.
5. Surgenor, D., Hollywood, L., Furey, S., Lavelle, F., McGowan, L., Spence, M., Raats, M., McCloat, A., Mooney, E., Caraher M. and Dean M., 2017. **The impact of video technology on learning: a cooking skills experiment.** Appetite, *114*, pp.306-312.
6. Lavelle, F., Hollywood, L., Caraher, M., McGowan, L., Spence, M., Surgenor, D., McCloat, A., Mooney, E., Raats, M. and Dean, M. **Increasing intention to cook from basic ingredients: a randomised controlled study.** Appetite, *116*, pp.502-510.
7. Lavelle, F., McGowan, L., Hollywood, L., Surgenor, D., McCloat, A., Mooney, E., Caraher, M., Raats, M. and Dean, M. (2017). **The development and validation of measures to assess cooking skills and food skills.** IJBNPA, *14*(1), p.118.
8. Lavelle, F., Benson, T., Hollywood, L., Surgenor, D., McCloat, A., Mooney, E., Caraher, M. and Dean, M. **Kids in the kitchen? Modern transference of domestic cooking skills.**, *under review*.

# Thank-you