Psychology of Food Choice

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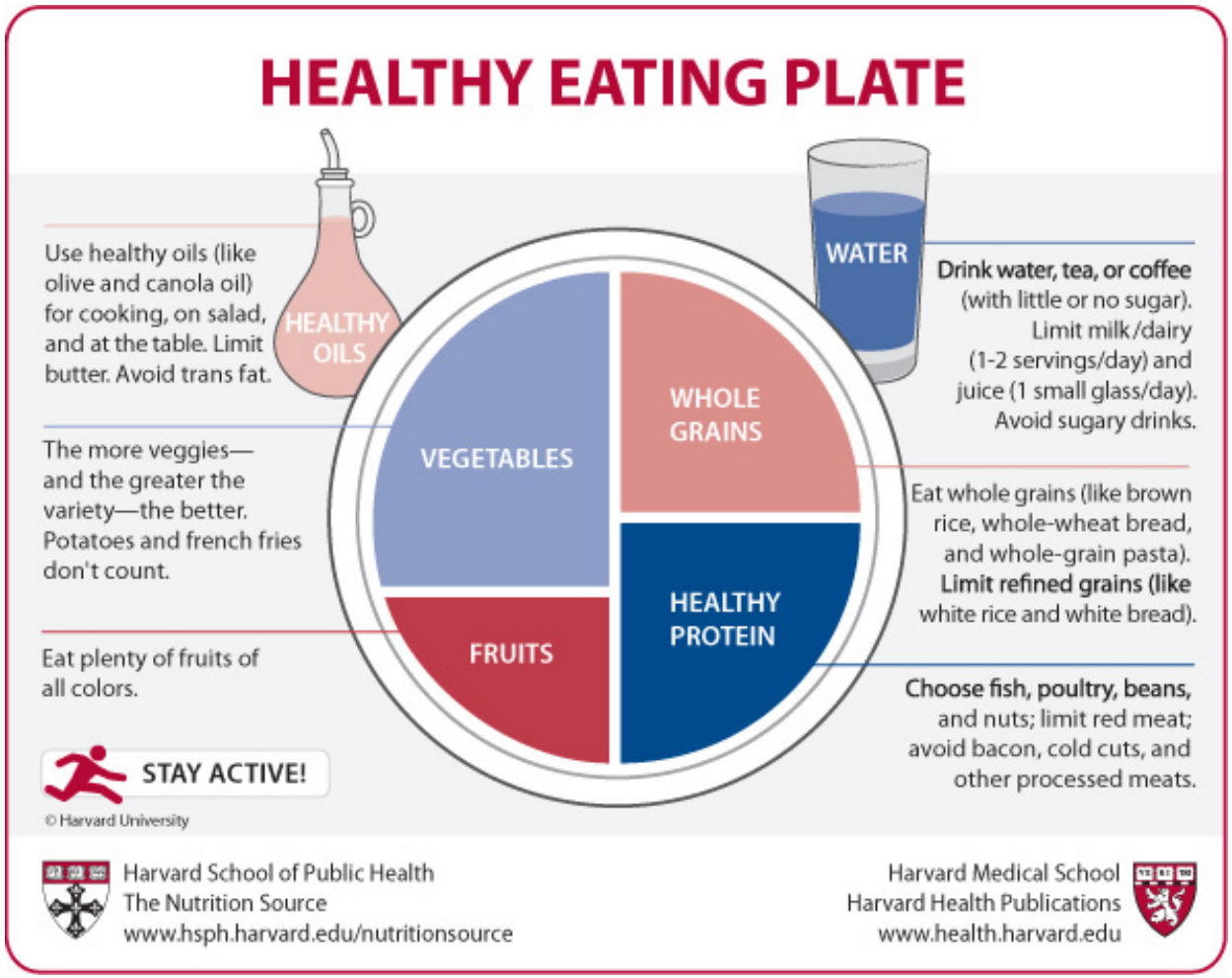
Contents

- Descriptive studies
- Developmental model of eating behaviour explanation
- Social and associative learning during development
- Psycho-physiological model of eating behaviour

5 types of food groups

- Fruits & vegetables
- Bread, pasta, other cereals and potatoes (complex carbohydrates)
- Meat, fish & alternatives
- Milk & diary products
- Fatty & sugary foods

Harvard's healthy plate



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Health, illness & food choices

- Salt, sugar and saturated fat

- Fruits, vegetables, & complex carbohydrates

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Healthy food choices

- How can we influence food behaviour?
- Is there a way to predict healthy food choices?
- Are there any important developmental stages that could influence such predictions?
- Is there a possibility to shape food choices through the lifespan?

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Making choices about foods

How often do you ask yourself such questions as:

What;

When;

Where;

How;

should I eat?

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WHAT DOES ACTUALLY INFLUENCE OUR FOOD CHOICES?

We need to know how we tend to make our choices if we want to have an effect on them!

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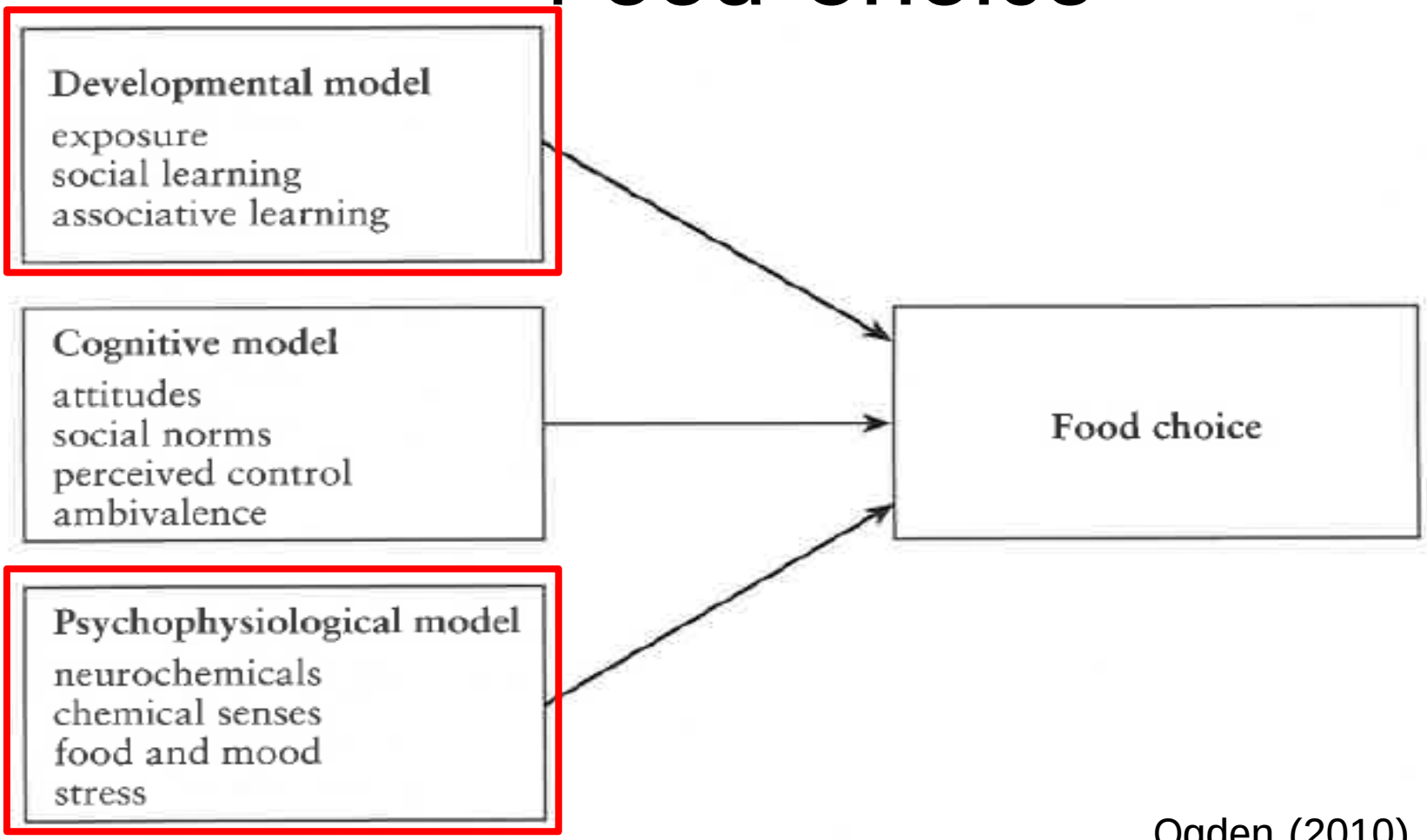
Factors influencing food choice

Shepherd (1989)

- External to self
  - Type of food
  - Social elements
  - Cultural context
- Internal to self
  - Personality
  - Sensory factors
  - Cognitions

Food Choice



Ogden (2010)

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DEVELOPMENTAL MODEL

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Developmental model

- Learning
- Experience
- Food preference developed during childhood

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Developmental Model

Food Choice Process Model

- Based on past and current food eating experiences
- Dynamic model in nature
- Evolving over time
- Emphasis on learned behaviour and cultural experiences

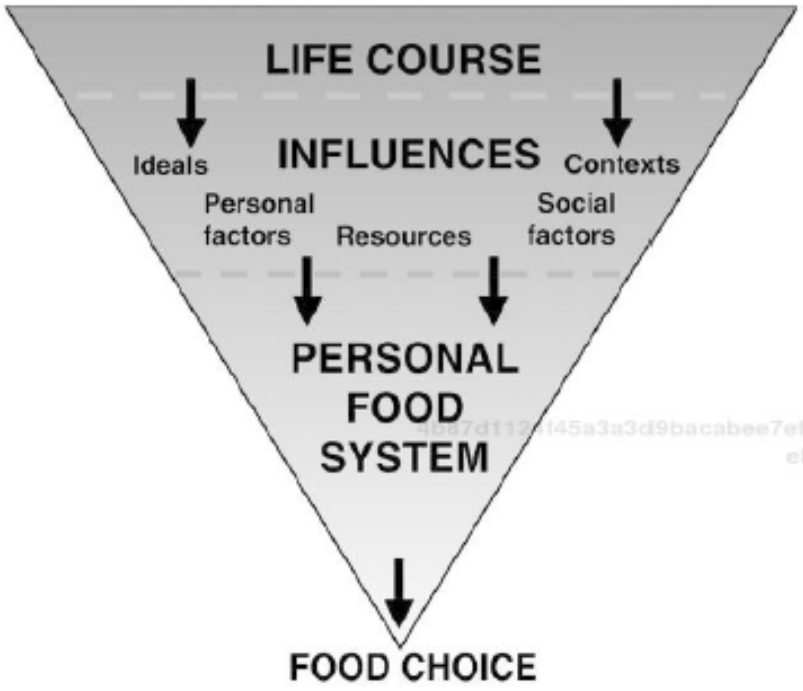

Fig. 1.1. A food choice process model. (Adapted from Falk *et al.*, 1996; Furst *et al.*, 1996; Connors *et al.*, 2001.)

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Trajectories in life

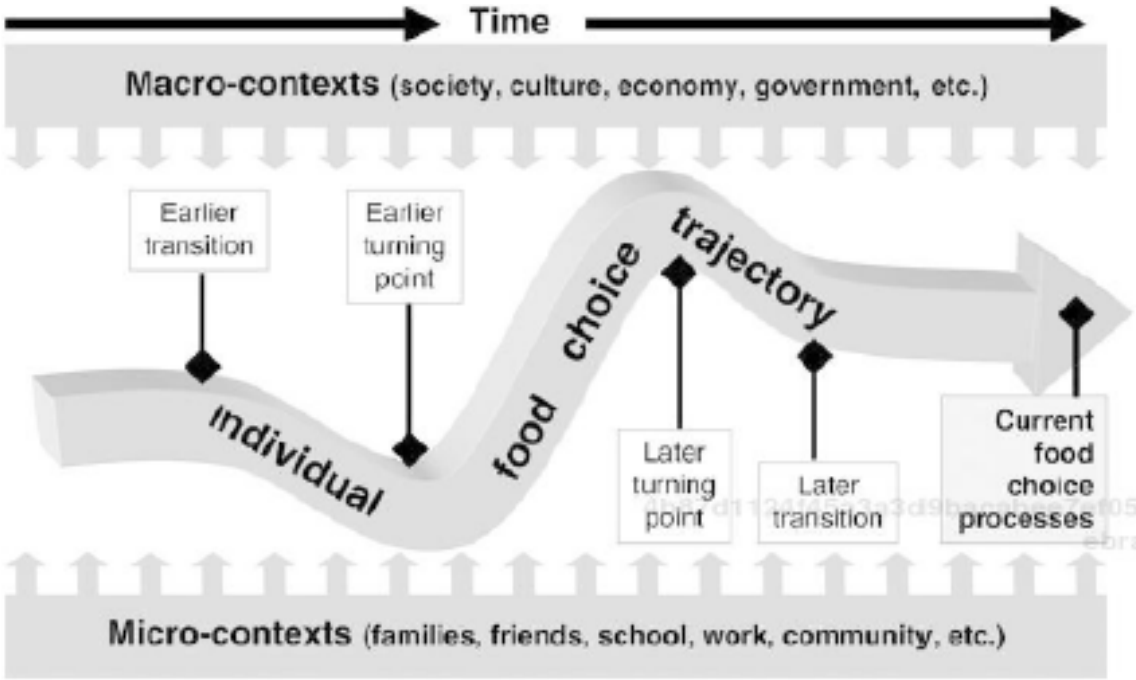

Fig. 1.2. A conceptual model of how food choice is shaped by contexts over time to form a food choice trajectory. (Adapted from Devine *et al.*, 1998.)

- Based on situational and historical context
- Transitions and Timing
- Example of eating veggies
- Current food choices come as a consequence of prior experiences

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Developmental model

- Children are able to associate food choices to healthy eating (both choice & amount) when they do have the opportunity (access to healthy food) and they are free from other external pressures (Birch, 1989; Davis, 1928)
- Children are able to,
  - learn based on the consequences of ingestion
  - control food intake

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Developmental model: Exposure

"Neophobia": Fear and avoidance of novel food types

"Omnivore's Paradox": Children need to know and eat various foods while they express neophobic responses to them (Rozin, 1976)

- Exposure to new food types can create acceptance
- 8-10 times are necessary before a food type is accepted
- "Picky" and/or "Fussy" eater: Cases of consistency in denial of a particular food
- Probably due to negative consequences: Bio-medical exams could show the problem

  (i.e. lactose intolerance)

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Developmental model: Social learning

Social learning: Peers, friends, older children and fictional heroes as role models

- Children susceptible to,
  - Other's food choices (i.e. fruits & vegetables)
  - Increased food consumption (i.e. next to an obese child)
  - Videos of children having other (various) food choices!

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Developmental model: Social learning

Parents' choices & attitudes on:

- Eating breakfast
- Emotional eating
- Choices away from home (i.e. school meals)

Mothers who are on diet provide their children with less healthy food choices
(Alderson & Ogden, 1999; Birsh & Fisher, 2000)

Any reasons behind mothers' choices?

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Developmental model: Social learning

The Media,

- Present more adverts on unhealthy foods
- Have great influence on the choices and magnitude of food consumed
- Children very responsive to new type of foods (i.e. colours and shapes)
- Adults very responsive to information on food safety
- Both are attracted more to food after exposure to the media

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Developmental model: Associative learning

Food as a reward...

- Pairing a food with emotion changes the preference for that food (effects tend to return to normal 7 months after the exposure ends)
- Food as a reward: “If you eat all your salad, you may eat your chocolate”
  - Creates a greater link to chocolate than to vegetables
  - Be aware not to link reward with a preferred food or juice
  - Externally motivated behaviours & elimination of behaviour

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Developmental model: Associative learning

Controlling food choices

- Parents simply create more attractive food types by making restrictions on certain food types (i.e. snacks)
- Covert control (i.e. which food types are brought home) can have better results on food choice without creating a desire for the forbidden food types

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Developmental model

- Healthy attachment relationships and emotional intelligence have an impact on nutrition choices
    - Jewell, T. , Collyer, H. , Gardner, T. , et al., (2016), Attachment and mentalization and their association with child and adolescent eating pathology: A systematic review. Int. J. Eat. Disord., 49: 354-373. doi:10.1002/eat.22473
- Sociocultural idealization of thinness (i.e. media exposure) and personality factors (i.e. perfectionism, neuroticism, impulsivity) are linked to eating disorders
    - Culbert, K. M., Racine, S. E. and Klump, K. L. (2015), Research Review: What we have learned about the causes of eating disorders – a synthesis of sociocultural, psychological, and biological research. J Child Psychol Psychiatr, 56: 1141-1164. doi:10.1111/jcpp.12441

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PSYCHOPHYSIOLOGICAL MODELS

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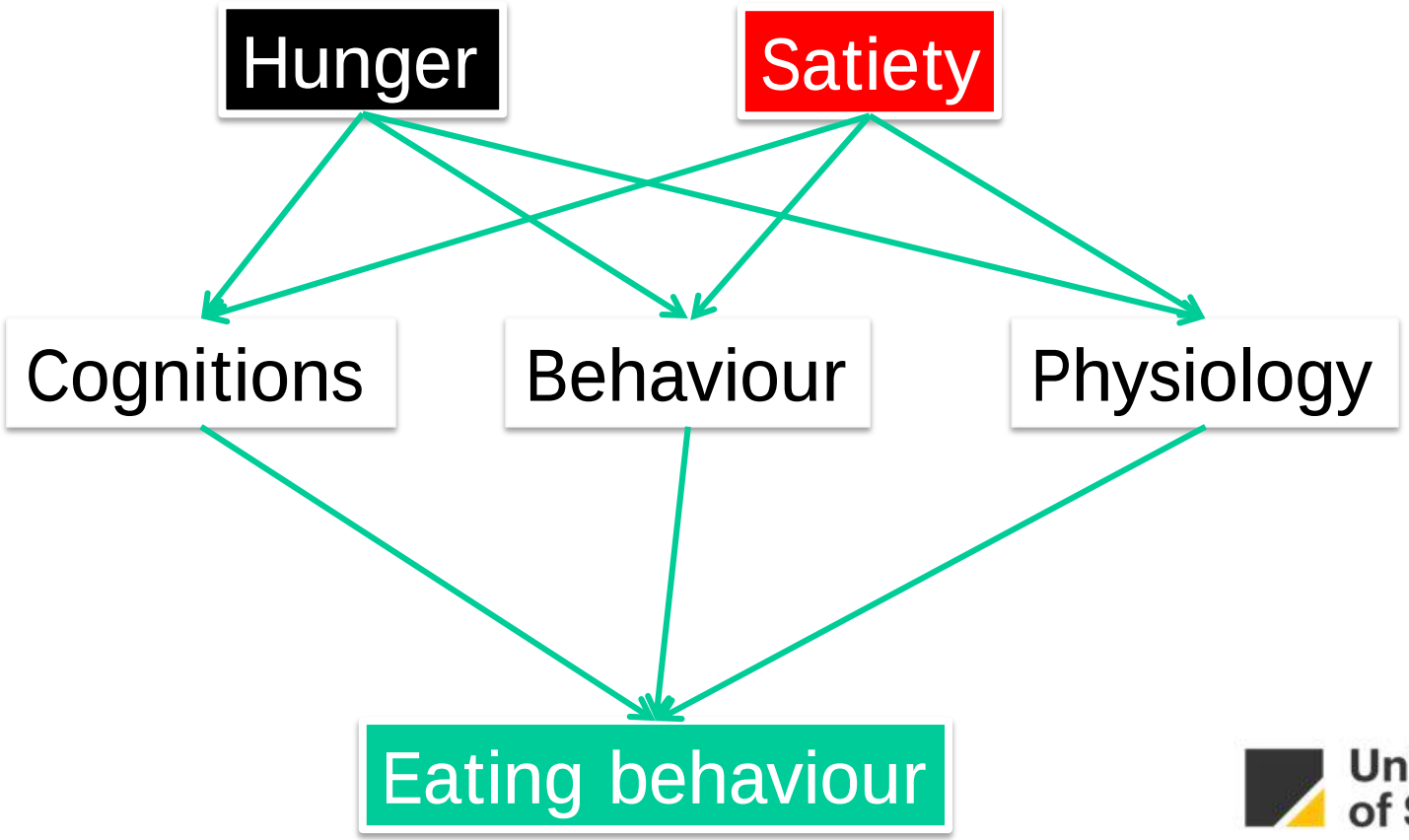
Psychophysiology models



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Metabolic models

- Homeostasis —beginning of 19th century
  - Walter Cannon
  - Biological variables are regulated within defined limits
    - Hot & sweat
    - Thirst & drink
    - Hunger & food
  - Maintained via a negative feedback loop—we adjust our behaviour to meet physiological needs

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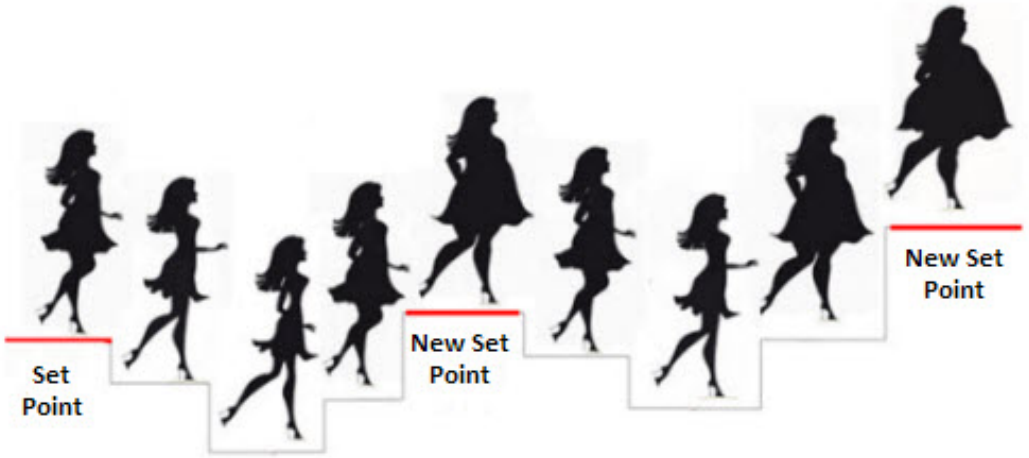
Metabolic models

- Set Point
  - Individualised level of food regulation
- Based on
  - Fat stores (lipostatic hypothesis)
  - Glucose stores (glycostatic hypothesis)



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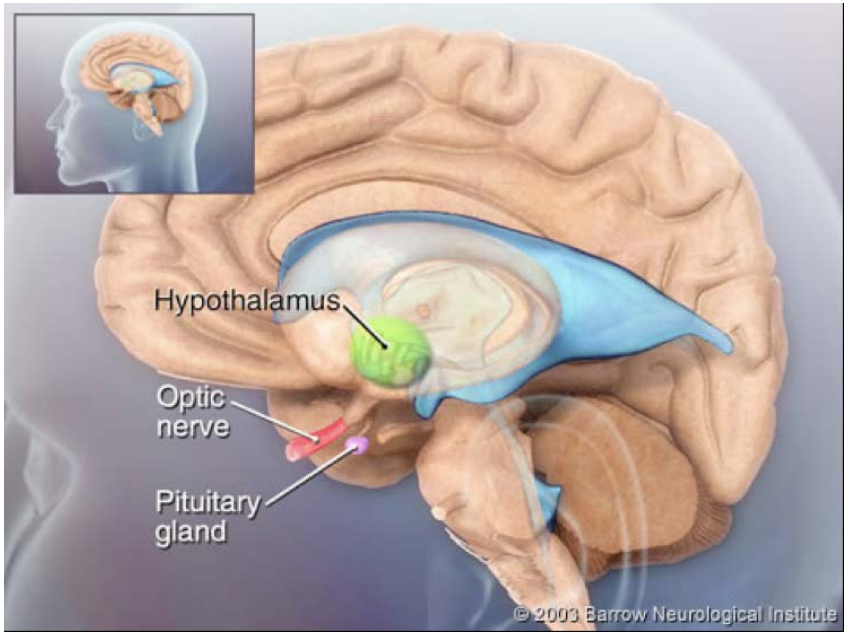
Hypothalamus

- Purpose: To locate areas of brain associated with feeding
- Early clues—patients with tumors of the basal hypothalamus who became obese
  - Damage in specific brain areas
  - Neurotransmitters
  - Drugs
  - fMRI
  - Experimentally induced lesions to hypothalamus in animals

Hypothalamus –brain scans

- Medial part: Satiety Centre
- Lateral part: Feeding Centre
- Paraventrial hypothalamus
- Perifornical area



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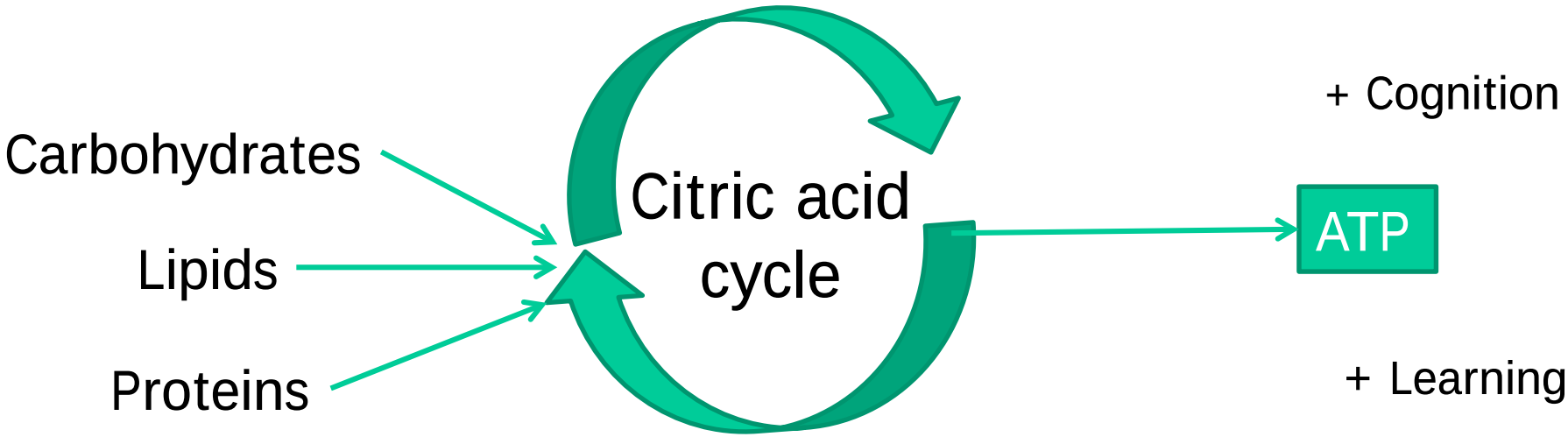
Metabolic models

- Cellular energy for appetite regulation
  - Adenosine Triphosphate (ATP)



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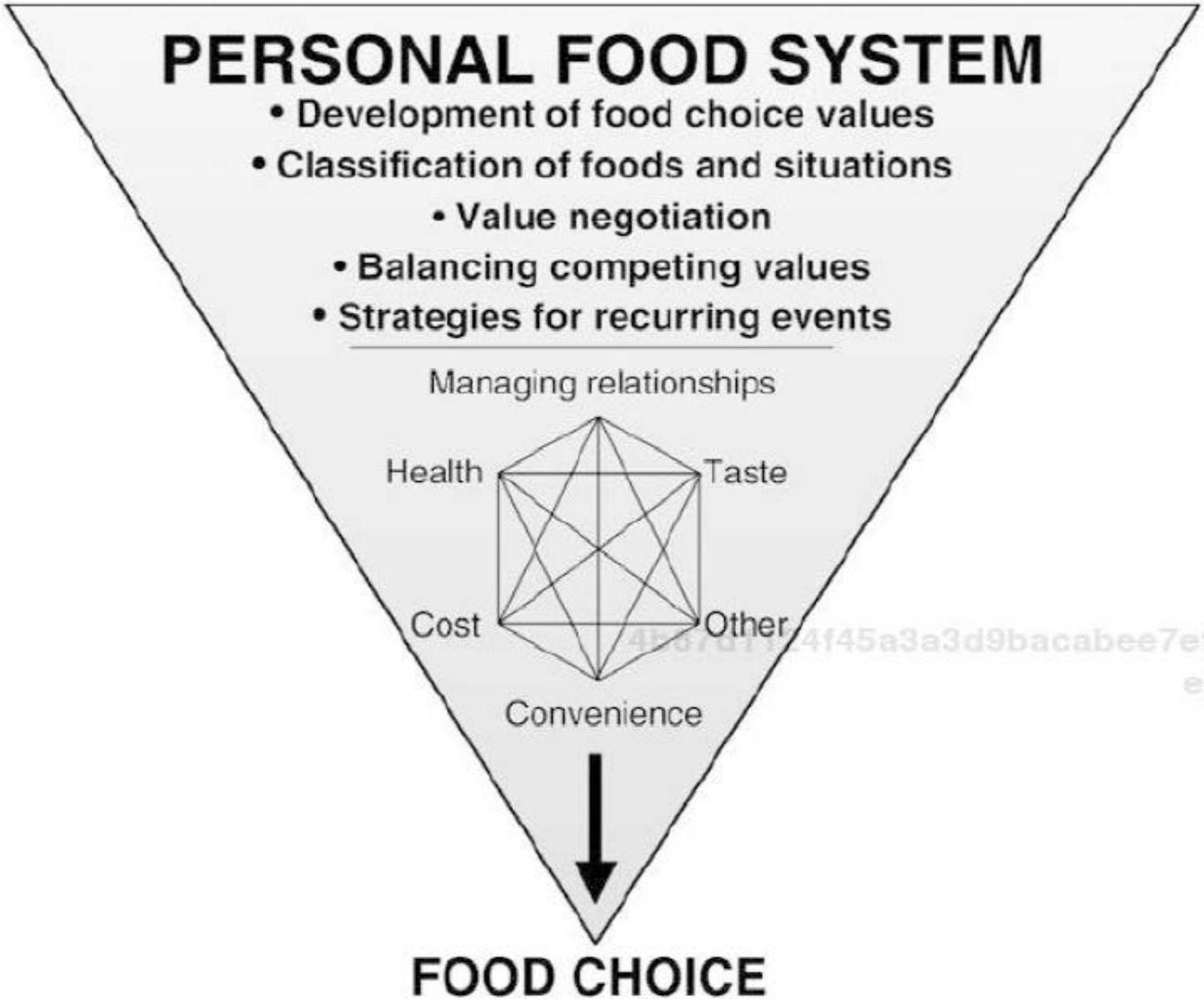
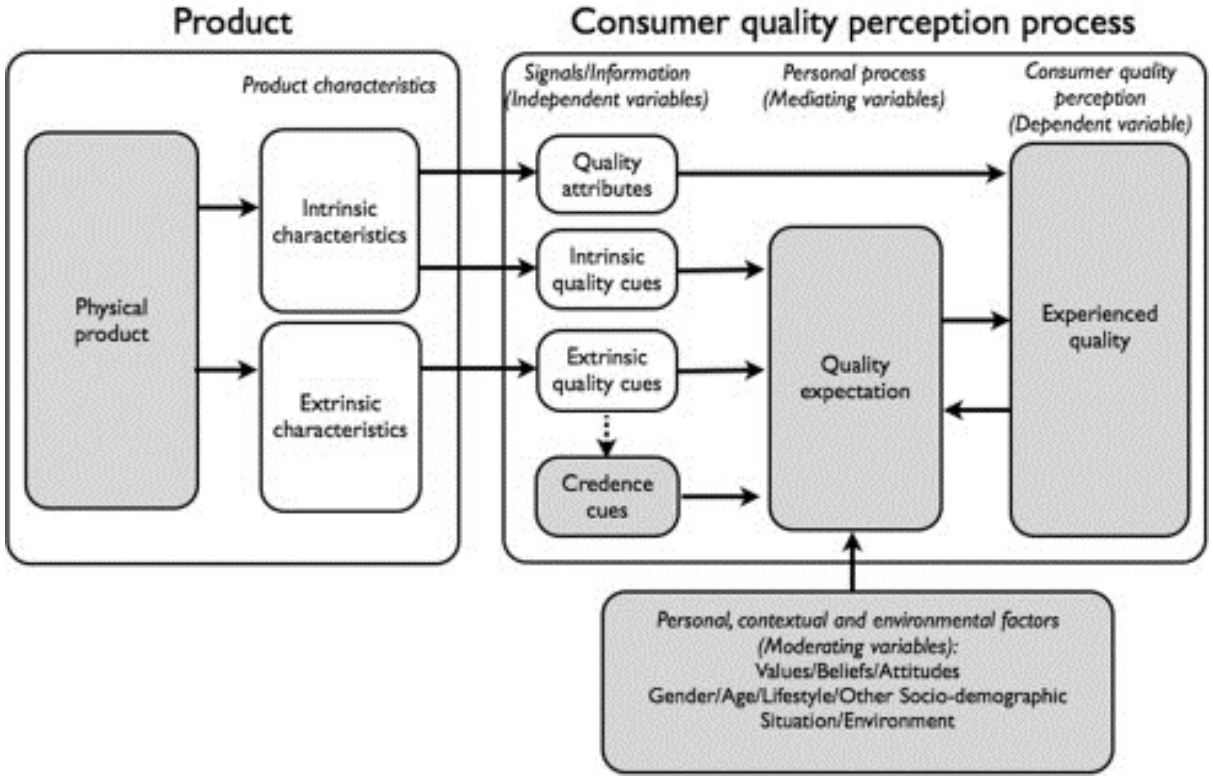


Fig. 1.3. Details of the personal food system. (Adapted from Connors *et al.*, 2001.)

Credence model of eating



Fernqvist, F. & Ekelund, L. (2014) Credence and the effect on consumer liking of food – A review, Food Quality and Preference, Vol. 32, Part C, p.340-353, https://doi.org/10.1016/j.foodqual.2013.10.005.

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PSYCHOLOGY OF DIETING

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Losing Weight

1. Restricting type and amount of intake
   – Smaller portions, different types of food
      - Low Carb- High Fat and Protein (Sugar Busters and Atkins's Diet)
      - High Carb- Very Low Fat (15% or less) (Ornish Diet and many vegetarian diets)
      - Liquid diets (nutritionally balanced but boring – not normal. Used in clinics of morbidly obese & VLCD)

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Losing Weight

2. Changing Eating Behaviors
   - Behavioral modification techniques and approaches – Cognitive-Behavioral techniques (slow down, leave food, chew awareness training of what and when certain foods are eaten)
   - Reinforcement of good eating habits – needs more time and patience
3. Exercise
   - The best way of weight maintenance, good for health and fitness, not suitable for initial weight control. Reduces fat, increases muscle mass
4. Drastic methods
   - Drugs, liposuction, stomach surgery, VLCD

Success and Failure in Dieting

- Maintaining weight loss is very difficult but odds are improved with:
  - Formal programs with post treatment programs
    - include social support, exercise outlets, continued therapist contact
  - Self-efficacy & attitudes control/program protocols
- Obese children who lose weight are more likely to keep it off

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Success and Failure in Dieting

- The role of physical exercise

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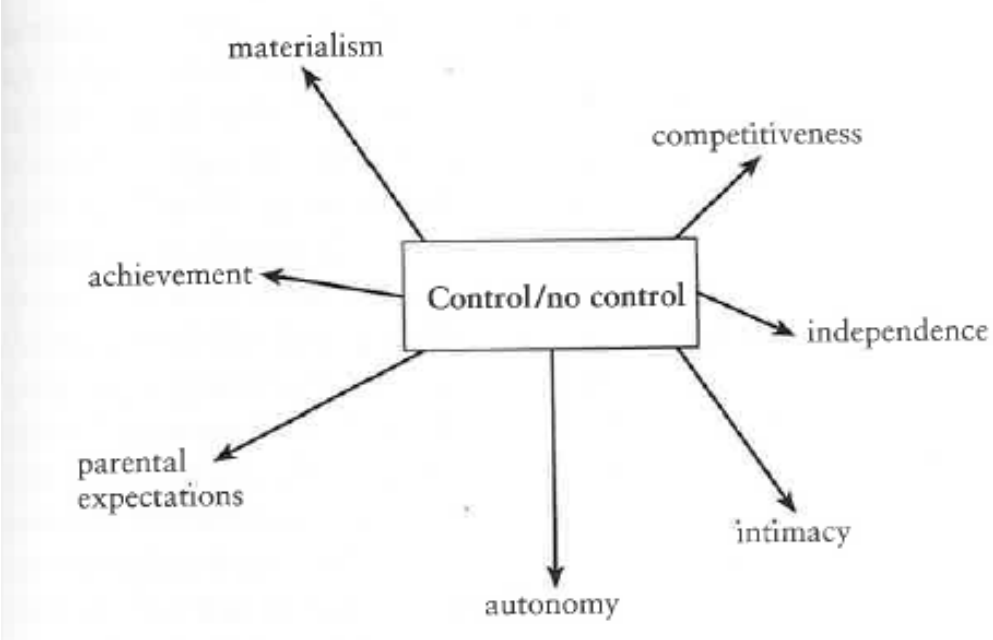
The illusion of control



Ogden (2010)

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What is dieting?

- The attempt to restrain one's food intake aiming to control body weight as a consequence of body dissatisfaction.
- Restricted eaters are starting their path through a vicious cycle of body dissatisfaction and lower quality of life with every new attempt of dieting

Getting Fatter and Dieting More in the USA

- Dieting has become big business in a fatter USA
  - we are highly weight conscious
  - 1960's- 10% of adults overweight were dieting
  - 2000- between 50-70% of adults are/have moderated dietary behavior even for those not morbidly obese
  - 70% of high school girls; 20% of boys

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RESTRAINED EATING AND OVEREATING

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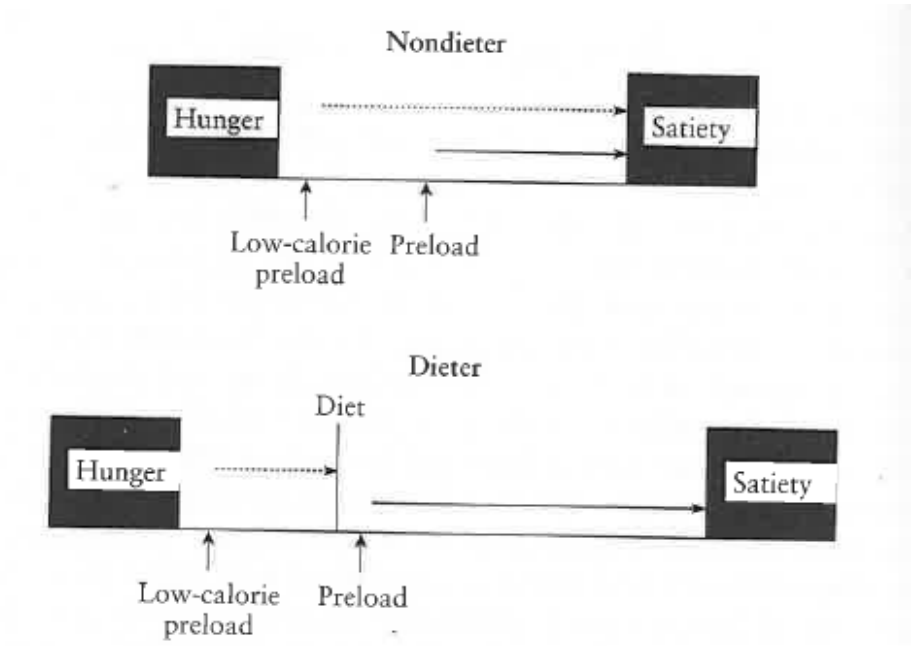
Restrained eating and overeating



Herman & Polivy (1984)

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Dieting and overeating

- Herman & Polivy, (1980); (1988)
- Diet group – Exercise group – Control group
- Restrained eating & bingeing are causally linked

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Mood modification

- Eating to alter mood creates a need for food when in low/disturbed mood
- *"Masking hypothesis"*
- Individuals may overeat trying to have a control over their lives, shifting from the uncontrollable aspects of their lives-causing these negative effects- to their eating behaviour

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The role of suppression and denial

- Forbidding thoughts and forbidding food types backfire
- Experiments on supressing thoughts of a particular food type (i.e. chocolate), show that those who supress them eat more
- The opposite is also true: Exposure to food related cues results in less consumption of food
- Dieting and restricting food result by definition to cravings and

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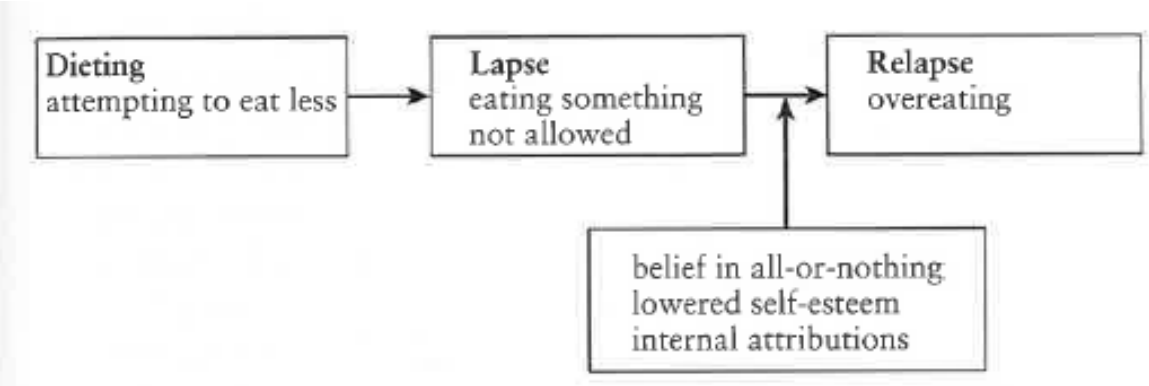
Lapse – Relapse in overeating

- Linked to emotions of shame and guilt



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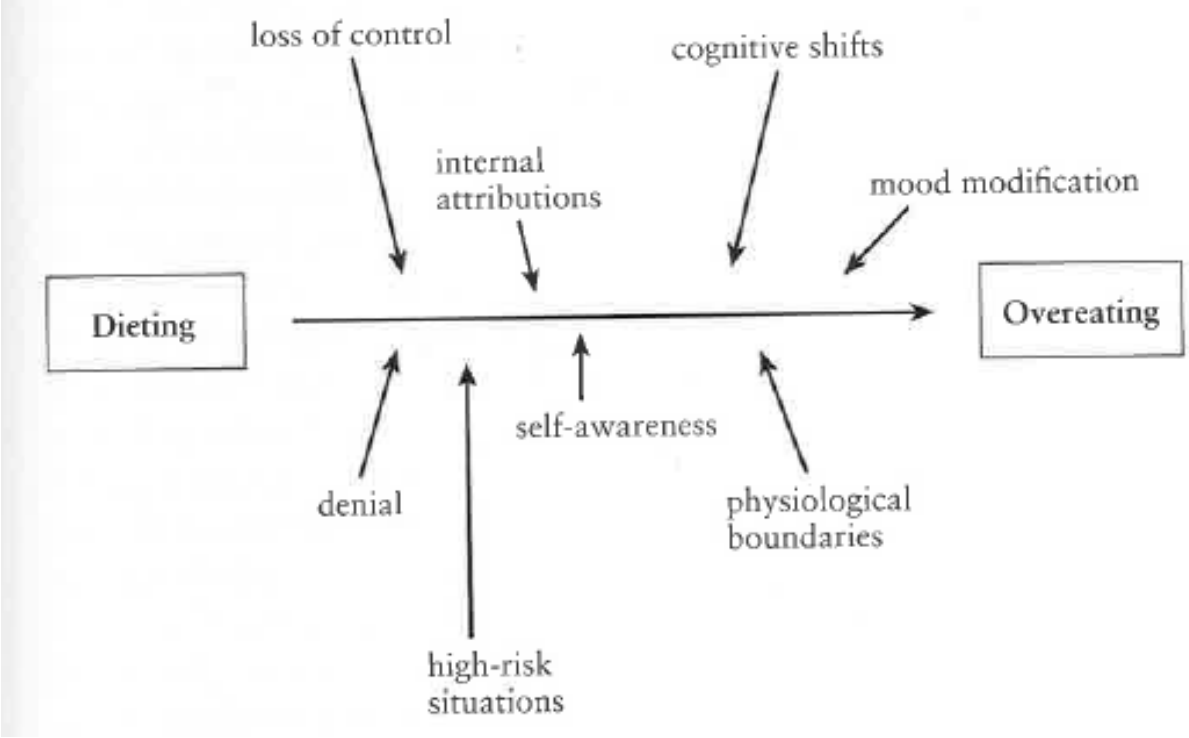
Other consequences of dieting



Ogden (2010)

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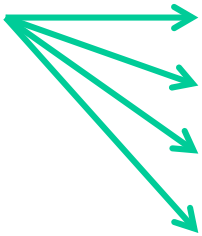
Other consequences of dieting

- Dieters present:
  depression



- Increases in
- Loss of control
- Increase in hunger
- Preoccupation with food

- Eating against depression in obesity (reducing food results in lowering of mood states)

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Other consequences of dieting

False hope syndrome:

- When so many efforts have failed, why do dieters still try to lose weight?
  - Making a commitment to change creates positive results on temporary and immediate rewards in no dieters
  - In dieters this was not the case as they immediately showed a deterioration of affect (any reasons why?)

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Dieting and body weight

When Dieting leads to successful weight loss:
Positive reinforcement and accomplishments...

- Return to previous eating patterns: Regaining weight, reduction of self-esteem, guilt, self-blame, altering eating behaviour
- Changes in cognitive attributes, mood modification, lapse and loss of self-control
- Weight variability, eating disorders and progression of obesity

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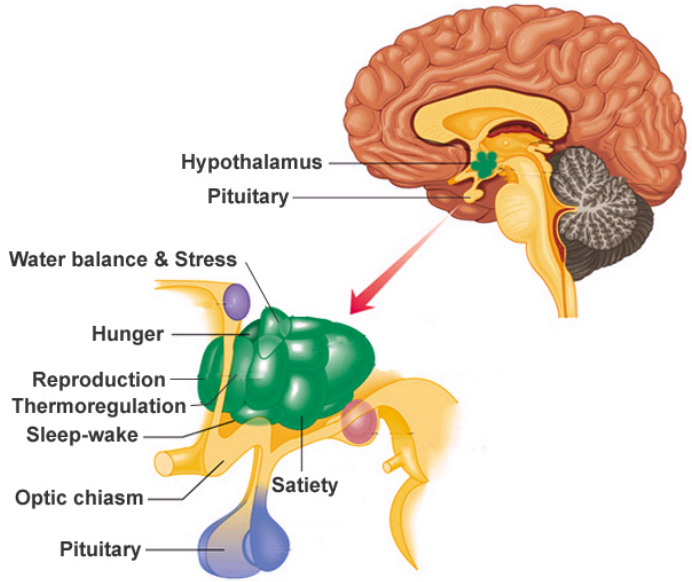
Problems with restrained theory

- How do anorectics (who restrain their food intake) cope with less food without food overconsumption and preoccupation?
- How do vegetarians cope with their restrictions and do not eat meat?
- Some successful dieters have accomplished losing weight and control their food intake. How did they do it?

HYPOTHALAMUS AND DIET BEH



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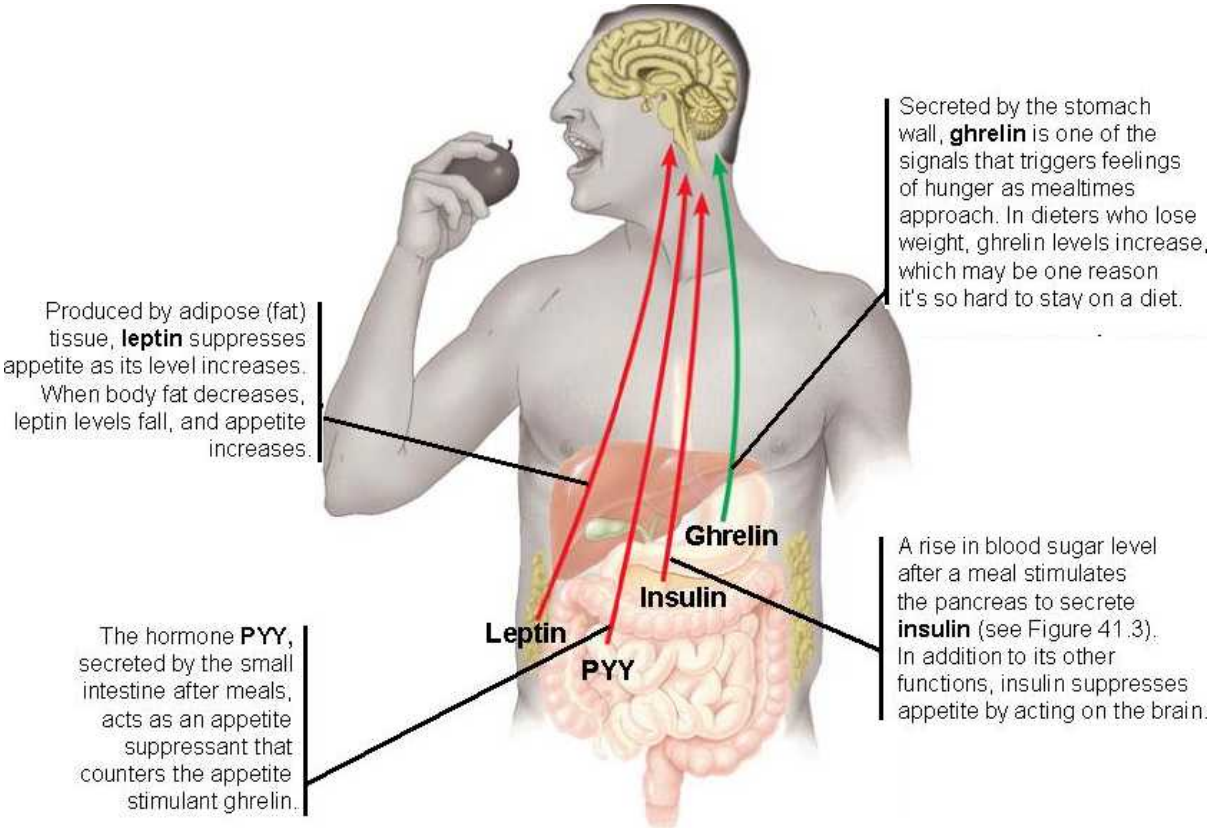
Diet and hypothalamus functioning



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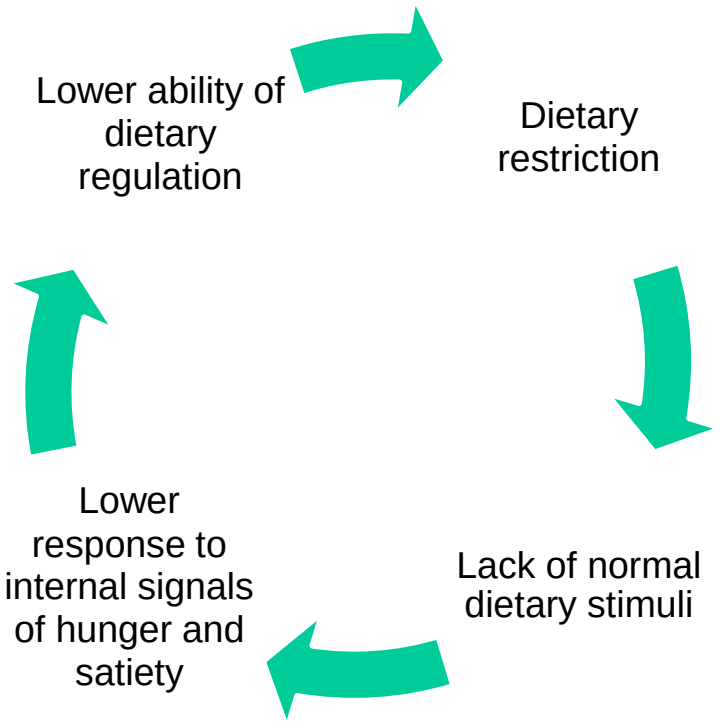
The results of dietary restriction



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Diet effects

Diets create the opposite effect than intended:

- Repetitive diet efforts push our set-point higher
- Resulting in higher kg of body weight (Bacon, 2010)

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Diet effects

Repetitive dieting efforts, disorganise the mechanism of weight management as,

- They reduce leptin levels
- Increase hunger levels
- Reduce metabolic rates
- Increase appetite
- Reduce energy vigour
- Lower body temperature

(Bacon, 2010)

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Diet effects

- Reduce the rate of caloric consumption
- Increase the ability of our system to absorb energy out of foods
- Create cravings for fat foods

(Bacon, 2010)

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Diet effects

- Reduce the ability to feel satiety after meal
- Create confusion among emotional and real need for food
- Lower muscle mass
- Increase lipid enzymes and lowers LPL

(Bacon, 2010)

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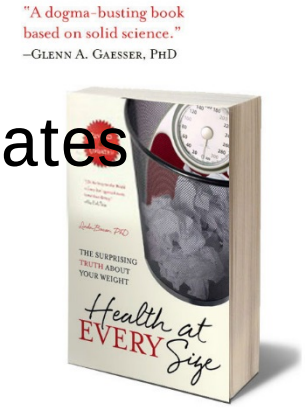
In conclusion

- We really need to move away from caloric restriction practices without aiming for a proper lifestyle reconstruction
- Human physiology supports such a need
- Repetitive diets create yo-yo effects, eating disorders and health deterioration
- Diets are related to disturbed mood states and reduce also psychological health

(Bacon, 2010)



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What do we need to know as practitioners?

- We can create the best conditions for healthy eating through appropriate influences from a young age;
- Human psychophysiology has a significant role in weight maintenance and weight gain;
- Dieting can have many toxic influences and implications for human health.

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FOOD LABELLING

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Food labelling

- Food labelling contains information provided by food businesses about their products
- It covers all food that is sold to the consumer directly as well as food sold to cafés, restaurants and other catering establishments
- It is controlled by law so it is accurate, not misleading and safe

https://www.fsai.ie/uploadedFiles/Reg1169_2011.pdf

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Importance of Food Labelling

- It educates the consumer about the food they buy
- It helps consumers to make informed choices
- It helps consumers to store and use the food safely

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Mandatory information on Food Label

- The name of the food
- List of Ingredients
- The quantity of certain ingredients (QUID)
- Instructions for use (if needed)
- ‘Use by’ or ‘best before’ dates
- Special storage instructions
- Name and address of the manufacturer, packer or seller
- Place of origin or provenance (if implied)
- Mandatory allergen information
- Requirement of certain nutrition information

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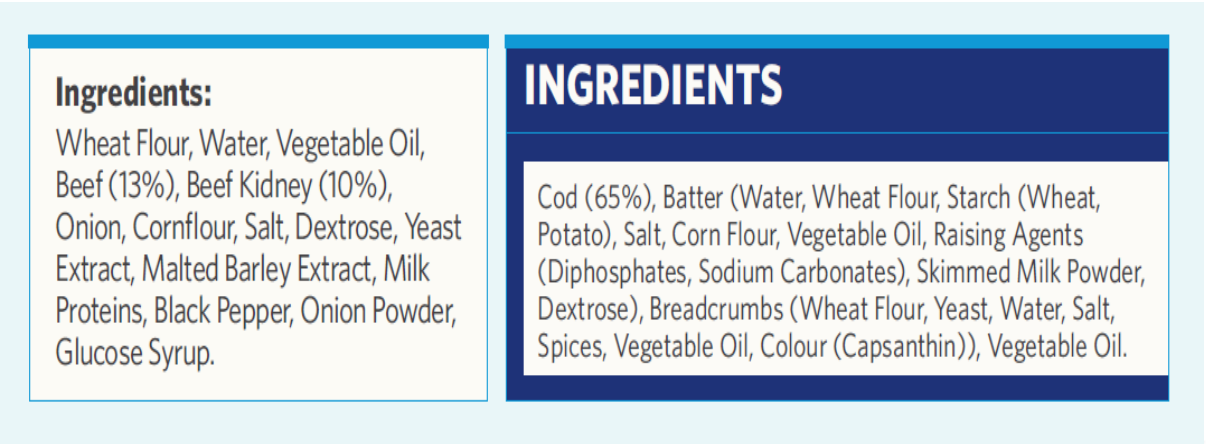
List of Ingredients

- The list of ingredients on a food label must have a heading that includes the word ‘ingredients’.
- In most cases, ingredients have to be listed in descending order of weight when the product was prepared



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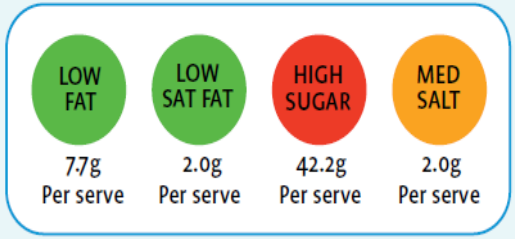
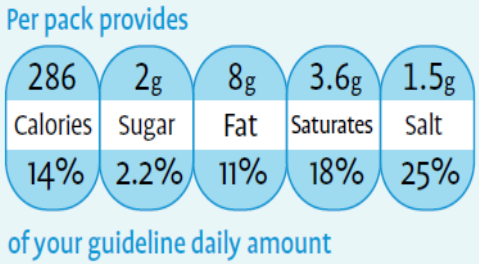
Front-of-pack labelling scheme

Most of the big supermarkets and many food manufacturers display nutritional information on the front of pre-packed food – this is referred to as Front of Pack labelling (FoP).

- FoP labelling is not mandatory (not required by law)
- It is very useful for comparing similar food products at a glance



Traffic Light Labelling



Guideline Daily Amount

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Pick the healthier option

Pizza

Thin & Crisply Cajun Chicken

MEDIUM Fat	MEDIUM Sat Fat	LOW Sugars	MEDIUM Salt
9.1g Per serve	4.8g Per serve	4.8g Per serve	1.4g Per serve

Half a pizza contains

Calories	Sugars	Fat	Saturates	Salt
391	4.8g	9.1g	4.8g	1.4g
20%	5%	13%	24%	23%

Of your guideline daily amount

Italian Pepperoni

HIGH Fat	HIGH Sat Fat	LOW Sugars	HIGH Salt
25.2g Per serve	8.7g Per serve	4.5g Per serve	3g Per serve

Half a pizza contains

Calories	Sugars	Fat	Saturates	Salt
545	4.5g	25.2g	8.7g	3g
27%	5%	36%	44%	50%

Of your guideline daily amount

Breakfast Cereals

Shredded Wheat

LOW Fat	LOW Sat Fat	LOW Sugars	LOW Salt
0.7g Per serve	0.2g Per serve	0.2g Per serve	Trace Per serve

Each 45g serving with 125ml semi skimmed milk contains

Calories	Sugars	Fat	Saturates	Salt
217	6.3g	3.2g	1.4g	0.2g
11%	7%	5%	7%	3.3%

Of your guideline daily amount

Coco Pops

LOW Fat	LOW Sat Fat	HIGH Sugars	MEDIUM Salt
0.8g Per serve	0.3g Per serve	11.8g Per serve	0.3g Per serve

Each 30g serving contains

Calories	Sugars	Fat	Saturates	Salt
161	11.8g	0.8g	0.3g	0.3g
6%	13%	1%	2%	5%

Of your guideline daily amount

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Is a food product healthy according to the label?

- **Total fat**
  High: > 20g fat/100g
  Low: ≤ 3g of fat/100g
- **Saturated fat**
  High: > 5g saturated fat/100g
  Low: ≤ 1.5g of saturated fat/100g
- **Sugars**
  High: > 15g of total sugars/100g (new values > 7.5g of total sugars/100g)
  Low: ≤ 5g of total sugars/100g (new values ≤ 2.5 of total sugars/100g)
- **Salt**
  High: > 1.5g of salt/100g (or 0.6g sodium)
  Low: ≤0.3g of salt/100g (or 0.1g sodium)

(Food Labels, 2018)

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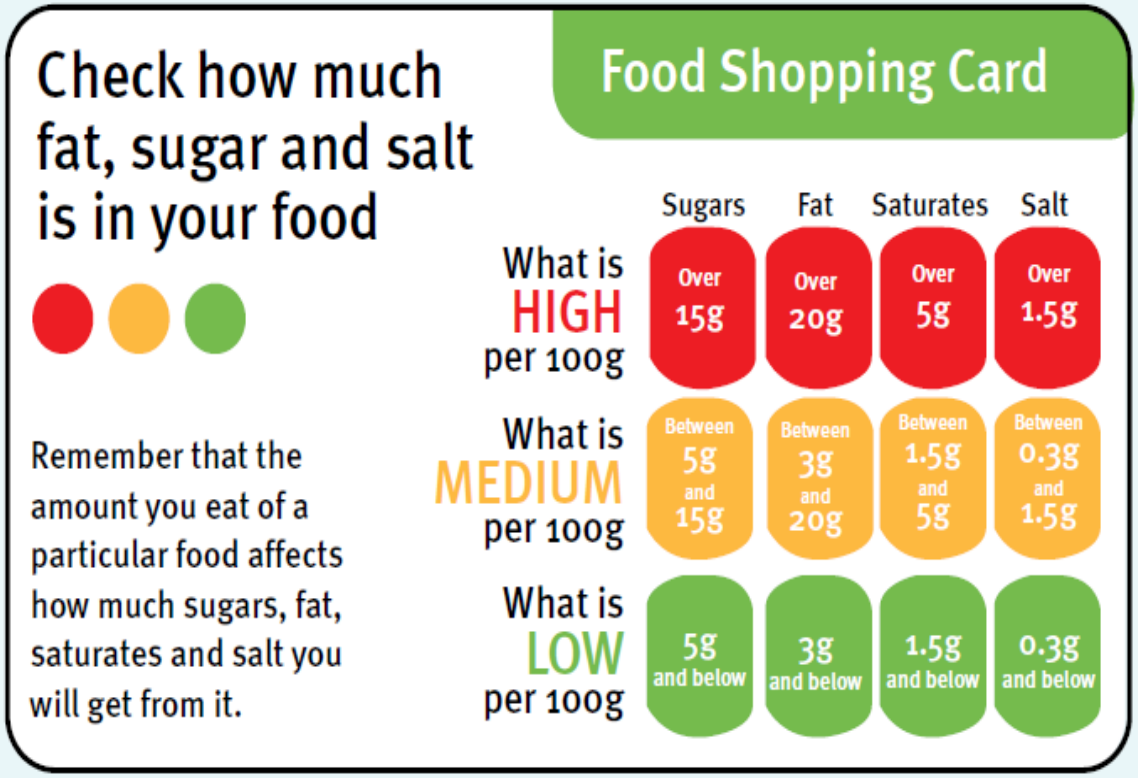

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What do we need to know as practitioners?

- Critical values on food packaging can play a significant role on better food choices!
- Traffic light system is gaining momentum;
- We need to educate the consumers as ready made food is getting more popular.

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