General knowledge of food and health?

Your Age _________  Your Gender: Male/Female

Life Style: Athletic (>10 hrs), Active, Sedentary

The tastiest foods are the ones that are bad for you
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Can't choose

Healthy foods are enjoyable
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Can't choose

I get confused over what's supposed to be healthy and what isn't
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Can't choose

I really care what I eat
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Can't choose

Healthy eating is just another fad
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Can't choose

If you do enough exercise you can eat whatever you like
Strongly agree
Agree
Neither agree nor disagree
Disagree
Strongly disagree
Can't choose

Would you say that what you usually eat is...
Very healthy
Quite healthy
Not very healthy
Very unhealthy

Do you read food information on packaging?
Always
Sometimes
Occasionally
Only if it is a new food to me
Never

What is a healthy daily amount of calories to eat
Males___________
Females_________

Given you are mostly less than 25 years old what is a healthy percentage of fat is for
Males___________ %
Females_________%

What is your current BMI?
Your BMI ______  or unknown

A healthy BMI is between _________ and __________
Overweight BMI is between _________ and __________
Obese BMI is between _________ and __________

What is healthy food?

Rate the health of these foods
1 very un-healthy food,
2 unhealthy food, 3 food of average health value, 4 healthy food, 5 very healthy food, 6 super-food

Quick cooking Oats breakfast
1 2 3 4 5 6

Whole wheat or multi grain bread
1 2 3 4 5 6

Bought boxed Fruit Juices with no added sugar
1 2 3 4 5 6

Zero cholesterol margarine e.g. Flora
1 2 3 4 5 6

Fat Free Fruit Yoghurt
1 2 3 4 5 6

Energy (Protein) Bars
1 2 3 4 5 6

Energy drinks
1 2 3 4 5 6

Honey
1 2 3 4 5 6

Trail Mix (in packages)
1 2 3 4 5 6

Health promoting breakfast cereals (Like special K)
1 2 3 4 5 6

Butter
1 2 3 4 5 6

Full fat hard cheese
1 2 3 4 5 6

Whole grain or bran muffins
1 2 3 4 5 6

Pasta
1 2 3 4 5 6
Dark Chocolate
1 2 3 4 5 6

Black Coffee (un-sugared)
1 2 3 4 5 6

A can of baked beans
1 2 3 4 5 6

Reduced fat Peanut butter
1 2 3 4 5 6

Dried Fruit
1 2 3 4 5 6

Pre-made Salads from the Shop vegetable aisle
1 2 3 4 5 6

Farm produced fish
1 2 3 4 5 6

Tofu (Soya Bean Curd)
1 2 3 4 5 6

Which is the healthier meal option?

Option A Kellogg’s Special K
Option B Poached Eggs and tomatoes and mushrooms fried in butter

A healthier than B
B healthier than A
Both A and B are unhealthy
Both A and B are healthy

Option A A smoothie made with skimmed milk and frozen yoghurt
Option B Cream with freshly diced strawberries

A healthier than B
B healthier than A
Both A and B are unhealthy
Both A and B are healthy

Option A Standard Pizza
Option B Hamburger only

A healthier than B
B healthier than A
Both A and B are unhealthy
Both A and B are healthy

Option A 330 ml can of Coca-Cola
Option B 350 ml bottle of Guava Juice (Henties)

A healthier than B
B healthier than A
Both A and B are unhealthy
Both A and B are healthy

Option A KFC Coleslaw (2 cups)
Option B McDonald Hamburger

A healthier than B
B healthier than A
Both A and B are unhealthy
Both A and B are healthy

How much sugar in food
What should be your daily allowance of sugar
Male _______ teaspoons
Female _______ teaspoons

Shop one cup bought potato salad _______ teaspoons

350 ml of orange juice (Henties) _______ teaspoons

Gin (Single shot) and Tonic _______ teaspoons

Zero fat fruit yoghurt one cup _______ teaspoons

Ice cream (one cup) _______ teaspoons

I can Campbell’s tomato soup _______ teaspoons

Loaf of sliced (24) white bread _______ teaspoons

I can of baked beans in tomato sauce _______ teaspoons

The three macros are protein, fats and carbohydrates. What should the balance of these macro elements be for a healthy diet is (Make sure it adds to 100%)

Proteins ____%
Fats ____%
Carbohydrates ____%

What is the recommended amount (hours) of moderate activity per week for a healthy lifestyle

_______ hours per week

Rate the following exercise regimes in terms of health benefits from 1 not effective, 2 slightly effective, 3 average effectiveness, 4 fairly effective, 5 very effective, 6 should be compulsory part of a diet.

A ONE hour higher energy Aerobics
1 2 3 4 5 6

A FORTY minute Jog around the local roads
1 2 3 4 5 6

A ONE hour bicycle ride
1 2 3 4 5 6

A FORTY minute supervised swimming regime
1 2 3 4 5 6

One hour weight training at the local Gym
1 2 3 4 5 6

Daily ONE hour brisk walk
1 2 3 4 5 6

ONE hour YOGA twice a week
1 2 3 4 5 6

Weekly THREE hours Football, Rugby or Hockey
1 2 3 4 5 6
Empirical Evidence

Empirical evidence, also known as sense experience, is the knowledge or source of knowledge acquired by means of the senses, particularly by observation and experimentation. The term comes from the Greek word for experience, ἐμπειρία (empeiría). After Immanuel Kant, it is common in philosophy to call the knowledge thus gained a posteriori knowledge (in contrast to a priori knowledge).

Empirical evidence is information that justifies a belief in the truth or falsity of a claim. In the empiricist view, one can claim to have knowledge only when one has a true belief based on empirical evidence. This stands in contrast to the rationalist view under which reason or reflection alone is considered evidence for the truth or falsity of some propositions. Empirical evidence is information acquired by observation or experimentation. This data is recorded and analyzed by scientists. This is the primary source of empirical evidence. Secondary sources describe, discuss, interpret, comment upon, analyze, evaluate, summarize, and process primary sources. Secondary source materials can be articles in newspapers or popular magazines, book or movie reviews, or articles found in scholarly journals that discuss or evaluate someone else’s original research.

Empirical evidence may be synonymous with the outcome of an experiment. In this regard, an empirical result is a unified confirmation. In this context, the term semi-empirical is used for qualifying theoretical methods that use, in part, basic axioms or postulated scientific laws and experimental results. Such methods are opposed to theoretical ab initio methods, which are purely deductive and based on first principles.

In science, empirical evidence is required for a hypothesis to gain acceptance in the scientific community. Normally, this validation is achieved by the scientific method of forming a hypothesis, experimental design, peer review, adversarial review, and reproduction of results, conference presentation, and journal publication. This requires rigorous communication of hypothesis (usually expressed in mathematics), experimental constraints and controls (expressed necessarily in terms of standard experimental apparatus), and a common understanding of measurement.

Statements and arguments depending on empirical evidence are often referred to as a posteriori ("following experience") as distinguished from a priori (preceding it). A priori knowledge or justification is independent of experience (for example "All bachelors are unmarried"), whereas a posteriori knowledge or justification is dependent on experience or empirical evidence (for example "Some bachelors are very happy"). The notion that the distinction between a posteriori and a priori is tantamount to the distinction between empirical and non-empirical knowledge comes from Kant’s Critique of Pure Reason. A standard positivist view of empirically acquired information has been that observation, experience, and experiment serve as neutral arbiters between competing theories. However, since the 1960s, a persistent critique most associated with Thomas Kuhn, has argued that these methods are influenced by prior beliefs and experiences. Consequently, it cannot be expected that two scientists when observing, experiencing, or experimenting on the same event will make the same theory-neutral observations. The role of observation as a theory-neutral arbiter may not be possible. Theory-dependence of observation means that, even if there were agreed methods of inference and interpretation, scientists may still disagree on the nature of empirical data.

BCB Science Methods - Observation

You will do two sets of observation exercises but as a single class project producing two multi-authored reports (Two Projects which requires inputs from all participants). Each report is to have an appendix outlining the major tasks or sections of the report undertaken by individuals.

Report One: What is a good (healthy diet) and what is a healthy amount of exercise? You will use an evidence based set of observations to assess this statement with particular reference to testing the “Calorie in – Calorie out” or input – output hypothesis.

Report Two: Fish are known to use colour as a mating signal, what is the evolutionary and ecological advantages of having a bright colour? Are bigger or more colourful fish more aggressive? We will use data from two of the 5th floor fish tanks.

Report One will be scaffolded (I will provide structural guidelines). Report Two you try to do without a scaffold.

Each report counts equal marks.

Structure: Abstract, Introduction, Results (Graphs and Tables), Discussion, References. Use the CSE format. All aspects of the report must be prepared electronically and should not include any non-original text or images.

DUE DATES 18 April 2017 (5pm) HARD and ELECTRONIC COPIES MUST BE SUBMITTED – HARD COPY WILL BE MARKED UP FOR EXTERNALISATION
Methodologies

To test the “Calorie in Calorie out model” or CI-CO we will use multiple lines of evidence and will unpack the problem into sections.

One of the main applications of the CI-CO is for weight management. Given that South Africa is one of the most obese countries in the world.

It is important to get an overall understanding of the topic and some ruling paradigms in the theory.

Examine the sensational articles and what is the press saying?


Examine Peer-reviewed material but at the moment don’t go overboard – many articles are overly technical and the results are accurate within rather specific circumstances. Here is a “good” and “short” review article. From this there is a good reference list to start following up for more detailed information.


The report is going to be divided into two sections measured (quantitative) and qualitative assessment. The quantitative is base on observations, rather than review and rationalisation. The first issue is to unpack the problem – obesity and the second is to examine causality.

How do we normally measure obesity? Who is to say one person is obese or overweight and another person is not. Can you be overweight and healthy or expressed differently can you me normal weight and unhealthy. There is a strong but not definitive relationship between obesity and health.

Health insurance often use the Body Mass Index as an assessment tool. This is a ratio of height and weight – two measurements (observations) that are easily obtained. We will do this in class.

**BMI Categories:**

- Underweight = <18.5
- Normal weight = 18.5–24.9
- Overweight = 25–29.9
- Obesity = BMI of 30 or greater

Rich Froning Jr. was dubbed the Fittest Man in History after winning four back-to-back individual CrossFit Games championships (2011-2014).


His height is 5 feet 9 inches and weigh 200 lbs so calculate his BMI and assess his BMI health

Rich Froning’s BMI is ___. Now interpret what this means ....

(An observation if he adds 3 lbs of weight or just over 1 kg he falls into the obese category. So is the BMI an accurate determination of a person’s health?)

You must now research the alternatives to using the BMI plus justify why the BMI is flawed metric for assessing fitness and health.

CLASSWORK

Alternatives to the BMI