

S2470C

Behaviour Change

Lesson 9

Behavioural Assessment

Programme Coordinator: Dr Elaine Wong



The Approach

- Understanding functional assessment
- Establishing behaviour goals
- Developing behaviour interventions



Functional Assessment

Conducting a functional assessment of a health behaviour is the **first step in developing a intervention**

Functional assessment helps to **identify the antecedents that evoke the behaviour** and the **reinforcing consequences that maintain the behaviour**

Functional assessment may be conducted in three ways:
Indirect assessment, Direct Assessment and Experimental Analysis



Indirect Assessment

Gather information on the antecedents and consequences of the health behaviour

Self-report from individuals and/or gather information from people who know the client well and are familiar with the health behaviour

Use of behavioural interviews or questionnaires

- Easy to implement
- Less time and resources needed
- Suitable to assess behaviour that occurs infrequently



Direct Assessment

Also known as ABC Recording
(Antecedents, Behaviour, and
Consequences)

Practitioner observes and records
the antecedents, behaviour, and
consequences as they occur in
the natural context

ABC recording can be done using
a descriptive method, a checklist
method or an interval method.



Descriptive ABC Recording

Observation Record

Describe the behaviour (s) **e.g. Primary 1 students brushing of teeth in school**

Describe what happened **just before** the behaviour occurred (what you did, what they did, etc).

Describe what happened **just after** the behaviour occurred (what you did, what they did, etc).

Date, time	What happened just before the behaviour?	Behaviour: What was done or said? Be specific.	What happened just after the behaviour?
20 May 2020, Wed, 1pm	Primary 1 students finished their lunch and wanted to play.	Students appeared restless while waiting for their turn to brush their teeth. Some of them squatted down and stared into blank space. They eagerly brushed their teeth. 7 out of the 10 students did not brush their teeth in the correct way.	Students dashed off to play before the bell rang for their lesson.



ABC Checklist

Behaviours			Antecedents			Consequences			Time
Polytechnic students smoking			Finish lunch	Finish school, on the way home		Smoked a range of 3 to 5 sticks in 10 mins	Smoked more than 5 sticks within 30 mins		
✓			✓			✓			
✓				✓			✓		
									12noon
									4pm



Direct Assessment Process: Record Behaviour

3 Choose recording method



Continuous Recording



Product Recording



Interval Recording



Time Sample Recording



3

Choose recording method

Continuous Recording

- ◆ Records every instance of behaviour during observation period
- ◆ **Frequency, duration, intensity or latency** may be recorded



3

Choose recording method



Continuous Recording

Frequency

Duration

Intensity

Latency



- ◆ **Number of times** behaviour occurs in an observation period
- ◆ One occurrence is one onset and offset of the behaviour

Example:

- ◆ Counting number of cigarettes someone smokes
- ◆ Onset - lighting cigarette
- ◆ Offset - putting out cigarette

3

Choose recording method



Frequency

Duration

Intensity

Latency



- ◆ **Total amount of time** occupied by behavior from start to finish

Example:

- ◆ Record number of seconds for patient to stand up without assistance



3

Choose recording method



Continuous Recording

Frequency

Duration

Intensity

Latency



- ◆ Amount of **force, energy, or exertion** to carry out behaviour

Example:

- ◆ Using a decibel meter to measure loudness of someone's speech



3

Choose recording method



Continuous Recording

Frequency

Duration

Intensity

Latency



- ◆ Time from some stimulus or event to **onset** of behaviour
- ◆ i.e. how long it takes to start behaviour

Example:

- ◆ Record how long it takes to fall asleep
- ◆ Longer latency means more difficult to fall asleep



3

Choose recording method

Product Recording

- ◆ Records **tangible outcome** or **permanent product** of the occurrence of behaviour
- ◆ Observer does not need to be present when behaviour occurs

Example:

- ◆ To measure exercise frequency, record number of times person goes to gym or fitness corner

Interval Recording

- ◆ Records occurrence or non-occurrence of behaviour in **consecutive intervals of time** during an observation period.
- ◆ Observation period divided into smaller interval periods.

Example:

- ◆ To measure number of muscle twitches due to caffeine consumed.
- ◆ Every muscle twitch is recorded within each 15-min interval.





3

Choose recording method


Time Sample Recording

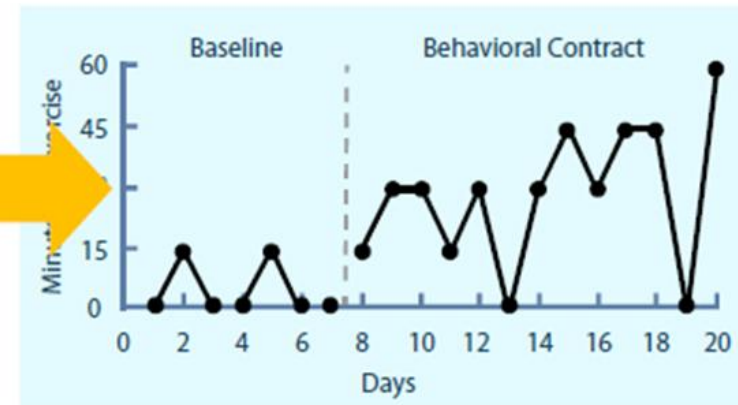
- ◆ Records occurrence or non-occurrence of behaviour in **discontinuous intervals of time** (time samples) during an observation period.

Example:

- ◆ To record poor posture, observer sets timer for every 10 mins.
- ◆ Records an instance of bad posture only if client's posture is bad at end of each interval.

Behaviour Modification Graph





- ◆ Visual representation of behaviour occurrences over a stated period of time.
- ◆ Information on data sheet is transferred onto a graph.



Direct Assessment Process - Graph Behaviour

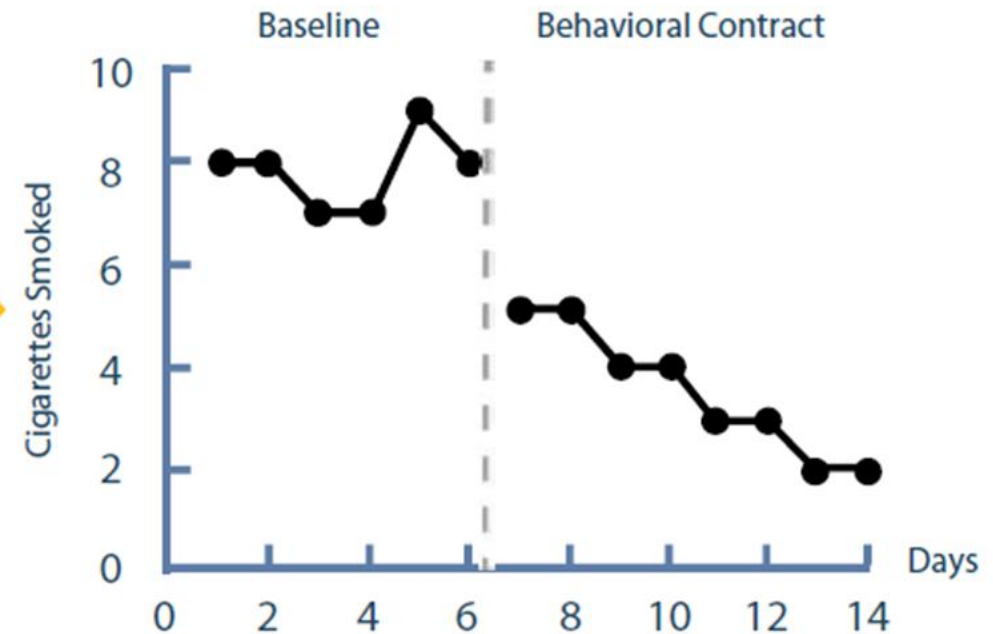
Example 1

(a)

	Frequency												
Days	1	2	3	4	5	6	7	8	9	10	11	12	Daily Total
1	X	X	X	X	X	X	X	X					8
2	X	X	X	X	X	X	X	X					8
3	X	X	X	X	X	X	X						7
4	X	X	X	X	X	X	X						7
5	X	X	X	X	X	X	X	X	X				9
6	X	X	X	X	X	X	X	X					8
7	X	X	X	X	X								5
8	X	X	X	X	X								5
9	X	X	X	X									4
10	X	X	X	X									4
11	X	X	X										3
12	X	X	X										3
13	X	X											2
14	X	X											2

*Day 6 was the last day of baseline and day 7 was the first day of treatment.

Frequency Data Sheet



Behaviour Modification Graph



Experimental Analysis

“Manipulation” of antecedents or consequences to determine their influence on the behaviour

Allows the establishment of a functional relationship between the antecedents (A), behaviour (B) and consequences (C)

E.g. I have a habit of going straight for my chocolate in the cupboard after my dinner. I tend to eat too much chocolate.

Manipulation: I get my wife to hide the chocolate in various places in the house.

Now I have to search the house in order to get my chocolate **(A)**, I eat only a piece of chocolate **(B)** as I find only one and it takes too much time and effort to find another one. After a few weeks, my craving for chocolate after dinner reduces **(C)**



Behaviour Change Techniques

Provide

- **Information about behaviour-health link:** Susceptibility to poor health outcomes or mortality risk in relation to the behaviour.
- **Information on consequences:** Benefits & costs of action/inaction. Focus on what will happen if the person does/does not perform the behaviour.
- **General encouragement:** Praise or reward the person for effort or performance.
- **Instruction:** Tell the person how to perform a behaviour.
- **Feedback on performance:** Provide data about recorded behaviour or evaluate performance in relation to a standard or others' performance, i.e., the person received feedback on their behaviour.
- **Contingent rewards:** Encouragement or material rewards that are explicitly linked to the achievement of behaviour.





Behaviour Change Techniques

Prompt

- **Intention formation:** Encourage the person to act or set a general goal e.g., to set a behavioural resolution “I will exercise more next week”.
- **Barrier identification:** Identify barriers to performing the behaviour and plan ways of overcoming them.
- **Specific goal setting:** Detailed planning of what the person will do using SMART goal setting.
- **Self-monitoring:** Keep a record of specified behaviour(s) (e.g., in a diary).
- **Self-talk:** Encourage the use of self-instruction & self-encouragement (aloud/silently) to support action





Behaviour Change Techniques

Set graded tasks

- Set easy tasks & increase the difficulty until target behaviour is performed.

Model or demonstrate the behaviour

- An expert shows the person how to correctly perform a behaviour e.g., in class or using video.

Plan social support or social change

- Prompt one on how to change their behaviour by offering the person help, social support or including buddy systems.

Teach to use prompts or cues

- Teach the person to identify environmental cues that will remind them to perform a behaviour, including times of day or elements of contexts.

Relapse prevention

- Following the initial change, help identify situations likely to result in readopting risk behaviours or failure to maintain new behaviours. Help the person plan to avoid relapse or manage these situations.





References

Abraham, C. & Michie, S. (2008). A Taxonomy of Behavior Change Techniques Used in Interventions. *Health Psychology*, 27(3), 379-387.

Brawley, L.R., Rejeski, J. & King, A.C. (2003). Promoting Physical Activity for Older Adults. *American Journal of Preventive Medicine*, 25(3Sii), 172-183.