

# **Psychological Factors that Impair or Facilitate Weight Management: Putting LIFE Into Lifestyle**

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# Your Not In Kansas Anymore, Dorothy!

*What if our current  
approaches miss the mark?*

# What's Wrong With What I am Doing Now?

- Current lifestyle interventions focus on specific methods to manage weight
  - The problem is the focus on method and the implementation through the patient-provider relationship
  - We unwittingly establish environmental control strategies that support short term not long term behaviour
- Our patients tell us
  - The more often I can see you, the easier it is for me to stay on track
  - When you stop seeing me, I can't continue to stay on track

# ENVIRONMENTAL CONTROL

BEHAVIOUR WILL BE REPEATED WHEN:

- It is reinforced or rewarded.
  - Something valued or desirable is added
  - Something negative is taken away
- Behaviour will extinguish (stop) when:
  - A reinforcer or reward is taken away
    - The reward value ends or is faded out
    - A punishment is applied
- Stimulus Control is about recognizing that a strong determinant of behaviour is environmental cues

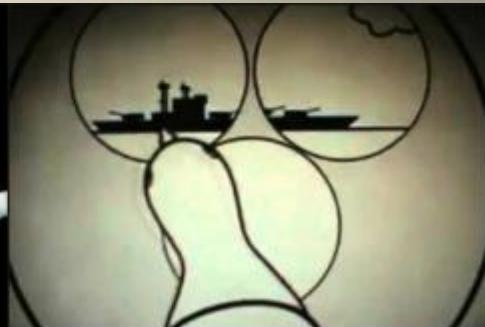
# If Attending Lifestyle Programs is Reinforcing

- During the program – Positive Reinforcement
- Stopping the program – Negative Punishment

**Can Reinforcement and Stimulus Control  
Really Be That Powerful??**

# BF Skinner's Pigeon Project

## The Pigeon-Guided Missile



American behaviorist B.F. Skinner hit on a novel idea for the war effort when he came up with the idea for 'Project Orcon' (which stood for organic control), which was his attempt to produce the world's first pigeon-guided missile.

The control system had a lens attached to the missile which projected an image of the target to a screen. Three trained pigeons would then peck at the target on the screen and where they pecked would determine where the missile hit. As long as they pecked the center of the screen the missile would remain on target but if they pecked off center, the missile would change course, as long as two of the three had it right though, the target would be hit.

The National Defense Research Committee put \$25,000 for research into the project but despite this, for some unfathomable reason, the US military didn't take the idea too seriously. On the 8th October, 1944 the project was canceled, the official reason given was "further prosecution of this project would seriously delay others which in the minds of the Division have more immediate promise of combat application."

# SUMMARY

- Current approaches exhibit
  - All the features of behaviourism
- Provide a roadmap for what to do – a behavioural pathway

Is offering a specific behavioural pathway really a good idea?

How old is a child when they first declare:  
***YOU ARE NOT THE BOSS OF ME!***

The more you tell  
someone what to do,  
the more they .....

What are amongst a  
child's first words:  
NO!  
ME DO!

# What Does It Mean To Describe A Behaviour As A Lifestyle Behaviour

- Lifestyle behaviours refer to behaviours that last over time and carry across situations
  - Lifestyle behaviours do NOT need to be externally reinforced
- Lifestyle interventions are not about shaping specific behaviours in the hopes that these behaviours will “take” and spark internally driven motivation
- Lifestyle interventions are about identifying the DRIVERS of behaviour and promoting behaviours that are internalized by the person

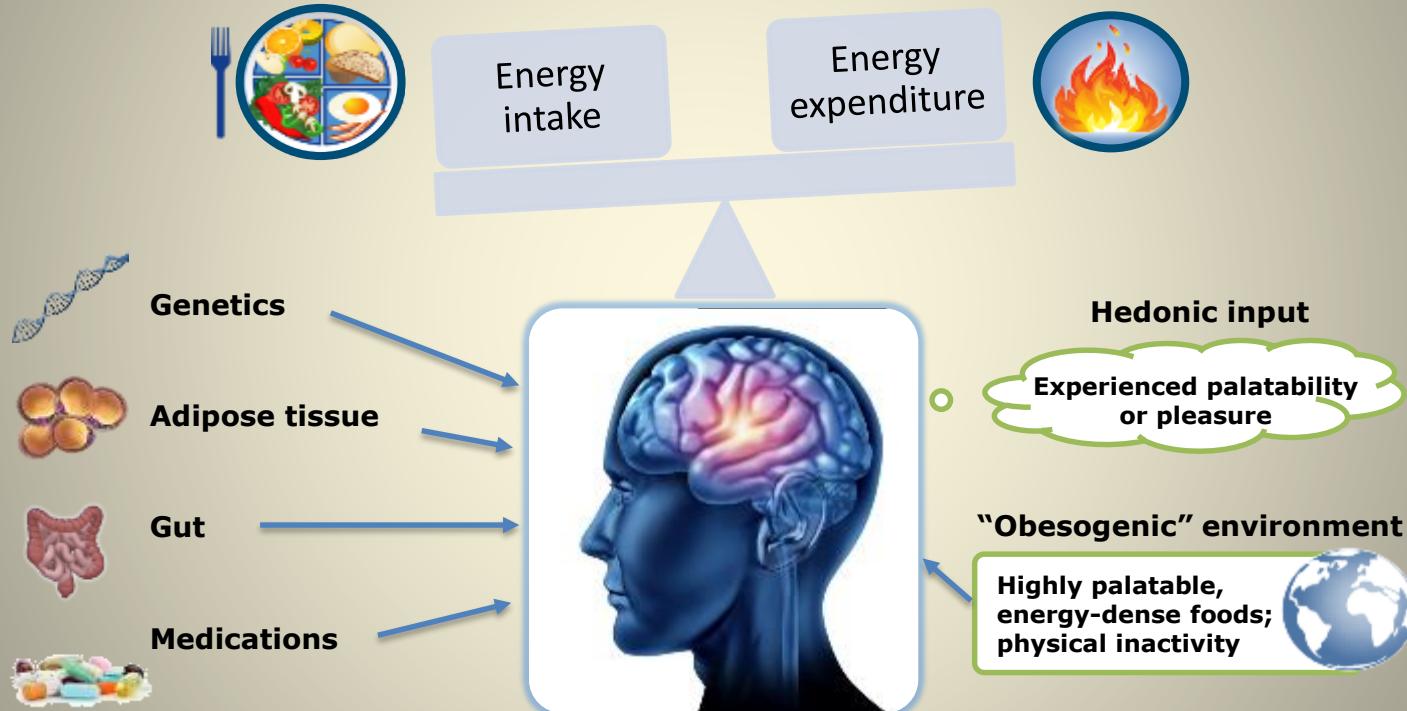
# What Is Lifestyle Counselling for Obesity?

- Directly addressing the drivers of behaviour
- Not investing in any specific behavioural pathway:
  - There are nutritional pathways
  - There are activity pathways
  - There are medication pathways
  - There are surgical pathways
- It is the sustained, fulfilling pathways that defines lifestyle success

# **FOUNDATIONAL EVIDENCE**

***NEUROBIOLOGY OF OBESITY***  
***NEUROBIOLOGY OF BEHAVIOUR***  
***THE DYNAMIC OF RELATIONSHIPS***

# Many modifiable and non-modifiable factors contribute to obesity



1. Woods SC et al. Int J Obes Relat Metab Disord. 2002;26 Suppl 4:S8–S10.
2. Ludwig DS. JAMA. 2014;311:2167–2168.
3. Speliotes EK et al. Nat Genet. 2010;42:937–948.
4. Garvey WT et al. Endocr Pract. 2014;20:977–989.
5. Bray GA and Ryan DH. Ann NY Acad Sci. 2014;1311:1–13.

# Persistent Metabolic Adaptation 6 Years After “The Biggest Loser” Competition

**TABLE 1** Anthropometric and energy expenditure variables in 14 of the original 16 study subjects who participated in “The Biggest Loser” 30-week weight loss competition

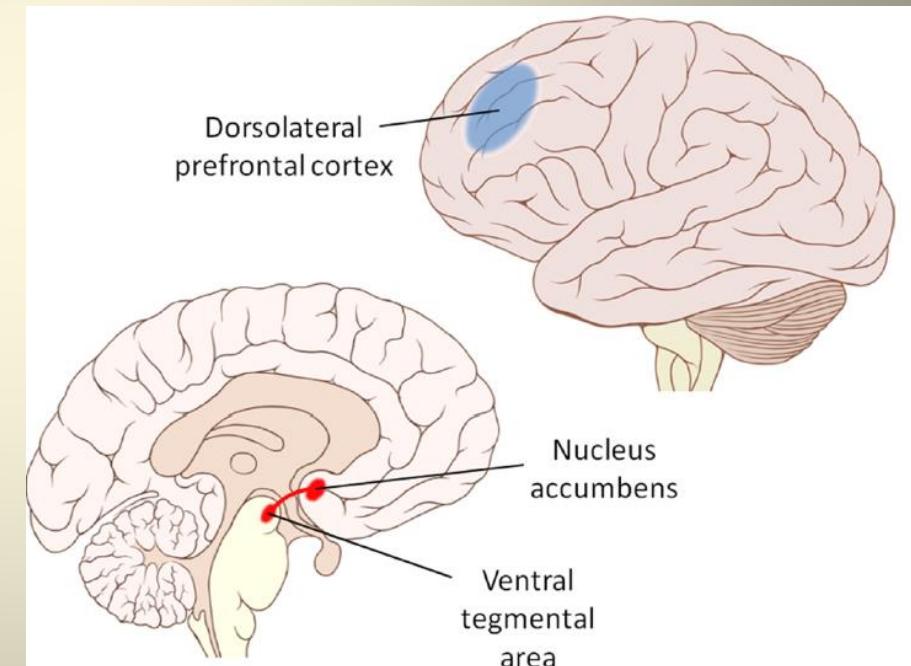
	Baseline	End of competition at 30 weeks	Follow-up at 6 years	P		
				Baseline vs. 30 weeks	Baseline vs. 6 years	30 weeks vs. 6 years
Age (years)	34.9 ± 10.3	35.4 ± 10.3	41.3 ± 10.3	<0.0001	<0.0001	<0.0001
Weight (kg)	148.9 ± 40.5	90.6 ± 24.5	131.6 ± 45.3	<0.0001	0.0294	0.0002
BMI (kg/m <sup>2</sup> )	49.5 ± 10.1	30.2 ± 6.7	43.8 ± 13.4	<0.0001	0.0243	0.0002
% Body fat	49.3 ± 5.2	28.1 ± 8.9	44.7 ± 10	<0.0001	0.0894	0.0003
FM (kg)	73.4 ± 22.6	26.2 ± 13.6	61.4 ± 30	<0.0001	0.0448	0.0001
FFM (kg)	75.5 ± 21.1	64.4 ± 15.5	70.2 ± 18.3	<0.0001	0.0354	0.0101
RQ	0.77 ± 0.05	0.75 ± 0.03	0.81 ± 0.02	0.272	0.0312	<0.0001
RMR measured (kcal/d)	2,607 ± 649	1,996 ± 358	1,903 ± 466	0.0004	<0.0001	0.3481
RMR predicted (kcal/d)	2,577 ± 574	2,272 ± 435	2,403 ± 507	<0.0001	0.0058	0.0168
Metabolic adaptation (kcal/d)	29 ± 206	-275 ± 207	-499 ± 207	0.0061	<0.0001	0.0075
TEE (kcal/d)	3,804 ± 926	3,002 ± 573	3,429 ± 581	0.0014	0.0189	0.0034
Physical activity (kcal/kg/d)	5.6 ± 1.8	10.0 ± 4.6	10.1 ± 4.0	0.0027	0.001	0.8219

The predicted RMR was obtained using a linear regression equation developed using baseline data on body composition, age, and sex in the full 16-subject cohort. The P values were not adjusted for multiple comparisons.

BMI, body mass index; FM, fat mass; FFM, fat-free mass; RMR, resting metabolic rate; RQ, respiratory quotient; TEE, total energy expenditure.

# The Neurobiology of Behaviour

- Feeling and thinking: preferences need no inferences<sup>1</sup>
- Emotions trump logic
- Communication is the bridge



1. Zajonc, R. Am Psychologist 1980;35:151–75

# The Dynamics of Relationships: How We Maintain Connection

Circumplex model<sup>1</sup>

People can be categorised along  
two independent dimensions

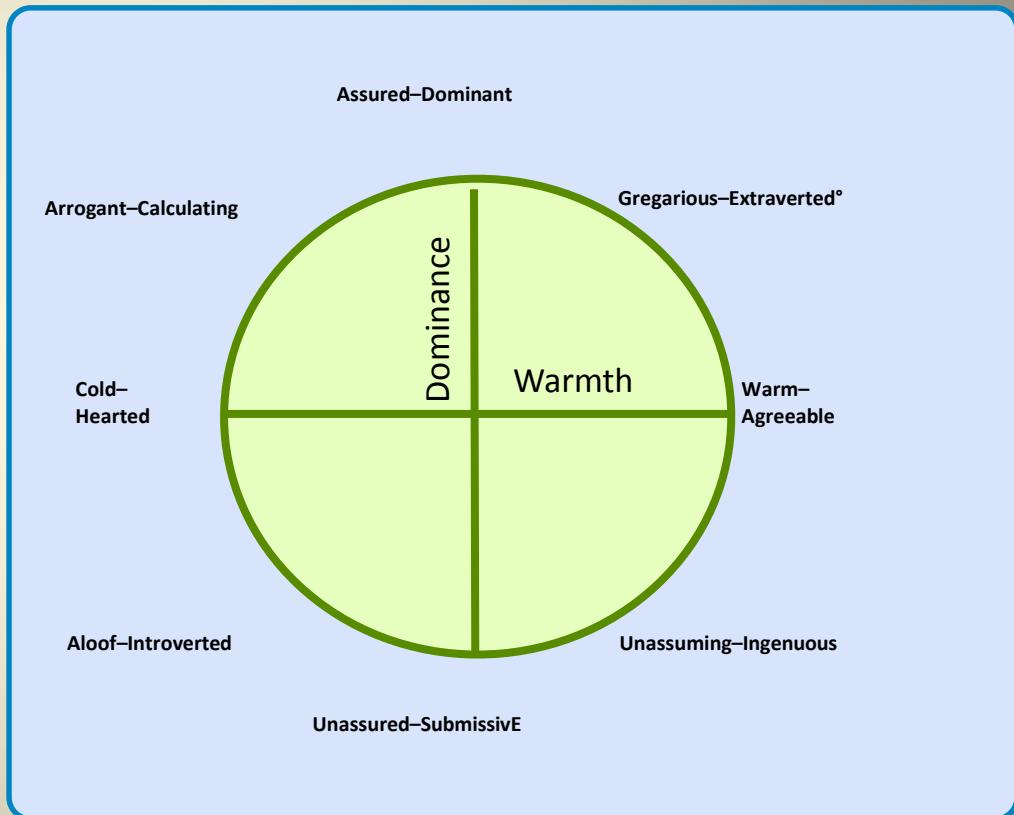
Dominance

Agreeableness/sociability

Interpersonal complementarity<sup>2</sup>

Dominance evokes submission

Friendliness evokes friendliness



1. Markey & Markey. *Assessment*. 2009;16:352–361

2. Markey et al. *Personality and Social Psychology Bulletin*, 2003;29:1082–1090

# Unique Challenges to Behaviour Change in Obesity



# BIAS

*When you look in the mirror, do you like what you see?*

*When you walk down the street, can you hold your head up?*

# The Problem with Bias

- My Worth is My Weight and My Shape
- What other people think about me is more important than what I think about myself
  - Need to address self-esteem and body image and healthy goals

# A Theory Driven Approach to Bias

- Attribution Theory
    - North American work ethic
    - Focus is on self-determination and individualism
  - Just World Hypothesis
    - Why, why, why (bad things only happen to bad people)
  - Social Consensus (power of the media)
- 
- Bias is inevitable; affirmative action is necessary

# How Do I Promote Positive Self-Esteem?

Lifestyle counselling:

- Identify
- Educate
- Recommend
- Support

Guided Discovery

*Expectations*

# The challenge of weight loss expectations

My weight is my worth

Success as measured by weight loss



Puhl & Brownell, 2003. *Obes Rev* 4(4): 213-227.

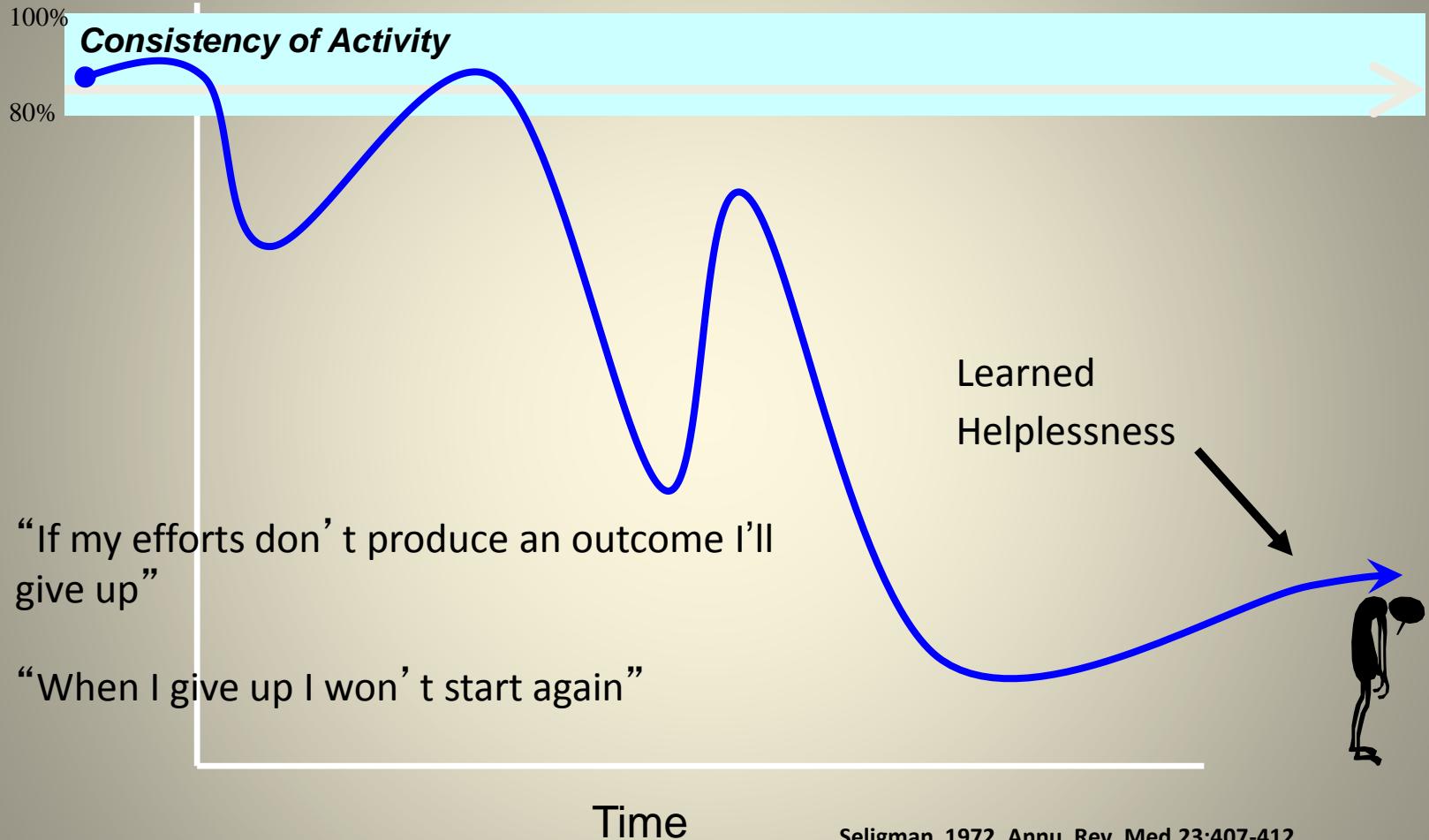
Wadden et al., *J Consult Clin Psychol.* 2003 Dec;71(6):1084-9

Grave et al., *Obesity Research.* 2004 Vol 12(12) Dec

Bauchowich et al., *Surg Obes Relat Dis* 3(5): 554-558.

# The Problem with Expectations

- Learned helplessness



# Negotiate Appropriate Expectations

- Ask
  - “What are your expectations about what success would look like....what outcome would make the effort worth it to you?”
- Listen and summarize
- Invite
  - “Could we have a discussion about what the evidence suggests?”
  - “Would it surprise you to know that many of the public messages about how much weight someone can lose is unrealistic to the point of being misleading?”
  - “Would it surprise you to know .....

*Doing*

# Importance of assessing readiness to change

- Interventions that are not tailored to the patient's stage of readiness are less likely to succeed
  - Unrealistic expectations can lead to HCP and patient frustration
- Interventions that try to move a patient too quickly through the stages of change are likely to create resistance
- Readiness assessment establishes the patient's starting point



## Readiness assessment

### Ready

Go right to behavior modification

### Ambivalent

Begin working on behavior and encourage a focus on personal meaningful reasons to change

### Not ready

Confirm that the person is not ready and ask permission to keep the conversation going

# *Wanting*

Address the hedonic drive

- Willpower is a limited quantity
  - The power of stimulus control
- Urges Pass – *Urge surfing*
- Values link limbic system to frontal lobes

- Cognitions can be identified and countered
  - Permission thoughts; moral paradox
- Positivity as choice
  - *Self-esteem can only be claimed*
- Values link limbic system to frontal lobes

Address cognitions, beliefs and values

*Thinking*