

Losing, Gaining, Maintaining: Is it a Science?

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Losing, Gaining, Maintaining: Is it a Science?

- Knowing the science of body weight will empower you to take control
 - Biological science
 - Social science
 - Behavioral science

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Balancing body weight is like balancing your checkbook

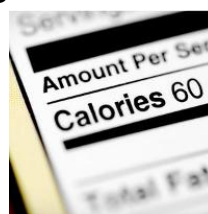


Body Weight Economics 101

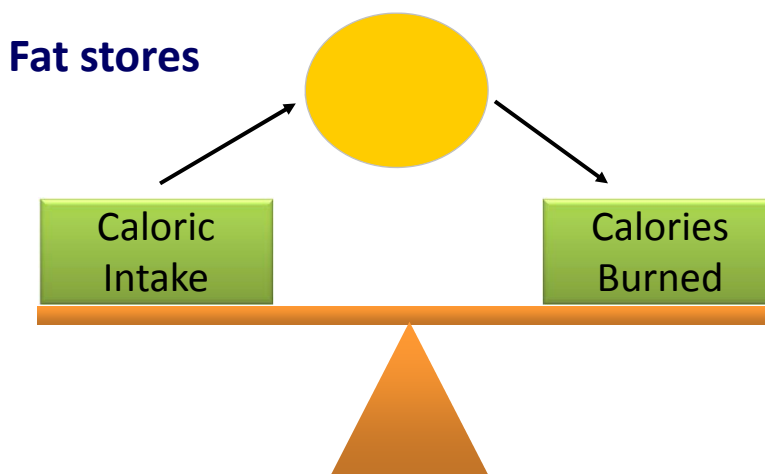
- Whereas the currency of the American economy is the US Dollar

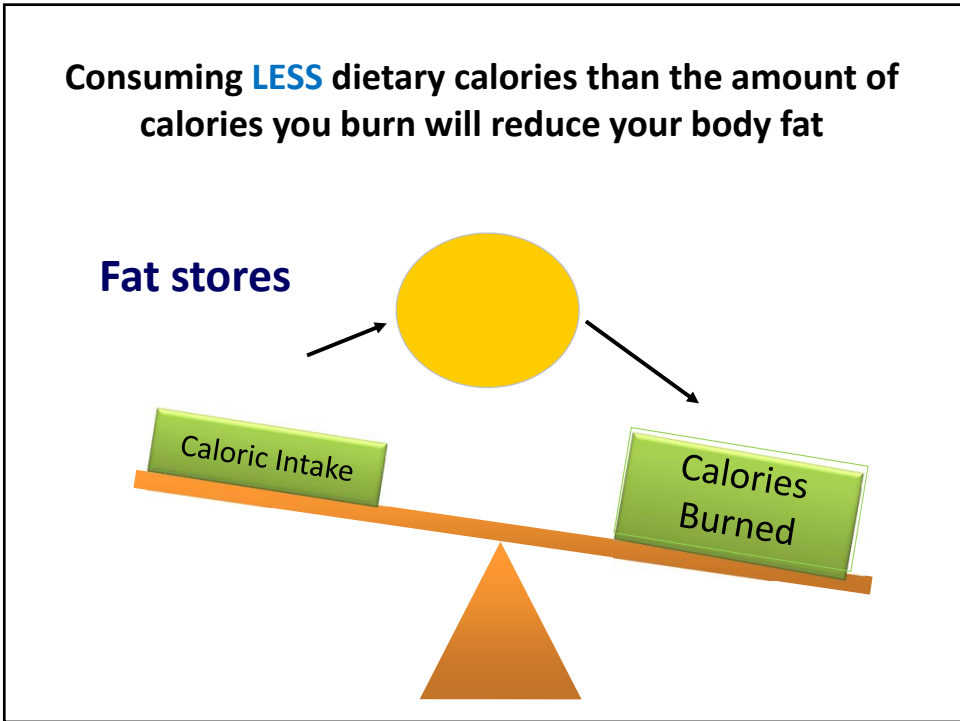


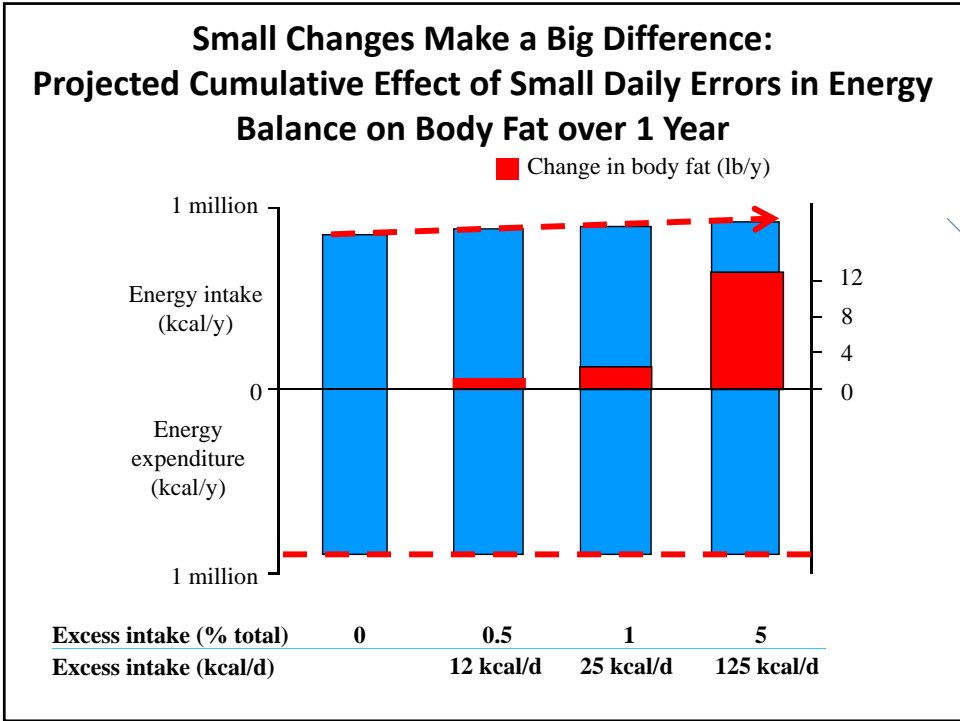
- The currency of body weight is a calorie



To maintain body weight balance, you need to exactly match your dietary caloric intake with the calories that you burn







The Challenge to Maintain Energy Balance

Caloric Excess	=	Food Item
12 kcal		2 Gummy Bears
25 kcal		2 Saltine crackers
125 kcal		1 cup 1% milk

The difficulty lies in knowing your calorie balance

- What is the value of this bill?



- What is the value of this coin?



The difficulty lies in knowing your calorie balance

- What is the caloric value of this burger?

990 kcal



- What is the caloric value of this taco salad?

700 kcal



The difficulty lies in knowing your calorie balance

- What is the caloric value of brisk walking for 30 minutes*?

246 kcal



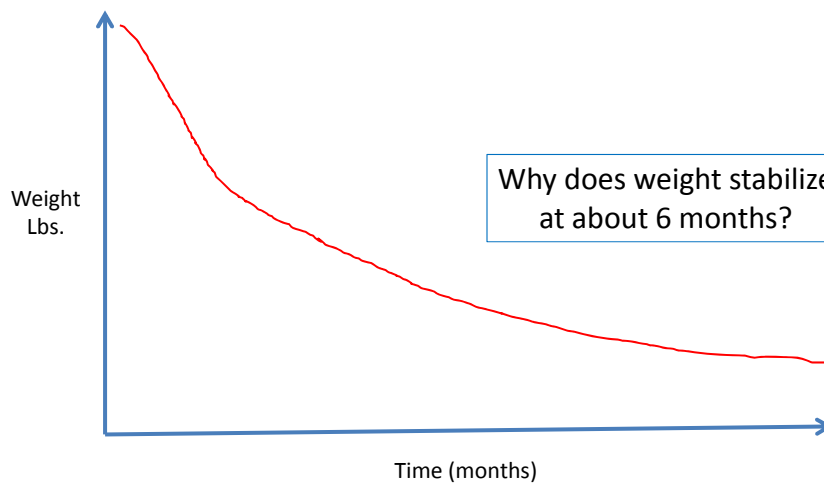
- What is the caloric value of water aerobics for 30 minutes*?

225 kcal



*180 lbs

Weight Loss



Weight Loss Stabilizes for Multiple Reasons

1. Reduced calories burned

- Weigh less
- Biological adaptation to weight loss (body defends itself against “starvation”)
- Muscles become more efficient when exercising

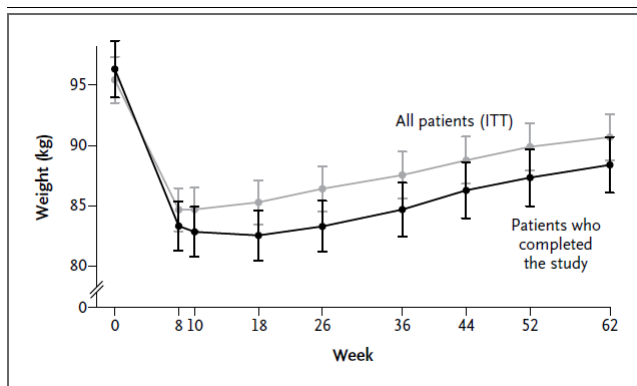
2. Increased hunger (hormonal changes)

3. Gradual recidivism of caloric restriction



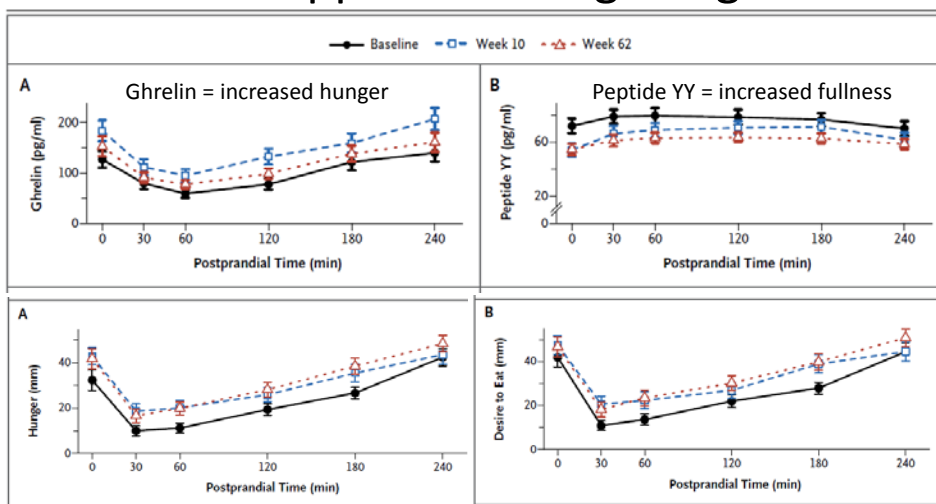
Why is Weight Loss so Hard to Maintain?

30 lbs (14%)
Weight loss



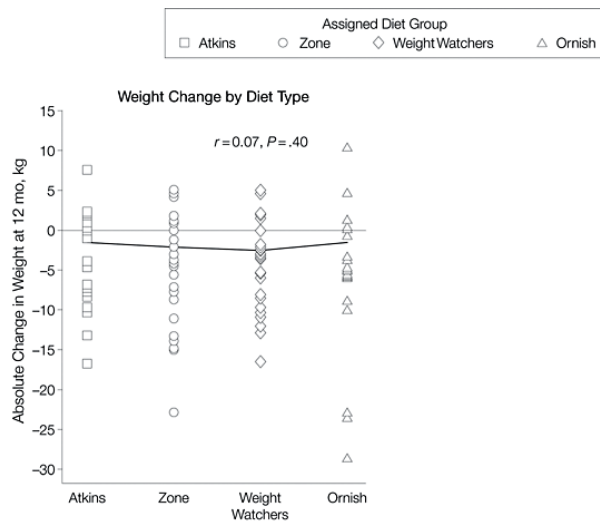
Sumithran and others, New England Journal Medicine, 2011

A Change in Gut Hormones Increases Appetite During Weight Loss



Sumithran and others, New England Journal Medicine, 2011

What's More Important? The Diet Itself or Following the Diet?



Dansinger and others. Journal American Medical Association, 2005

Biological Science Summary Thus Far

- Body weight is primarily determined by the balance between caloric intake and calories burned
- A very tiny but sustained imbalance between caloric intake and calories burned leads to weight gain (or weight loss)
- It is extremely difficult to know how many calories you are consuming and burning
- As you lose weight, there are biological forces that resist continued weight loss

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The Challenge of Balancing Food Calories



Eating to Balance Expenditure

Food Availability
Abundance
Snacking
Convenience Stores
Vending Machines
Processed Foods
Cooking Less
Eating Out More
Large Portions
Fast Food Choices
Value Meals
Food Courts
All You Can Eat Buffets

Healthy Choices

Unhealthy Environment

The Challenge of Burning More Calories



Burning calories to balance intake

- Elevators
- Escalators
- Telephones
- Snow Blowers
- Remote Controls
- Cars, Buses, Trains
- Computers
- Email
- Drive-Thru Society
- Television
- Cable Channels
- Video Games
- VCR's: Home Movies

Healthy Choices

Unhealthy Environment

The Challenge of Making Time



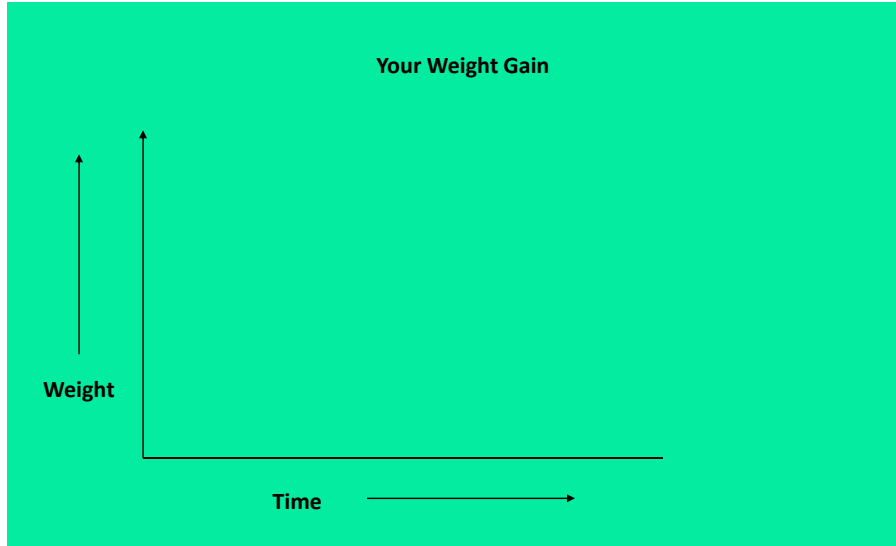
Making time for health

- Living the Hurried Life
- Always Rushing
- Overscheduled
- Overdoing It
- Not Living in the Moment
- Working Longer Hours
- Less Leisure Time
- Family Stresses
- Juggling Schedules
- Juggling Roles
- No Time for Family
- No Time for Self

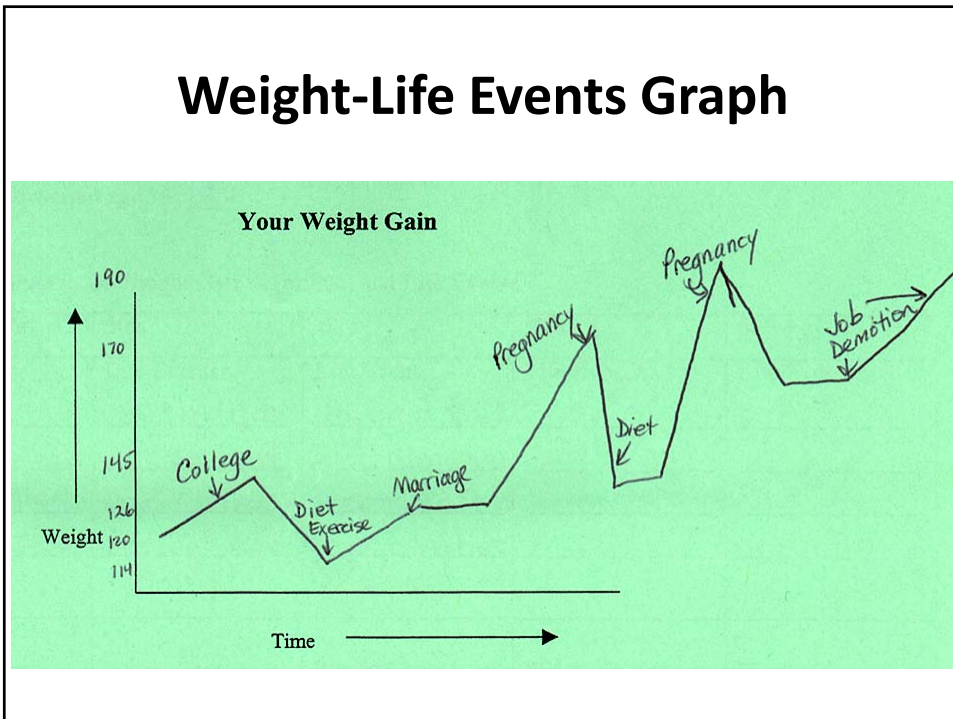
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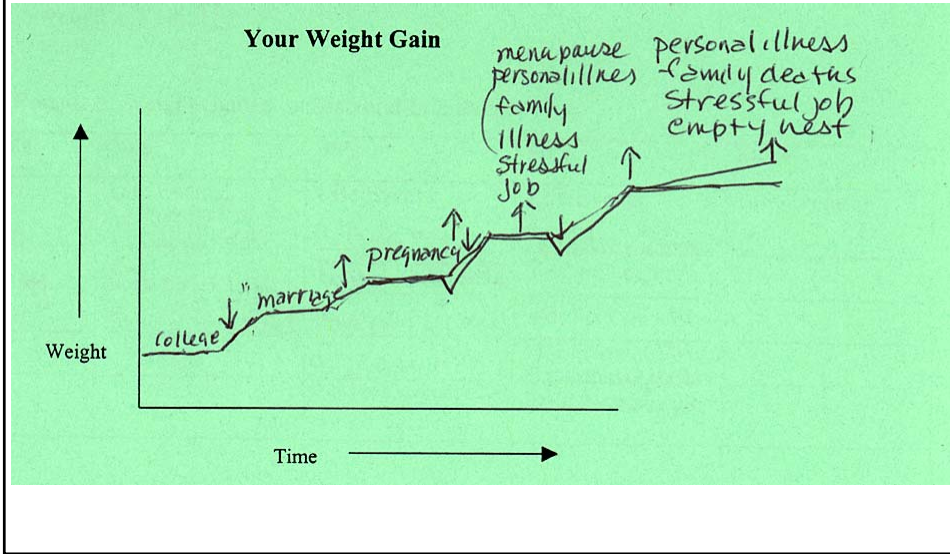
Weight-Life Events Graph



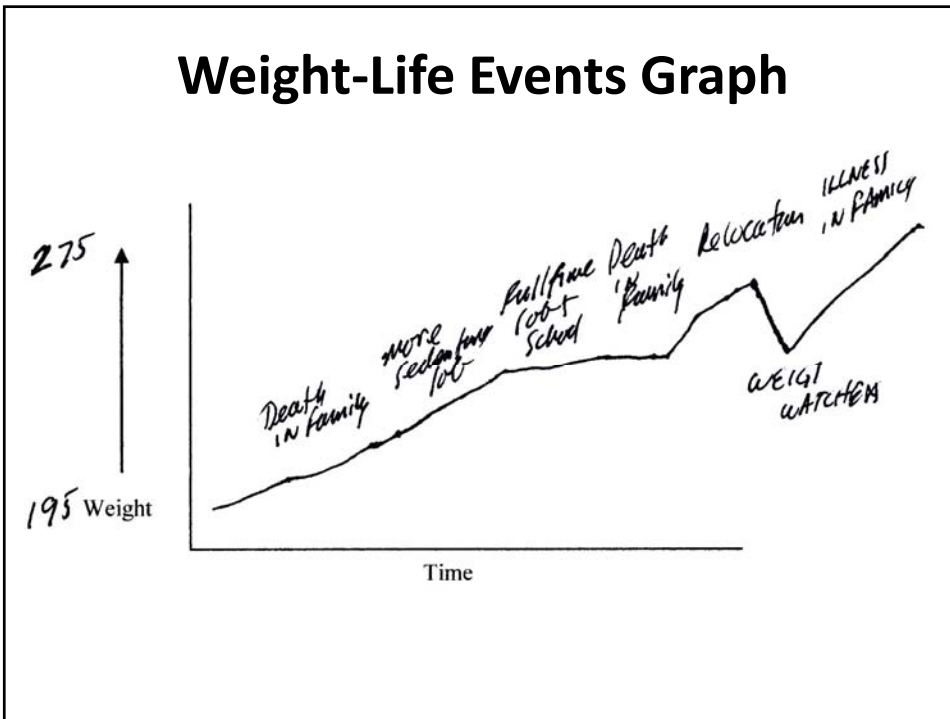
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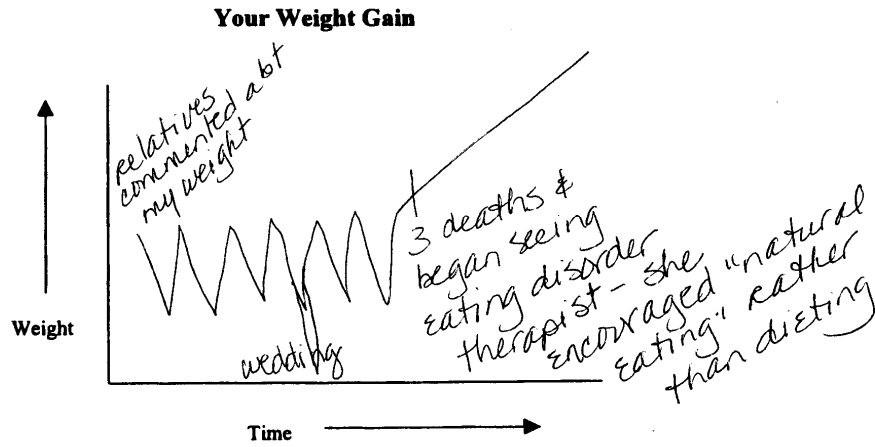
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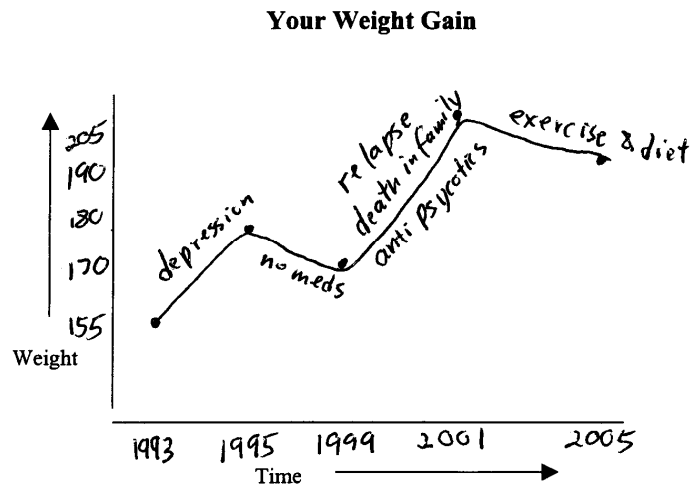
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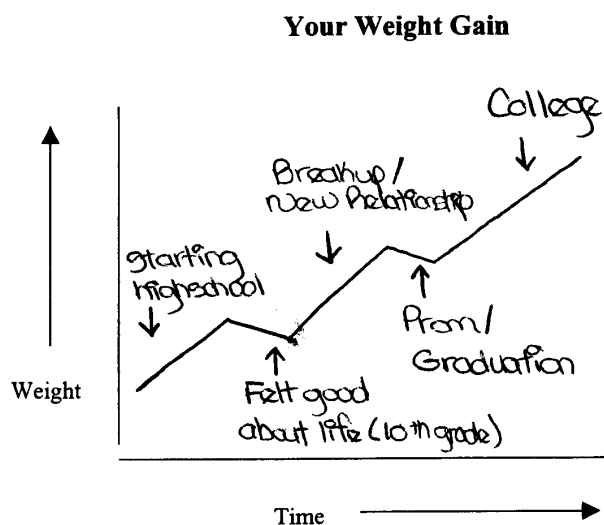
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Weight-Life Events Graph



Weight-Life Events Graph

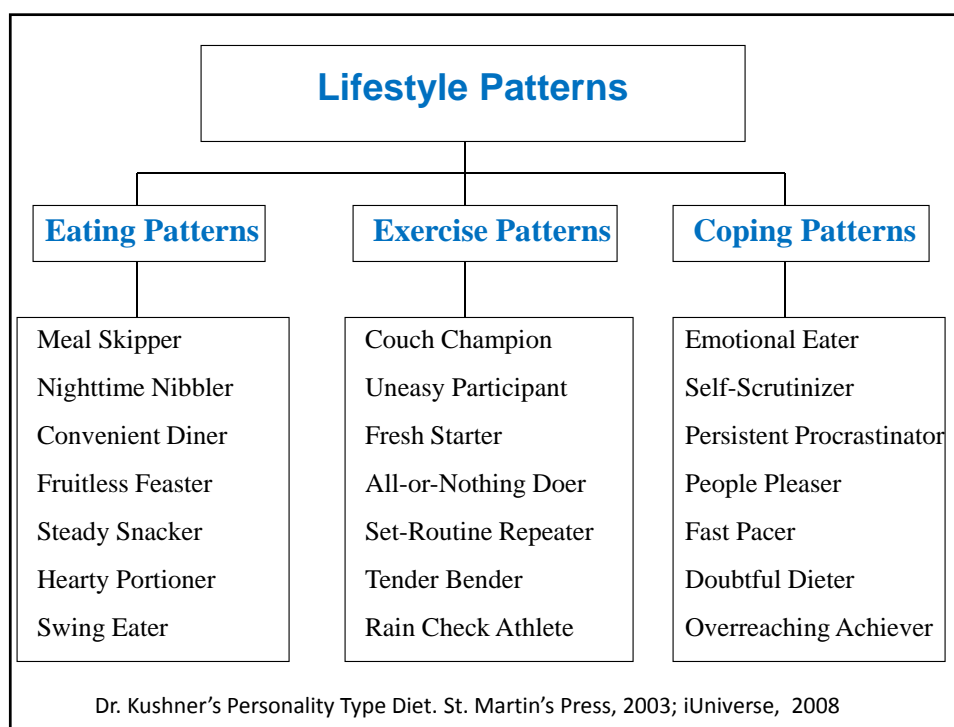


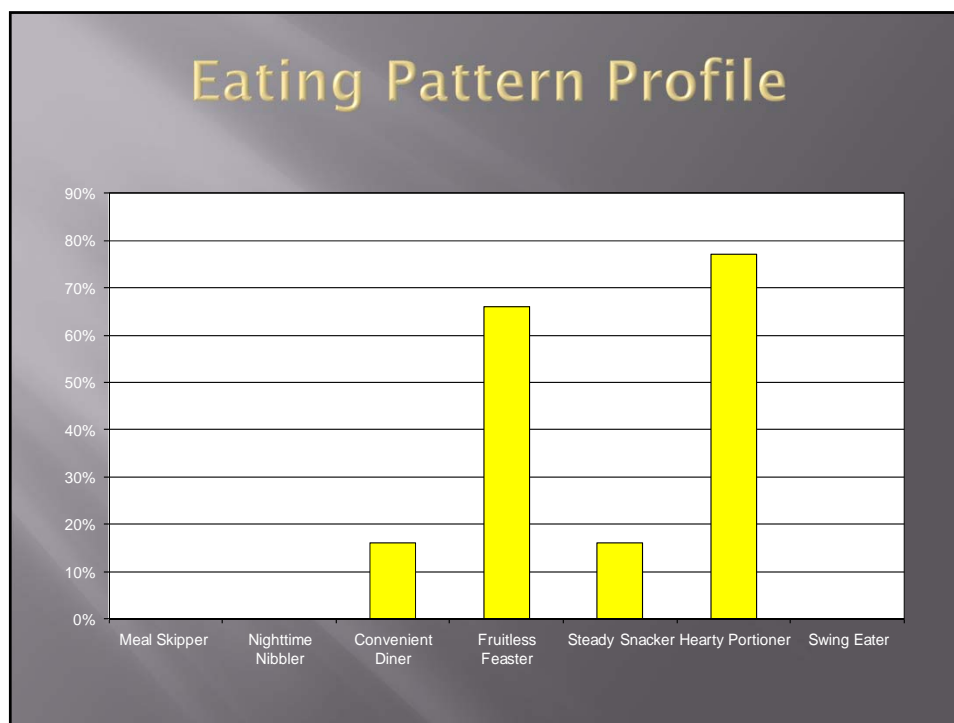
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Taking Control of Your Weight

- Be calorie conscious
 - Read food labels, know portion sizes, track your diet, set a calorie budget
- Be physically active
 - Engage in moderately-vigorous activity every day (brisk walking), reduce sedentary time, track your steps
- Know your lifestyle patterns

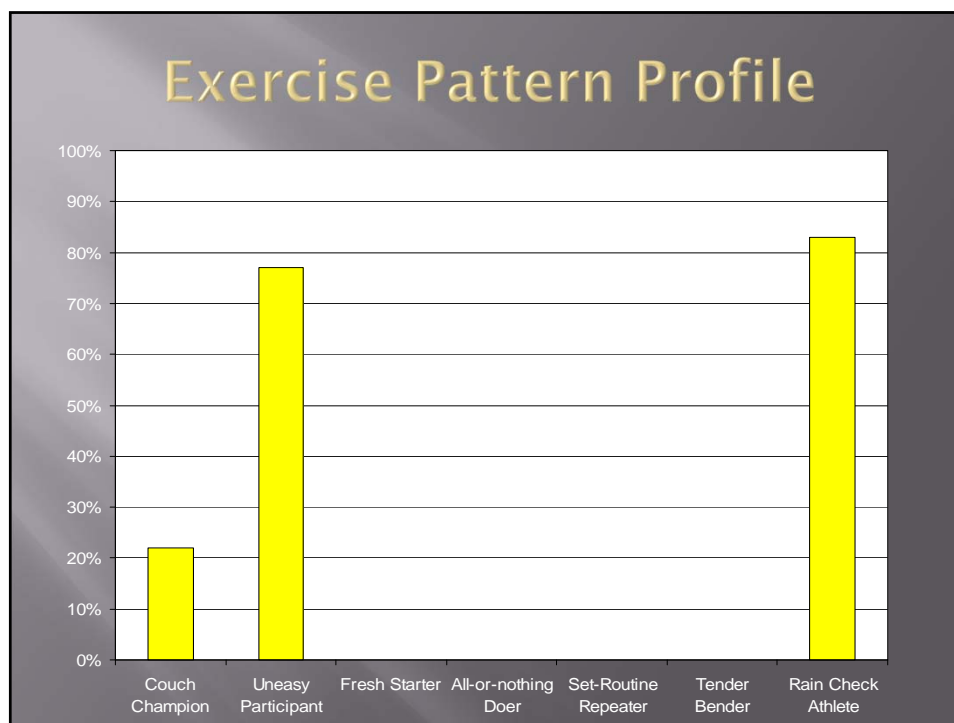




Lifestyle Patterns Treatment Approach: Eating Patterns

- **Hearty Portioner**
- 4 strategies:
 - Slow down your eating (allows satiety cues)
 - Eat more food with fewer calories (lower energy density)
 - Know serving sizes (food label reading)
 - Avoid portion traps (excess availability of foods)

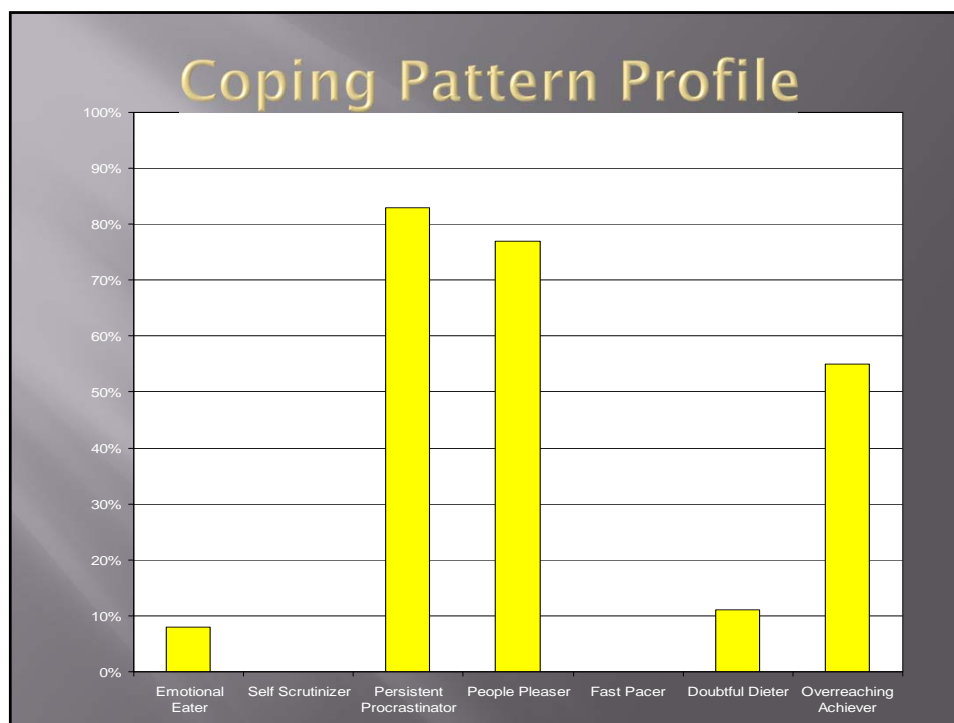




Lifestyle Patterns Treatment Approach: Exercise Patterns

- **Couch Champion**
- 4 strategies:
 - See benefits (educate importance)
 - Move more (ADL's)
 - Count steps (pedometer use)
 - Buddy up (socialization)





Lifestyle Patterns Treatment Approach: Coping Patterns

- **Emotional Eater**
- 4 strategies:
 - Track your feelings (food-mood diary)
 - Know your triggers (stimulus control)
 - Cope without food (alternative strategies)
 - De-stress (stress reduction techniques)



Take Aways

- Body weight is primarily determined by the number of calories you consume compared to the amount of calories you burn
- Once overweight, your body fights back to resist weight loss – making maintenance of weight loss difficult
- Weight gain, loss and maintenance is strongly influenced by multiple life events – biological, social, emotional, economic, among many others
- Knowing your lifestyle patterns allows you to tailor treatment strategies for your success