Chapter 7: Negative Behaviors and Physical Activity
Negative Behaviors and Physical Activity

- Exercise dependence
- Overtraining
- Physical activity and eating disorders
- Physical activity and steroid use
Are you exercise dependent?

- Are you considered to be dependent on exercise if you workout 6 or 7 times per week?
Exercise Dependency

声响符号: Just because you are physically active 5, 6, or even 7 days a week does not mean you are exercise dependent.
Exercise Dependence

Dependence is a craving for leisure time that results in uncontrollable excessive exercise behavior and it manifests itself in physiological and psychological symptoms.
Exercise Dependency

David Veale (1987;1995) advocated the adoption of a set of standards for diagnosing exercise dependence that are based on the Diagnostic and Statistical Manual for Mental Disorders criteria for substance dependence (DSM; American Psychiatric Association [APA], 1994)
Exercise Dependence

Exercise dependence can be defined as a multidimensional maladaptive pattern of PA, leading to significant impairment or distress, as manifested by three or more criteria from a possible list of seven.

Mental Disorder-IV Inventory

(Let’s find out if you are exercise dependent?)
Exercise Dependence Scale

- Dependency is defined as a score of 5 or 6 for that item.
- Symptomatic is scores of 3 or 4.
- Asymptomatic is scores 1 or 2.

Add each score then divide by number of questions to determine your score.
Exercise Dependence

The seven criteria are:

1) **Tolerance** effects--either increased amounts of PA are required to achieve the desired effect or the individual experiences markedly diminished effects from the same amount of PA.

2) **Withdrawal** effects--either symptoms such as anxiety or fatigue are evidenced with cessation of PA or PA is used to relieve or forestall the onset of the symptoms.

3) **Intention** effects--PA is undertaken with greater intensity, frequency, or duration than was intended.
Exercise Dependence

The seven criteria are:

4) **Lack of control** -- PA is maintained despite a persistent desire to cut down or control it

5) **Time** -- considerable time is spent in activities essential to PA maintenance

6) **Reduction in other activities** -- other social, occupational, or recreational pursuits are reduced or dropped because of PA

7) **Continuance** -- despite the awareness of a persistent physical or psychological problem, PA is maintained; e.g., running in spite of shin splints)
Exercise Dependence Research

A recent review concluded that the exercise dependence research is characterized by three general approaches:

- Comparing exercisers to eating disorder patients
- Comparing “excessive” to “less excessive” exercisers
- Comparing exercisers to nonexercisers
Exercise Dependence Research

Limitations of this research

- Lack of experimental investigations
- Inconsistent or nonexistent control groups
- Failure to control for subject biases
- Discrepant classification criteria, and/or invalid or inappropriate measures for excessive dependence
Recent Exercise Dependence Research

Hausenblas and Symons examined exercise dependence in over 2,300 exercisers who varied in their involvement.

- 9% of the exercisers could be classified as exercise dependent
- 40% as nondependent-symptomatic
- 41% as nondependent-asymptomatic
What type of people are susceptible in becoming exercise dependent?
Exercise Dependency Findings

- High Self-efficacy for exercise
  - High belief, highly successful
- Disposition of perfectionism
  - (Hausenblas & Symon Downs, 1997)
What usually happens to a regularly active person who for some reason misses their daily workout? Or goes several days without working out?

(Exercise Deprivation)
Exercise Deprivation

👩‍❤️‍👨 Represent effects during periods of no physical activity
👩‍❤️‍👨 Considered by Szabo as the cardinal sign of exercise dependency
👩‍❤️‍👨 Symptoms:
   ➡️ Affective: i.e., high anxiety and non-clinical depression
   ➡️ Cognitive: i.e., high confusion, and low concentration
   ➡️ Physiological: i.e., high psychological fatigue and low sleep
   ➡️ Social: i.e., withdraws or anti-social(social interaction)
Consequences of Deprivation in Habitual Exercisers

Mondin et al. (1996) Study

- Evaluated the influence of 3 day exercise deprivation on psychological variables involving young adult males and female runners who ran 6-7 days a week (45 minutes average per run)

- Measured the runners mood (POMs), anxiety (State Anxiety), & depression.

- Asked to exercise on Monday but not on tues, weds, or Thurs then exercised on Friday
3 days of exercise deprivation resulted in increases in:

- Total mood disturbance
- State anxiety
- Depression

Resumed exercise resulted in:

- Mood improvement (immediately)
• Is their a treatment for exercise dependency?

• If so, what can we do?

71% physiotherapists (e.g., physical therapists, athletic trainers) experienced problems that is injured clients simply refused to stop exercising.
Treatment of Exercise Dependence


Treatments:

a) Educate about injury and likely outcomes
b) Prescribe reduced or alternative activities
c) Refer them to a health professional
d) Behavior modification, modeling, and counseling.
• What is overtraining?

• What are the signs?

• What are the consequences of overtraining?
Over Training and Staleness

Over training

- Short period of training during which people increase their training loads to near or to maximal capacity.
  - Associated with high intensity of exercise and frequency than duration.
  - Exercise pattern where this no restoration phase.

Over training may lead to staleness

- Causes deterioration of readiness.
- Impairment of performance.
- Increased depression (80% of athletes who are stale are clinically depressed).
Symptoms of Overtraining

- The first symptoms of overtraining occur psychologically rather than physiologically (Bompa).
- The POMs inventory can give exercisers a clue if they are overtraining (vigor is low and fatigue is high)
Treatment of Overtraining

- Two types of overtraining sympathetic and parasympathetic.
  - Sympathetic usually occurs in young, inexperienced exercisers or athletes (e.g. resting HRT high)
  - Parasympathetic usually occurs in the mature, experienced exerciser or athlete (e.g. resting HRT actually drops)

- First one needs to determine which type of overtraining
  - Each type requires a different strategy
  - Strict periodization program is the best prevention
  - Log maybe effective in assessing the status of overtraining
Sympathetic Overtraining Interventions

- Eat alkaline foods (milk, fruit, fresh vegetables)
- Avoid stimulatory substances (coffee)
- Increase quantities of vitamin B groups
- Swim
- Warm baths but not sauna
- Light exercise
- Change the environment (time or type of workout)
Parasympathetic Overtraining Interventions

• Favor acidifying foods (cheese, meat, cake, eggs)
• Vitamins (B & C)
• Sauna at medium temperature
• Massage
• Sea level altitude training
• Train in a warm climate
• What is the relationship between PA and eating disorders?
Physical Activity and Eating Disorders

⚠️ The relationship between PA and eating disorders is not clear

⚠️ Some experts have stated that there is no relationship between PA and eating disorders

⚠️ Other experts feel that there is.
Physical Activity and Eating Disorders

- Individuals often have unrealistic expectations related to weight management and PA.

- Images of the ideal body
  - thin and fit for women
  - fit and muscular for men

- Diet is often used to attempt to model these images.

- Davis (2000) noted 80% of female with eating disorders exercised excessively in the acute stage.
Eating Disorders

- Refusal to maintain a normal weight
- Fear of gaining weight
- Denial that weight is too low
- Amenorrhea

- Anorexia Nervosa

- Binge Eating
- Inappropriate behavior to reduce weight
- Binge eating and inappropriate behavior twice a week.
- Distorted self-evaluation about weight loss.

- Bulimia Nervosa
Eating Disorders and Excessive Physical Activity

To diagnosis an eating disorder one must differentiate if the person has exercise dependency or an eating disorder (Veale, 1995)
Eating Disorder Patients versus Excessive Physical Activity

Alayne Yates and her colleagues (1983) who argued that male obligatory runners resembled anorexia nervosa

Heavily criticized--lack of data, poor methods, overstated similarities between the groups.
Eating Disorder Patients versus Excessive Physical Activity

Powers and her colleagues (1998) examined psychological and physiological characteristics of 40 male and female obligatory runners and 17 female anorexia nervosa patients.

The runners: (a) ran over 25 miles/week, (b) ran despite injury or illness, (c) considered running to be an important part of their life, and (d) felt guilty, irritable, or depressed when unable to run.

Measures of depression, personality, obsessions, body image, body composition, and fitness were obtained.
Eating Disorder Patients versus Excessive Physical Activity

- Anorexia nervosa patients displayed significant psychopathology
- Runners were consistently in the normal psychological ranges
- Body fat was in the normal range for the runners and low in the anorexia nervosa group
- Runners had excellent fitness levels compared to the anorexia nervosa patients who were low
Comparison of Athletes to Nonathletes

🔔 Athletes as a population might be at-risk

1) Societal norms --favor a lean physically fit physique -- these societal norms are salient for athletes

2) High activity levels and strenuous exercise can reduce the value of food reinforcement

3) Psychological characteristics consistent with high-level athletic achievement (perfectionism, motivation), are also evident in individuals with eating disorders

🔔 It does appear that athletes as a population self-report more eating disorder symptoms than do nonathletes.
Comparison of Athletes to Nonathletes

 ⟨ H⟩ Hausenblas and Carron (1999) meta-analysis

 ➔ Female athletes self-reported more bulimic (ES = .16) and anorexic (ES = .12) symptoms compared to females from the general population

 ➔ Male athletes self-reported more bulimic (ES = .30) and anorexic (ES = .35) symptoms compared to males from the general population.
Comparison of Athletes to Nonathletes

Hausenblas and Carron (1999) meta-analysis

- Male athletes in aesthetic and weight-dependent sports self-reported more bulimic and drive for thinness symptomatology versus male comparison groups.

- Females in aesthetic sports self-reported more of the tendencies to report anorexic symptoms (ES = .38)
Steroid Use and PA

Is there a problem with steroid use in exercisers? Or is steroid use just found in athletes?

Do you perceive your body as being as unacceptably small? (Muscle Dysmorphia)
Steroid Abuse and Physical Activity

How prevalent is steroid use?

- The first nationwide survey of steroid use among teenage boys 1988
- About 7% of high school seniors had used steroids.
- Prevalent in wrestling and football
- 35% of steroid users did not participate in any sport
Steroid Abuse and Physical Activity

🌞 Reasons for use

- Improve athletic performance (47%)
- Improve physical appearance (27%)
- Prevent or treat injury (11%)
- Fit in (7%)

(Buckely et al., 1988)
Steroid Abuse and Physical Activity

Pope & Katz (1994) examined the psychological effects of steroid use.

Urine samples were obtained to assess actual steroid use.

23% reported experiencing major mood disturbances (i.e., mania, anxiety, depression, or major depression).
Muscle Dsymorphia

A large variety of terms have been used to describe a form of body image distortion in which the individual perceives him/herself as unacceptably small.

(a) pathologically preoccupied with the appearance of the whole body
(b) concerned that they are not sufficiently large or muscular
(c) are consumed by weightlifting, dieting, and steroid abuse.
In Summary

Exercise dependency-

Overtraining-

Eating Disorders-

Steroid Use-
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