POPULATION

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It is estimated that approximately 20 million people in Europe are currently living with eating disorders.

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Eating disorders can affect individuals of any age, sex, or socioeconomic background, although they are most commonly observed in young women aged 15 to 25.

Notably, some studies indicate that anorexia nervosa is beginning to manifest at even younger ages.

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Furthermore, there is growing evidence that young men and gender-diverse youth are affected by eating disorders more than previously recognized.

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The COVID-19 pandemic appears to have significantly exacerbated eating disorder symptoms, as reflected by a sharp increase in hospital admissions across Europe. Besides an increase in prevalence, young patients also appear to be presenting with more severe symptoms compared to the pre-pandemic period.

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Several factors contributed to the deterioration in mental health, including: disruption of daily routines, increased free time, reduced social interactions, limitations on personal freedom, reduced access to support networks and health care services, interruption of regular physical activity, greater exposure to triggering online content, and diminished feelings of control.

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Young Adults: Eating Disorders after Adolescence

- Masking with ‘healthy lifestyle’
- Social pressure vs. balance
- Increased independence and self-responsibility
- May hide symptoms more effectively
- Less likely to seek help or disclose difficulties
- Often managing studies, jobs, and social pressures

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Energy Balance: Intake vs. Expenditure

- Caloric intake comes from food and drinks

- Energy expenditure includes:
  - basal metabolism
  - physical activity
  - digestive thermogenesis

Energy Balance: Energy introduced = Energy consumed

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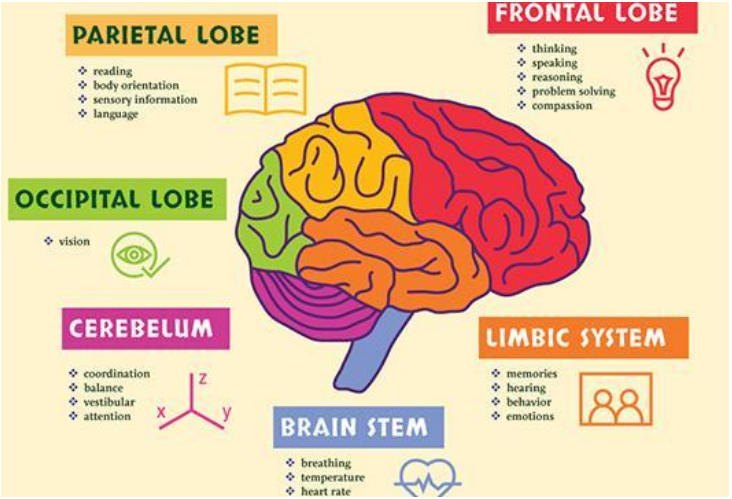
Homeostasis vs. Hedonism

Biological hunger:

- Internal regulation of body needs
- Physiology of the body that signals when it is necessary to eat to maintain energy balance

(**Prefrontal Cortex**: conscious decisions about food)



Hedonic hunger:

- Desire to eat for pleasure, not necessity
- Influenced by psychological and environmental factors (emotions, stress, social context)

(Limbic System: regulates emotions and pleasure related to food)

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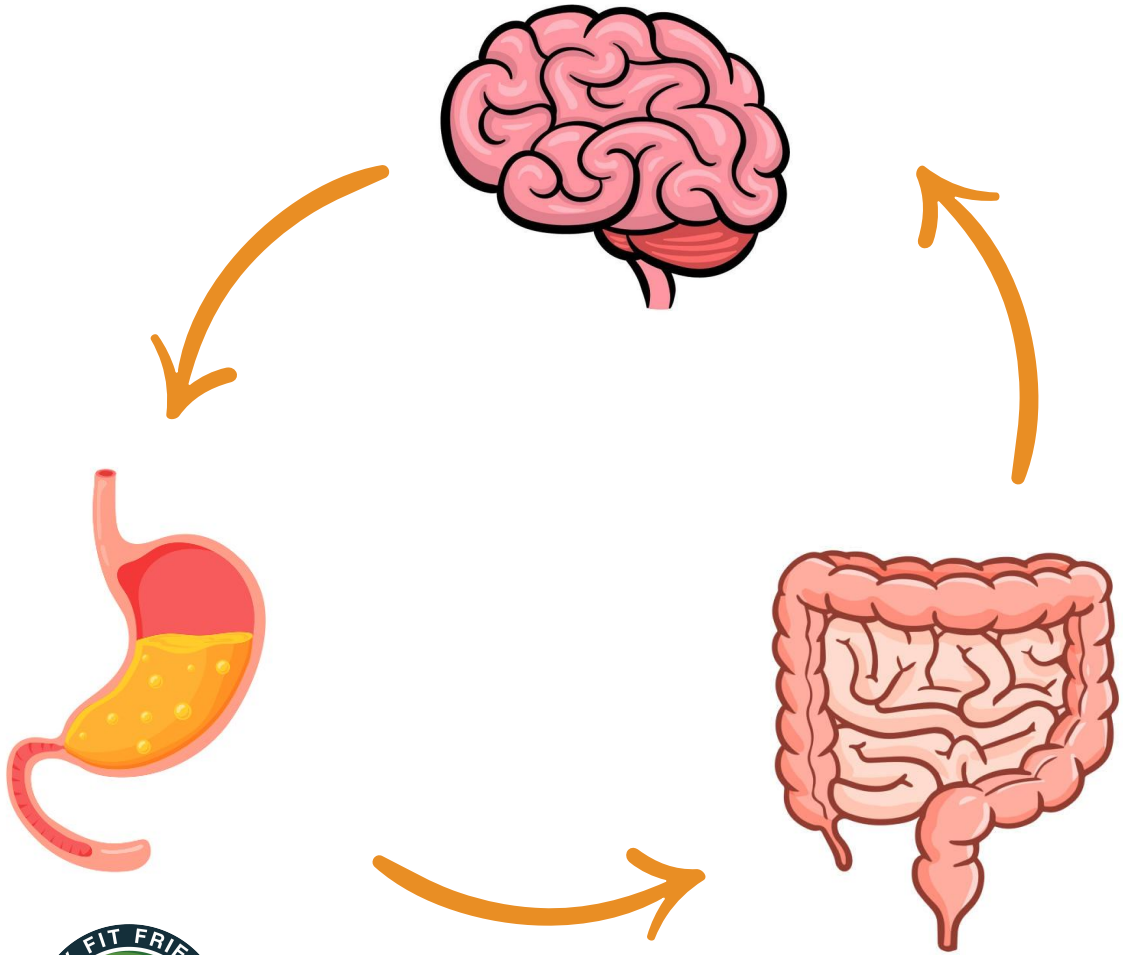

Peripheral and Central Signals

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ANOREXIA NERVOSA

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Anorexia Nervosa (AN)

Diagnostic criteria:

- a gradual or rapid decrease in food intake resulting in weight loss;
- an intense fear of gaining weight despite progressive weight loss and/or underweight, which can reach severe levels;
- a distorted perception of body image.

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Let’s digress

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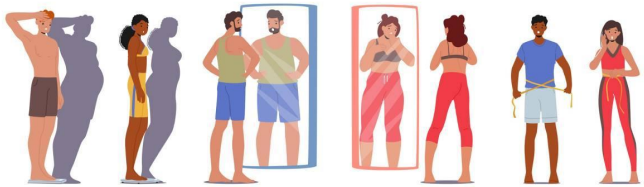

What is Body Image?

How you see yourself when you look in the mirror or picture yourself in your mind.

What you believe about your appearance, how you think other people see you, how you feel about your body.

A person can weigh 50kg and feel ‘fat’ or have obvious muscles and never see themselves as enough. Body image is not an objective fact.

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Individual factors:
- Self-esteem
- Personality traits
- Internalization of appearance and beauty ideals
- Body comparison tendencies

Environmental factors:
- Family
- Friends and peers
- Coaches and mentors
- Role models
- Media and popular culture

What Influences BI?

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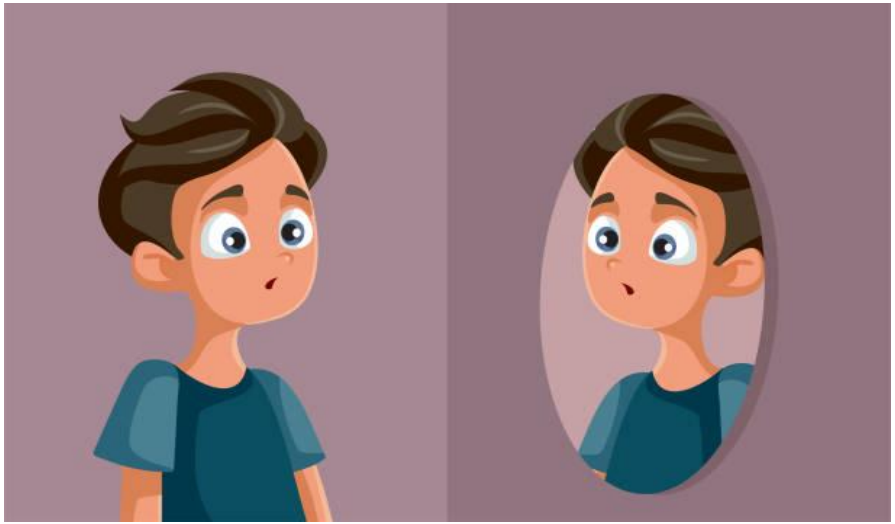
Individual Factors



- Anxious or perfectionist temperament
- Self-esteem and sense of efficacy
- Early experiences (comments, judgments)
- Any trauma or teasing

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The Weight of Familiar Glances

- Parental comments on weight/appetite
- Educational style (controlling vs. accepting)
- Family patterns of body care
- Dysfunctional relationships = lower self-esteem

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Comparison and Competition Among Peers

- Comments between friends
- Sharing pics and selfies
- Comparisons on performance, measurements, weight
- The group as reinforcement or threat

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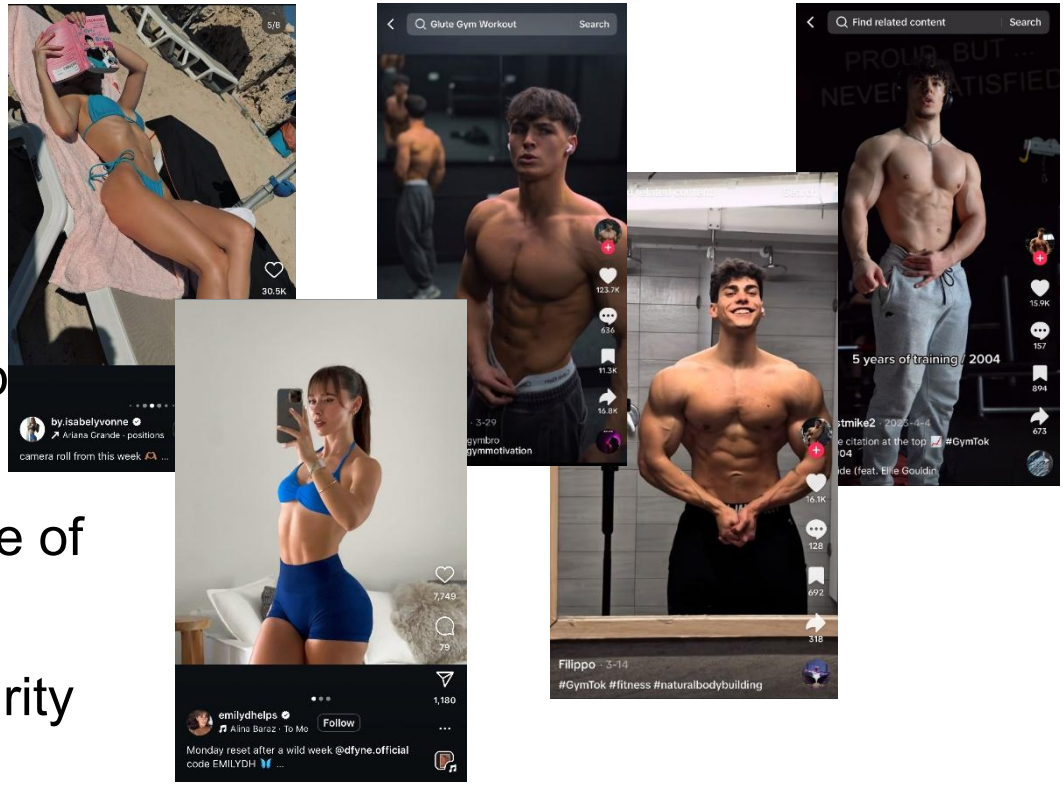
The Digital Mirror

- Filtered and idealized images
- Fitness influencers and unattainable models
- Likes and comments as a measure of value
- Constant “body check” and insecurity



> “Social media is a platform for people to spread lies about themselves”

L.G. Davis

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Adolescence: Identity and Body Storm

- Rapid bodily changes that are often experienced as ‘disharmonious’
- Identity construction also through the body
- Increases comparison, decreases tolerance for frustration
- The body as a ‘battlefield’

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Back to what we were discussing

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What parents might notice 1/2

- Tendency to hide food and avoid meals with others.
- Cutting food into very small pieces or constantly rearranging food on the plate.
- Skipping meals becomes frequent, often with excuses such as “not hungry” or “already ate.”
- Food preparation may involve rigid rituals, avoiding entire food groups (e.g., carbs, fats).
- Indirect signs of compensatory behaviors can emerge, like spending a long time in the bathroom right after meals, excessive physical activity.
- Emotional and behavioral changes may be present, including mood swings and disturbed sleep patterns.

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What parents might notice 2/2

- **Social Withdrawal:** progressive isolation from family, peers, and social settings.
- **Academic & Athletic Overcommitment:** intense dedication to school and sports, often with initially preserved performance. Low tolerance for failure or academic setbacks.
- **Compulsive Behaviors:** constant movement, excessive exercise, sometimes even when lacking energy, costant check of weight and body shape in front of mirrors
- **Hydration Issues:** either excessive water intake or intentional dehydration.
- **Unusual Clothing Choices:** overly covering clothes due to perceived cold (early stages) vs minimal clothing to promote heat loss and "burn calories" (later stages).
- **Mood Symptoms, disturbed sleep patterns, gastrointestinal complaints, asthenia and in the final phases progressive decline in performance.**
- **Amenorrhea or menstrual irregularities in girls, beyond two years after menarche.**

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AN: How It Starts In Adolescence

- Usually with food restriction:
  - following a diet aimed to weight loss (poor caloric intake, avoiding carbohydrates and fats/intermitting fasting/small food portions).
  - initially, weight loss becomes a source of empowerment: adolescence with AN may experience a sense of increased well-being and self-efficacy from weight loss and changes in body shape
- Patients with AN often rationalize their food restrictions by claiming food intolerances or allergies, stating that certain foods make them feel unwell or by reporting feeling particularly bloated after eating certain foods.
- The primary goal is to modify body image in response to dissatisfaction with physical appearance and low self-esteem according to personal ideals of beauty. These beauty ideals are often unrealistic and influenced by distorted images on the web.
- At early stages of disease, people with AN may refer a traumatic event

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Perfectionism and control in AN: the evolution

- The desire for weight loss usually becomes the fear of gaining weight.
- The fear of gaining weight leads to anxiety and guilt after eating = mood instability related to self-judgment and conduct.
- Feelings of guilty after eating are alleviated through **eliminatory behaviors**, such as excessive physical exercise (motorism), self-induced vomiting, and the misuse of laxatives and/or diuretics.

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AN: complications

- Extreme weight loss may lead to impaired growth and irregular menstrual cycles in girls.
- All symptoms tend to worsen with further weight loss and deterioration of both physical and mental health.
- *Negative judgment, criticism, and family conflict can contribute to the maintenance of the disorder.*
- People with AN do not often recognize their condition and avoid seeking help.

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AN: How it starts in PREadolescence

- Preadolescence often deny concerns about body shape and weight, only reporting a lack of appetite or abdominal pain.
- Greater presence of neurodevelopmental disorders and/or previous psychopathology (such as avoidant/restrictive food intake disorder, known as ARFID, depression, anxiety, obsessive-compulsive disorder), while clinically, they exhibit rapid weight loss that brings them to medical attention more quickly.
- Warning signs may include slowed growth, changes in body mass index (BMI), repeated nausea, or abdominal pain.
- Family factors play a crucial role (e.g., difficult relational patterns, mutual overcontrol, critical comments).
- Peer victimization episodes are frequently reported.

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The lifetime prevalence in Europe is estimated at 4% in females and 0.3% in males.

However, incidence and prevalence rates among males are likely underestimated due to stigma and underdiagnosis.

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High-Risk Populations for AN

- Adolescents involved in dance or competitive sports requiring weight and body shape control.
- Children and adolescents with a history of childhood obesity.
- Individuals with chronic illnesses that demand dietary restrictions, such as: Type 1 diabetes, Cystic fibrosis, Inflammatory bowel disease and Celiac disease.
- Sexual abuse history in childhood

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Bulimia nervosa (BN)

- **Recurrent episodes of binge eating**, characterized by both:
  - Eating, in a discrete period of time, an amount of food that is definitely larger than what most individuals would eat unde similar circumstances.
  - A sense of **lack of control** overeating during the episode.

(Binge eating episodes occur, on average, at least **once per week for 3 months usually hidden e.g. eating during the night).**

- Recurrent **inappropriate compensatory behaviors** to prevent weight gain, such as:
  - Self-induced vomiting
  - Misuse of laxatives, diuretics, or enemas
  - Fasting or excessive exercise
- Self-evaluation is unduly influenced by body shape and weight.

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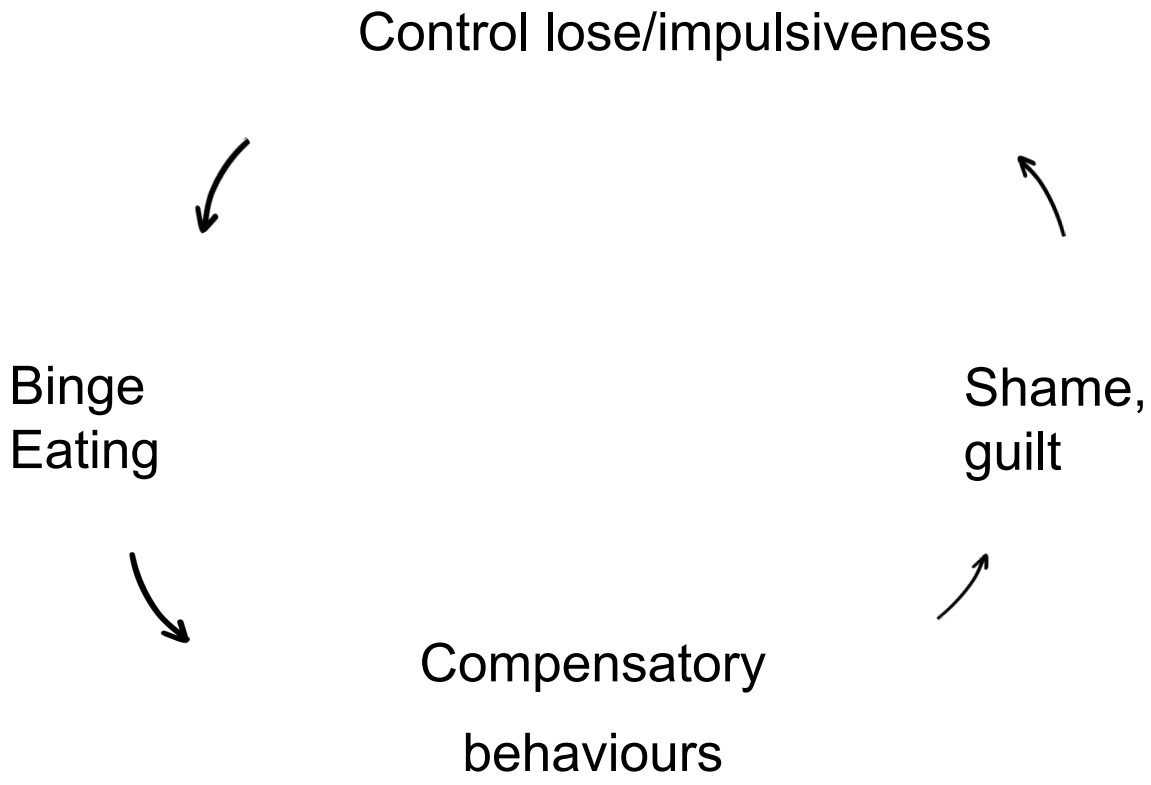

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BN comorbidities

Psychiatric Comorbidities

- Depression, anxiety, hopelessness, and shame
- Increased risk of non-suicidal self-injury, suicidal ideation, and death by suicide

Suicide risk is 8 times higher than in the general population

Complications Purging-related:

- Dental erosion, salivary gland hypertrophy
- Callosities or abrasions on the hands (e.g., Russell's sign), nail damage
- Mouth sores
- Electrolyte imbalances → ↑ risk of cardiovascular disease
- Pharyngeal trauma

Hormonal and gastrointestinal issues:

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Peak incidence occurs among females aged 20 to 29 years, although cases may also emerge later in life.

Male incidence rates are considerably lower.

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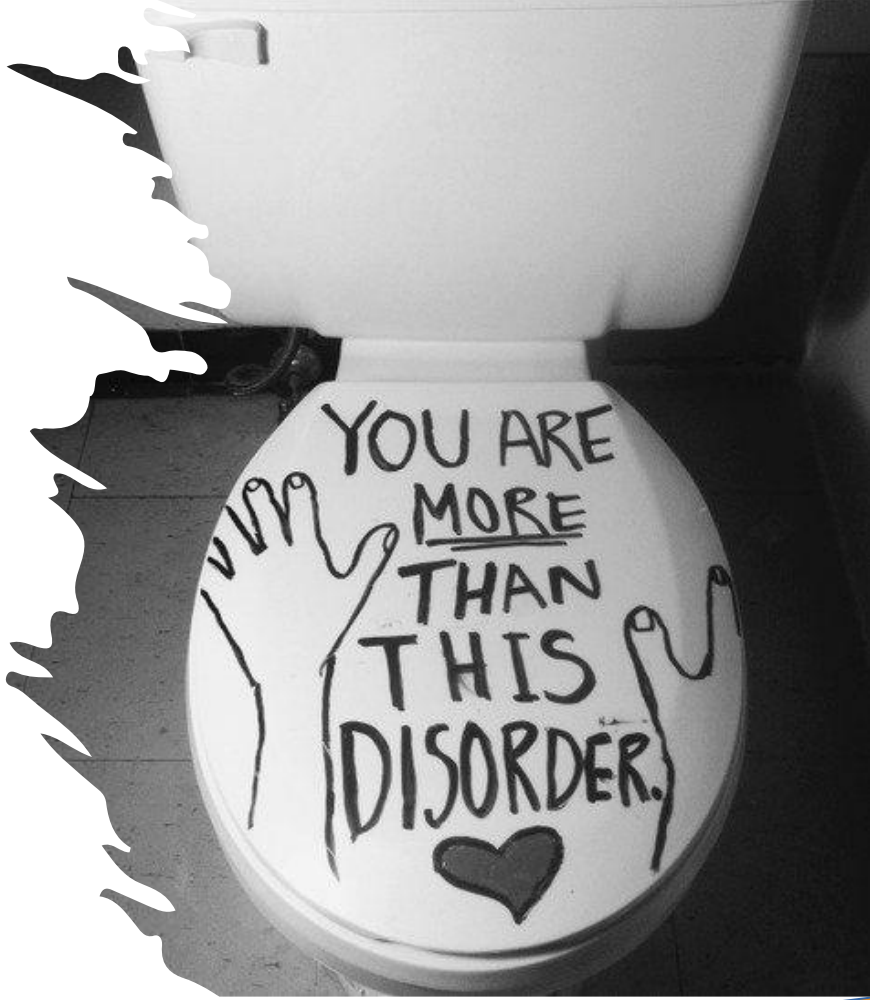
The estimated lifetime prevalence of bulimia nervosa is ranging from:

- 0.3% to 4.6% in females
- 0.1% to 1.3% in males



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Bigorexia (vigorexia or muscle dysmorphia MD or reverse anorexia)

- **Distorted Body Image:** persistent and irrational belief that their body is too small, weak, or underdeveloped, even when they are objectively muscular. This body image distortion is similar in mechanism to that seen in anorexia nervosa but focused on muscularity rather than thinness. They may frequently check their appearance in mirrors or avoid situations where their body could be exposed (e.g., swimming pools).
- **Obsessive Focus on Appearance:** thoughts dominated by concerns about their physique, particularly muscle size and definition. This leads to frequent body-checking, comparisons with others, and distress if the desired appearance is not maintained.
- **Excessive Exercise and Weightlifting:** individuals typically follow rigid and intense workout routines, often spending multiple hours a day at the gym. They may continue exercising despite pain, injuries, or exhaustion, prioritizing muscle gain over health. This compulsive behavior can result in overtraining syndrome, fatigue, and long-term joint and muscle damage.
- **High-Protein Diets and Supplement Use:** there is often an obsession with dietary control, especially increasing protein intake to support muscle growth. This may include the *excessive use of protein shakes, creatine, anabolic supplements, or even illegal substances like steroids*. Individuals with bigorexia frequently avoid important social, academic or occupational activities because of the compulsive need to maintain their excessive exercise and rigid diet.

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What Drives Individuals Toward Bodybuilding in Bigorexia?

- **Early body dissatisfaction:** feeling scrawny or weak during childhood
- **Social comparison:** envy of athletic or popular peers
- **Positive reinforcement:** quick visible results increase self-esteem
- **Peer validation:** gaining admiration and respect from peers
- **Desire for attractiveness:** being perceived as more appealing
- **Sense of control:** using weightlifting to reshape the body and gain confidence

"I was scrawny as a kid and envied the athletic boys. Lifting made me feel strong—and for once, proud of my body."

"I can easly impress the girls while flexing my biceps in gym... it makes me feel good about myself."

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Current Attitudes Toward Weightlifting in Bigorexia

- **Aesthetic focus:** workout choices based on how they shape the body (e.g., training legs more if quads seem smaller).
- **Influenced by bodybuilding culture:** techniques learned from magazines and peers, always looking to “shock” muscles.
- **Rigid mindset:** feeling like a failure if training isn’t intense enough or if the session is interrupted.
- **Emotional impact**: irritability and frustration when unable to complete a planned routine.

"If I haven’t pushed myself to the limit, I feel like I’ve wasted my time."

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Current Attitudes Toward Diet in Bigorexia

- **Extreme protein intake:** aiming for up to 3g of protein per kg of body weight, eating every few hours—even when not hungry.
- **Bulking vs. cutting cycles:**
  - Bulking: high protein and carbs to fuel muscle growth.
  - Cutting: near-total carb restriction to enhance muscle definition.
- **Carb-cycling:** inspired by fitness magazines and pro bodybuilders, involves tracking every gram of carbohydrate
- **Prepping all meals in advance:** to control nutrient quality and avoid "unclean" foods.
- **Social and emotional toll:** diet requires intense effort and interferes with normal daily life, but is perceived as necessary for achieving the ideal physique.

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Attitudes Toward Steroid Use in Bigorexia

- **Normalization:** steroid use seen as common and expected in gym culture.
- **Minimization of risk:** belief that steroids are not worse than unhealthy diets or lifestyles.
- **Not seen as "cheating":** effort at the gym and strict diet still considered key.
- **Distrust of medical advice:** perception that professionals overstate risks or lack real knowledge.
- **Self-education:** reliance on online research to justify and manage use.
- **Psychological risks:**
  - Depression and suicidal thoughts after stopping a cycle;
  - Fear of losing muscle mass or progress without continued use.

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Impact on Quality of Life in Bigorexia

- **Social isolation:** avoids eating out or social gatherings to stick to strict diet.
- **Financial strain:** large sums spent on supplements (e.g., protein powders, fat burners), leaving little for other activities
- **Limited friendships:** little time or energy left for maintaining relationships.
- **Work-life conflict:** training prioritized over job responsibilities → late arrivals, early departures.
- **Constant preoccupation:** obsessive thoughts about food, training, and appearance throughout the day.
- **Life revolving around the gym:** idealized vision of working in fitness to justify and maintain current habits.

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Bigorexia: The Hidden Emotional Toll

- **Persistent body dissatisfaction** despite visible muscularity.
- **Distorted self-perception:** feels inadequate even when objectively more muscular than peers.
- **Low self-esteem:** ongoing negative thoughts about appearance.
- **Impact on intimacy:** discomfort with nudity and sexual activity due to body shame.
- **Emotional distress:** feelings of hopelessness and questioning the purpose of continued effort.

🗣 *"I know I'm bigger than most guys, but I still feel inadequate. Even looking in the mirror makes me feel horrible."*

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What parents might notice

- “I only eat healthy foods”
- Feeling guilty after an ‘out of control’ meal
- Training even with fever or pain
- Obsessively training planning sessions
- Obsessive body checking
- Frequent measurements (weight, circumferences)
- Checking in front of the mirror or selfies at the gym
- Emotional oscillations related to the numerical data
- Tendency to lose flexibility

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Fitness and Body Dysmorphia: The Risk of a Wrong Message

- ‘Working out is always good’ → not always true
- Overlap between health and appearance
- Aesthetics sold as wellness
- ‘No pain, no gain’: a mental trap

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Data regarding bigorexia (muscle dysmorphia) are scarce and often unreliable.

No official incidence rates exist due to the absence of longitudinal studies.

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- **The prevalence is reported at 2.2% in males and 1.4% in females. prevalence estimates of and 1.4%.**
- **As expected, studies consistently report a higher prevalence among boys and men, with peak onset typically occurring in late adolescence or early adulthood.**

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What do we do now?

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Behaviors to Observe

- ‘Self-managed’ and restrictive diets, rigid control over food
- Obsession with calories, guilty comments about food
- Obsession with aesthetic results and training exercise duration
- Obsession with fitness accounts with extreme messages on Social Media
- Irritability, perfectionism, self-criticism
- Body-related self-esteem and mood swings
- Loss of spontaneity and social life

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Approaching a Youth with a BI Disorder

- Requiring professional help
- Building trust and open communication
- Avoiding blame and criticism
- Educating without pressuring
- Involving support networks
- Promoting a healthy relationship with food and exercise
- Challenging unrealistic social and media influences

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Requiring professional help

- Body image disorders often require professional intervention, including therapy, medical monitoring, and sometimes medication.
- Encouraging the individual to seek help from a psychologist, psychiatrist, or nutritionist with expertise in eating disorders is essential.
- Framing therapy as a means of self-care rather than punishment can reduce resistance.

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Building trust and open communication

- Adolescents with body image disorders often experience feelings of shame and secrecy about their condition.
- Active listening and validating their feelings can help build trust and encourage them to open up about their struggles.
- Establishing a non-judgmental, empathetic, and supportive environment is crucial
- It is important to provide a safe space where they feel heard and understood.
- Avoiding dismissive remarks and instead asking open-ended questions can facilitate dialogue.
- Encouraging adolescents to express their thoughts through journaling or creative activities can also help them articulate their struggles in a non-confrontational manner.

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Avoiding blame and criticism

- Criticizing a young person's eating habits, exercise routines, or body image concerns can reinforce feelings of inadequacy and resistance to help. Instead, focus on expressing concern for their well-being and offering support in a compassionate manner.
- Rather than saying, "You shouldn't be starving yourself" or "You look fine," try phrases like, "I've noticed you seem really stressed about your body lately. I'm here to support you."
- Acknowledging their struggles without judgment helps build a foundation for trust and eventual recovery

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Educating without pressuring

- Providing accurate information about the physical and mental consequences of anorexia and vigorexia can be helpful, but it should be done carefully.
- Overwhelming an adolescent with facts may cause them to withdraw. Using gentle, age-appropriate discussions and real-life examples can make the information more relatable.
- Using interactive and engaging approaches, such as discussing real-life success stories of recovery or using media literacy exercises to deconstruct harmful societal messages, can make education more impactful.

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Involving support networks

- Family members, teachers, trainers and close friends play a crucial role in supporting a young person's recovery.
- Educating them about the disorder and teaching them how to provide positive reinforcement without enabling harmful behaviors can create a strong support system.
- Schools can also implement programs that promote self-esteem and body positivity to create a supportive environment for all students
- Peer support groups or mentorship programs can also offer relatable insights that encourage self-reflection and change.

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Promoting a healthy relationship with food and exercise

- Shifting the focus from body image to overall well-being can be beneficial.
- Encouraging balanced eating habits and moderate exercise as ways to maintain health, rather than achieve an idealized physique, helps reduce the pressure to conform to unrealistic body standards.
- Health professionals and mentors should emphasize intuitive eating, which encourages individuals to listen to their body's hunger and fullness cues.
- Exercise should be framed as a way to improve strength, flexibility, and mental well-being rather than a means to alter appearance.
- Providing structured but flexible meal plans and workout routines can help those recovering from body image disorders regain a sense of normalcy and control.

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Challenging unrealistic social and media influences

- Social media and societal norms contribute significantly to body image disorders.
- Helping adolescents critically analyze and question these influences can empower them to develop a healthier self-perception.
- Encouraging a diverse and realistic view of body types through exposure to positive role models can also be effective.
- Teaching media literacy skills can help adolescents recognize and challenge unrealistic beauty standards.
- Encouraging social media breaks or curating feeds to include body-positive and diverse content can reduce exposure to harmful comparisons
- Schools and organizations can implement campaigns that celebrate body diversity and educate youth about the dangers of digitally altered images.

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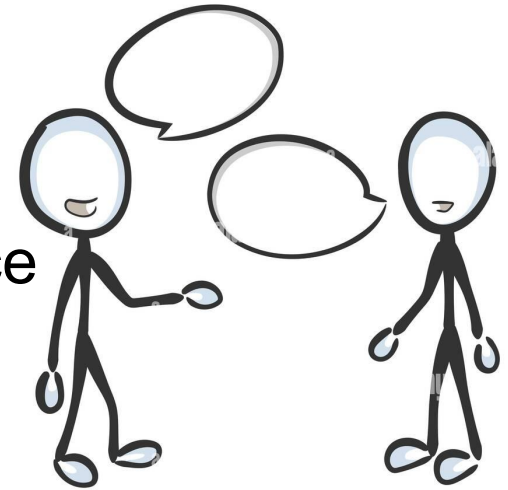
How to Start a Dialogue

- Choose the right moment: never in a moment of tension or in front of other people
- Be empathetic, not inquisitive
- Use neutral language
- Use open-ended questions and do not force
- Listen actively
- Give space: even silence communicates!



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Investigating the Relationship with Food and the Body

- “Are there any foods you always avoid?”
- “How do you feel after eating?”
- “Do you ever look in the mirror and not like what you see?”
- “How has your eating changed in the last few months?”

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Probing the Relationship with Training

- ❑ “How do you feel when you can’t work out?”
- ❑ “What do you like most about working out?”
- ❑ “Do you ever work out when you’re tired or sick?”
- ❑ “What’s your goal for yourself?”

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Answers That Deserve Attention

- “I only eat if I’ve trained enough”
- “I can’t stop, if I skip a day, I feel bad”
- “I’ll never like myself”
- “I want to see the bones/definition”

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