A Biopsychosocial Approach to Understanding and Treating Bowel and Bladder Problems in School-Age Students: The Role of the School Nurse

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Learning Objectives

- Recognize the biological, psychological, and social factors that may contribute to bowel and bladder problems in school-age children

- Identify and implement new ways to support and help students and parents in the school setting who are affected by bowel and bladder problems

Urinary Incontinence/Enuresis [1,2]

Repeated voiding of urine into bed or clothes, whether involuntary or intentional, in a person who is at least 5 years old.

May be present:

- during the day (diurnal)
- at night (nocturnal)
- Both (nocturnal and diurnal)

>90% of children achieve daytime urinary continence by 5 years old

Nighttime continence may take longer.

Causes of Daytime Incontinence [1,2]

- Anatomical
- Neurological
- Functional
  - Irritated bladder
  - Overactive bladder
  - Urethrovaginal reflux

Rates of Daytime Incontinence [2, 3, 4,5]

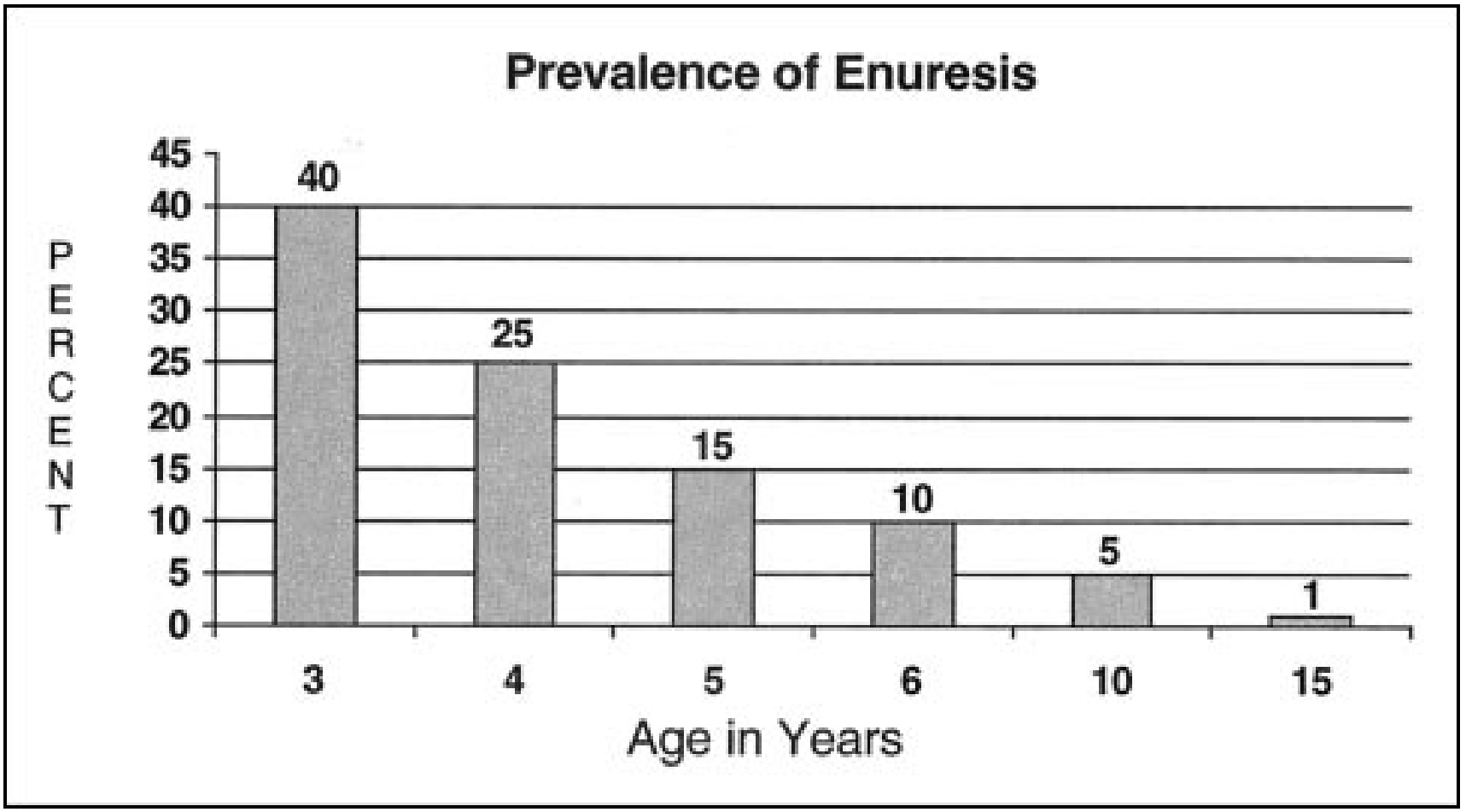
- Up to 12% of children ages 6-12 years
- 1%-3% of children ages 15-17 years

When daytime incontinence is defined as at least 1 episode/week in children after 5 years of age:

- 3.3%-6.3% for daytime without nighttime wetting
- 1.8% - 4% for daytime with nighttime wetting

Daytime wetting rates tend to be higher in girls than boys

Nighttime Incontinence [6]



Management of Urinary Incontinence [1,7]

- Education about normal bladder function
- Bowel management
- Behavioral intervention
- Avoidance of caffeinated, carbonated, and highly acidic fluids
- Biofeedback
- Medication

Fecal Soiling/Encopresis [4]

Passage of formed, semi-formed, or liquid stool into the child's underwear after 4 years of age

Encopresis affects between 1.5% and 7.5% of children ages 6-12 years

- 4.1% of children at 5-6 years
- 1.6% at 11-12 years

Higher rates of soiling in boys as compared to girls

- At 7 years old, 2.4% of boys and .7% of girls

Causes of Fecal Soiling

- Anatomical
- Neurological
- Functional
  - ~90% of cases, fecal soiling is due to constipation
  - 35% girls and 55% boys who are constipated also have fecal soiling

Constipation

≥ 2 of the following 6 during the last 8 weeks:

- ≤ 2 bowel movements in the toilet per week
- ≥ 1 episodes of fecal incontinence per week
- History of retentive posturing or excessive volitional stool retention
- History of painful or hard bowel movements
- Presence of a large fecal mass in the rectum
- History of large diameter stools that may obstruct the toilet

Constipation Epidemiology and Sx

- Worldwide prevalence varies from 0.7 to 29.6%
- 3% of visits in the gen ped outpatient setting
- 25% of pediatric GI consultations

Constipation, Painful Defection, and Stool Withholding

- Painful defecation is the most frequently reported event causing constipation
  - 68 – 86% report pain before or during defecation
  - Leads to withholding which creates a cycle of pain

- 89-100% report stool withholding behavior
  - 80% of stool withholders also have toileting refusal

Effects of Chronic Constipation

- Constant rectal pressure and fullness can:
  - Stretch the rectal area or cause kids to get used to the sensation of fullness
  - Alter thresholds of detection
  - Weaken the external anal sphincter

- Once regular evacuation is achieved for several months, sensation, peristalsis, and sphincter strength usually return to normal

Relationship Between Bowel and Bladder Problems [4]

4 profiles of wetting and soiling:

- **Normative:** low prevalence of wetting/soiling at 4.5 years and a low prevalence after that
    - Wetting: 86.2%
    - Soiling: 89%

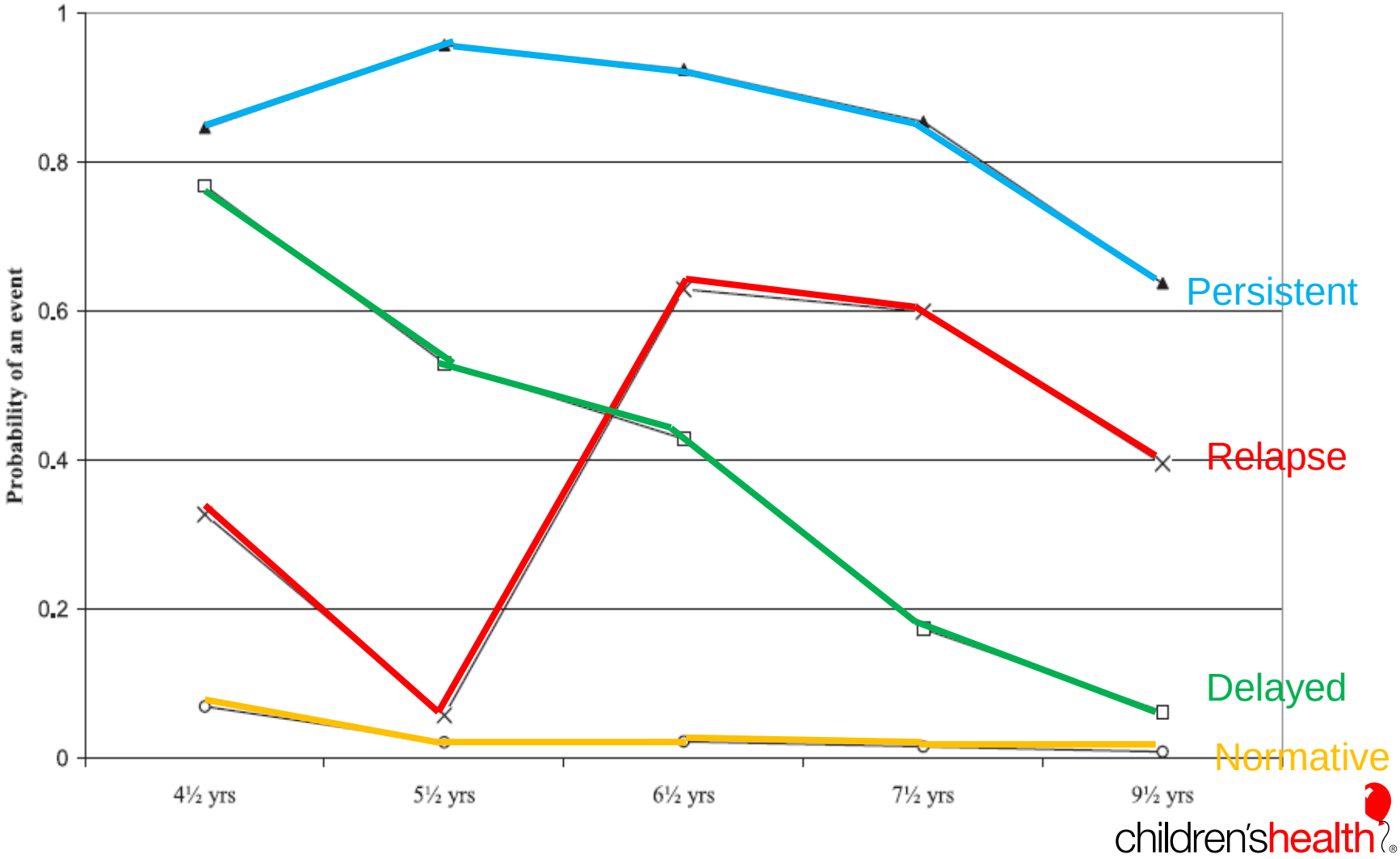
- **Delayed:** steadily decreasing prevalence of daytime wetting/soiling from 4.5 years to 6.5 years to 9.5 years
    - Wetting: 6.9%
    - Soiling: 4.2%

Relationship Between Bowel and Bladder Problems [4]

- **Persistent:** frequent wetting/soiling until 7.5 years and some reduction by 9.5 years
    - Wetting: 3.7%
    - Soiling: 2.7%

- **Relapse:** low prevalence of wetting/soiling at 4.5 years and less at 5.5 years, but increasing at 6.5 years, then decreasing again.
    - Wetting: 3.2%
    - Soiling: 4.1%

4 Profiles of Wetting and Soiling [4]



Relationship Between Bowel and Bladder Problems [4]

- Bladder control delays are often **NOT** related to bowel control delays, and vice versa.
  - 1.8% of group had atypical development of bowel **AND** bladder control

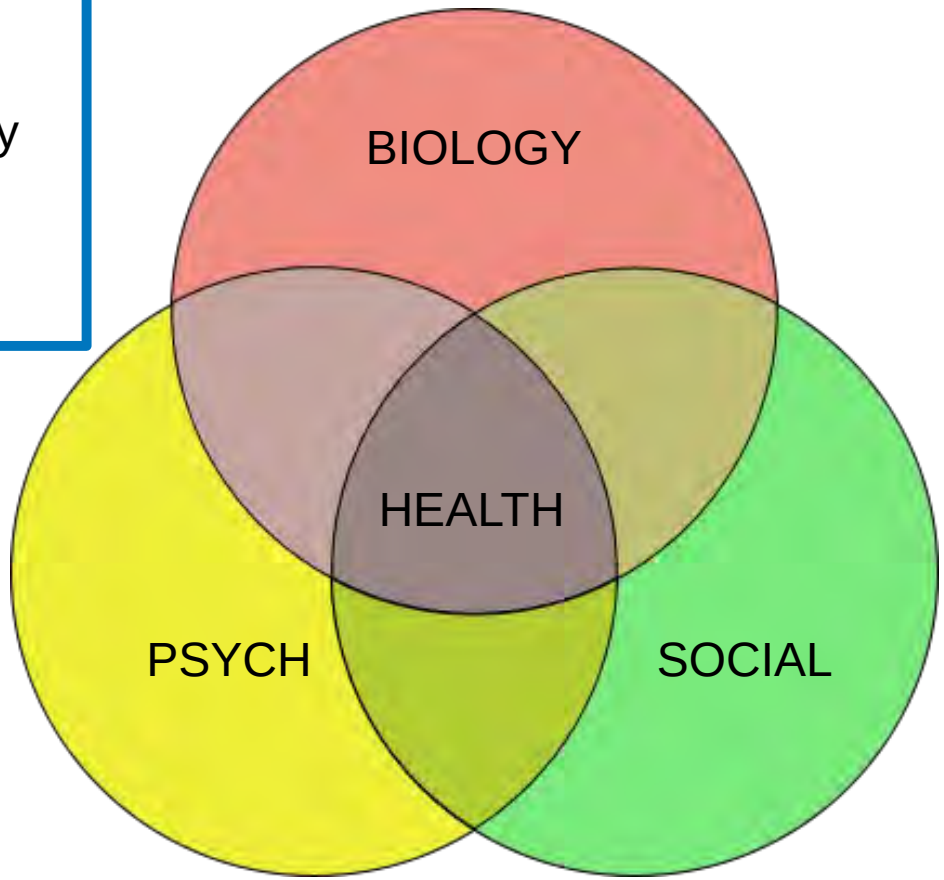
- Daytime wetting and soiling are more likely to co-occur in the ***persistent*** trajectory groups.

- In the persistent wetting group, smaller percentage of children who had normal development of bowel control.

- Less than 50% of children with persistent soiling had normal development of bladder control.

Biopsychosocial Approach to Understanding Health

Gender
Physical illness
Disability
Genetic vulnerability
Immune function
Stress reactivity
Medication effects



Learning/Memory
Attitudes/Beliefs
Personality
Emotions
Behaviors
Coping skills
Past trauma

Social supports
Family background
Cultural factors
Social/economic
Education

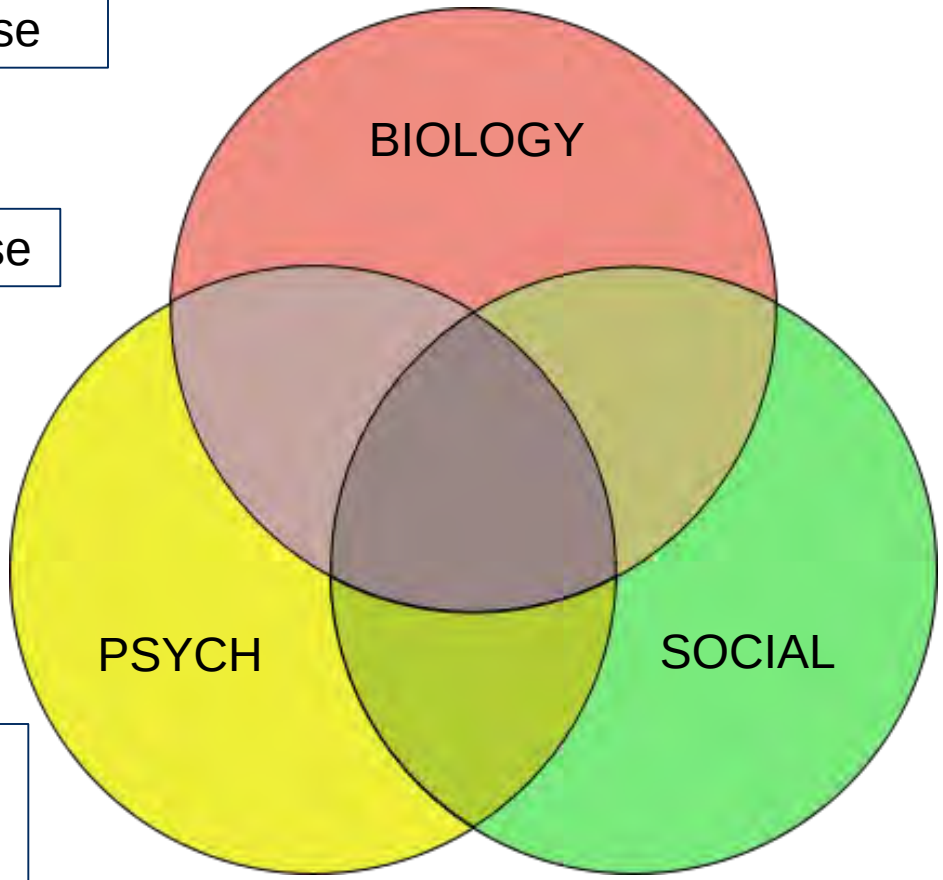
BIOpsychosocial Approach to Bowel and Bladder Problems

Anatomical cause

Neurological cause

Genetics

Symptom of another medical condition



Gender

Age

Medication side effect

Long-term effects of having the condition

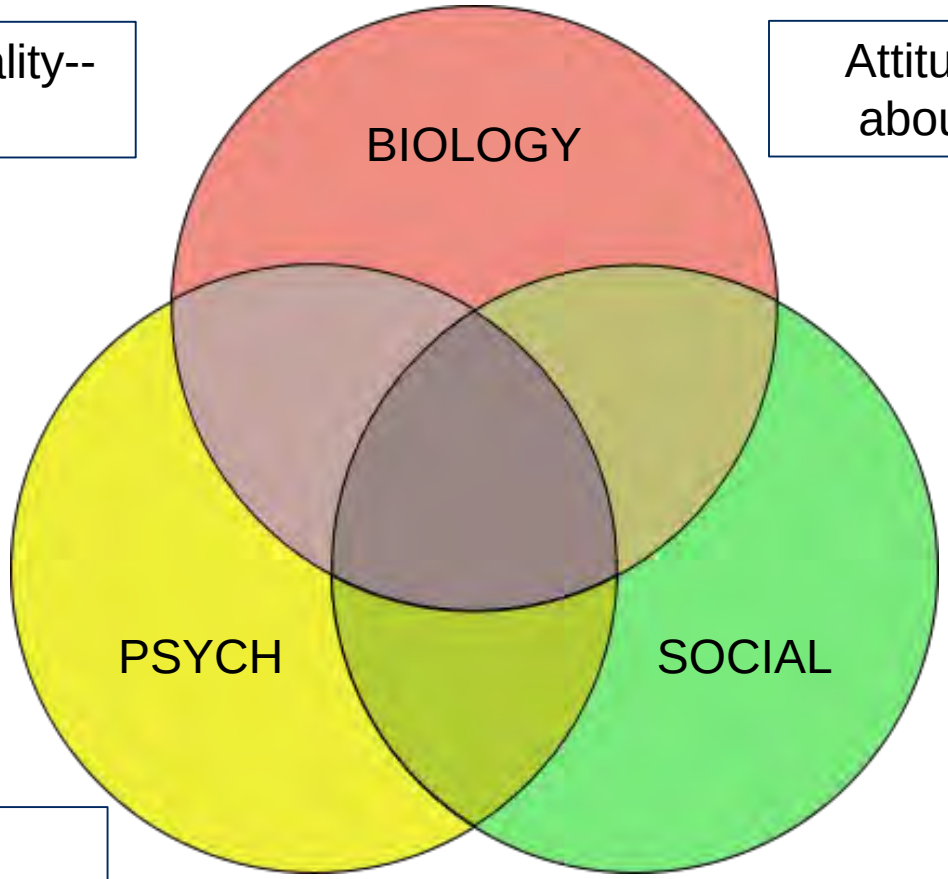
BIOpsychosocial Approach to Bowel and Bladder Problems [8, 9,10,11]

- Developmental delays (motor, communication, social skills)
- UTI
- Family history of wetting among male siblings
- Paternal family history of wetting
- Family history of constipation
- Effects of chronic constipation on bowel function

BioPSYCHOsocial Approach to Bowel and Bladder Problems

Underlying personality--temperament

Attitudes and beliefs about the condition



Coping skills

Emotions and emotional response

Behavior

BioPSYCHOsocial Approach to Bowel and Bladder Problems [8, 9, 10, 11, 12, 13, 14,15]

Daytime Wetting:

- Difficult temperament (less adaptable, negative mood) at 18-24 months
- Emotional stress
- ADHD
- Externalizing behaviors

BioPSYCHOsocial Approach to Bowel and Bladder Problems[12, 13, 15]

Encopresis:

- Difficult temperament (less adaptable, negative mood) at 18-24 months
- Emotional Stress
- Coping
- Psychiatric co-morbidity
  - Attention problems
  - Disruptive and oppositional behaviors
  - Withdrawn
  - Depression
  - Anxiety

BioPSYCHOsocial Approach to Bowel and Bladder Problems [12, 16]

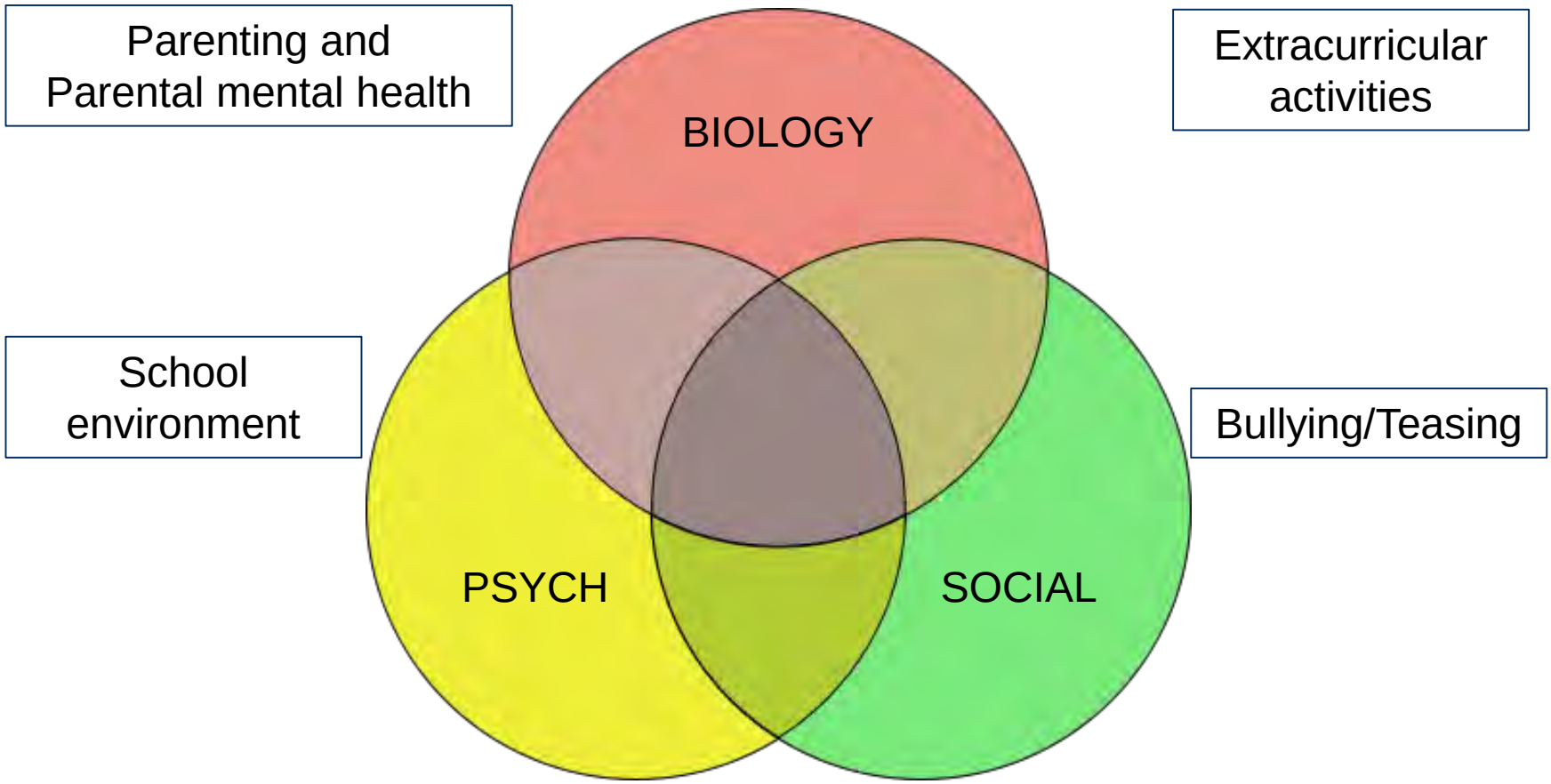
Encopresis

- Higher rates of attention, obsessions and compulsions, and oppositional behavior in children with encopresis who soil frequently compared to children who soil occasionally

- Lower performance on standardized measure of reading and spelling

- Lower levels of self-esteem

BiopsychoSOCIAL Approach to Bowel and Bladder Problems

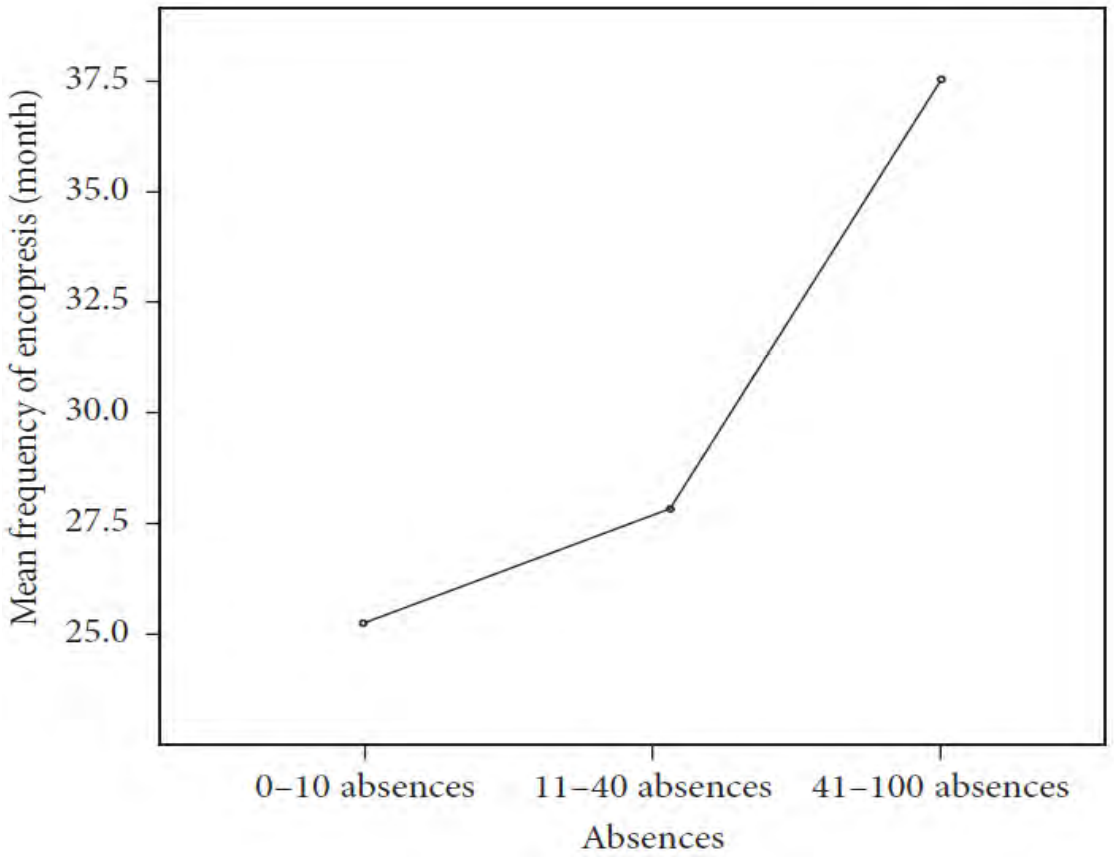


BiopsychoSOCIAL Approach to Bowel and Bladder Problems [8, 11, 12, 15, 17, 18, 19]

- Maternal psychiatric functioning
- Inappropriate parental expectations for toilet training
- Parenting behaviors
  - Coercive discipline and lack of encouragement for child to express himself
  - Children lacked autonomy and lived under parental authority
  - Families in which family members are not interested in each other and place little value on each others activities and concerns
  - Families in which no established patterns of behaviors and where tasks are assigned without clarity and equity
  - Families in which children decided on their own eating and sleeping habits
- Child maltreatment

BiopsychoSOCIAL Approach to Bowel and Bladder Problems 9, 12, 20

- Social problems
- More school absences



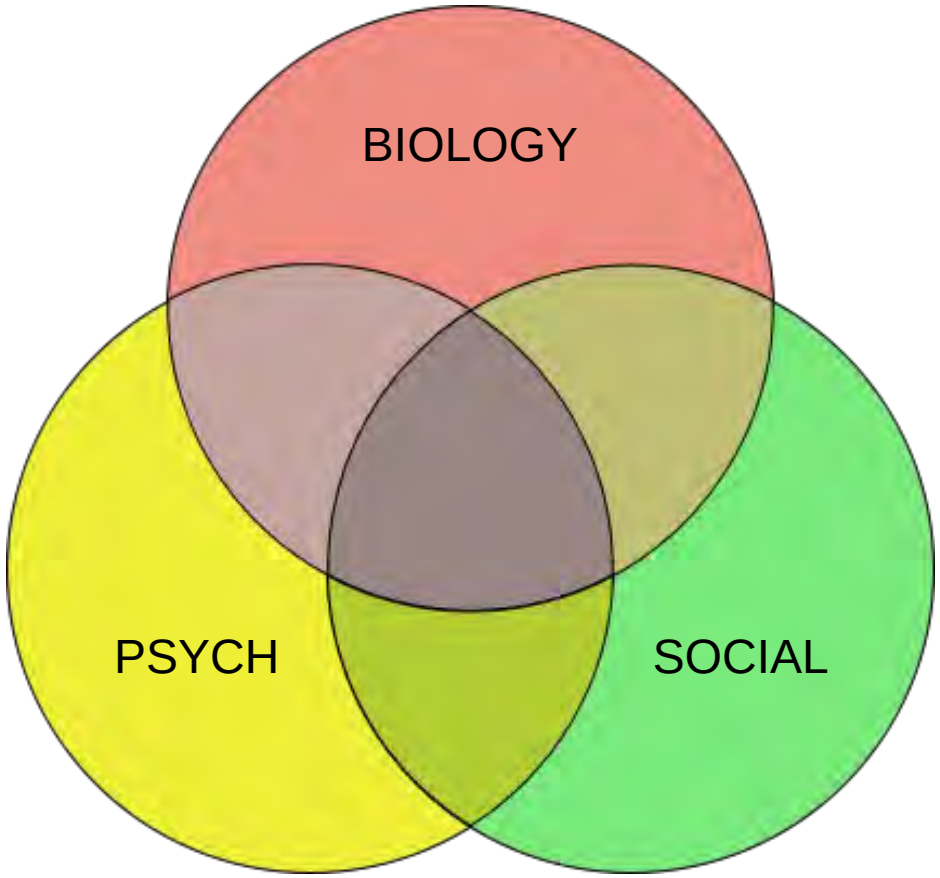
- Not recognized by teacher as having a problem

BiopsychoSOCIAL Approach to Bowel and Bladder Problems [17]

- ***Cleanliness*** of and ***access*** to school bathrooms
  - 15% **always** avoid using the toilet at school
  - 52% stated that they **sometimes** avoided using the toilets at school
  - 4%-16% they would **never** urinate in the school toilets
  - 40%-63% they would **never** defecate in school toilets
  - 68% reported foul smell in the toilet
  - 70% reported urine or feces on the floor, wall, or toilet seat.
  - 30% of restrooms in school did not have soap in the bathrooms
  - 27% did not always have toilet paper
  - 17% did not have toilet paper dispensers in all of the bathrooms

Constipation and Encopresis Case Example

Opportunities for Intervention by School Nurse



Opportunities for Intervention by School Nurse: Biological Realm [5]

Education

- Parents (one-on-one, through parent-teacher association meetings, newsletter/article that appears on school website)
- Teachers (orientation for new kindergarten and elementary teachers to promote early intervention)
- Students with bowel and bladder problems

Opportunities for Intervention by School Nurse: Biological Realm

Education may include:

- Basic anatomy and physiology of urinating and defecating and how problems can occur

- Information regarding options for treatment (specialist visit, medication, behavioral)

- How the school can support the student

Opportunities for Intervention by School Nurse: Biological Realm [21]

- Development of Individualized Health Plan (IHP) and Section 504 Plan.
  - In a small study where IHPs were implemented for children with elimination issues, over the course of 4-6 weeks children experienced 92% increased continence after implementation of IHP.

- Serve as liaison between parent and teacher regarding bathroom use.

Opportunities for Intervention by School Nurse: Psychological Realm

- Informal or refer for more formal screening for mental health problems associated with bladder and bowel problems
- Encourage visits to school counselor, when appropriate
- Provide safe, nonjudgmental space for children to get clean
- Use of nonjudgmental language that encourages empowerment
- Provide support to parents, which may have indirect effect on child's mental health

Opportunities for Intervention by School Nurse: Social Realm

- Advocate for clean and well-stocked restrooms
- Allow for use of nurse's restroom, when appropriate
- Advocate for children around bullying issues
- Parenting
  - Suggest seeking help of specialist when parents are demonstrating frustration, negligence, depression, anxiety
- Encourage parents to send their child to school (with appropriate accommodations in place)
- Encourage good adherence to medication regimen

Take Home Points

- It is very rare that there is a simple cause or solution to bowel and bladder problems in children.
- A biopsychosocial perspective of the causes will provide a comprehensive understanding of appropriate intervention for resolution.
- School nurses are in a great position to help students and families who are experiencing bowel and bladder problems.
- School nurses have many possible interventions that can significantly impact the trajectory of the student's problem.

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