Body Growth in Middle Childhood
- Slow, regular pattern
- Girls shorter and lighter until about age 9
- Growth spurt—lower portion of body growing fastest—look long legged
- Bones lengthen
- Muscles very flexible
- All permanent teeth arrive

Common Health Problems in Middle Childhood
- Vision – Myopia—nearsightedness.
  - Increase in reading at school age.
- Hearing - Otitis media (middle ear infection)
- Malnutrition
- Obesity → 20% over average body weight.
  - 15% of US children.
- Illnesses
- Injuries

Causes of Obesity in Middle Childhood
- Overweight parents
- Low SES
- Parents’ feeding practices
  - Bad eating habits
- Low physical activity
- Television
- Cultural food environment

Psychological and Social Consequences of Obesity
- Feeling unattractive
- Stereotyping
- Teasing, social isolation
- Depression, emotional problems
- School problems
- Problem behaviors
- Reduced life chances
Treatment of Obesity in Middle Childhood

• Most effective treatments are family-based and focus on changing behaviors.
  – Schools can also help by increasing physical activity and providing healthy meals.

Motor Development in Early Childhood

• Gross Motor Skills Improvements
  – Flexibility
  – Balance
  – Agility
  – Force

• Fine Motor Skills Gains
  – Writing
  – Drawing

Physical Play Development in Middle Childhood

• Games with Rules
  – Increase in perspective taking ability to understand the roles of several players at the same time.
  – Sports
  – Invented Games

• Rough-and-tumble play
• Video Games
• Adult-organized sports
  – Can be overly demanding and result in the loss of interests and social ostracism.

• Physical Education

Piaget’s Theory: Achievements of the Concrete Operational Stage

• Ages 7-11
• More logical, flexible, and organized thought.
• Limited to only what can be dealt with directly and concretely. No abstract thinking yet.
  – Ex. P. 299—transitive inference problems
  – When shown sticks A, B, and C, of different lengths can easily see which is longest, however, when given a hypothetical (logic puzzle) version of the task, have trouble solving the problem:
    • Susan is taller than Sally and Sally is taller than Mary. Who is the tallest?
Piaget's Theory: Achievements of the Concrete Operational Stage

- Conservation
  - Decentration, Reversibility
- Classification
- Seriation
  - Transitive inference
- Spatial Reasoning
  - Directions
  - Maps

Conservation

- The ability to pass conservation tasks provides clear evidence of operations—mental actions that obey logical rules.
- Decentration is the ability to focus on several aspects of a problem at once and relate to them.
- Reversibility is the ability to mentally go through a series of steps in a problem and then reverse the direction, returning to the starting point.
  - I.e. directions

Classification

- By the end of middle childhood, children pass Piaget's class inclusion problem.
- They can now group objects into hierarchies of classes and subclasses.
- Collections become common in middle childhood.

Mental Rotations (i.e. 3 mtn prob)

- Between 7 and 8 years, children start to perform mental rotations, in which they align the self's frame to match that of a person in a different orientation. As a result, they can identify left and right for positions they do not occupy.
- Around 8 to 10 years, children can give clear, well-organized directions for how to get from one place to another by using a "mental walk" strategy in which they imagine another person's movement along a route.
Limitations of Concrete Operational Thought

- Operations work best with concrete information that can be perceived directly
  - Their mental operations work poorly when applied to abstract ideas
- Continuum of acquisition
  - Master concrete operational tasks gradually, step by step

Follow-up Research on Concrete Operational Thought

- Culture and schooling affect performance on tasks
  - Going to school gives experience on Piagetian tasks
  - Relevant non-school experiences of some cultures can help too

Key Information Processing Improvements

1. Increase in information-processing speed and capacity
   - Processing time—pruning and myelination
2. Gains in cognitive inhibition
   - Ability to control internal and external distracting information (frontal lobes).

Both may be related to brain development

Attention in Middle Childhood

Attention becomes more:
- Selective
- Adaptable
- Planful
Attention-Deficit Hyperactivity Disorder

- Symptoms
  - Inattention (staying on task)
  - Impulsivity
  - Excessive motor activity
- Results in
  - Social problems
  - Academic problems
- Treatment
  - Stimulant medication
  - Medication often paired with behavior modification
  - Family intervention with parenting skills are important also

Attention Deficit/Hyperactivity Disorder (AD/HD)

- Symptoms
  - Attentional difficulties are at the heart of the problems of children with AD/HD.
  - Difficulty staying on task (inattention), impulsivity, and excessive motor activity.
  - Must have appeared before age 7 as a persistent problem.
- Treatment
  - Stimulant medication is most common.
  - Combining medication and interventions that model and reinforce appropriate academic and social behavior (behavior modification) seem to be the most effective.
  - Family intervention including parenting skills are important as well.

Development of Memory Strategies

- **Rehearsal** – early grade school
  - Repeating info to self over and over
    - I.e. a loaf of bread, a carton of milk, and a stick of butter
- **Organization** – early grade school
  - Grouping together related items
- **Elaboration** – end of middle childhood
  - Creating a relationship between pieces of information not in same category

Fostering Cognitive Self-Regulation

- **Cognitive self-regulation** is the process of continuously monitoring progress toward a goal, checking outcomes, and redirecting unsuccessful efforts
- Self-regulation is not well developed until adolescence
- Parents/teachers can foster development by:
  - Pointing out important features of tasks
  - Stressing importance of planful learning
  - Suggesting effective learning strategies
    - Provide for evaluation of effectiveness
  - Emphasizing monitoring of progress
Language Development in Middle Childhood

<table>
<thead>
<tr>
<th>Vocabulary</th>
<th>Increases fourfold during school years</th>
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<tbody>
<tr>
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<td>20 new words a day</td>
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<table>
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<tr>
<th>Grammar</th>
<th>Mastery of complex constructions</th>
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<tbody>
<tr>
<td></td>
<td>Advanced understanding of infinitive phrases</td>
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<table>
<thead>
<tr>
<th>Pragmatics</th>
<th>Adjust to people and situations</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Phrase requests to get what they want</td>
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Learning Two Languages

• **Bilingual Development**
  – Learn both languages at the same time OR learn first language, then second
  – Sensitive period - childhood

• **Bilingual Education**
  – Language immersion
  – English-only programs
    • Risk of semilingualism

School Readiness and Grade Retention

• Research has not revealed any advantages to delaying kindergarten entry. Younger children make just as much academic progress as older children in the same grade.
• Students who are older than typical age for their grade show high rates of behavior problems.
• Other potential negative consequences include: motivation, self-esteem, peer relations, and attitudes toward school.

Class Size

• Small class sizes are beneficial because teachers spend less time disciplining and more time giving individual attention, and children’s interactions with one another are more positive and cooperative.
• The optimum class size is no more than 18 children.
• When class size is small, teachers and pupils are more satisfied with school experiences.
• Learning advantages of small classes are greatest in the early years.
• Children who learn in smaller groups show better concentration and higher-quality class participation and express more favorable attitudes toward school.