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Occupational Therapy Considerations for the School-Aged Child

Preadolescence

Ages 11-13, 6th-8th grade

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Pediatric Primer Series

- Child Development, Birth – 5 years
 - 1. In Utero
 - 2. Premature Infant
 - 3. Newborns 0-1 year
 - 4. Babies 1-3 years
 - 5. Toddlers 3-5 years

Pediatric Primer Series

- School-Aged Children, 5-18 years
 - 6. Early Childhood, 5-7 years
 - 7. Mid-Late Childhood, 8-10 years
 - 8. **Preadolescence, 11-13 years**
 - 9. Adolescence, 14-18 years
 - 10. Transitions to Adulthood

Learning Outcomes

After this course, participants will be able to:

- List occupations of preadolescents, ages 11-13.
- Describe typical and atypical presentation of preadolescents, ages 11-13.
- List common conditions presenting in preadolescents, ages 11-13.
- Describe OT's role with preadolescents, ages 11-13.

Occupation in Preadolescents

"Identity cannot be found or fabricated
but emerges from within

when one has the courage to let go,"

- D. Cooper, *Outside In* (2016)

Occupation in Preadolescents

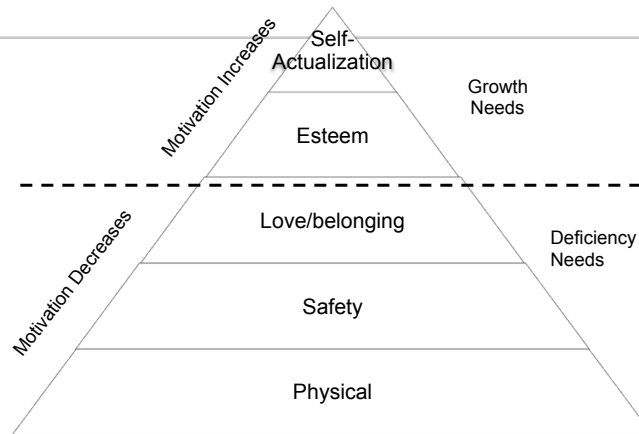
- Occupation refers to activities that support the health, well-being, and development of an individual (AJOT, 2017).

Occupation in Preadolescents

- For children and youth, occupations are activities that enable them to learn and develop life skills (e.g., preschool and school activities), be creative and/or derive enjoyment (e.g., play), and thrive (e.g., selfcare and relationships with others) as both a means and an end (Clark & Kingsley, 2020).

Needs in Preadolescents

Based on Maslow's
Hierarchy of Needs
(Maslow, 1943)



Needs in Preadolescents

- Deficiency needs -
 - Needs which arise due to deprivation
 - Food, safety, comfort, interpersonal connection, roles
 - Motivation to seek decreases as needs are met
 - Extrinsic motivation

Needs in Preadolescents

- Growth needs –
 - Needs which are based on a desire to grow
 - Achievement, competence, self-esteem, importance
 - Motivation to seek increases as needs are met
 - Intrinsic motivation

Self-Determination

- Theory that posits that people are motivated to grow and change by three innate and universal psychological needs (Deci & Ryan, 2004)
 - Need for competence/achievement/mastery
 - Need for connection/relatedness
 - Need for autonomy/independence

Self-Determination

- Key Assumptions
 - People are actively directed toward growth
 - Intrinsic motivation is important

Self-Determination & Preadolescent Occupation

- Occupations are “the things that people do that occupy their time and attention; meaningful, purposeful activity; the personal activities that individuals choose or need to engage in and the ways in which each individual actually experiences them” (Boyt-Schell, Gillen, & Scaffa, 2014).

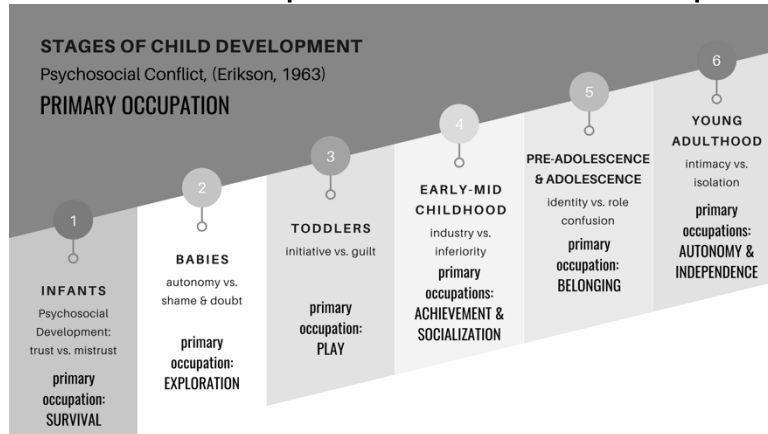
Self-Determination & Preadolescent Occupation

- Preadolescents begin the journey toward becoming self-determined as they begin to make choices and manage their own lives (Kader et al., 2018)
- Preadolescents have more control over their occupations than children

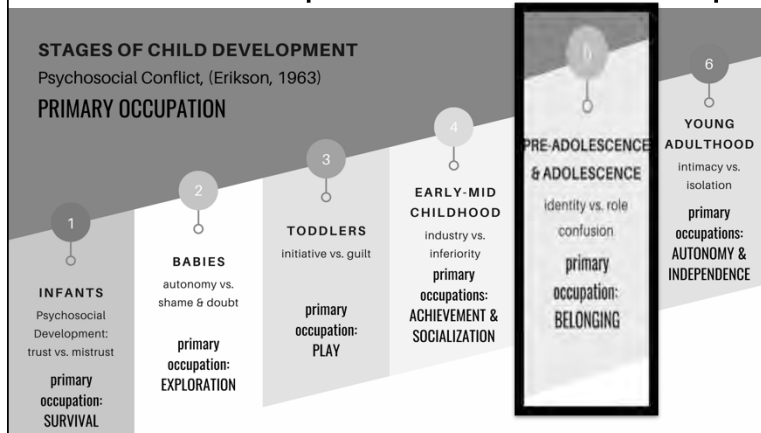
OT's Role

- Occupational therapists partner with the preadolescent and their caregivers to improve occupational performance and competence in their natural environments.
- OTs can facilitate self-awareness, decision-making skills, self-regulation, and goal-setting abilities to encourage self-determination.

What shapes child development?



What shapes child development?



Preadolescent Needs

- Physical → Competence
- Social/Emotional → Connection
- Cognitive → Autonomy

Physical Occupations

- Engagement in and mastery of daily skills which foster growth and health
 - Activities of Daily Living (ADLs) →
 - Instrumental Activities of Daily Living (IADLs)
- Mastery over physical occupations leads to a sense of competence

Instrumental ADLs (IADLs)

- More complex than ADLs which lay the foundation for future work
- Increasing responsibility, though still supervised
- May include care of others/pets, home management, meal preparation, shopping, safety & emergency procedures (AOTA, 2017)

Social/Emotional Occupations

- Erikson's Psychosocial Conflict (Erikson, 1963)
 - Industry vs. Inferiority (ages 5-13)
- In the middle to late stages of childhood, kids strive to be good, competent, and achieve

Social/Emotional Occupations

- Erikson's Psychosocial Conflict (Erikson, 1963)
 - Identity vs. Confusion (ages 13-21)
- In preadolescence, preteens strive for personal identity and a sense of belonging

Social/Emotional Occupations

- Socialization
- Emotional regulation
- Identity exploration

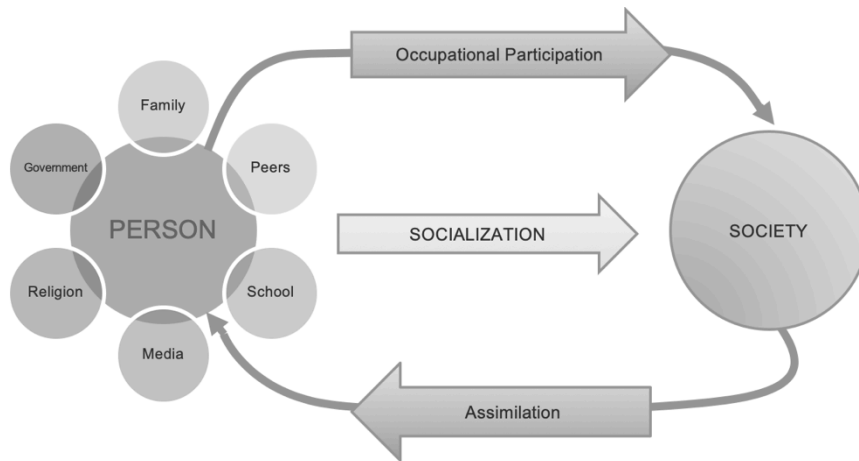
Preteen Socialization

- Socialization
 - The process of learning to behave in a way that is acceptable to an individual's society
 - Impacted by social participation, which is the activity of interacting with others
 - Multiple agents of socialization

Preteen Socialization

- Occupational demands
 - Called to develop skills for interpersonal interactions & relationships (WHO, 2007)
 - Awareness of social rules, demonstrate specific social behaviors, develop self management skills

Preteen Socialization



Preteen Socialization

- Social Hierarchy & Cliques
 - Preadolescents turn toward peer groups for guidance
 - Groups form around similar interests
 - Cliques offer preteens social status, but often involve exclusion

Preteen Socialization

- Popularity & Conformity (Closson, Hart, & Hogg, 2017)
 - Popular girls with high peer conformity experienced more reputational victimization and exclusion than popular girls with low conformity
 - Popular boys with high peer conformity experienced less exclusion than popular boys with low conformity

Preteen Socialization

- Having friends and being accepted in the preadolescent phase are correlated with higher levels of self-worth as an adult (Bagwell, Newcomb, & Bukowski, 1998)

Preteen Socialization

- Friendship Skills
 - Trusting & trustworthy
 - Shares secrets
 - Negotiates
 - Respects friends

Social/Emotional Occupations

- Emotional Regulation
 - The capacity to modulate or maintain an emotion in service of a goal
 - Necessary for social competence and adjustment (Zalewski et al., 2011)

Preteen Emotional Regulation

- Preadolescents have
 - Heightened reactivity to others' emotions
 - Undeveloped regions of the brain which regulate emotions

Social/Emotional Occupations

- Identity exploration
 - Beginning of ego identity development - conscious sense of self developed through social interaction
 - Social interactions are constantly changing with new experiences and information (Erikson, 1968)

Preteen Identity Exploration

- Identity exploration
 - Increased desire to be independent
 - Identification as individual vs. just part of the family
 - Preteens may question how they fit into society
 - Experimentation with different roles, activities, behaviors

Cognitive Occupations

- Formal Operational stage of cognitive development (Piaget, 1972); ages 12-adulthood
- Develop sophisticated & advanced thinking
 - Logical thought
 - Deductive reasoning
 - Systematic planning

Cognitive Occupations

- Formal Operational stage
 - Decreased egocentrism
 - Development of metacognition - ability to be aware of personal thoughts as well as others' thoughts
 - Increased awareness of others can lead to self-doubt, self-comparison, and inhibition

Educational Occupations

- Readiness skills:
 - 6th grade – Organization, independence; decimals; persuasive writing
 - 7th grade – Problem-solving; organized opinion writing; reading & making graphs
 - 8th grade – Problem-solving; learn new words from context; complex multi-step word problems

Educational Occupations

- Middle School
 - Self-assuredness
 - Sense of intentionality (Goleman, 1996)
 - Realistic & goal-oriented

OT's Role

- Occupational therapists partner with the child and their caregivers to improve occupational performance and competence in their natural environments.

Typical Development

- Children generally develop on predictable timelines.
- Knowledge of neurological, physiological, biological, and emotional growth can serve as guidelines for occupational performance
- Progressions vary by many contextual factors (Smet & Lucas, 2019)

11 Years - Physical

- Physical changes associated with puberty
 - Girls: increased body fat, beginning of breast enlargement, pubic hair growth, widening hips, underarm hair growth, first menstrual period
 - Boys: larger muscles, vocal changes, oilier hair and skin, facial and pubic hair, testicle and penis growth

11 Years - Social/Emotional

- Begins to explore identity through hair, clothing, hobbies, and friends
- Peer pressure, clique formation
- Types of engagement may change
 - Sleepovers and group outings
- Starts to resist physical affection from parents
- May start questioning authority figures

11 Years - Cognitive

- Understands that the world may lack clarity, that there may not be answers to all questions
- Develops better decision-making skills
 - Start to realize choices have long-term effects

11 Years– 6th grade

- Executive Functioning
 - Elementary school structure disappears in middle school
 - Preteens must begin to learn to balance sports, music, & social activities with academic demands
 - Pack school supplies & lunch, use calendar to keep track of assignments

11 Years– 6th grade

- Reading
 - Expand vocabulary, read complex texts
 - Analyze characters & themes
 - Discuss how themes are developed

11 Years– 6th grade

- Writing
 - Write complex personal narratives
 - Cite sources in papers
 - Write short opinion papers

11 Years – Written Expression

- Handwriting
 - Maintains legible handwriting with proper line orientation, sizing and spacing
 - Identifies most efficient handwriting style which maintains legibility – printing, cursive, or hybrid
 - Copied handwriting speed – 80 letters per minute (HW21, 2014)

11 Years – Written Expression

- Keyboarding
 - Types with 90% accuracy across variety of keyboards
 - Speed for copying – 20-25 WPM (HW21, 2014)
 - Speed for composition – 9-14 WPM (Honaker, 2003)
 - Types with decreased attention to the keyboard
 - Types 3 pages in 1 sitting

11 Years– 6th grade

- Math
 - Basic algebra
 - Use coordinates to understand and create graphs
 - Work with fractions & percentages
 - Use formulas to solve more complex problems

11 Years - IADLs

- Age-appropriate chores vary by context
 - Clean sinks & countertops
 - Deep clean kitchen
 - Prepare simple meals
 - Clean out drawers, room, garage
- Preteens begin to take on personal health maintenance responsibilities in addition to chores

12 years - Physical

- Puberty continues:
 - Girls: increased body fat, beginning of breast enlargement, pubic & underarm hair growth, widening hips, first menstrual period
 - Boys: larger muscles, vocal changes, oilier hair and skin, facial and pubic hair, testicle and penis growth

12 years - Social/Emotional

- Begins to question family values and develop personal morals
- “Emotional rollercoaster”
- Starts to explore use of leadership skills
- Begins to understand the idea of giving back to the community/ volunteer work

12 years – Language/Communication

- Strong language and communication skills
 - Understands and utilizes tone and sarcasm

12 years - Cognitive

- Brain stops growing in size, but is still developing
 - Prefrontal cortex is still immature
 - Plays role in impulse control and organizational skills
- Complex thought processes become easier

12 Years – 7th grade

- Executive Functioning
 - Behavioral & emotional self-regulation,
 - Sustaining attention for prolonged/challenging tasks
 - Independent task initiation & completion

12 Years – 7th grade

- Reading –
 - Compare and contrast various forms of written material (fiction vs. non-fiction) about the same topic
 - Understand and analyze subtle meaning
 - Participate in discussions on various topics by stating ideas clearly and building on other people's ideas

12 Years – 7th grade

- Writing
 - Write in different styles for different reasons and types of readers
 - Do short research projects by laying out questions to be answered and using many different sources of information to answer them

12 Years – Written Expression

- Handwriting
 - Maintains legible handwriting with proper line orientation, sizing and spacing
 - Copied handwriting speed – 90 letters per minute, printed, cursive, or hybrid (HW21, 2014)

12 Years – Written Expression

- Keyboarding
 - Types with good understanding and use of word processing features
 - Speed for copying – 25 WPM (HW21, 2014)
 - Should be able to type faster than hand-write
 - Types with minimal visual attention to keyboard
 - Types 5 pages in 1 sitting

12 Years – 7th grade

- Math
 - Ratios & rates
 - Solve equations to find the value of a missing variable
 - Apply "order of operations"
 - Solve multi-step word problems

12 Years - IADLs

- Age-appropriate chores vary by context
 - Mop floors, wash windows
 - Simple meal preparation, follow recipes
 - Fold and sort laundry
 - Make & receive phone calls
- Money management – save money, use cash

13 Years - Physical

- Continuing puberty
- Rapid physical changes can lead to self-consciousness
- May have lapses in physical coordination

13 Years - Social/Emotional

- Many emotional and physical changes with puberty
 - May feel uncertain, moody, sensitive, self-conscious
- Feels important to fit in with peers

13 Years – Language/Communication

- Comprehends abstract concepts
- Uses figurative language and metaphors
 - Language becomes less literal

13 Years - Cognitive

- Begins to understand faith and trust
- Limited understanding of long-term consequences
- May engage in risky behavior

13 Years – 8th grade

- Executive Functioning
 - Manages homework independently
 - Plans, prioritizes, manages time with decreasing assistance
 - Self-advocates for academic needs

13 Years – 8th grade

- Reading
 - Identify exact meaning and implications of readings
 - Make sense of figures of speech (puns, idioms) based on context
 - Decide whether a writer's argument has enough good evidence and reasoning to back it up

13 Years – 8th grade

- Writing
 - Connect ideas and information in writing in a natural and effective way
 - Write multi-paragraph essays with varied sentence structure

13 Years – Written Expression

- Handwriting
 - Maintains legible handwriting with proper line orientation, sizing and spacing
 - Copied handwriting speed – 100 letters per minute, printed, cursive, or hybrid (HW21, 2014)

13 Years – Written Expression

- Keyboarding
 - Types with advanced understanding and use of word processing features
 - Speed for copying – 30 WPM (HW21, 2014)
 - Should be able to type faster than hand-write
 - Types with no visual attention to keyboard
 - Types 7 pages in 1 sitting

13 Years – 8th grade

- Math
 - Use abstract mathematical thinking
 - Solve and graph equations; figure out the ratio of two numbers by looking at a line on a graph
 - Use the Pythagorean theorem
 - Find the volume of cylinders, cones, and spheres

13 Years - IADLs

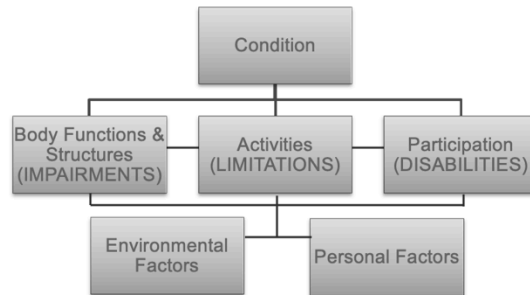
- Age-appropriate chores vary by context
 - Mow lawn, weed, trim hedges
 - Wash/vacuum car
 - Babysit or walk pets, mow lawns as first “job”
- Set and wake up to alarm clock

Impairment in Preadolescents

- May be caused by
 - Chronic conditions
 - Evolution of a progressive disease process
 - Acute illness/injury

ICIDH Model (WHO, 1980)

OT can help prevent an impairment from becoming a limitation or disability promote participation in meaningful activities despite any existing impairments.



OT Referrals in Preadolescents

- Usually at this age
 - Chronic
 - Acute
 - Traumatic
- Generally kids with developmental conditions would have been identified prior to this age

OT Referrals in Preadolescents

- New referrals may reflect difficulty with skills expected for this age
 - Increasing expectations for independent skills and behaviors
 - Children who have functioned at an acceptable level with supports may struggle as supports are removed

12-17 Yrs. – Common Diagnoses

- Most prevalent developmental disabilities in adolescents in the US (Zablotsky et al., 2019)
 - ADHD (12%)
 - Learning Disability (10%)
 - Developmental Delay (4%)
 - Autism Spectrum Disorder (2%)

Developmental Delay

- Ongoing delay in development of functional skills for children under 5 years of age – DSM 5 diagnosis of **global developmental delay**
- Previously known as mental retardation, sometimes referred to as “MR/DD”
- If the delay persists, will eventually be defined as a developmental disability

Developmental Disabilities (DD)

- A group of conditions defined by an impairment in physical, learning, language, or behavior areas
- Impacting day-to-day functioning
- Onset during the developmental period, lasting throughout a person's lifetime

Developmental Disabilities (DD)

- Can have a wide variety of etiologies and impact a wide variety of body systems
 - Neurologic – Cerebral Palsy, seizure disorders
 - Genetic– Downs syndrome, Fragile X
 - Learning & Behavior – Attention Deficit Hyperactivity Disorder, Autism Spectrum Disorder, learning disabilities, intellectual disabilities

Developmental Disabilities (DD)

- Prevalence of children in the US aged 3–17 yrs. diagnosed with a developmental disability is about 17% (Zablotsky et al., 2019)
- More boys than girls; 22% compared to 12% (Zablotsky et al., 2019)

Developmental Disabilities (DD)

- Prevalence in China
 - 39.7% of children living in poverty met criteria for a developmental disability (Wei et al., 2015)
 - 7.4% of the population has a developmental disability and 16.3% have multiple disabilities (2006) according to the China Disabled Persons' Federation
 - Another study found a prevalence of 1.362% among Chinese children aged 0-6 years (Zhang et al., 2006)

Intellectual Disabilities (ID)

- Type of developmental disability in which activity and participation limitations are related to an impairment in age-appropriate learning and cognitive functioning
- Nonprogressive cognitive impairment associated with difficulties in conceptual, social, and practical areas of living

Intellectual Disabilities (ID)

- DSM-5 defines intellectual disabilities as neurodevelopmental disorders that begin in childhood and are characterized by intellectual difficulties as well as difficulties in conceptual, social, and practical areas of living (APA, 2013)

Intellectual Disabilities (ID)

- Criteria for diagnosis:
 - 1) Deficits in intellectual functioning — “reasoning, problem solving, planning, abstract thinking, judgment, academic learning, and learning from experience” — confirmed by clinical evaluation and individualized standard IQ testing (APA, 2013, p. 33)

Intellectual Disabilities (ID)

- 2) Deficits in adaptive functioning that significantly hamper conforming to developmental and sociocultural standards for the individual's independence and ability to meet their social responsibility; and
- 3) onset of these deficits during childhood

Intellectual Disabilities (ID)

- Cognitive abilities are measured by intelligence quotient (IQ) tests
 - Score 2 standard deviations below average indicates significant cognitive deficit, meaning ~97.5% of the population has better cognitive scores
 - Cutoff score is generally 70

Intellectual Disabilities (ID)

- Common IQ tests in the US
 - Wechsler Intelligence Scale for Children (WISC-V; Wechsler et al., 2004)
 - Stanford-Binet Intelligence Scale (Thorndike et al., 1986)

Intellectual Disabilities (ID)

- Adaptive functioning measures
 - Supports Intensity Scale (SIS; Thompson et al., 2014)
 - Woodcock-Johnson Scales of Independent Behavior (SIB; Bruininks et al., 1996)
 - Vineland Adaptive Behavior Scale (VABS; Sparrow, Cicchetti & Balla, 1984)

Intellectual Disabilities (ID)

- Prevalence
 - United States
 - 0.9-1.2% (Zablotsky et al., 2019)
 - International
 - Developed countries – 1.5%
 - Developing nations – 4% due to poor maternal health & environment (Salvador-Carulla et al., 2008)

Intellectual Disabilities (ID)

- Prevalence
 - China
 - 0.93% (Xie et al., 2008)
 - Prevalence of ID increased with the age of children and decreased with parental educational level

I/DD

- Intellectual and developmental disabilities are often discussed together and referred to as “I/DD”
- A child with an intellectual disability is also considered to have a developmental disability, but not necessarily vice versa

OT's role in I/DD

- Children and adolescents with I/DD commonly have challenges participating in routines that promote a healthy lifestyle
 - Eating challenges (Bandini et al., 2015)
 - Physical activity challenges (Rimmer & Rowland, 2008)
 - Difficulty accessing appropriate healthcare

OT Intervention for I/DD

- Strong evidence supports social skills programming and intervention for youth with I/DD
 - Improved health outcomes (Lawson et al., 2018)
 - Increased participation
 - Improved social behavior & self-management (Arbesman, Bazyk, & Nochajski, 2013)

OT Intervention for I/DD

- Interventions focus on social interaction, compliance with adult directives and social and norms, and participation in productive behavior

OT Intervention for I/DD

- Cognitive based
 - Alert Program for Self-Regulation® (Nash et al., 2015)
- Occupation based
 - Yoga, horseback riding (Pfeiffer, Clark, & Arbesman, 2018)

Case Study

- Elliott is a 12 year-old boy referred to OT for “difficulty participating in school and team activities.” He is diagnosed with an intellectual and developmental disability (I/DD) related to fetal alcohol spectrum disorder (FASD). He is in a special education classroom and has done well prior to this year.

Elliott - Evaluation

- Motor skills – Normal tone, strength, balance; uncoordinated but able to complete basic skills; overweight with poor endurance
- Education skills – Easily frustrated, increased acting out when he feels he can't do something, increasingly refuses to participate

Elliott - Evaluation

- Executive functioning – Poor planning, disorganized, unable to prioritize, does not take any responsibility for homework
- Leisure skills – Does not participate in any group activities

OT for Children

- Key Concepts (Case-Smith & Kuhanek, 2019)
 - Family-Centered Care
 - Strength-Based Focus
 - Cultural Competence & Humility
 - Therapeutic Use of Self

OT Intervention with Children

- Essential Concepts (Case-Smith & Kuhanek, 2019)
 - Emphasis on a top-down approach
 - Use of multiple methods
 - Importance of context
 - Creating the “just right challenge”
 - **Enable inclusion, engagement, participation**

Elliott – Problematic Occupations

- Education – organization, planning, self-management, self-regulation
- Leisure – engagement with others
- Health maintenance – poor habits

Elliott – Barriers to Function

- What is getting in the way of Elliott's participation in school activities?
 - Self-regulation – difficulty controlling emotions
 - Self-management – difficulty taking responsibility for healthy habits
 - Cognitive & learning abilities – these are unlikely to change; OT must adapt around them

Elliott – Interventions

- Overall goals for OT
 - Help Elliott participate in meeting his own needs
 - Alert® Program (Williams & Shellenberger, 1996)
 - Promote healthy habits and routines
 - Increase knowledge and facilitate self-management

Elliott – Interventions

- The Alert® Program (Williams & Shellenberger, 1996)
 - Self-regulation is the ability to attain, maintain, or change how alert one feels appropriately for a task
 - Teaches children how to identify and change their level of alertness in order to optimize functioning
 - Historically based on a car analogy, “How does your engine run?”

Elliott - Interventions

- Encouraging healthy habits
 - Use a daily activity log in order to help identify unhealthy habits
 - Foster self-management by encouraging Elliott to identify goal areas and possible solutions
 - Use social stories and visual aides to prompt healthy habits

Elliott - Outcomes

- OT helped Elliott tune into his level of arousal and find strategies to calm and regulate when frustrated. He was able to set some goals to participate in gym class and after-school kickball. He used visual reminders at home to help increase fruit and veggie intake.

Elliott – Outcomes

- Even though Elliott's level of impairment is unlikely to change, OT can help significantly improve health and participation
- Making improvements at this age lays a foundation for healthier habits and good participation as he ages

Thank you!

- Patti Sharp, OTD, MS, OTR/L