Early Intervention Training Program at the University of Illinois at Urbana-Champaign presents

Facilitating Motor Skill Development in Young Children

Presented by Paddy Favazza, Ed.D.
Center for Social Development and Education
University of Massachusetts Boston

UIUC Early Intervention Training Grant
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Today's Presenter

Paddy C. Favazza, Ed.D.

Senior Research Fellow, Early Childhood Special Education

Center for Social Development & Education

University of Massachusetts Boston

Today's Moderators

Maria Matticks

Consultant

Early Intervention Training Program

Alissa Jones

Research Specialist

Early Intervention Training Program

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  - **If you joined as a group, each individual will need to complete the unique survey**

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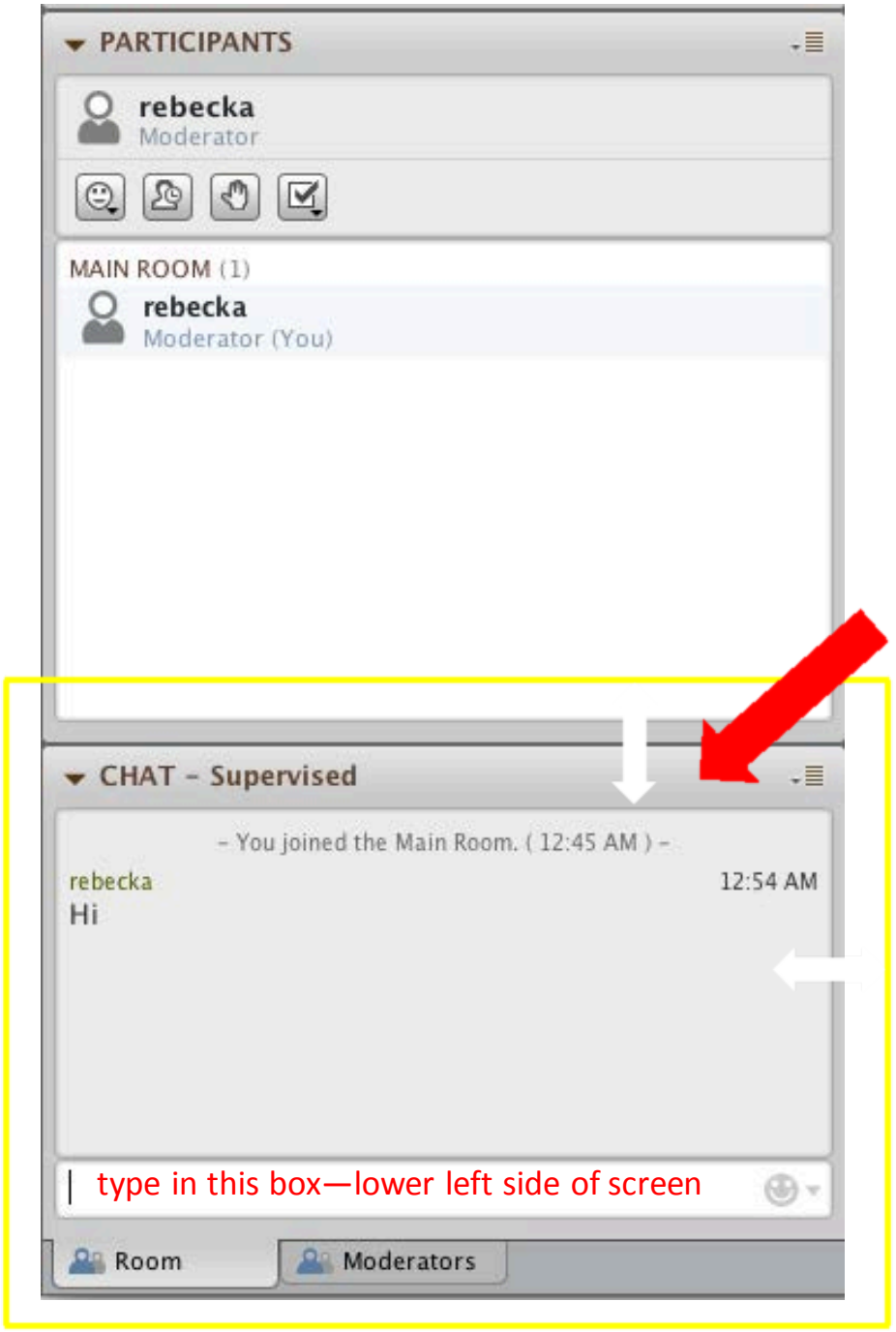
Chat



Move the column

Rollover the top or right side border to resize the chat box.

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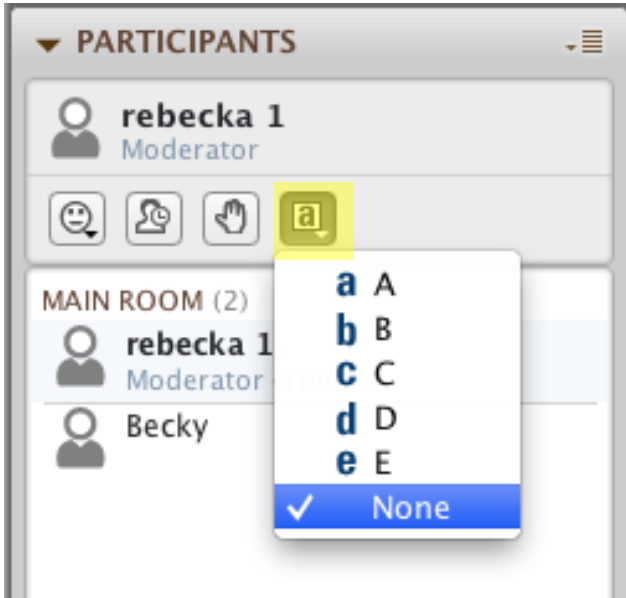
Who do we have participating in this webinar today?

A. Parent/caregiver
B. Early Interventionist
C. CFC Staff
D. Administrators
E. Other

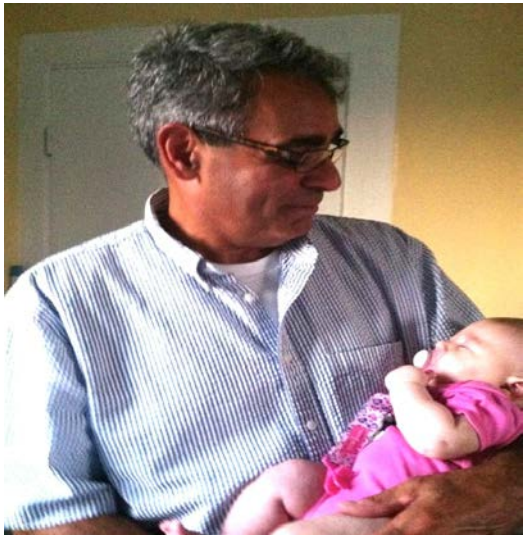


Who Am I?

Former Teacher, EI Director

Researcher and Professor of ECSE

Mom and Grandmother



Session Objectives

To gain understanding about:	the importance of supporting families to address motor skill development
	the common myths about motor skills development
	the motor challenges experienced by young children
	strategies for facilitating motor developments using DEC Recommended Practices

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Key Influences on Motor Development Perspective

Young children with special needs

- cognitive, social/emotional, physical/health impairments

Variety of Settings

- early Intervention, preschool in US, orphanages in other countries

Research, development and evaluation of preschool motor curriculum

- YA, CHAMPPS in US and other countries

Parenting children whose early years were spent in institutions in Romania

- bilingual, low verbal, nonverbal, disabilities, maladaptive behaviors, under-stimulated, attachment disorder, poverty, neglect, abuse, PTSD

The Importance of Motor Skill Development

If there is any area of development that is universally salient in demonstrating the capacity of children to learn, it is the area of motor development.

Regardless of Culture or Country of Origin

Family members can see signs of early motor development: infant rotates his head to follow the movements of a caregiver, rolls over, reaches for objects, crawls.

These early motor behaviors signal to parents that their child is developing in a typical and timely fashion; expectations are met.

However, when the child has delayed motor development, it can be one of the first signs that the child is not "typically developing" which leads to concerns and perhaps, changes in expectations of what the child can and cannot do.

Why is this important?

Favazza, P.C., Siperstein, G.N., Ghio, K.G., Wairimu, J., & Masila, S. (in press). The Young Athletes Curriculum: Impact on Children with Disabilities in Kenya. *Journal of Research in Childhood Education*.

Families are the Child's *First…*

1st

Provider of Care

Facilitator of Development

Partner in Play

Provider of Inclusion

Observer of Milestones

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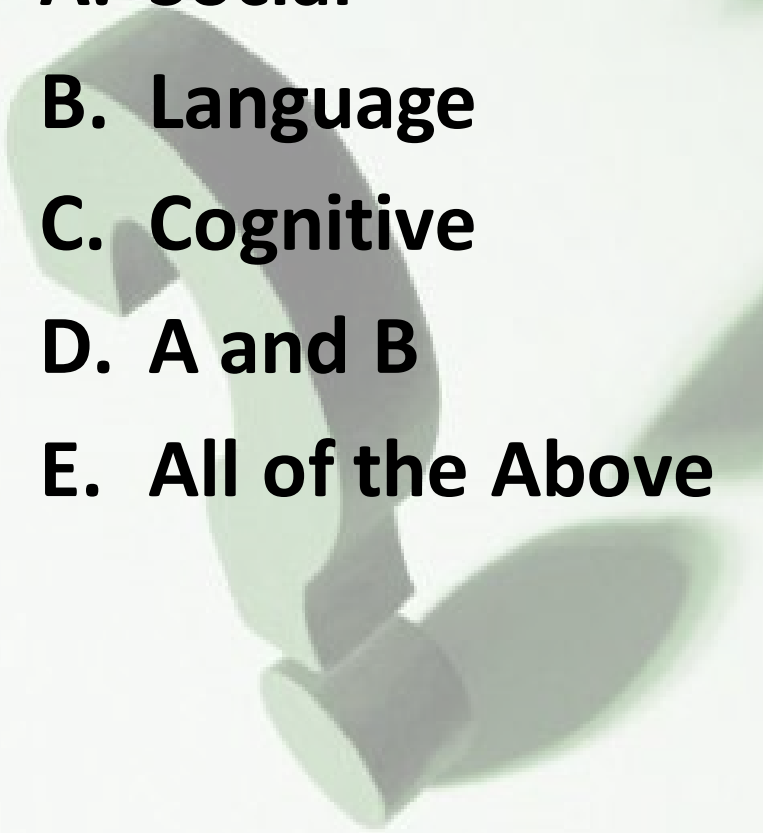
Motor development serves as a building block for which areas of development?

A. Social
B. Language
C. Cognitive
D. A and B
E. All of the Above



Motor Development Provides the Building Blocks for Development

Motor Movement

Exploration

Stimulation

Development: motor skills, social, adaptive behavior, language and cognitive abilities

Favazza, P.C. & Siperstien, G.N. (*in press*) Motor Skills Acquisition for Young Children with Disabilities in B. Reichow,E. Barton, B. Boyd & S. Odom (Eds.) *Handbook on Early Childhood Special Education*. New York: Springer.

Motor Movement with Your Child Provides Benefits Galore!

- Fun!
- Strengthens child/parent relationship
- Enhances turn taking
- Greater independence, language, social and cognitive development
- Helps parent see exactly child's motor development
- Part of the baby album record of development

https://www.youtube.com/watch?v=RtqzRaUOOxM

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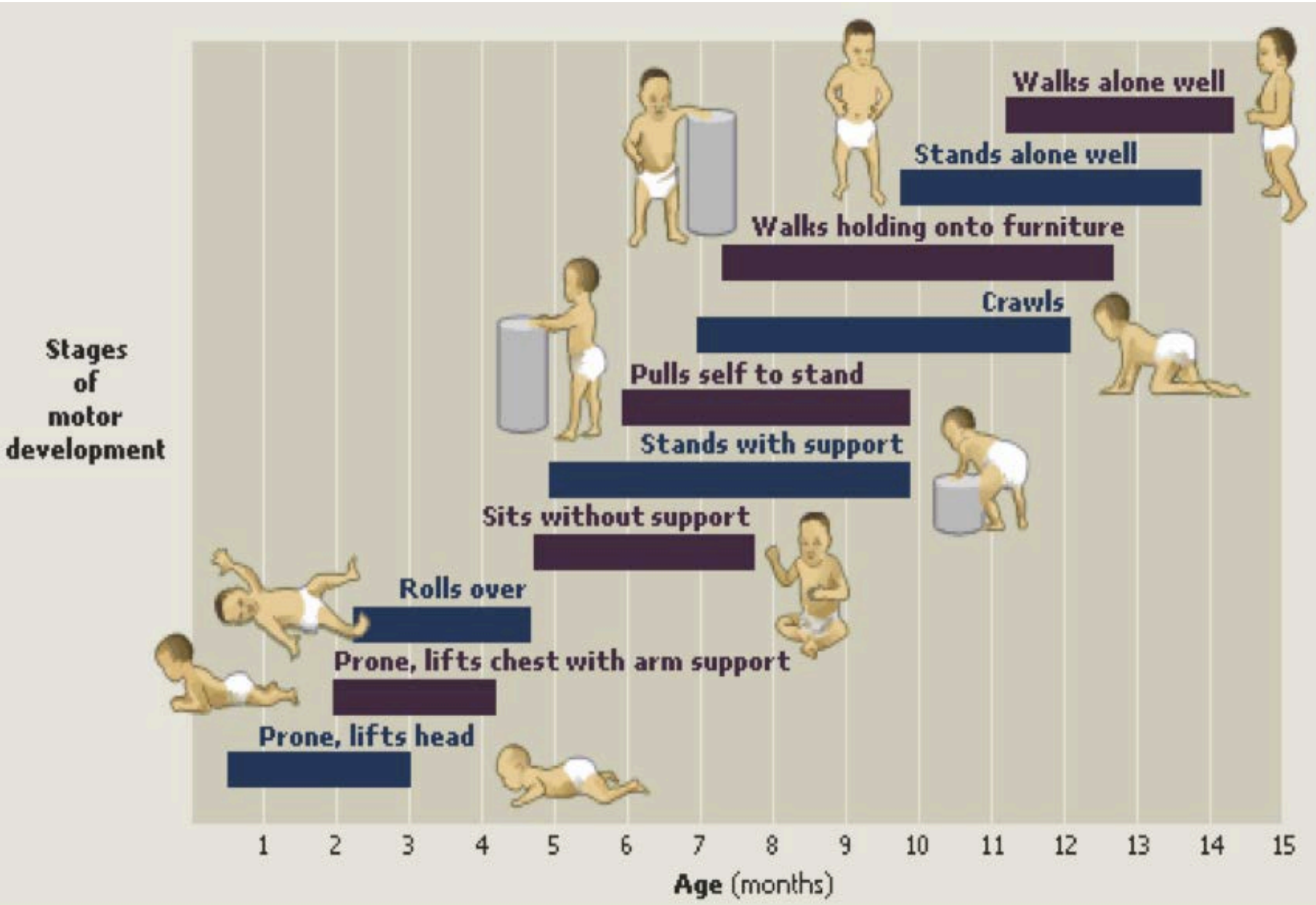
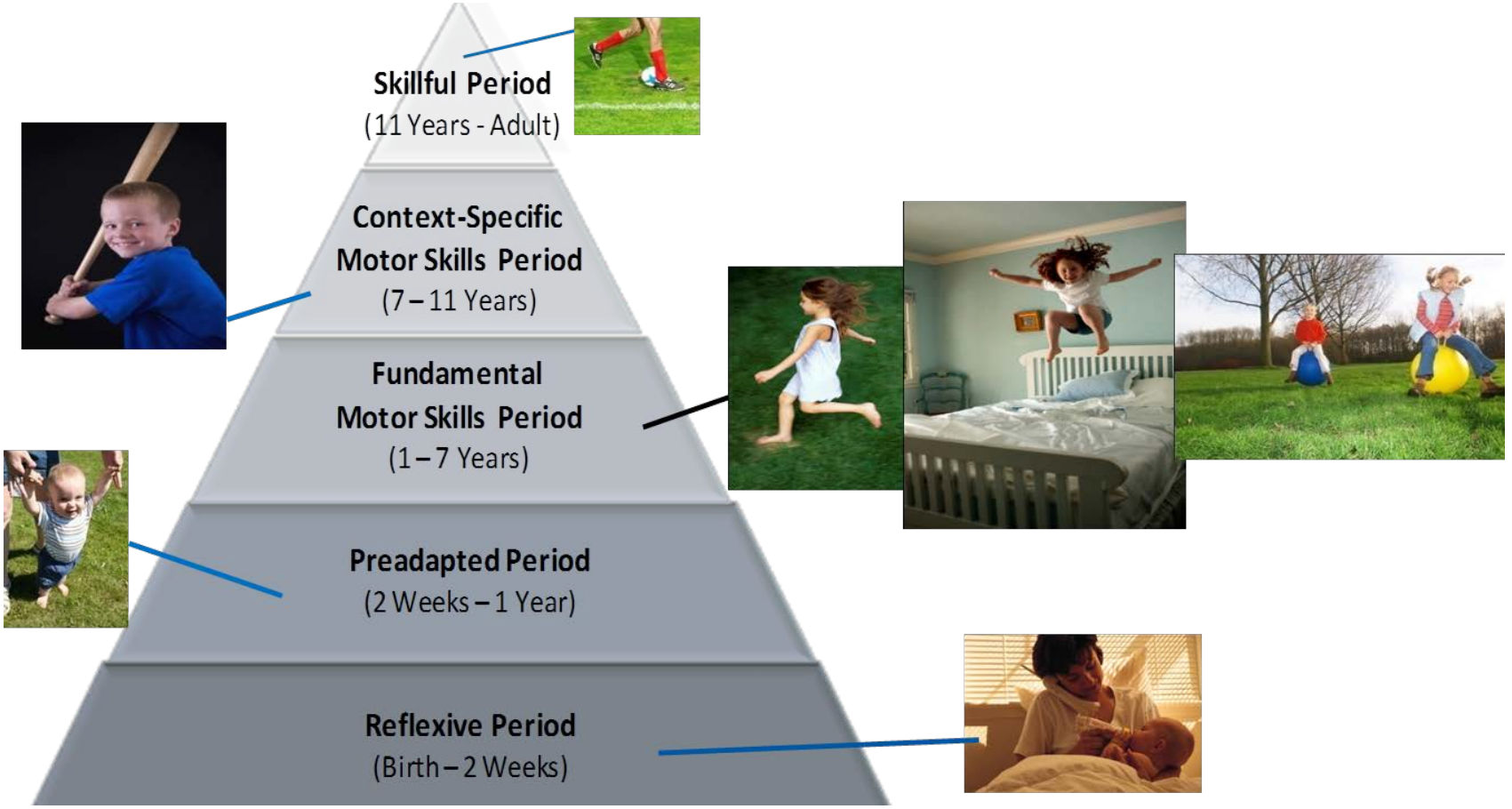
Continuum of Development is Truly Remarkable!



What Does the Continuum of Motor Skill Development Look Like?



SOURCE: Adapted from Figure 1, in Clark, J. E., & and Metcalfe, J. S. (2002). The mountain of motor development: A metaphor. In J. E. Clark & J. Humphrey (Eds.), Motor development: Research and reviews. Reston, VA: NASPE Publications.

Motor Development

Is it true that…

Motor development is *a series of milestones experienced in the same way by* all children and motor milestones are *universal, developing at the same time* among all children.

Yes or No?

Aspects culture impact human development (Rogoff, 2003)

- In a Mayan Village….
- In a Bolivian Village….
- In a Kenyan Village….

Motor development is influenced by cultural expectations related to gender roles, independence, autonomy and opportunities they are given (or not given) which impact motor development.

Aspects culture impact human development (Rogoff, 2003)

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- In a Bolivian Village….
- In a Kenyan Village….

Motor development is influenced by cultural expectations related to gender roles, independence, autonomy and opportunities they are given (or not given) which impact motor development.

So, while there is a general pattern to the developmental timing of specific motor abilities, children have culture-related influences that can accelerate or limit motor development.

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Are My Baby's Gross Motor Skills Typical?

As your baby grows into a child, it's the development of these muscles that will enable her to hold her head up, sit, crawl and eventually walk, run, jump and skip.

Babies develop at their own pace, so use this only as a guideline of what to expect. And, there are many ways to help promote typical motor development.

If your neighbor's nine month old is already walking and your nine-month-old baby is content to crawl, don't become alarmed.

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Motor Development

Is it true that…

If "critical periods" of development are missed, opportunity for development is lost forever.

Yes or No?

Dennis & Dennis (1940)

Some infants raised using the native tradition of tightly swaddled child on the mother's back in a cradleboard for the first six months of life, limiting the use of their hands and arms.

Other infants allowed to lay and sit on their beds, moving their arms and legs freely.

The assumption was that the infants in their cradleboards would miss the critical period of motor development, when infants begin extensive motor movement of arms and legs, delaying and/or limiting their ability to walk.

Both groups of children walked roughly at the same time, dispelling the myth that missed or delayed experiences during "critical periods" limit motor development.

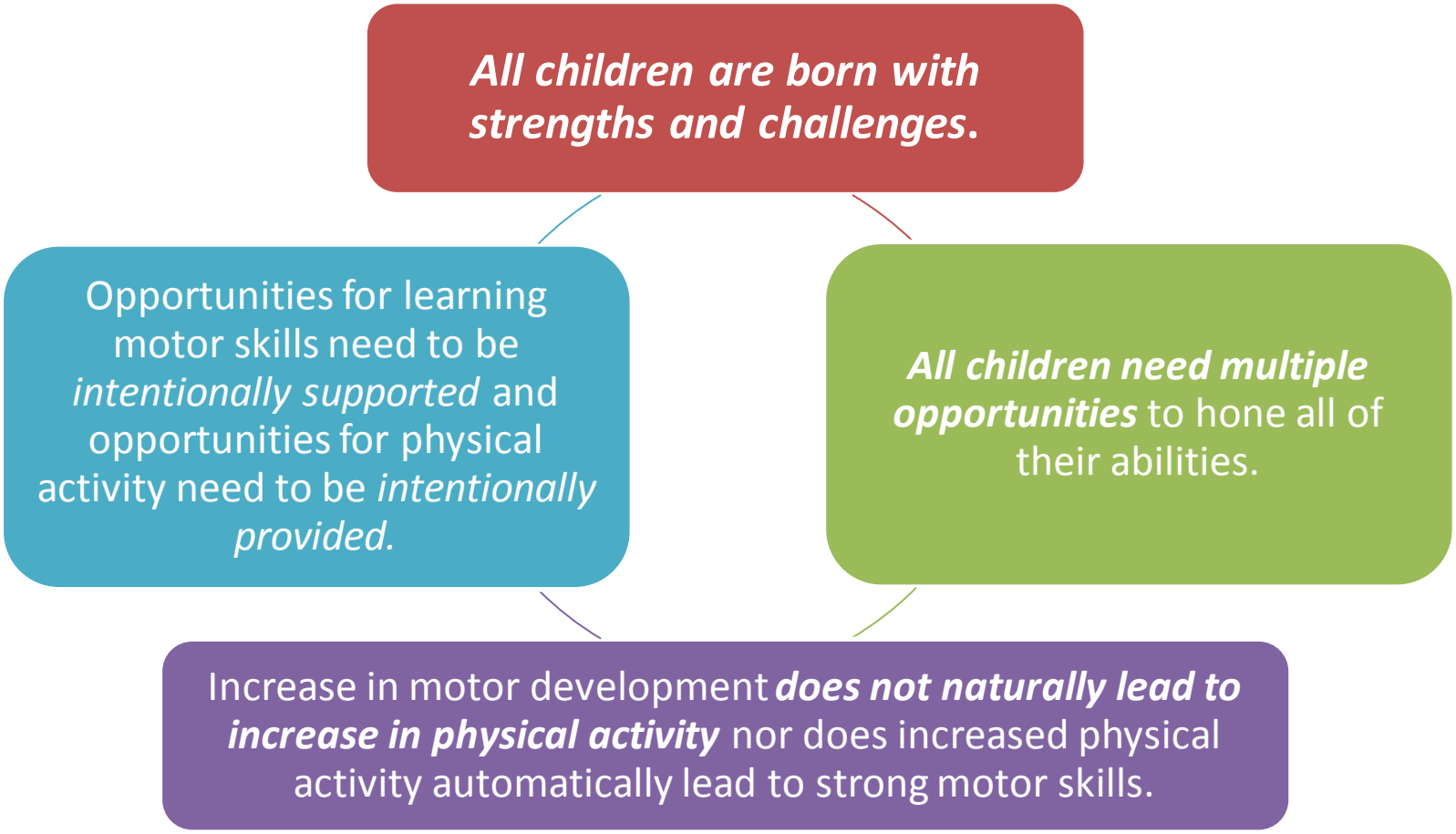
Motor Development

Is it true that…

Increased motor skill development leads to increased physical activity and conversely, when children are engaged in physical activity, they will naturally become proficient in motor skill development.

Yes or No?

Motor and Physical Activity



See Brown et al., (in press). Physical Activity and Young Children with Developmental Delays in B. Richow, B. Boyd, E. Barton, and S. Odom (Eds.) *Handbook on Early Childhood Special Education*; Brown et al, 2009; Tucker, 2008

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Common Terms Associated with Motor Development

Structured Physical Activity

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Common Terms Associated with Motor Development

Structured Physical Activity

Unstructured Physical Activity

Common Terms Associated with Motor Development

Structured Physical Activity

Unstructured Physical Activity

Fundamental Skills (walk, run, balance, jump, hop, catch, throw, strike, kick)

Common Terms Associated with Motor Development

Structured Physical Activity

Unstructured Physical Activity

Fundamental Skills (walk, run, balance, jump, hop, catch, throw, strike, kick)

Gross Motor Skills

Common Terms Associated with Motor Development

Structured Physical Activity

Unstructured Physical Activity

Fundamental Skills (walk, run, balance, jump, hop, catch, throw, strike, kick)

Gross Motor Skills

Fine Motor Skills

Common Terms Associated with Motor Development

Structured Physical Activity

Unstructured Physical Activity

Fundamental Skills (walk, run, balance, jump, hop, catch, throw, strike, kick)

Gross Motor Skills

Fine Motor Skills

Locomotor Skills **(roll, crawl, walk)**

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Common Terms Associated with Motor Development

Structured Physical Activity

Unstructured Physical Activity

Fundamental Skills (walk, run, balance, jump, hop, catch, throw, strike, kick)

Gross Motor Skills

Fine Motor Skills

Locomotor Skills (roll, crawl, walk)

Manipulative Skills

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Common Terms Associated with Motor Development

Structured Physical Activity

Unstructured Physical Activity

Fundamental Skills (walk, run, balance, jump, hop, catch, throw, strike, kick)

Gross Motor Skills

Fine Motor Skills

Locomotor Skills (roll, crawl, walk)

Manipulative Skills

Non-Motor Skills (require balance: sway, bend, twist)

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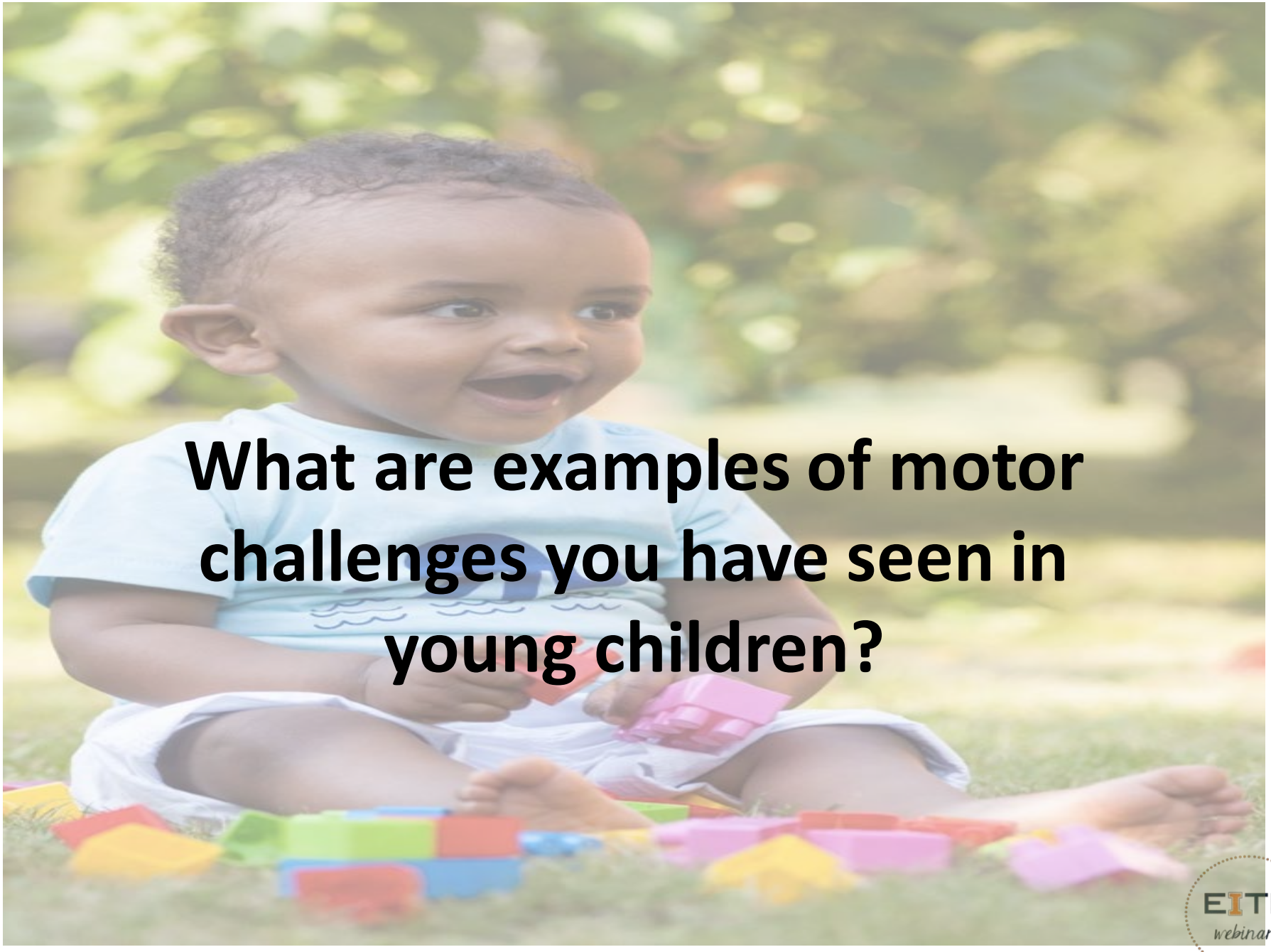
The development of these *fundamental motor skills* is not maturationally driven

Requires support and multiple structured and unstructured opportunities to acquire and hone more efficient and effective skills

Moreover, some children have specific motor challenges that also require attention


What are examples of motor challenges you have seen in young children?

Some Children Experience Challenges with…

Balance

Postural control

Locomotion

Object manipulation

Examples of Children with Motor Challenges

Child with Intellectual Disabilities

- Hypotonic (low) muscle tone
- Increased joint flexibility
- Unusual posturing
- Limited strength
- Smaller digits
- Other Challenges: Vision, Hearing

Another Contributing Factor: *Executive Functioning*

Comparison of the motor skills (*locomotion and object manipulation*) and executive functioning skills (*planning, decision making, problem solving*) in children with and without IDD.

Children with IDD performed significantly lower on all tests of motor abilities and executive function with a positive correlation between executive functioning and motor abilities (*locomotion and object manipulation*) and took longer to perform the motor tasks. (Hartman, et al., 2010)

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Taken together, the findings highlight the inter-relatedness of motor abilities and executive functioning, suggesting the need to address both during the early years.

Examples of Children with Motor Challenges

Child with Autism

Uneven gait

Proprioception challenge (sense of body's position and orientation as they move)

Motor planning and coordination

Posture and muscle tone

Visual orientation

Joint attention

Other Challenges: Sensory

(Duchan & Patel, 2012; Fournier et al., 2010; Ozonoff et al., 2008; Pan, Tsai, & Chu, 2009; Staples & Reid, 2010)

Another Contributing Factor: *Motor Imitation*

An underlying factor related to motor deficits is the *absence of motor imitation* which is considered one of the earliest learning strategies for social, language and cognitive development and a predictor of later play skills in children (Stone & Yoder, 2001; Uzgiris, 1999).

Two- and three-year-old children with autism may *lack the capacity to imitate behaviors*, which has a negative impact on their motor as well as social and language development (McDuffe et al., 2007) and motor planning, motor coordination, balance, locomotion and object manipulation (Gowen & Hamilton, 2013).

Examples of Children with Motor Challenges

Children Living in Poverty

Even children who are born healthy, show gradual decline in mental, motor and social-emotional abilities which persist for years (Petersen, 2012)

http://www.gtcuw.org/blog/2012/06/25/785/long-term_poverty_long-term_impact

Poverty's Negative Impact

Motor development (Goodway & Branta, 2003; Venetsanou & Kambas, 2010)

Motor, language and reading abilities (McPhillips & Jordan-Black, 2007)

Cognition, academic attainment, socioemotional development and health (Bradley & Corwyn, 2002)

These studies echo the findings from other research, highlighting the developmental impact associated with children from disadvantaged backgrounds (Bradley & Corwyn, 2002; Ginsborg, 2006; NICHD Early Child Care Research Network, 2005).

Other Challenges Interfere with Motor Skill Development

Social & Emotional Development

- Interest in others
- Interaction with others
- Getting along with others
- Turn taking
- Emotional availability

Approaches to Learning

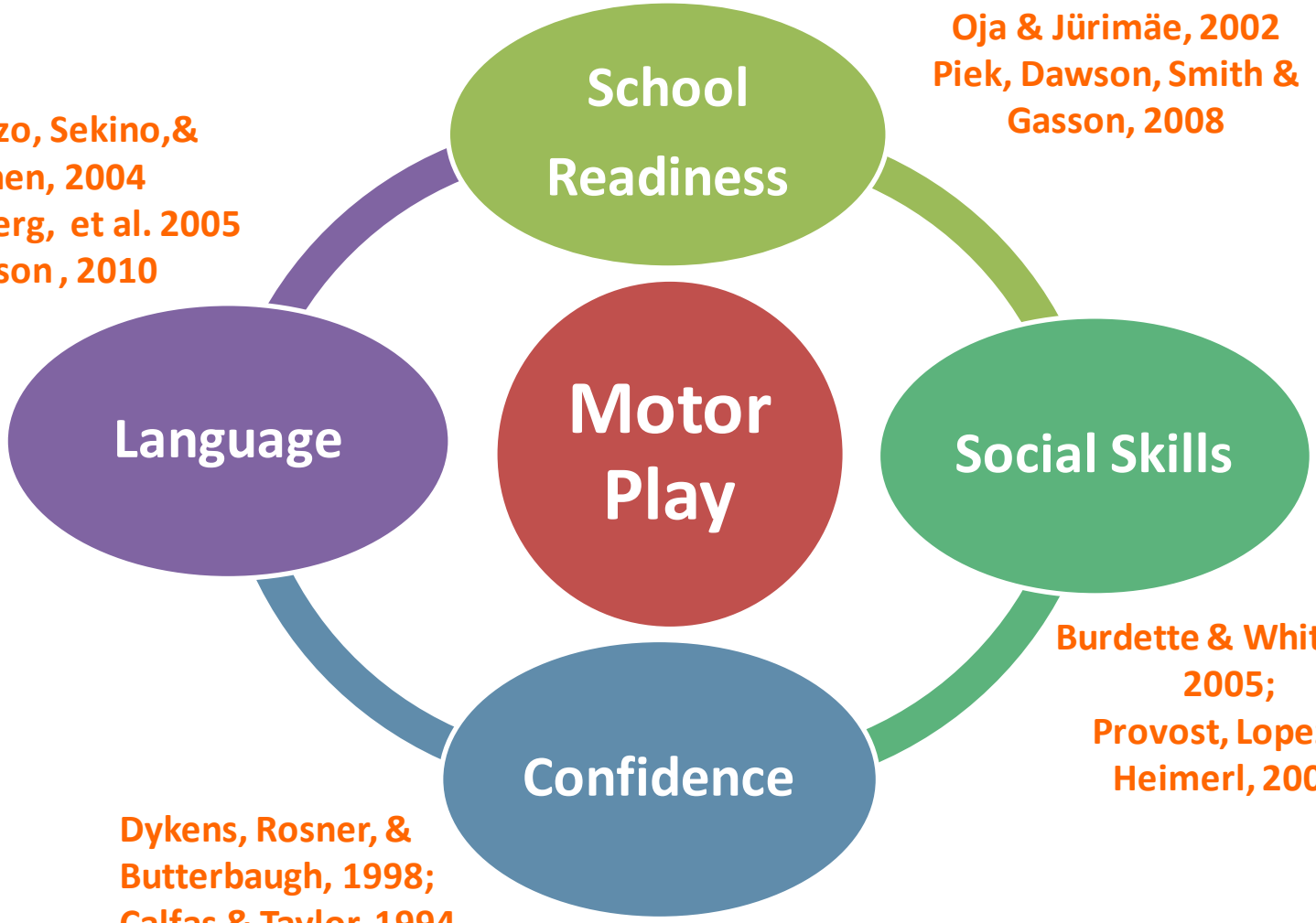
- Willingness to try new activities
- Sustained attention
- Capacity to follow
- Full participation in activities

Why is it important to think about challenges in other areas of development?

Because of *the inter-relatedness of motor development* to other developmental domains,
which are also impacted by disability and poverty,

it is important to give attention to other areas of development which can impede motor development.

Motor Performance is also Related to Other Developmental Areas



Oja & Jürimäe, 2002
Piek, Dawson, Smith & Gasson, 2008

Fantuzzo, Sekino,& Cohen, 2004
Wassenberg, et al. 2005
Iverson , 2010

Burdette & Whitaker, 2005;
Provost, Lopez & Heimerl, 2007

Dykens, Rosner, & Butterbaugh, 1998;
Calfas & Taylor, 1994


Do you have any examples of *the inter-relatedness* of motor development to other areas of development*?*
Comments?
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But, the good news is…
Motor skills are amenable to change!

Infants and toddlers
are highly motivated
to use their bodies to move
and to use tools
but because all of these skills
do not develop automatically,
parents and early interventionist
do many things to support
motor development.

Wittmer, D.S. & Petersen,|S.H. (2006).
Infant Toddler Development and Responsive Program Planning,
pg 110, Pearson Allyn Bacon Prentice Hall

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The First Step in Supporting Motor Development and Physical Activity of Young Children

✓ Use the professional guidelines
to guide your development of ideas for supporting motor skill development in young children.

DEC Recommended Practices:
http://dec.membershipsoftware.org/files/Recommended%20Practices/DEC%202014%20Recommended%20Practices.pdf

National Association for Sports and Physical Education:
http://journal.naeyc.org/btj/200605/NASPEGuidelinesBTJ.pdf

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Trivia on NASPE Guidelines

Preschoolers (ages 3-5 years of age)

A. Be engaged in at least 60 min. daily of structured physical activity.
B. Be engaged at least 60 minutes and up to several hours daily of unstructured physical activity.
C. Not be sedentary for for more than 60 min. daily, except when sleeping.
D. A and C
E. All of the Above

Trivia on NASPE Guidelines

Toddlers (ages 12 -26 months) should

A. Be engaged at least 15 minutes daily in structured physical activity.
B. Be engaged at least 30 minutes and up to several hours daily of unstructured physical activity.
C. Not be sedentary for more than 30 min. daily, except when sleeping.
D. A and B
E. None of the Above

Trivia on NASPE Guidelines

How often should infants (birth- 12 months) interact with parents and/or caregivers to support exploration of the environment, development of movement skills?

A. Twice a day
B. Daily
C. Three times a day
D. None of the above

Looking across the Strands in DEC Recommended Practice….

1. Assessment
2. Environment
3. Families
4. Instruction
5. Interaction
6. Teaming
7. Collaboration
8. Transition

What is important to consider about the *environment* when addressing motor development?

Using DEC Guidelines

Environment Strand	Application
E1. Provide supports in natural environments during daily routines.	Inquire about family routines to identify motor play times /activities: *diapering, tub time, dinner routines, car time, dedicated motor play time.*
E3. Work with the family to modify the physical & social environments.	Need to adapt using what they have when possible • *Seating that allows toddlers to sit and rise by themselves.* • *Clothing suitable for exploring*
E6. Create environments that provide regular opportunities for movement to development across domains	Set up motor play within the child's schedule and family routines • *Visual prompts* • *Toys in a bin at the tub* • *Cabinet in the kitchen* • *Folding Clothes*

Mirror, Mirror!

We All Cook!

Mountain Climbing!

Multiple Seating Options to Match Developmental Needs & Maximize Motor Movement

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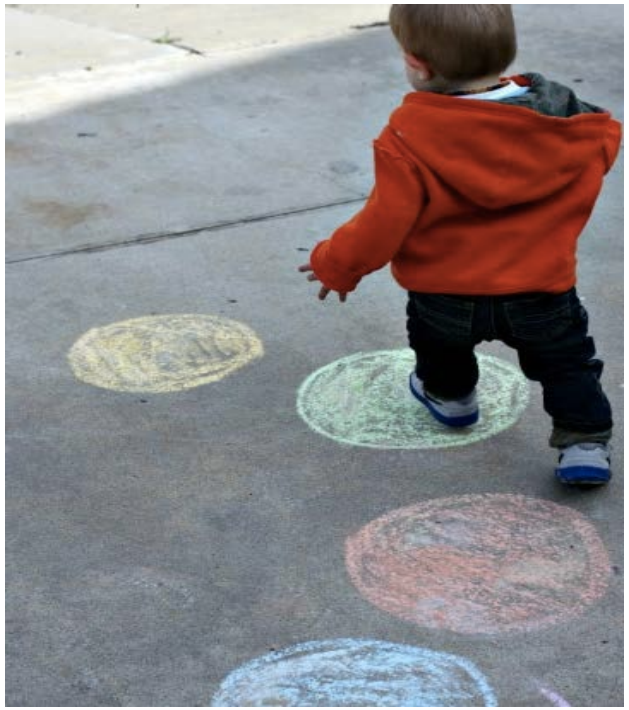
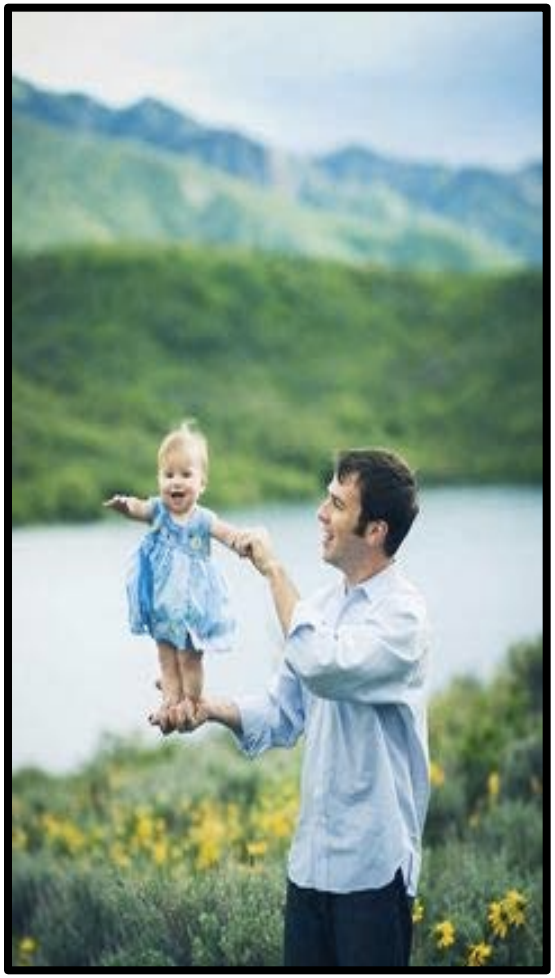


Use Household Items!

What is important to consider about the *families* when addressing motor development?



Using DEC Guidelines

Families Strand	Application
F5. Support family functioning, confidence, relationships in ways that build on family strengths	Ask about their roles, capitalize on their strengths & interests • Taxi Driver (car time) • Pool Patrol (tub time) • Recreation Director (motor games) • Professional Walker (songs & motor play for the stroller) Promote independence
F7. Work with the family to identify, access, and use formal and informal resources.	Think about space and people • Backyard • Neighborhood playground • Community pool

Tub Time! Sib Time! Motor Time!

Me Do It!

Neighborhood Play Group!

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What is important to consider about the *instruction* when addressing motor development?

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Using DEC Guidelines

Instruction Strand	Application
INS4. Provide accommodations, and adaptations needed for the child to participate.	Have unique sensory needs? • Texture and weight of equipment • Sounds and Smells • Clothing needs
INS12. Use strategies that are effective for dual language learners.	Support language and motor together. • Visual Supports included pictures and 2 languages: kitchen, bathroom, foyer • Picture checklist with stamp/marker
INS13. Use coaching strategies to facilitate positive interactions and instruction intentionally designed to promote development.	Model movement with social behaviors interspersed into motor play • Mirror Play; Following the child's lead Add a song: *This is way we…* • Use cell phone to video tape session and send as a text message to family

Technology!

Culturally Responsive

Sit Down	Stand Up	Come Here
Stai jos	Ridica-te	Vino aici

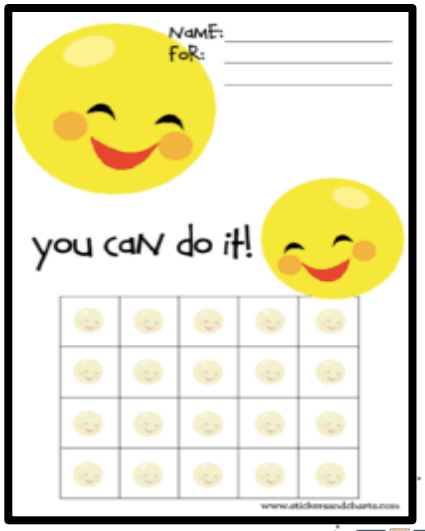
Address Sensory Needs: Music & Song

This is way we…

Look around…

Sit up tall…

Crawl around…



Monitor Progress!

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Resources from *Zero to Three*

1. http://www.zerotothree.org/child-development/play/development_of_play_skills.html

2. http://www.zerotothree.org/early-care-education/family-friend-neighbor-care/activities-bonding-and-learning-0to12.html

3. http://www.zerotothree.org/early-care-education/family-friend-neighbor-care/activities-bonding-and-learning-12-24.html

4. http://www.zerotothree.org/early-care-education/family-friend-neighbor-care/activities-bonding-and-learning-24-36.html

5. https://itunes.apple.com/us/app/zero-to-three-lets-play/id807952060?mt=8

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Resources from NASPE, NAEYC, AAP

1. http://www.cahperd.org/cms-assets/documents/ToolKit/NASPE_ApprroPrac/5286-668190.children3to5approprac.pdf
2. https://www.naeyc.org/files/naeyc/SKIPing_GoodwayBTJ.pdf
3. https://www.naeyc.org/files/yc/file/201003/ParlakianWeb0310.pdf
4. http://www.earlychildhoodnews.com/earlychildhood/article_view.aspx?ArticleID=360
5. http://mimlearning.com/wp-content/uploads/2014/03/Vidoni-Lorenz-Paleville-2013.pdf
6. http://pediatrics.aappublications.org/content/pediatrics/124/6/1650.full.pdf

From Playpen to Playground

1. http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=23E59519F41E25FABF031ACEA815A2F3?doi=10.1.1.397.574&rep=rep1&type=pdf

2. http://www.playscotland.org/wp-content/uploads/assets/Playpen-to-Playground.pdf

American Association for Physical Activity and Recreation (AAPAR)
National Association for Sport and Physical Education (NASPE)
With finding from Head Start

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Additional Resources

1. http://day2dayparenting.com/how-children-develop/gross-motor-skills-infants-toddlers-children/

2. http://handsonaswegrow.com/

3. http://www.tats.ucf.edu/docs/eUpdates/Curriculum-15.pdf

4. http://www.moe.gov.sg/education/preschool/files/nel-edu-guide-motor-skills-development.pdf

Key Points to Take Away….

Make it Safe! **Make it Fun!**

Make a Team!

Professionals, Professional Organizations, Families

Make a Match!

Child and Family

Make it doable!

Consistent ongoing activities lead to patterns of physical activity which supports and sustains motor development across the ages.

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Remember:

Children Have the Capacity to Change

You and Every Parent Has an Important Role to Play in Their Child's Development

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Send Us Your Feedback and Reflections

What new insights or ideas about Families?

Motor Development?

THANK YOU!

Survey & Certificate

You will receive email with survey from LUCY GIMBLE (eitraining@illinois.edu)

Must complete unique survey to get certificate

Certificate will be emailed after survey completion (within 24 hours)

Issues with survey or certificate, please contact us at eitraining@illinois.edu

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The Children's Research Center

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