

Current Knowledge About Daycare Attendance and Children's Development: Literature Review and Implications for the Future

Lise Lemay, M.A.

Nathalie Bigras, Ph.D.

Université du Québec à Montréal

UQÀM

1. Early childhood is an important developmental period :

- Basis of child's further development
 - 1st years of life = critical period for development and learning;
 - Experiences have an impact on neurological connections;
 - Children need social and physical stimulation.
- For some = period of life full of potential
- For others = period of life with its share of risk
 - Development in early childhood sets the foundation for subsequent developmental trajectories.
- Ensuring equal opportunities before school entry.

Educational daycare

2. Daycare attendance :

- In the past 40 years, increasing % of working mothers around the world.
- In response to this, the Quebec Government (Canada) created a new network of non-profit educational childcare services (ECCs) in 1997.
 - Aim to provide early childhood education and care to almost all children up to age 5 in the province of Quebec;
 - At a universal cost of 5\$ a day (increased to 7\$ as of 2004);
 - Designed to enable children "[...] to benefit from a structure encouraging their development, gradually become familiar with an educational environment and acquire skills preparing them to succeed in school"(Executive Council, 1997).
- **Major societal change:**
 - Increase from 82 302 spaces in 1998 to 232,628 spaces in 2011.
 - A gain of more than **150 000 spaces in 13 years:**
 - 67.3% of children in Quebec regularly attend subsidized childcare services.

**What are the effects of educational childcare
on children' development?**

3. Previous research on daycare attendance during early childhood :

3 waves of research have been identified:

1st wave (70-80's) investigated whether:

Non-maternal care is good or bad for development?

Results =

Non-maternal care was not harmful to children' development.



2nd wave (80's-90's) – explored:

How different types of non-maternal care of various levels of quality affect development?

Educational quality:

Program objectives → recommended practices → observed practices

Divided into two categories:

structural quality* and *process quality

Results =

↓ Children Development in low-quality ECCs and ↑ Children Development in high-quality ECCs.



3rd wave (90's–now) – studied:

How daycare quality combined with family characteristics influences development?

Equal opportunities perspective = high quality ECCs may promote the development of children exposed to risk factors at home.

But all of those questions were asked in the last century and were criticized by many recent studies.

4. What does more recent research tell us about childcare attendance and child development?

- To answer this question we reviewed knowledge about child development and children attending daycare in early childhood.
- Our review criteria included articles published in peer reviewed journals:
 - **Published in the last ten years;**
 - Key word used included:
 - Early Childhood Development and Care
 - Daycare or Childcare Attendance and Development
 - **The databases used were:**
 - PsycInfo, PsycArticle, ERIC, MEDLINE, PubMed , SportDiscus.
- We divided the review into four developmental domains :
 - **cognitive, emotional, socio-emotional and motor development.**

Daycare attendance in early childhood and Children's Cognitive Development

Nathalie Bigras, Ph.D.
Julie Lemire, M.A.
Mélissa Tremblay, M.A.



Definition

- **Cognitive development:**
 - **Process of developing a set of skills and specialist knowledge in the organization of thought (Gaux & Boujon, 2007).**
- The child gradually acquires knowledge that enables him to adapt to his environment and improve his understanding of the world around him.
 - **This knowledge is first present in the form of causal relationships. The child learns that there are relationships between objects, events, and actions.**
- The observation of these relationships gradually allows the child to identify, classify and organize these experiences. These are the beginnings of an understanding of concepts and categorization.
 - **To support the emergence of conceptualization, adults have the responsibility to provide the child with a physical and social environment that the child can control and explore in safety.**

Experts have noted that daycare could have positive effects on children's cognitive development.

- These early studies were based largely on research demonstrating the importance of efforts to:
 - reduce the influence of risk factors most likely to negatively affect children's development;
 - increase the influence of protective factors that are known to contribute to its enhancement (Appleyard & al., 2005; Hubbs-Tait & al., 2002; Middlemiss, 2005).
- The Perry Preschool Project report
 - Compared to adults from similar backgrounds in the control group, 40-year-old adults who experienced the high quality preschool program as children are less dependent on social services, had less trouble with the law (fewer lifetime arrests, convictions and sentences) and a higher employment rate.
- This project generated the High/Scope curriculum that is widely implemented in the United States and serves as a model for many educational programs.
 - Since then, many research syntheses and meta-analyses were published on the cognitive development of children attending ECCS.

Problem

- Many of these reported positive outcomes, especially for children from at-risk backgrounds (Anderson et al, 2003; Barnett, 1995; Belsky, 2006).
 - Some call into question the relevance of daycare attendance, specifically for Caucasian children from affluent backgrounds (Currie, 2001)
 - Others report no or very little difference for children who attend these services (Burger, 2010; Erel, Oberman, and Yirmiya, 2000).
- Although these studies have been carried out rigorously and have focused on representative samples of diverse populations around the world, they present a considerable limitation.
 - Many of these studies were published before the 1990s or 2000, and did not take into account some important variables, including the educational quality of care observed.

This presentation aim to answers four questions :

- 1) Can daycare experience offset the negative effects of poor living conditions on children's development?
- 2) Can quality of care moderate the relationship between daycare attendance and children's development?
- 3) Does the duration of attendance and the age of entry into daycare matter?
- 4) Do the positive effects of daycare attendance on children's development reported in previous studies persist over time?

First question:

Can daycare experience offset the negative effects of poor living conditions on children's development?

75% of the studies (21/28) included at-risk families
Show some positive results on cognitive scores

5 studies (5/21) indicated that children from at-risk families **benefit more from child care** than children from non at-risk families (Bassok et al. 2008; Crosnoe et al., 2010; Goeffroy et al., 2010; Loeb et al. 2007; Peisner-Feinberg et al., 2001)

8 studies (8/21) did not include a comparative group in their sample. They only **reported positive effects for children from at-risk families** (Aboud, 2006; Bassok et al. 2008; Lee, 2005, Campbell et al., 2001, Campbell et al, 2002, Loeb et al. 2004; Spieker et al. 2003; Votruba-Drzal et al., 2004).

2 studies (2/21) indicated that the non at-risk families benefitted most (Adi-Japha Klein, 2009; Bornstein et al., 2006).

In addition, some studies suggested particular conditions for positive effects on the cognitive development of children from vulnerable families.

Spieker et al., (2003) suggest that, for at-risk children, **cognitive scores are higher when the mother has higher verbal skills.**

In contrast, attending an ECCs would **not be positive** for children from low SES families **when children's mothers work during their first year of the life** (Brooks-Gunn et al., 2002).

Second question:

Can the quality of care moderate the relationship between daycare attendance and children's cognitive development?

16/17 studies showed positive results
only one (1/17) reported a lack of significant differences
in the level of quality.

Of those:

all used process quality measures (16/16)
3 of those also used structural quality measures

2/16 indicated that the quality of child care must be combined with a non at-risk family environment to increase cognitive scores (Crosnoe et al., 2010, NICHD , 2005).

5/16 indicated that the positive effects of quality are higher the more the children attended the daycare (Campbell et al., 2001, Campbell et al, 2002; Lee, 2005, Loeb et al. , 2007; Votrupal-Drzal et al., 2004).

Votrupal-Drzal et al. (2004) indicated that for children from at-risk families, the effects of attending a high-quality ECCs increased under conditions of high intensity, or when the child attends the ECCS 45 hours or more per week.

Third question:

Does the duration of attendance and the age of entry into daycare matter?

Only 12 studies (12/28) investigated the effects of entry age and duration of attendance

8 of these studies (8/12) reported **positive cognitive gains** associated **with higher attendance duration** (Bassok et al., 2008, Campbell et al., 2001, Campbell et al., 2002, Duncan and al. 2003; Lee, 2005; Loeb, Bridges, Bassok, Fuller and Rumberger, 2007, Tran et al. 2006; Votruba-Drzal, Coley and Chase-Lansdale, 2004).

3 of these studies (3/28) more specifically suggested **positive effects of entry** into day care early in life, **around the age of 1 year** (Campbell et al., 2001, Campbell et al., 2002; Lee, 2005).

Intensity of the experience of care: 4 studies (4/12) reported that children whose **mothers have low incomes benefit the most from more than 30 or 45 hours a week in centre-based childcare** (Lee, 2005, Loeb et al., 2004, Loeb et al. 2007; Votruba-Drzal et al., 2004), which is consistent with recent findings (Burger, 2010; Vandell's, 2004)

Only one study reported that the intensity of the attendance of ECE is not significant (NICHD, 2000).

Age of entry into daycare

Only 3 (3/28) studies reported mixed results regarding the age of entry of children into ECCES.

Mothers worked more than 30 hours per week and children began attending ECCES before 9 months of age had lower results on the BBCS at 36 months (Brooks-Gunn et al, 2002).

Reflects the combination of:

Lower ECE quality from 9 months old + Lower maternal sensitivity.

Negative effects on cognitive scores of children at 3, 4, 7 and 8 years old → Mothers of Caucasian children work before the child turns one years old (Han et al., 2001) .

No adverse effects effects that persist for 3 to 4 years → Mothers begin to work when children are between 9 and 12 months old.

Children of African-American mothers would not be affected negatively or positively by their mothers' work in their first year of life.

Loeb et al. (2007) also suggested that it would be better for the child's cognitive development, to begin attending ECCES between the ages of 2 and 3 years, rather than before 2 years or after 3 years old.

Last question:

Do the positive effects of daycare attendance on children's development reported in previous studies persist over time?

Only 8 studies (8/28) reviewed effects that persist over the short and long term.

5 studies (5/8) document effects that persist during their elementary school

years (Bassok, French, Fuller, Kagan, 2008; Crosnoe, Leventhal, Wirth, Pierce and Pianta, 2010; Dearing, McCartney, and Taylor, 2009; Goeffroy et al., 2010, NICHD, 2005; Peisner-Feinberg et al., 2001)

2 (2/8) report effects that persist through adolescence and adulthood (Campbell et al. 2001; Campbell et al., 2002).

-Those two studies examined the same sample and reported a slight decrease in scores with age.

-Studies about intensive intervention program (**Abecedarian Project**).

The duration of exposure to a high quality ECCES seems to be a key factor in maintaining the effects throughout the elementary school years, suggesting that the intensity of a quality experience in ECCES is important for children's cognitive development.

One (1/8) study, reported a negative short-term result (at ages 7 and 8) for at-risk children whose mothers began working before they reached the age of 9 months (Han, Waldfogel and Brooks-Gunn, 2001).

Conclusion:

It appears that the experience of extensive daycare is generally positive for children's cognitive development. However, these results would be greater under certain conditions.

1) Studies identify specific effects for children from at-risk families.

2) Cognitive development scores increase and the effect size would be greater when **childcare quality is high and the duration** of the experience is greater, as well.

3) A significant proportion of the studies reviewed noted that the **combination of intensity and quality** of educational services would have a **greater impact on children from vulnerable backgrounds**.

Caution

-Comparison between studies → variety of measures to assess cognitive development.

-Few studies about the mechanisms responsible for effects of ECCE on the cognitive development around the world.

How to promote children's secure attachment in (non maternal) daycare: an overview of contributing factors

Geneviève Tardif, Ph.D.
Lise Lemay, M.A.



Definition and function of attachment

- Attachment provides the child with a sense of security, support and comfort when the world is uncertain and potentially dangerous.
- Two basic pillars of attachment:
 - The ability to return to a base of security
 - The ability to explore the environment
- Four attachment styles :
 - Secure
 - Anxious resistant (Ainsworth et al., 1978)
 - Resistant ambivalent (Ainsworth et al., 1978)
 - Disorganized (Main & Solomon, 1990)

Problem

- Frequent separations from the mother as a result of daycare attendance may be unfavourable to the establishment of a secure relationship between the child and his mother.
 - Separations stressful → parent absent, cannot comfort
 - Absence of the mother → reduce her ability to respond adequately, fewer opportunities to learn to decode her child's signals.
- Researchers have examined outcomes associated with daycare attendance.
- Current knowledge → nothing is all black or white.

Questions

- The purpose of this presentation is to shed light on five questions:
 - 1) What are the effects of daycare attendance on the establishment of a secure mother-child attachment relationship?
 - 2) What can the educator do to foster a secure mother-child attachment relationship?
 - 3) Does the child get “attached” to his educator?
 - 4) Which factors predict the quality of the educator-child relationship?
 - 5) How can educators support children with attachment difficulties?

1) What are the effects of daycare attendance on the establishment of a secure mother-child attachment relationship?

- The importance of **maternal sensitivity** for the mother-child attachment for children between 15 months and 36 months (Friedman and Boyle, 2008, NICHD, 1997, 2001a, 2001b).
- When their mother shows little sensitivity, children are more likely to be securely attached to her if:

1) What are the effects of daycare attendance on the establishment of a secure mother-child attachment relationship? (cont'd)

Quality of care

(NICHD, 2001b)

High quality leads to positive effects on child development

Group ratio

(Sagi et al., 2002)

- 1:3 = 72% of children are securely attached
- Higher than 1:3 = 57% of children are securely attached

Type of care

(Sagi et al., 2002)

Other types of care = 70% of children are securely attached
Center = 54% of children are securely attached

Quantity of care

(Howes and Hamilton, 1992a; McKim, Cramer, Stuart and O'Connor, 1999, NICHD, 1997, 2001a)

Less time (\pm 20h/week vs \pm 40h/week) reduces the probability of being classified as having an insecure attachment style

Especially for boys

Stability of care

(NICHD, 1997)

Attending only one childcare each week

1) What are the effects of daycare attendance on the establishment of a secure mother-child attachment relationship? (cont'd)

- Daycare attendance per say doesn't seem to affect the security of the child's attachment to his mother.
- When the mother is less sensitive, children benefit from staying with her (NICHD, 1997).
- Childcare attendance alone does not compensate for or contribute to a secure mother-child attachment.

2) What can the educator do to foster a secure mother-child attachment relationship?

- Propose gradual entry (Ahnert et al., 2004)
- Develop a separation/reunion ritual (Marty et al., 2005)
- Communicate with parents (Coutu et al., 2005, 2010; Marty et al., 2005)
- Allow parents to visit and even feed the child during lunch hour (Marty et al., 2005)
- Use transitional objects (Marty et al., 2005)
- Respect parents' observations of the child's progress (Marty et al., 2005)

3) Does the child get “attached” to his educator?

- Recognizing a non-maternal caregiver as a secondary attachment figure = contested issue (Howes & Spieker, 2008; van IJzendoorn et al. 1992).
 - Many children do not experience a continuity of care;
 - Educator is seen as a person who organizes the environment rather than someone who comforts.
- Research indicates that **children develop a real attachment** to their educator.
- Secure attachment is more common among children and their parents (60.2% [mother] and 66.2% [father]) than between the child and the educator (42%) (Anhert et al., 2006).

4) Which factors predict the quality of the educator-child relationship?

- **Educator sensitivity** to the children's needs is the most important factor in establishing a secure attachment.
- Influenced by:
 - **Smaller adult-child ratio and group size** (Koren-Karie et al., 2005)
 - **Homogeneous age groups** (Ahnert et Lamb, 2000)
 - **Educator training** (Koren-Karie et al., 2005)
 - **Staff stability** (Clarke-Stewart et al., 1995)
 - **Program quality** (Clarke-Stewart et al., 1995)
- The educator-child relationship influenced by **“organizational” variables.**

5) How can educators support children with attachment difficulties?

	Intervention	Results
Howes et al. (1998)	Professional development to increase educators' sensitivity in order to elicit changes in the attachment style of the children.	<ul style="list-style-type: none">•Initiated positive changes in educators who were already sensitive.•Participation in the program seemed to decrease the quality of care for a small number of educators .
Howes et al. (2004)	Research partnership in 10 childcare services to increase the quality of the educator-child relationship.	<ul style="list-style-type: none">•The educators most involved = the greatest gains•Over 1/3 of educators resisted the intervention process.
Hypothesis: Educator' attachment styles as a moderating variable?		

5) How can educators support children with attachment difficulties? (cont'd)

Specific strategies (Honig, 2002; Gowrie Adelaide, 2001)

- 1) Create a stable emotional climate;
- 2) Ensure a predictable and warm physical environment;
- 3) Ensure educator's ability to decode children's non-verbal cues;
- 4) Promote the use of books to help children manage emotions;
- 5) Teach basic socialization skills.

Conclusion

- 1) **Maternal sensitivity** is the strongest predicting factor of children's attachment security;
- 2) **Quality of child care** is the second most important factor when evaluating the effects of daycare on child attachment;
- 3) **Educator sensitivity** contributes to the quality of care and is influenced by the continuity of care between home and daycare through various strategies;
- 4) Some **educational practices** and **organizational variables** foster a secure mother-child relationship as well as the establishment of a secure educator-child relationship;
- 5) In sum: **importance of training** and of **government decision policies**.

BEHAVIORAL DIFFICULTIES AMONG 0-5 YEAR-OLD CHILDREN IN DAYCARE: DEFINITION, PREVENTION AND INTERVENTION

Lise Lemay, M.A.

Sylvain Coutu, Ph.D.



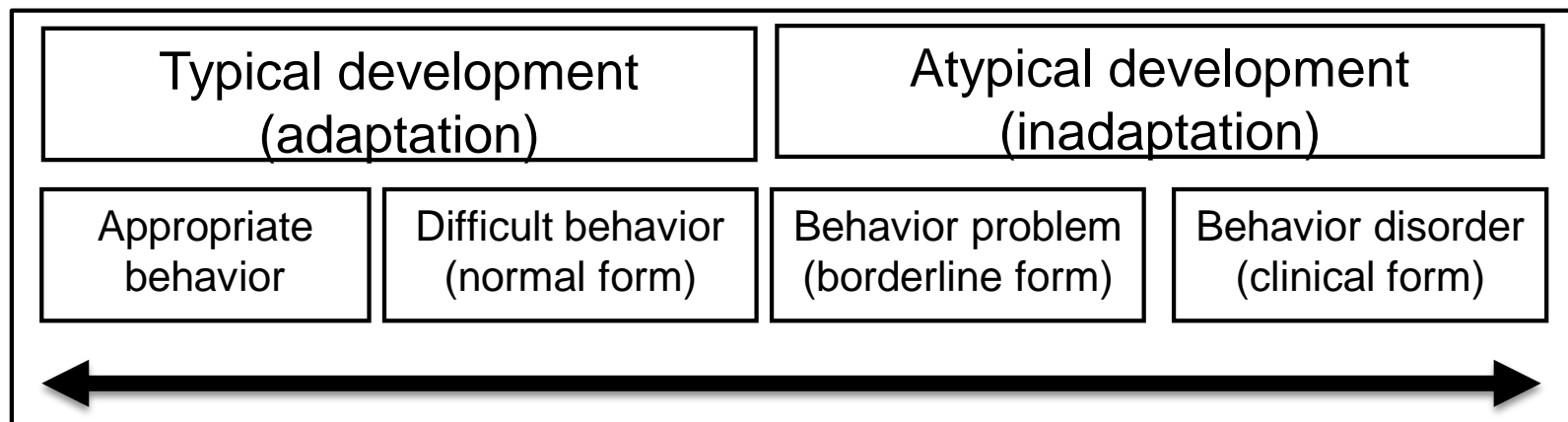
Definition

Externalizing behaviors

- Aggressive behavior
- Destructive behavior
- Disruptive behavior

Internalizing behaviors

- Excessive attention-seeking
- Frequent expression of negative emotions
- Low participation



Problem

- Early childhood educational settings (daycares)
 - More opportunities to interact with peers and other adults;
 - First experience in a group = major role in socializing children;
 - Expected to foster the acquisition of behaviors required to adapt well to a group context and an educational setting.
- Daycare offers many opportunities to learn social and emotional skills but may be wrought with challenges
 - Not uncommon for young children to experience difficulties in adapting to the demands of the group context.
 - Generally transient and relatively minor
 - May persist and intensify

Questions

- We aim to clarify the issue of behaviors that might affect children's development and impair their adaptation to daycare by answering two questions:
 - 1) What do we know about the relationship between daycare attendance and children's behaviors?
 - 2) Which prevention and intervention strategies have been proven effective within pre-school educational settings?

1) What do we know about the relationship between daycare attendance and children's behaviors?

Quality

(Burchinal et al., 2010; de Schipper et al., 2004; Pluess et Belsky, 2009, 2010)

↑

• Appropriate behavior - difficult temperament and at-risk (SES)

↓

• Behavior difficulties - difficult temperament and at-risk (SES)

Quantity

(Belsky et al., 2007; Crockenberg & Leerkes, 2005; Loeb et al., 2007; McCartney et al., 2010; NICHD, 2003, 2004)

↑

• Behavior difficulties- difficult temperament and non at-risk (SES)
• Especially if quality is low and in center-based daycare

Type

(Belsky et al., 2007; Crockenberg et Leerkes, 2005; NICHD Early Child Care Research Network, 2004)

Center-based

• Associated with children's behaviors compared to other types of care

• Structural quality: more education and training, larger groups and higher ratio

• Process quality: less language interactions and less frequent negative interactions with adults

2.1) Which prevention and intervention strategies have been proven effective within pre-school educational settings? **Process quality**

	Component	Practices	Effects
A. Observation			<ul style="list-style-type: none"> • Know children (needs, interests, etc.) • Know the history of behavior • Guide planning and intervention
B. Planning	Physical setting	<ul style="list-style-type: none"> • Setting • Material 	<ul style="list-style-type: none"> • Interests • Autonomy, decision making and choices • Small groups • Interactions
	Activities	<ul style="list-style-type: none"> • Routines and transitions • Activities 	<ul style="list-style-type: none"> • Amusing • Avoids waiting and disruption • Interests and needs • Motivation • Attention • Success

2.1) Which prevention and intervention strategies have been proven effective within pre-school educational settings? **Process quality**

	Component	Practices	Effects
C. Intervention	Style	<ul style="list-style-type: none"> • Democratic 	<ul style="list-style-type: none"> • Responsibility, autonomy, self-confidence, initiatives • Structure and security • Communicate, compromise and respect
	Climate	<ul style="list-style-type: none"> • Positive • Emotional bond 	<ul style="list-style-type: none"> • Facilitate classroom management • Confidence • Security
	Parents	<ul style="list-style-type: none"> • Collaboration 	<ul style="list-style-type: none"> • Discuss the observed facts • Assess if events explain the behaviors • Joint decision-making • Consistency between contexts
D. Reflexion			<ul style="list-style-type: none"> • Readjust the setting, activities and intervention • Improving quality

2.2) Which prevention and intervention strategies have been proven effective within pre-school educational settings? **Structural quality**

Ratio

(Clarke-Stewart, et al. 2002; de Schipper et al., 2006; Dowsett et al. 2008; Gevers et al., 2006; Goelman et al., 2006; Morrissey, 2010; NICHD, 1996; O'Kane, 2005; Thomason & La Paro, 2009).



- Positive behaviors
- Educators are sensitive, available to children and to supervise interactions, prevent the escalation of disputes, ensure positive climate

Education

(Bigras et al., 2010; Burchinal et al., 2002; Clarke-Stewart et al., 2002; Dowsett et al., 2008; Drouin, et al. 2004; Fukkink & Lont, 2007; Gerber et al., 2007; Goelman et al., 2006; Hemmeter et al., 2006; NICHD, 2002; Norris, 2001; O'Kane, 2005; Rusby et al., 2008; Thomason & La Paro, 2009)

Initial

- Specialized training in early childhood education. Associated with:
 - Process quality
 - Developmentally appropriate activities
 - More sensitive interactions

Ongoing

- Improves process quality, educators' skills and self-confidence
- Reduces inappropriate behavior

Funding

(Cleveland & Krashinsky, 2009; Drouin et al., 2004; Goelman et al., 2006)



- Higher salaries = recruit trained/experienced educators = higher quality
- Resources and support to educators
- Diverse structure to respond to families' needs

Conclusion

- Some strategies are effective to prevent behavioral difficulties → high quality facilitates children's adaptation.
- **Structural:**
 - ↓ group size and ratio
 - ↑ specialized training in early childhood education
 - ↑ professional development activities
 - ↑ funding
- **Process:**
 - Educators play a central role in intervening with children in need and in preventing behavioral difficulties

Daycare attendance in early childhood and children's motor development

Nathalie Bigras, Ph.D.
Lise Lemay, M.A.



Definition

- Provincial early childhood educational program', *Greeting Early Childhood* defines physical and motor development as follows:
 - "This dimension refers to the physiological, physical, sensory and motor needs of the child. The development of motor skills (agility, endurance, balance, laterality, etc..) includes gross motor (sitting, crawling, walking, running, climbing, grasping an object...) and fine motor skills (drawing, thread beads, cutting ...). Offering children the opportunity to move during child care promotes their physical and motor development while leading them to develop healthy lifestyles and prevents obesity "(Government of Québec, 2007, p.23).
- This definition emphasizes the presence of various components within the physical and motor domain.
 - **Two major components are:**
 - **Physical component:** physical growth, nutrition, exercise and physical activity,
 - **Motor component:** gross and fine motor skills.

Problem

- Motor development associated with benefits for children, families and society, such as better motor skills at school-age and higher intensity and duration of physical activity in adulthood.
 - **Developing such skills during early childhood has the potential to promote healthier habits and reduce social costs.**
- However, research suggest that children's physical activity levels are low during this period.
 - **They spend 2/3 of their time in sedentary activities (sitting, spending time in front of a screen, inactive transportation) (Reilly, 2010).**
 - **These sedentary activities predispose children to obesity (Reilly, 2008), which will ultimately generate significant social costs.**
- ECCEs aim to promote healthy lifestyles and foster children's global development. Childcare should be a place that enhances active play in all children, from an early age.
 - **However, results of studies on physical activity suggest higher sedentary activity levels and low activity levels for children attending ECCEs (Reilley, 2010).**
- Research had underlined some childcare factors that could promote higher levels of physical activity as well as improve children's physical and motor development.

This presentation addresses the physical and motor development of children attending childcare services by answering the following questions:

- 1) What are the effects of childcare process quality on physical and motor development during early childhood?**
- 2) What are the effects of childcare structural quality on physical and motor development during early childhood?**
- 3) What are the effects of childcare type and quantity on physical and motor development during early childhood ?**

First question:

What are the effects of childcare process quality on physical and motor development during early childhood?

- 1) On the 35 studies reviewed for this presentation, 19 concerned process quality.
 - 2) The physical dimension is the most frequent independent variable (15/19) related to the intensity of physical activity (actigraph). The physical layout of the childcare centre has an impact on children's physical and motor development: permanent indoor and outdoor play equipment, as well as portable play equipment, promotes movement and higher activity level.
 - 3) Some adults interventions (with regards to physical activity) are also associated with higher participation rates and intensity in children (only 2/19).
 - **Furthermore, it appears that when adult play and move with the children it enhances activity levels.**
- **In SUMMARY:**
 - **The results related to process quality (areas, activities, interactions) are consistent with studies that noted the importance of the physical and social environment for physical and motor development in young children.**

Second question:

What are the effects of childcare structural quality on physical and motor development during early childhood?

- **Research points to a need for better training and education for teachers and childcare providers to enhance children's physical and motor development.**
- The contents of this training should focus on ways to get kids moving and keep them active.
 - **In particular, they should be informed about the characteristics of places, activities and adult-child interactions that promote more vigorous physical activity.**

Third question:

What are the effects of childcare type and quantity on physical and motor development during early childhood?

- The positive relationship between duration and age of entry into child care services seems to be present with regards to physical and motor development as well.
 - **However, few studies (4/35) in this review have identified this type of relationship (Bala *et al.*, 2010; Caniato, Alvarenga, Stich, Jansen et Baune, 2010; Rezende *et al.*, 2005; Winsler *et al.*, 2008).**

Duration

- The duration of the ECCE experience also appears to be related to the improvement of fine and gross motor skills in children.
 - **Although these results are consistent with what has been observed in studies that focus on other dimensions of development (especially cognitive and linguistic dimensions), we must emphasize that this variable has been measured very little to date (13 % of the studies reviewed in this presentation).**
- Given the importance of the effects of child care on child development, further studies should take into account or control for the type of care and quality offered, as suggested by Zaslow, Martinez & Hall (2011).

Type

- Research regarding the relationship between the type of care and physical and motor development are also inconsistent.
 - **We note that the studies reviewed for this presentation have not considered the same variables when defining the type of care, which makes comparison difficult.**
- This finding is similar to research on childcare and other dimensions of development, the type of care was latter evoked as a possible explanation for results.

Conclusion:

Is physical and motor development fostered by attending childcare services?

For now, it appears difficult to answer this question.

-All studies suggest that children **do not move enough in daycare services to achieve a level of physical activity** that would be **beneficial** to their **motor development and health.**

At least 120 minutes per day of physical activity (NASPE, 2001).

-**Research emphasizes that this experience would be positive under certain conditions:**

▫ *Most important factors:*

- **Process Quality** : feature and layout;
- **Structural Quality** : training and professional development.

Implications for policy and educational practice



Synthesis of results



Cognitive

- ↑ when higher quality and intensity
- More important for children from lower socioeconomic backgrounds
- Attending a high-quality ECE for several years promotes equal opportunities

Affective

- Maternal sensitivity is the strongest predictor of attachment.
- Quality of child care is the second most important
- Children do get “attached” to educators
- Depends on educator’s sensitivity:
- Influenced by educational practices and organizational variables.

Social

- Some strategies are effective to prevent behavioral difficulties
- Structural quality (ratio, training, funding) → Process Quality (interactions, physical setting, activities) → children’s behaviors

Motor

- Children not active enough
- Children spend too much time in sedentary activities
- Importance of process quality (setting and equipment) to get children to move

The importance of increasing and sustaining quality of care!

High levels of process quality to promote children's development

Cognitive development

- "...the importance of daycare quality to promote children's cognitive development."

Affective development (attachment)

- "One cannot overlook the importance of the quality of care on the effects of [daycare] attendance."

Socioemotional development (behaviors)

- "...the particularly important role of the quality of care to support children with behavioral difficulties."

Motor development

- "...a high level of quality is associated with children who move more and are more active."

Important practices in process quality

- 1) **High quality physical setting** → cognitive, language, socioemotional and motor development. A physical setting based on children' needs and interests:
 - Prevents disinterest and fatigue possibly resulting in misbehavior;
 - Encourages active exploration and manipulation of material;
 - Well planned layout and material enable positive interactions.
- 2) **High quality activities** → cognitive, language, socioemotional and motor .
 - Well-planned routines and transitions ensure appropriate behaviors and certain cognitive components (planning, etc.);
 - Balance between high energy activities and calm activities.
- 3) **High quality interactions** → cognitive and socioemotional development and the significant relationships (attachment)
 - Appropriate behaviors;
 - Active exploration of the environment.

High level of process quality is support by structural quality

Good structural quality to promote process quality

- These high quality educational practices promoting children's development are harder/easier to adopt depending on structural quality features:
 - Initial and ongoing training
 - Adult/child ratio and group size
 - Staff working conditions
 - Educational standards (laws and regulations)

Towards politics, research and practices considering an ecosystemic model of quality in early childhood education....