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**CEReKi**  
Université de Liège

*Biosocial determinants associated with high gross motor competence in preschool children*




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## MOTOR COMPETENCE

Preschool age is a critical time for the development of the motor competence

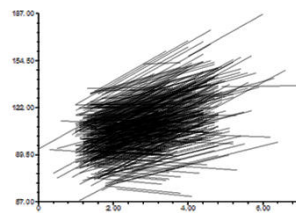




The acquisition of a broad motor repertoire is an important prerequisite for advanced motor skills and may be related to active and healthy lifestyles.

## MOTOR COMPETENCE



Gross Motor



Inter-individual  
variability?

## LITERATURE REVIEW



- Few studies with multidimensional and ecological approach;
- The researchers have focused mainly on the influence of family environment;
- Studies with children of preschool age are rare;
- There are no studies that have explored particularly the biosocial factors associated with high motor competence.

## OBJECTIVE

To identify the biosocial determinants associated with high gross motor competence of preschool boys and girls

## METHODS - SAMPLE

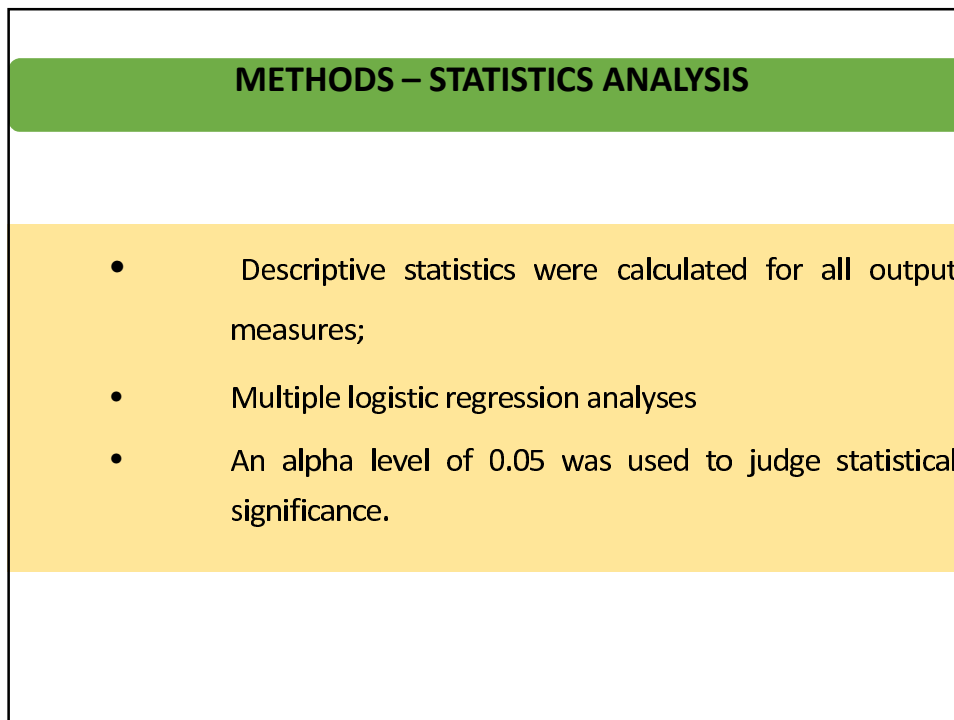
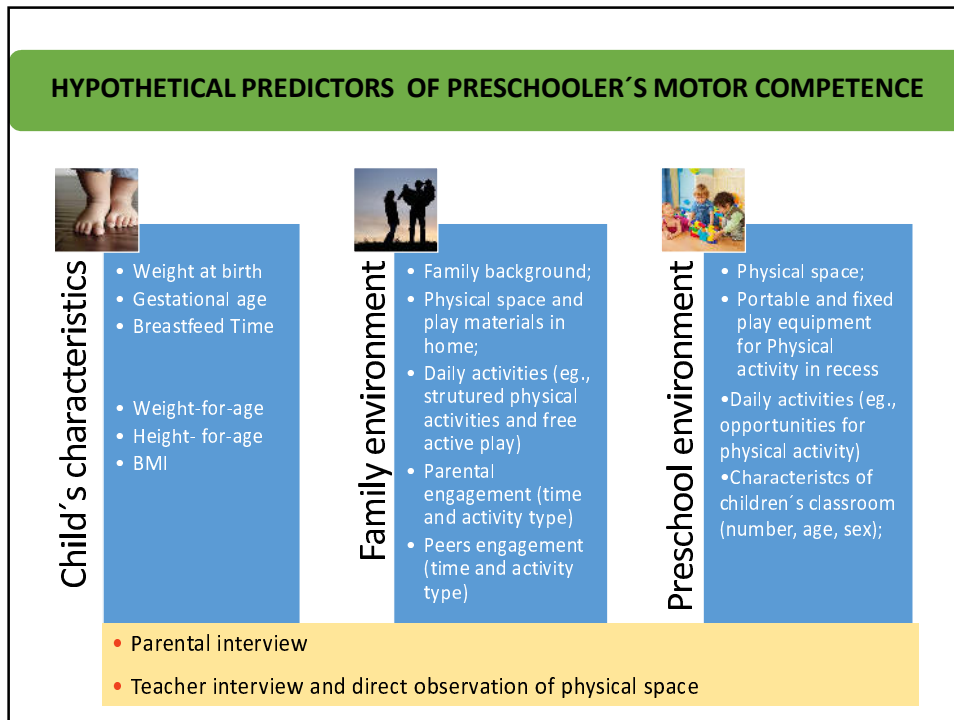
Gender	n	%	366 children from 26 classrooms belonging to 11 preschools
Males	171	47%	
Female	195	53%	

Gross Motor competence : PDMS-2 (Folio & Fewell, 2000)



**GROSS MOTOR QUOTIENT**

HIGH MOTOR COMPETENCE > +1SD above the average



## RESULTS

Mean and standard deviation of the Gross Motor Quotient, according to sex

	Total		High Motor Competence	
	n	M (SD)	n	M (SD)
Boys	171	96.2 (8.4)	23	109.3 (3.9)
Girls	195	92.9 (6.3)	32	102.0 (3.4)

## RESULTS

Multiple logistic regression model estimates for boys' high motor competence

	Adjusted OR (95% CI)	p
<i>Structured physical activity</i>		
< 1 hr/week	Ref.	
≥ 1 hr/week	3.01 (1.17; 7.74)	0.022
<i>Physical Education</i>		
≤ 1 hr/week (one time)	Ref.	
> 1 hr/week (two times)	2.75 (1.07; 7.05)	0.035
<i>Height-for-age (z score)</i>	1.57 (1.01; 2.43)	0.045

## RESULTS

Multiple logistic regression model estimates for girls' high motor competence

	OR (95% IC)	<i>p</i>
<i>Gross motor toys</i>		
≤ 5	Ref.	
> 5	2.65 (1.05; 6.68)	0.040
<i>The child's age relative to class's age average</i>		
Older than class's age	Ref.	
Younger than class's age	2.44 (1.08; 5.23)	0.033
<i>Fixed outdoor play equipment</i>		
≤ 4	Ref.	
> 4	2.56 (1.16; 5.65)	0.020

## RESULTS

### High gross motor competence

#### Boys

- ✓ high height-for-age;
- ✓ having 1 hour or more of structured physical activity per week (outside school);
- ✓ having more than 1 hour (two times) of physical education per week;

#### Girls


- ✓ having more than five gross motor toys;
- ✓ belonging to a school with more than four fixed outdoor play equipment;
- ✓ being younger than most of the classmates;

## CONCLUSIONS

- The high motor competence of preschool children was mainly explained by social/environmental factors of family and school environments
- Different social and environmental factors were found to explain the high motor competence of boys and girls. This fact reflects in part the different opportunities provided to boys and girls, which might explain the different levels of motor competence
- The findings of the study also highlight the social effect of school peers, namely age composition of the classroom.

## CONCLUSIONS

Opportunities for structured and unstructured physical activity are essential to promote optimal development of children's motor competence.



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