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## MOBILITY DEPENDENCE OF CHILDREN FROM 1<sup>ST</sup> TO 4<sup>TH</sup> GRADE IN PORTUGUESE SCHOOLS

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**Abstract.** *The mobility dependence appears to be associated with less autonomy in children who spend less time playing alone or being with friends in playful situations. Our intention is to study the dependence of mobility of children in the 1<sup>st</sup> cycle of education in an urban environment with ages between 6 and 12 years old. The sample consisted of 186 children of both genders of which 95 were female and 91 were male. A multiple response questionnaire was used, and the statistical analysis used was descriptive frequency, crosstabs and inferential analysis. Children who practiced more physical activity are those in the 2<sup>nd</sup> grade: 70.8% (34), below these are the 3<sup>rd</sup> grade: 67.9% (36), with the 4<sup>th</sup> grade having 64.8% (35) and finally the 1<sup>st</sup> grade with 58.1% (18). In total 66.1% (123) engaged in physical activity and 33.9% (63) did not exercise in any sports club or municipal facilities. We have come to some conclusions, with regards to school transportation, almost all students are moving with motorized transportation where the majority cannot go out without family going with them to any activity, and we have also concluded that the female gender is more active than the males.*

**Keywords:** *mobility dependence; physical activity, 1<sup>st</sup> cycle of education.*

### Introduction

The reduction of independent mobility, also appears associated with a lower autonomy of mobility. Because of life routines, autonomy and youth mobility in an urban context, children spend less time on the street either alone (home - school) or accompanied by friends in playful situations. There is a direct relationship between the autonomy of mobility and cognitive representation of the child's physical space, playing, physical activity and social relations (Neto, 1999; 2004). The daily lives of young people today are very schematic, turning to electronic video games, television, and computer games (Piéron, 1998; Vasconcelos & Maia, 2001). Young people have sedentary lifestyles, but it is up to society to stimulate and diversify physical activity (Cosco, 2006) for a better social, emotional and cognitive development. Physical activity is important to achieve a healthy lifestyle, it is increasingly clear that it benefits both individual health and public health (Ott et al., 2000; Schaalma et al., 2000).

Regarding mobility and gender, several studies indicate that male children are more active than the female, enjoying greater autonomy and freedom to play more in open spaces (Granville et al., 2002; Rissoto & Tonucci, 2002; O'Brien, 2003; Kytta, 2004).

According to mobility and age studies, as the child grows, it also increases the operating limit in relation to home, public spaces and places that are beyond the family border (Christensen and O'Brien, 2003). When they become older, children become not only more mobile by themselves, but also more independent emotionally and socially, experiences with the environment in children and young people, reflect the attitudes and values of their families and the social and cultural background in which they operate (Nordstrom et al., 2002).

The street is the central space of separation between childhood and puberty / youth; it is in this space that the child adjusts their own growth.

### Materials and methods

The main objective was to analyze the dependence of children of the 1<sup>st</sup> cycle of basic education in terms of mobility for the practice of physical activity. We used a descriptive study in order to describe how children play daily, as well as their dependence on mobility and what kind of "freedom" they have to go and play in the street with friends. We had a sample of 183 children of both genders (90/ 49.2% male) (93 / 50.8% female), 10.2% (19) were 6 years of age; 20.4% (38) were 7 years old; 26.9% (50) were 8 years old; 23.7% (44) were 9 years old; 15.6% (29) 10 years of age; 1.1% (2) 11 years of age and 0.5% (1) 12 years of age. A direct questionnaire with multiple choice questions was applied based on Correia (2006). Students who practice physical activity (66.1%); Students of the 2<sup>nd</sup> grade are the ones who ride bicycles more (93.8%), mostly with their families (52.3%).

Students travelled to school mostly by car (73.3%) and students of the 1<sup>st</sup> grade were the ones who use mostly car transportation to go to school.

Gender	Age	N	No by group
Female	6	10	93 50.8%
	7	19	
	8	25	
	9	22	
	10	15	
	11	2	
Male	6	9	90 49.2%
	7	19	
	8	25	
	9	22	
	10	14	
	12	1	
			183

Fig. 1. Sample characterization

*Variables.* This is a descriptive study that aims to describe how children play daily today, as well as their dependence in mobility. For the analysis and processing of the data collected was used computerized SPSS Statistics (Statistical Package for Social Sciences) version 21 in English. The statistical treatment used was the descriptive frequency and crosstabs. We defined as dependent variables, physical activity levels, dependence of mobility and as independent variables, gender, age, school year and place of residence.

## Results

Table 1. Representation values of daily activities that influence children's mobility to physical practice

Parents let you play outside with friends?		
No %	Yes %	Percentages %
23,1	76,9	Near home – 36,6 Places further – 18,8 Depends – 21,5
Is there any place in the neighborhood where you may not be with friends? Why?		
37,1	62,9	Places with traffic – 19,4 Poorly attendance places– 3,2 Insecurity – 10,2 Unknown – 16,1 Don't know – 17,7
Do you ever visit friends? How do you go?		
10,2	89,8	On foot – 31,2 By car – 38,2 By bicycle – 19,9 Other – 1,6
Do you ever go walking with other children? Where?		
43	57	Public gardens or places – 40,9 Sport facilities – 12,4 Clubs – 5,9
When you go to some place, even accompanied by adults, can you cross the street alone? Which is the location where you were further away from home alone?		
33,9	21,0	On my street – 28,5 Near my street– 31,7 Other places further – 18,3 Don't know – 14 Other places far away from home – 4,8 Nowhere – 2,2
Which location further away from home did you go with friends on foot?		
33,9	21,0	On my street – 19,9 Near my street – 22,6 Other places further – 17,2 Don't know – 9,7 Other places far away from home – 5,9

		Nowhere – 24,7
Is there some space in the location outside your neighborhood, where you usually go often? What is this space?		
25,3	74,2	Public garden – 11,3 Football field – 17,7 kindergarten – 23,1 Near a coffee shop – 2,2 Other – 20,4
With whom you usually go?		
25,3	74,2	Family – 49,5 Alone – 7,5 Friends – 17,7
Do you live far from the school? How do you go?		
53,8	45,2	On foot – 22 By car – 62,4 Public transportation– 13,4 Others – 1,1
Can you go to school with friends or alone?		
76,3	23,1	-
Do you practice some physical activity in a club or in other place (grade)?		
41,9	58,1	1 <sup>st</sup> grade
29,2	70,8	2 <sup>st</sup> grade
32,1	67,9	3 <sup>st</sup> grade
35,2	64,8	4 <sup>st</sup> grade

## Discussions and conclusions

Children who practice more physical activity are in the 2<sup>nd</sup> grade 70.8% (34), followed by the 3<sup>rd</sup> grade 67.9% (36), the 4<sup>th</sup> grade 64.8% (35) and finally the 1<sup>st</sup> grade with 58.1% (18). In general 66.1% (123) engage in physical activity and 33.9% (63) do not exercise even in a club or municipal facility.

Compared to the study of Correia (2006) 34% did practiced physical activity and 66% did not practice. Its observable changes since 2006 until the present study regarding the students who practice physical activity in a club or sports facilities.

Serrano (2003) conducted the same study and the results obtained were 24.3% practiced some sport and 75.7% did not practice any sport in sports clubs. According to the study conducted in the city of Viseu by Monteyo (2013) 14.1% of children practice physical activity 1 time per week, 42.4% practice 2 times a week, 27.3% practice 3 times a week and 16.2% perform physical activities more than 3 times per week, and in this study, results differ statistically.

According to the study of Lopes (2013) it was found that 149 (90.3%) young people have bikes, but only 65 (39.4%) are allowed to ride a bike, although children have different ages we found that the number of students who cannot ride a bike is larger (n: 72 / 43.6%), even these children were older regarding the ones in our study. In general, students ride their bikes mostly on the street 67.8% (116), then 19.03 (33) ride their bikes in the park / public garden and finally 12.9% of students ride their bikes in other places not mentioned in this questionnaire.

In another study by Correia (2006), most students 70% also rode bicycles in the street, and the same percentage 13% rode bicycles in the park / public garden and/or other places. From 2006 until now there has been an increase in students who have rode a bike in the parks / public gardens.

The mobility dependence level decrease: some data allow us to state that the autonomy in movement of children in urban areas has declined significantly in recent years (pathways, perception of physical space and action possibilities (Serrano, 2003; Mallet and Neto, 2004; O'Brien and Jones Rustin, 2000; Arez and Neto, 1999; Vercesi, 1999; Kitta, 1995; Van der Spek and Noyon, 1995; Neto and Marques, 2004).

According to Rosario et al. (2013) regarding to transport used to go to school found that 60.6% of children used the car, 21.2% walked to school, 6.1% moved on foot and by car, 12.1% by bus, although the study sample has different ages and a different city found that the studies converge with each other, yet, the most popular means of transport to travel to school is by car.

The study highlights the lack of mobility in urban areas (low density) as they move mostly by car and most students are not given autonomy to cross the road alone. We must admit an environment type "Glasshouse", the child is familiar with the environment, but mainly through parental assistance without authorization to explore that same environment independently.

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### References

- Arez, A. & Neto, C. (2000). *The study of independent mobility and perception of the physical environment in rural and urban children*. In C. Neto (Ed.). *Play and Community*. Proceedings of XIV 1999 IPA World Conference. Lisboa: Edições CML (admitido para publicação).
- Correia, L. (2006). *A Independência de Mobilidade e a Actividade Física no Dia-a-Dia da Criança no Concelho de Constância*. Mestrado em Lazer e Desenvolvimento local.
- Cosco, N. (2006). *Motivation to Move: Physical Activity Affordances in Preschool Play Areas*. Dissertation for the degree of Doctor of Philosophy. School of Landscape Architecture, Edinburgh College of Art Heriot Watt University.
- Granville, S., Laird, A., Barber, M. & Rait, F. (2002). *Why do Parents Drive Their Children to School?* Transport research séries. Scottish Executive Central Research Unit.
- Montoye, H., Kemper, C., J., Saris, W., H., Wasburn, R., A. (2013). *Measuring Physical Activity and Energy Expenditure*. Champaign, IL: Human Kinetics.
- Kytta, M. (2004). *The extent of children's independent mobility and the number of actualized affordances as criteria for child-friendly environments*. *Journal of Environmental Psychology*, 24(2), 179-198.
- Lopes, C. (2013). *Rotinas de vida, autonomia e mobilidade de jovens em contexto urbano*. *Rotinas de vida, autonomia e mobilidade de jovens em contexto urbano*. Mestrado em Educação para a Saúde. Escola Superior de tecnologia da saúde de Coimbra.
- Neto, C. & Marques, A. (2004). *A mudança de competências motoras na criança moderna: A importância do jogo de actividade física*. In J. Barreiro, M. Godinho, F. Melo & C. Neto (Eds.), *Desenvolvimento e Aprendizagem*. Perspectivas Cruzadas, (1-27). Lisboa: Edições FMH.
- Neto, C. (1999). *O jogo e os quotidianos da vida da criança*. In R. Krebs, F. Copetti, & Beltram, T. (Eds.). *Perspectivas para o desenvolvimento infantil*. Rio de Janeiro: Siec.
- Neto, C. (2001). *Aprendizagem, desenvolvimento e jogo de actividade física*. In Maria da Graça Sousa Guedes (Ed.), *Aprendizagem Motora: Problemas e Contextos*, (pp. 193-220), Lisboa, Portugal: Edições FMH.
- Neto, C. (2006). *O Jogo e o Tempo Livre nas Rotinas de Vida Quotidiana de Crianças e Jovens*. Faculdade de Motricidade Humana. Lisboa.
- Nordstrom, M., Berglund, U., Bjorklid, P., Nordin, K. & Cele, S. (2002-2004). *Children and Open Spaces in the City. Accessibility, Use and Influence*. A multi-disciplinary project.
- O'Brien, M. (2003). *Regenerating children's neighbourhoods. What do children want?* In P. Christensen & M.
- Ott, A., Pate, R., Trost, S., Ward, D. & Saunders, R. (2000). *The use of uniaxial and triaxial accelerometers to measure children's "free-play" physical activity*. *Pediatric Exercise Science*, 12, 360-370.
- Piéron, M. (1998). *Actividade física e saúde. Um desafio para os profissionais de educação física*. (39-80). Lisboa. Sociedade Portuguesa de Educação Física.
- Rissotto, A. & Tonucci, F. (2002). *Freedom of movement and environmental knowledge in elementary school children*. *Journal of Environmental Psychology*, 22(1), 65-77.
- Rosário, R., Pereira, B., Silva, I., Monteiro, R., & Farenzena, R. (2013). *Transporte ativo nas rotinas de vidas das crianças*. Estudo em escola urbana; Instituto de educação, Universidade do Minho – Braga, Portugal e Centro de Investigação em Estudos da Criança (CIEC), Universidade do Minho – Braga, Portugal.
- Schaalma, H., Meertens, R., Van Mechelen, W. & Kok, G. (2000). *Health education and the promotion of physical activity*. In N. Armstrong, e W. Van Mechelen, (Eds), *Paediatric Exercise Science and Medicine*, (305-310). Oxford. Oxford University Press
- Serrano, J. (2003). *Mudanças Sociais e Estilos de Vida no Desenvolvimento da Criança. Estudo do nível de independência de mobilidade e da actividade física nas rotinas de vida quotidiana em crianças de 8, 10 e 12 anos no meio urbano*. Dissertação de Doutoramento em Motricidade Humana na especialidade de Ciências da Motricidade. Lisboa: Faculdade de Motricidade Humana.
- Van der Spek, M., Noyon, R. (1995). *Children's Freedom of Movement in the Streets*. Comunicação apresentada na conferência internacional buildings identities – Gender perspectives on children and urban space. Amesterdão.
- Vasconcelos, M. & Maia, J. (2001). *Actividade física de crianças e jovens – Haverá um declínio?* Estudo transversal em indivíduos dos dois sexos dos 10 aos 19 anos. *Revista Portuguesa de Ciências do Desporto*, 1(3), 44-52.
- Vercesi, M. (1999). *Milan: a city at play?* A survey of the independent mobility of children. Paper presented in XIV IPA World Conference The community of Play.