

Are there gender differences in outdoor play determinants?

Pereira, M.^{1,2}
Gama, A.^{1,3}
Machado-Rodrigues, A.^{4,1}
Mourão, I.⁵
Nogueira, H.^{2,1}
Rosado, V.^{6,1}
Padez, C.^{4,1}

Introduction:

Outdoor play (OP) is a unique opportunity for children to be physically active. Evidence suggests that OP might be associated with TV watching time, socioeconomic status (SES), mother obesity (MO) and the presence of large parks and gardens (LPG) in the neighbourhood. This study aims to identify which of the latter aspects are associated with OP according to children's gender.

Methods:

Homes of 929 children, 465 boys and 464 girls with a mean age of 7,26 ($\pm 1,97$) and 7,30 ($\pm 1,91$) respectively, were geocoded using postal code information (Fig. 1). Data was collected by questionnaire regarding: OP, TV watching time on weekdays, SES and MO. Data on LPG was collected in Lisbon Municipality website. Distance between homes and LPG was computed using ArcMap and information was imported to SPSS to perform the statistical analysis. All variables were categorical so Chi-Square was used to compare proportions between categories. Binary Logistic Regression models were fitted to estimate associations (Odds Ratio (OR) and 95 % Confidence Intervals (CI)) between OP and all other variables.

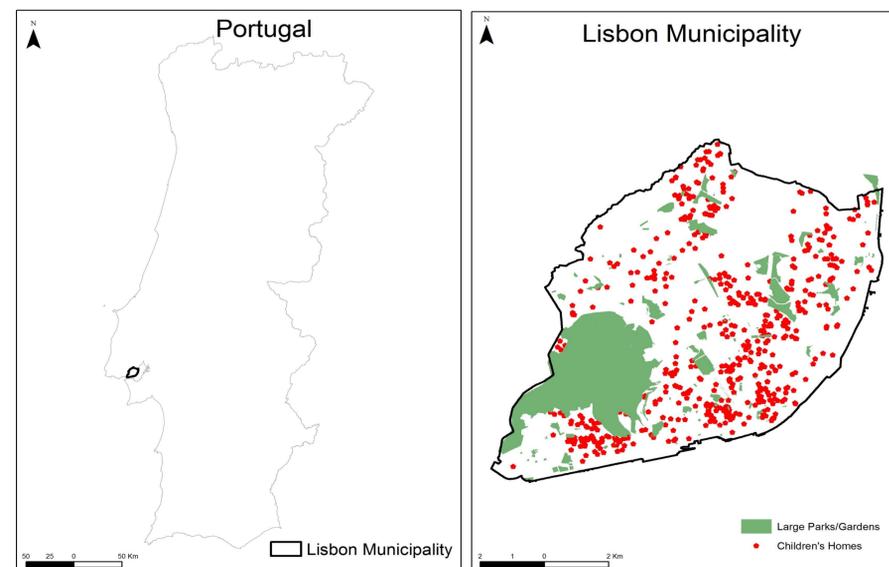


Fig. 1 Study area map and children's homes localization

Results:

OP occupied more than 1h per day of every weekday, for almost 73% of boys and 69% of girls. Girls with 1h or more of OP was significantly higher in the underweight/normal MO class and no statistical differences were found between proportions of boys by OP categories and TV watching time, SES, MO and distance to LPG (Table I).

Boys whose mothers were overweighted were less likely to have an OP higher than 1h (OR=0.54, 95%CI=0.31-0.94) even after adjusting for all variables. Girls with and OP higher than 1h was positively associated with high SES (OR=2.05, 95%CI=1.10-3.82) and inversely associated with obese MO (OR=0.36, 95%CI=0.18-0.73), but only the latter association remained statistically significant after adjusting for all variables (Table II).

Table I OP time vs distance to large parks/gardens, TV watching time, SES and MO per gender

Outdoor Play	Boys			Girls		
	None	1h or more	Chi-square p	None	1h or more	Chi-square p
	N (%)			N (%)		
Distance to Large Parks/Gardens						
250 metres or less	54 (19.9)	218 (80.1)	0.323	63 (23.0)	211 (77.0)	0.544
More than 250 metres	34 (22.2)	119 (77.8)		33 (22.9)	111 (77.1)	
TV watching time on weekdays						
Less than 1h	34 (42.1)	109 (57.9)	0.179	34 (24.3)	106 (75.7)	0.652
1h or 2h	32 (16.2)	166 (83.8)		38 (20.1)	151 (79.9)	
3h or more	9 (23.7)	29 (76.3)		7 (20.6)	27 (79.4)	
Socioeconomic Status						
Low (Father: 9 schooling years)	29 (17.2)	140 (82.8)	0.074	41 (25.6)	119 (74.4)	0.064
Medium (Father: 10 to 12 schooling years)	28 (27.2)	75 (72.8)		23 (24.2)	72 (75.8)	
High (Father: post-degree)	18 (16.2)	93 (83.8)		17 (14.4)	101 (85.6)	
Mother Obesity (WHO cut-off points)						
Underweight/Normal (BMI: >18.49 to 24.99)	44 (17.5)	207 (82.5)	0.068	47 (18.8)	203 (81.2)	0.012
Overweight (BMI: 25.00 to 29.99)	26 (28.3)	66 (71.7)		21 (25.6)	61 (74.4)	
Obese (BMI: >30.0)	5 (15.2)	28 (84.8)		16 (39.0)	25 (61.0)	

Table I Association between OP and distance to large parks/gardens, TV watching time, SES and MO per gender

Outdoor Play (None vs 1h or more)	Boys		Girls	
	Crude OR (95% CI)	Adjusted OR (95% CI)	Crude OR (95% CI)	Adjusted OR (95% CI)
Distance to Large Parks/Gardens				
250 metres or less	ref.	ref.	ref.	ref.
More than 250 metres	0.87 (0.53-1.41)	0.92 (0.50-1.69)	1.00 (0.62-1.62)	0.85 (0.47-1.55)
TV watching time on weekdays				
Less than 1h	ref.	ref.	ref.	ref.
1h or 2h	1.62 (0.94-2.78)	1.39 (0.75-2.57)	1.28 (0.75-2.16)	1.64 (0.90-3.00)
3h or more	1.01 (0.43-2.33)	0.93 (0.31-2.75)	1.24 (0.50-3.09)	1.40 (0.50-4.24)
Socioeconomic Status				
Low (Father: 9 schooling years)	ref.	ref.	ref.	ref.
Medium (Father: 10 to 12 schooling years)	0.56 (0.31-1.00)	0.53 (0.26-1.04)	1.08 (0.60-1.94)	1.02 (0.51-2.04)
High (Father: post-degree)	1.07 (0.56-2.04)	1.03 (0.48-2.20)	2.05 (1.10-3.82)	1.62 (0.80-3.29)
Mother Obesity (WHO cut-off points)				
Underweight/Normal (BMI: >18.49 to 24.99)	ref.	ref.	ref.	ref.
Overweight (BMI: 25.00 to 29.99)	0.54 (0.31-0.94)	0.51 (0.27-0.96)	0.67 (0.37-1.21)	0.99 (0.47-2.07)
Obese (BMI: >30.0)	1.19 (0.44-3.25)	1.61 (0.44-5.96)	0.36 (0.18-0.73)	0.26 (0.11-0.59)

Conclusion:

This study results suggests that socioeconomic aspects are more likely to determine OP in girls compared with boys. OP is an important behaviour because it might prevent childhood overweight and obesity thus all children should engage daily in active play activities outdoor.

1: Research Centre for Anthropology and Health
2: Department of Geography and Tourism of University of Coimbra, Portugal
1,3: Department of Animal Biology of University of Lisbon, Portugal
4: Department of Life Sciences of University of Coimbra, Portugal
5: Department of Sports, University of Trás-os-Montes e Alto Douro, Portugal
6: Faculty of Sport Sciences of Lisbon

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