



PARENT'S PERCEPTIONS OF RESIDENTIAL NEIGHBOURHOOD AND ITS ASSOCIATION WITH SEDENTARY BEHAVIOURS AND OUTDOOR PLAY

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Background

An huge percentage of children from the South of Europe, where there is the highest rate of obesity, do not meet the public health guidelines of the daily physical activity. In addition, rates of sedentary behaviours, especially screen activities, are clearly increasing. Therefore, research on the children's lifestyle and its association with environmental factors is potentially important for identifying subgroups at risk and encourage interventions. The present study evaluates the associations between female children sedentary behaviours (i.e. TV viewing, computer use, electronic games) and children's outdoor play, and parents' perception of their residential neighbourhood.

Methods

The sample comprised 1350 healthy female children aged 3-10 years. Height and weight were measured, and Body Mass Index (BMI) was calculated subsequently. Participants were classified as normal weight or overweight/obese (Cole et al., 2000). Environmental variables, sedentary behaviors and physical activities were assessed by questionnaire filled by their parents - the Environmental Module of the International Physical Activity Prevalence Study (IPS, 2002) was used. Logistic regressions, with adjustments for parental education, child age and the clustering of children in schools, were used.

Results

Children whose parents reported a negative perception of the social and built environment in the residential area were more likely to be involved in screen activities (i.e. TV viewing, time spent using computer and, playing electronic games) during weekdays than those children whose parents reported a positive perception of the social/built environment. Furthermore, girls whose parents reported a negative perception of the social environment were more likely to spend less time in outdoor play at the weekend, than those girls whose parents had a positive perception of the built environment of their residential area.

Table 1 – Descriptive statistics for screen-view variables by gender.

	Boys		Girls	
	N	%	N	%
Child Weekdays TV				
< 2 hours per day	769	68.2	828	69.1
≥ 2 hours per day	358	31.8	370	30.9
	$\chi^2=0.12$, ns			
Child weekend TV				
< 2 hours per day	320	28.2	385	31.8
≥ 2 hours per day	815	71.8	827	68.2
	$\chi^2=3.425$, ns			
Child Weekday PC use				
< 1 hour per day	982	87.3	1081	90.0
≥ 1 hour per day	143	12.7	120	10.0
	$\chi^2=4.609$, p<0.05			
Child weekend PC use				
< 1 hour per day	725	63.2	882	71.5
≥ 1 hour per day	422	36.8	352	28.5
	$\chi^2=17.617$, p<0.001			
Child weekday Electronic Games use				
< 1 hour per day	969	86.4	1088	96.0
≥ 1 hour per day	152	13.6	45	8.7
	$\chi^2=61.396$, p<0.001			
Child weekend Electronic Games use				
< 1 hour per day	722	62.6	995	87.2
≥ 1 hours per day	432	37.4	146	12.8
	$\chi^2=178.182$, p<0.001			
Child Play out on weekdays				
< 1 hour per day	588	51.9	530	44.8
≥ 1 hours per day	544	48.1	654	55.2
	$\chi^2=12.263$, p<0.001			
Child Play out on weekend				
< 1 hour per day	955	81.8	949	78.2
≥ 1 hour per day	212	18.2	265	21.8
	$\chi^2=5.543$, p<0.05			

Table 2 - Association of children's, males (M) and females (F), sedentary behaviours and play-out with a negative parental perception of the built and social environment of their residential area.

	SEX	Built environment (land use and urban design) OR (95% CI)		Social environment and safety OR (95% CI)			
		Positive Perception	Negative Perception	Positive Perception	Negative Perception		
TV weekdays	M	1.0	1.23 (0.91-1.65)	ns	1.0	1.66 (1.18-2.33)	<0.01
(< 2h/day vs ≥2h/day)	F	1.0	1.01 (0.79-0.93)	ns	1.0	1.15 (0.82-1.59)	ns
TV Weekend	M	1.0	1.22 (0.89-1.68)	ns	1.0	1.41 (1.02-1.94)	0.05
(< 2h/day vs ≥2h/day)	F	1.0	1.04 (0.78-1.39)	ns	1.0	1.33 (0.95-1.87)	ns
Computer Weekdays	M	1.0	1.35 (0.81-2.26)	ns	1.0	2.17 (1.31-3.6)	<0.01
(< 1h/day vs ≥1h/day)	F	1.0	1.35 (0.7-2.59)	ns	1.0	1.28 (0.84-1.93)	<0.01
Computer Weekend	M	1.0	0.98 (0.71-1.35)	ns	1.0	1.06 (0.72-1.57)	ns
(< 1h/day vs ≥1h/day)	F	1.0	1.16 (0.87-1.54)	ns	1.0	2.26 (1.29-3.97)	<0.01
Electronic Games Weekdays	M	1.0	1.35 (0.74-2.45)	ns	1.0	2.97 (1.56-5.65)	<0.001
(< 1h/day vs ≥1h/day)	F	1.0	1.76 (0.83-3.75)	ns	1.0	1.18 (0.52-2.7)	ns
Electronic Games Weekend	M	1.0	1.47 (0.98-2.21)	ns	1.0	1.66 (1.12-2.45)	0.01
(< 1h/day vs ≥1h/day)	F	1.0	1.66 (1.02-2.72)	<0.05	1.0	1.5 (0.96-2.35)	ns
Play out weekdays	M	1.0	1.08 (0.77-1.52)	ns	1.0	0.88 (0.7-1.11)	ns
(≥1h/day vs <1h/day)	F	1.0	1.04 (0.78-1.4)	ns	1.0	0.79 (0.64-0.96)	<0.05
Play out weekend	M	1.0	1.69 (1.22-2.33)	0.01	1.0	1.09 (0.76-1.59)	ns
(≥1h/day vs <1h/day)	F	1.0	1.31 (1.01-1.7)	0.05	1.0	0.85 (0.64-1.13)	ns

Conclusion

In summary, the present study revealed that Portuguese female children whose parents reported a negative perception of the social and built environment were more likely to be inactive outdoor, especially at the weekend. Findings emphasize the need for policymakers to develop urban strategies to provide environments with better conditions for physical activity, avoiding perpetuation specific sedentary behaviors among children.

References

- [1] MacGrath LJ, Hopkins WG, Hinckson EA. (2015). *Sports Med*: 45(6):841-65.
- [2] Machado-Rodrigues et al. (2014). *American J. Human Biology*; 26:670–675.
- [3] Timperio et al. (2013) *Int. J. Behavioral Nutrition and Physical Activity*, 10:15.

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