Niamh at 9 months

Niamh at 3 years

Niamh at 5 years

Children's Activities and Outcomes

Amanda Quail, James Williams, Emer Smyth and Siobhan Scarlett

www.growingup.ie

Background

- **Much focus in the literature on how children spend their time:**
  - Children have too much time – Hofferth and Sandberg (2001)
  - Children are overscheduled – shuffled from one activity to another (Lareau 2003) 'The hurried child' (Elkind, 2006)

- **How children spend their time (on which activities) may impact on their physical, social, emotional and cognitive development**
  - Increased 'screen-time' related to increased risk of overweight/obesity (Barnett et al, 2009)
  - TV viewing linked to attention problems & aggressive behaviours (Ozmert et al, 2002)
  - Lack of sleep associated with poorer school performance (Taras & Potts-Datema, 2005)

- **Previous research based on GUI self-report data showed:**
  - structured after-school activities are a common feature of 9 year olds lives
  - Structured, cultural activities, as well as reading and ICT use have a positive relationship with school performance (McCoy et al, 2012)

- **Self-report Vs Time Use data**
  - Self-report relies on broad categories
  - Time Use may result in atypical day

Time-use data

- **Child cohort Wave 1 – *Growing Up in Ireland***

- **8,568 nine-year old children**

- **'Light' Time-use Diary left with the family on completion of their interview**

- **Diary left for self-completion and postal return**

- **One postal reminder sent two weeks after the household interview**

- **Contained a total of 96 15-minute slots in the day – from 00.00-00.15 to 23.45-24.00**

- **21 activities – ticked a box to indicate which activity was being undertaken in each time slot**

- **Completed by Primary Caregiver (PCG) and/or Study Child**

- **Specified diary day to ensure that we got even spread of weekday and weekend data**

Time-use data

- **74.8% response – 6,412 Time Use Diaries**

Who completed diary?
- **60% diaries completed by Study Child and PCG**
- **40% diaries completed by PCG only**

When?
- **22.5% Weekend**
- **77.5% Weekday**

- **Matched to main GUI datafile by unique identifier**

- **How do 9-year-olds spend their after-school time?**

- **Does this differ according to child and family characteristics?**

- **Is time-use related to behavioural and other child outcomes?**

21 Activities

1. Sleeping
2. Resting/relaxing
3. Personal care
4. Eating/drinking/having a meal
5. Travelling to and from school
6. Other travelling
7. At school
8. Homework
9. Physical play/exercise/sports
10. Playing board games, cards etc.
11. General play
12. Hobbies and other leisure activities
13. Computer/internet /play station / x-box etc.
14. Email/ bebo / msn / texting/ on the phone
15. Watching tv and videos/dvds etc
16. Reading books, comics, magazines etc.
17. Household chores / housework
18. Visits to a relative's house for purposes other than play
19. On a family outing
20. On a shopping trip
21. Religious activity

Total time – all term time activities
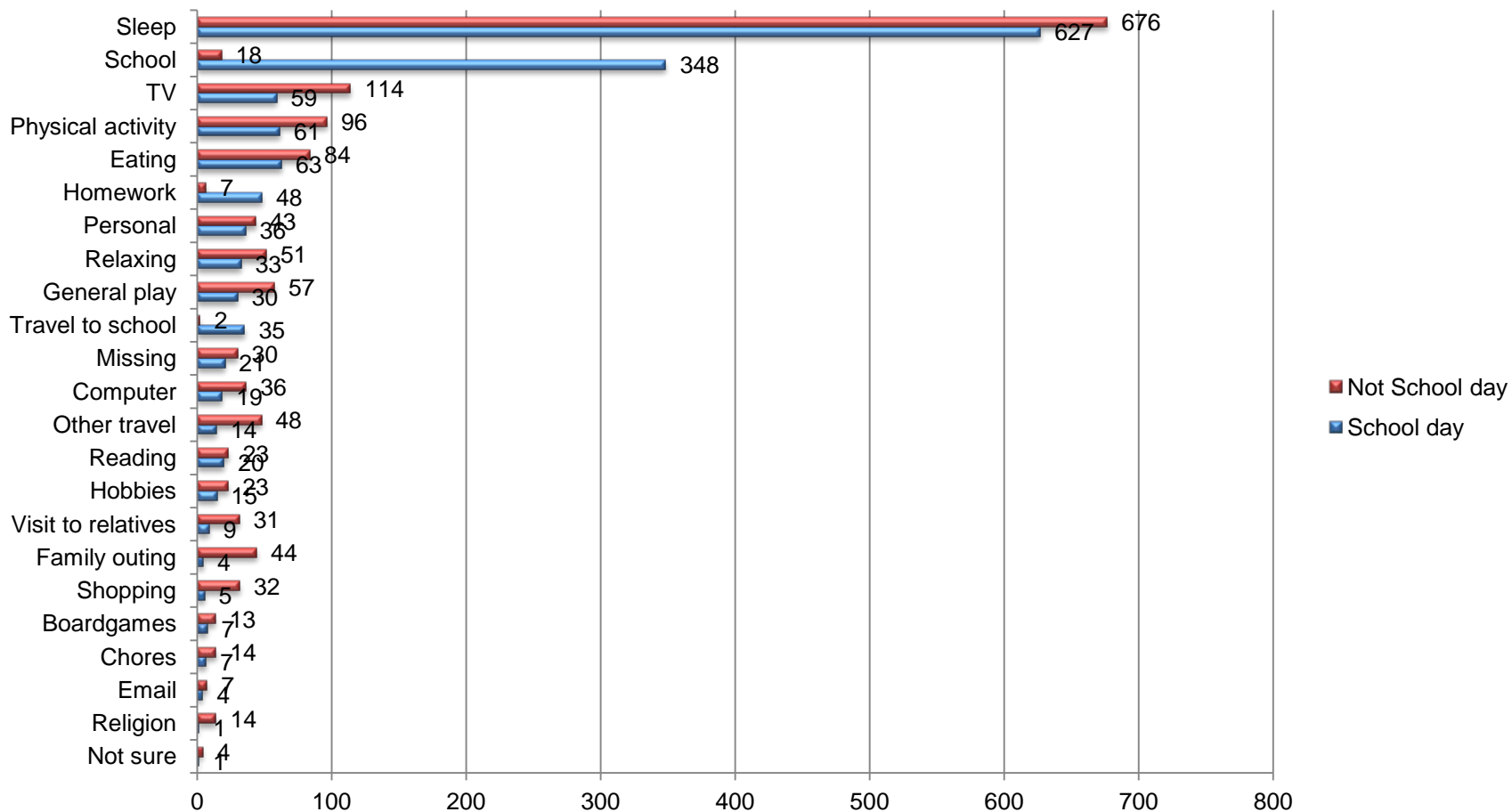
After school activities

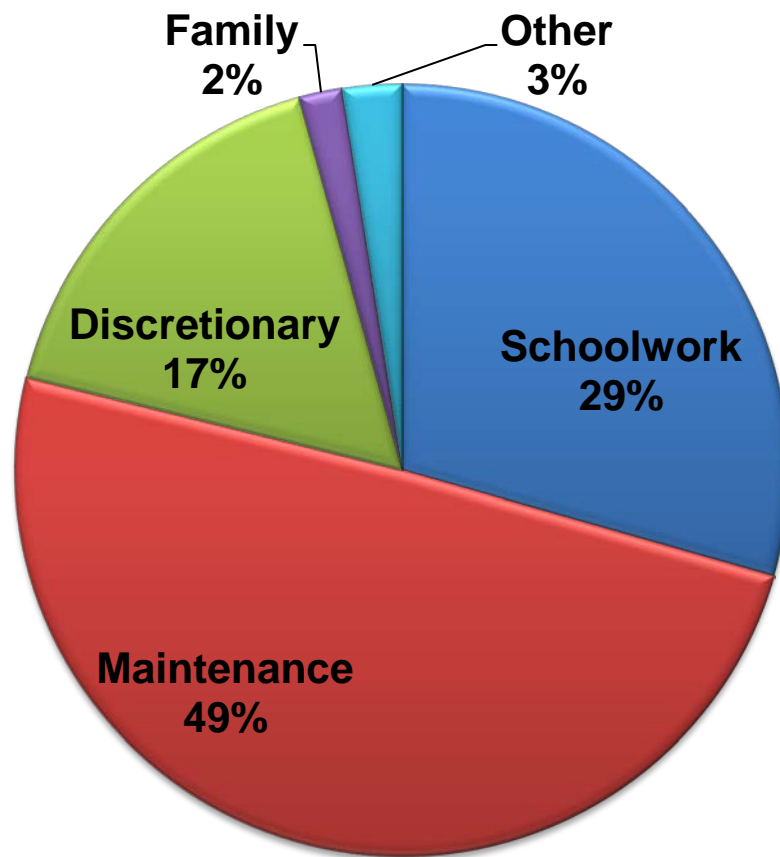- **Variation in activities was evident between weekdays / weekends and in term out of term**

- **Focus here on after school activities only – weekdays in term when child was at school**

- **4,052 cases – similar breakdown to full sample in terms of social class, education, income etc**

Breakdown of school day

Family 2%
Other 3%
Schoolwork 29%
Discretionary 17%
Maintenance 49%

Discretionary Time
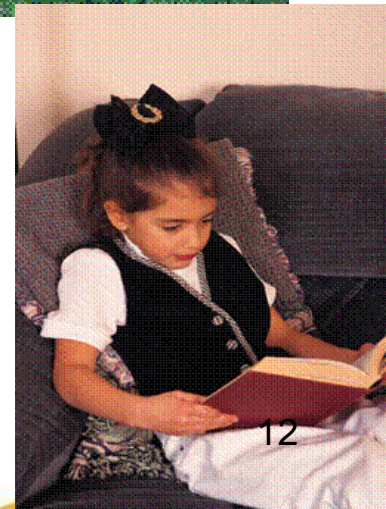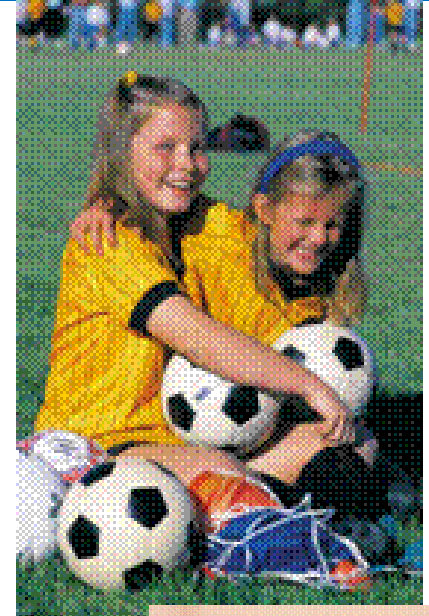
Discretionary time

- **Focus on discretionary 'free-time'**

- **Discretionary time is an area where children's individual choices may be reflected to a greater degree**

Discretionary time

Hobbies 6%
Boardgame 3%
IT 9%
Physical activity 25%
Reading 8%
General play 12%
Relaxing 13%
TV 24%
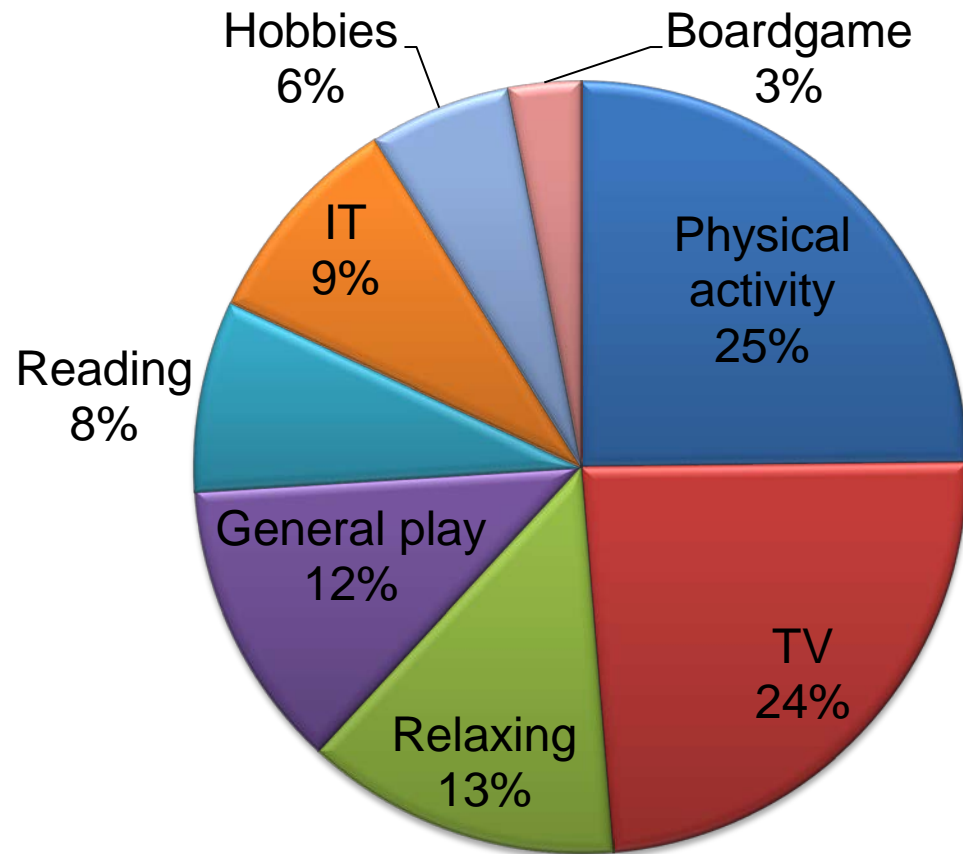
Discretionary time

	'No time'	'Some time'	
	%	%	
Physical activity	32.5	67.5	
TV	22.8	77.2	
Relaxing	32.8	67.2	
General play	57.3	42.7	
Reading	52.4	47.6	
IT	60.8	39.2	
Hobbies	74.7	25.3	
Boardgames	85.5	14.5	

Discretionary time

	'No time'	'Some time'	Average
	%	%	Mins
Physical activity	32.5	67.5	61
TV	22.8	77.2	59
Relaxing	32.8	67.2	33
General play	57.3	42.7	30
Reading	52.4	47.6	20
IT	60.8	39.2	23
Hobbies	74.7	25.3	15
Boardgames	85.5	14.5	7

Discretionary time by gender

Growing Up in Ireland
National Longitudinal Study of Children

% participating in each activity

Activity	Boys	Girls
Physical activity	74	61
TV	77	78
Relaxing	66	68
General play	37	49
Reading	44	51
IT	46	32
Hobbies	20	32
Boardgames	14	15

■ Boys ■ Girls
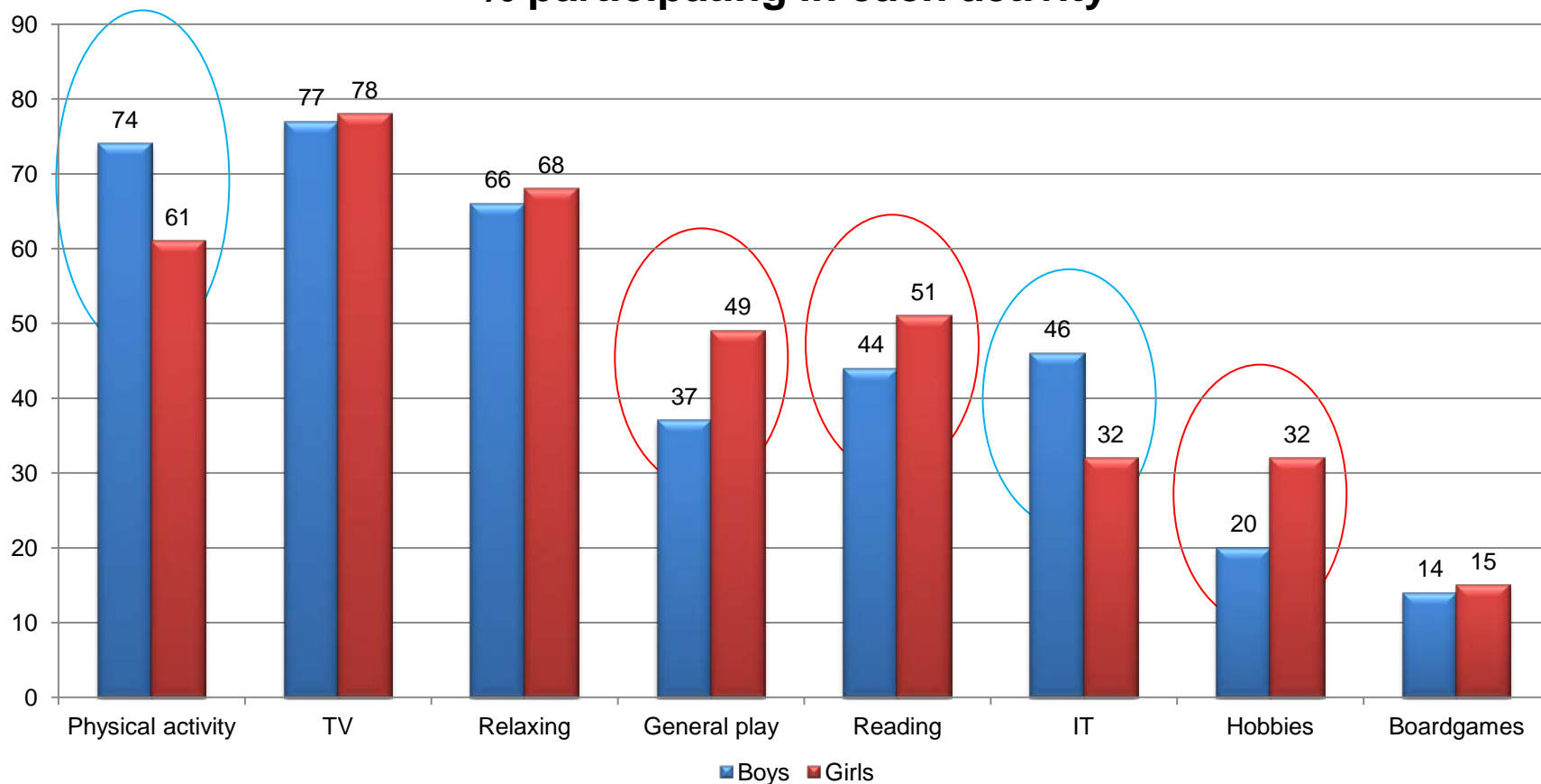
Discretionary time by PCG education

% participating in each activity

Chart: % participating in each activity by PCG education level (Junior Cert, Leaving Cert, Certificate/Diploma, Degree)

Activity	Junior Cert	Leaving Cert	Certificate/Diploma	Degree
Physical activity	69	67	66	68
TV	75	79	79	76
Relaxing	67	67	67	68
General play	38	44	46	46
Reading	37	47	53	62
IT	40	39	39	39
Hobbies	20	24	28	37
Boardgames	16	14	12	15
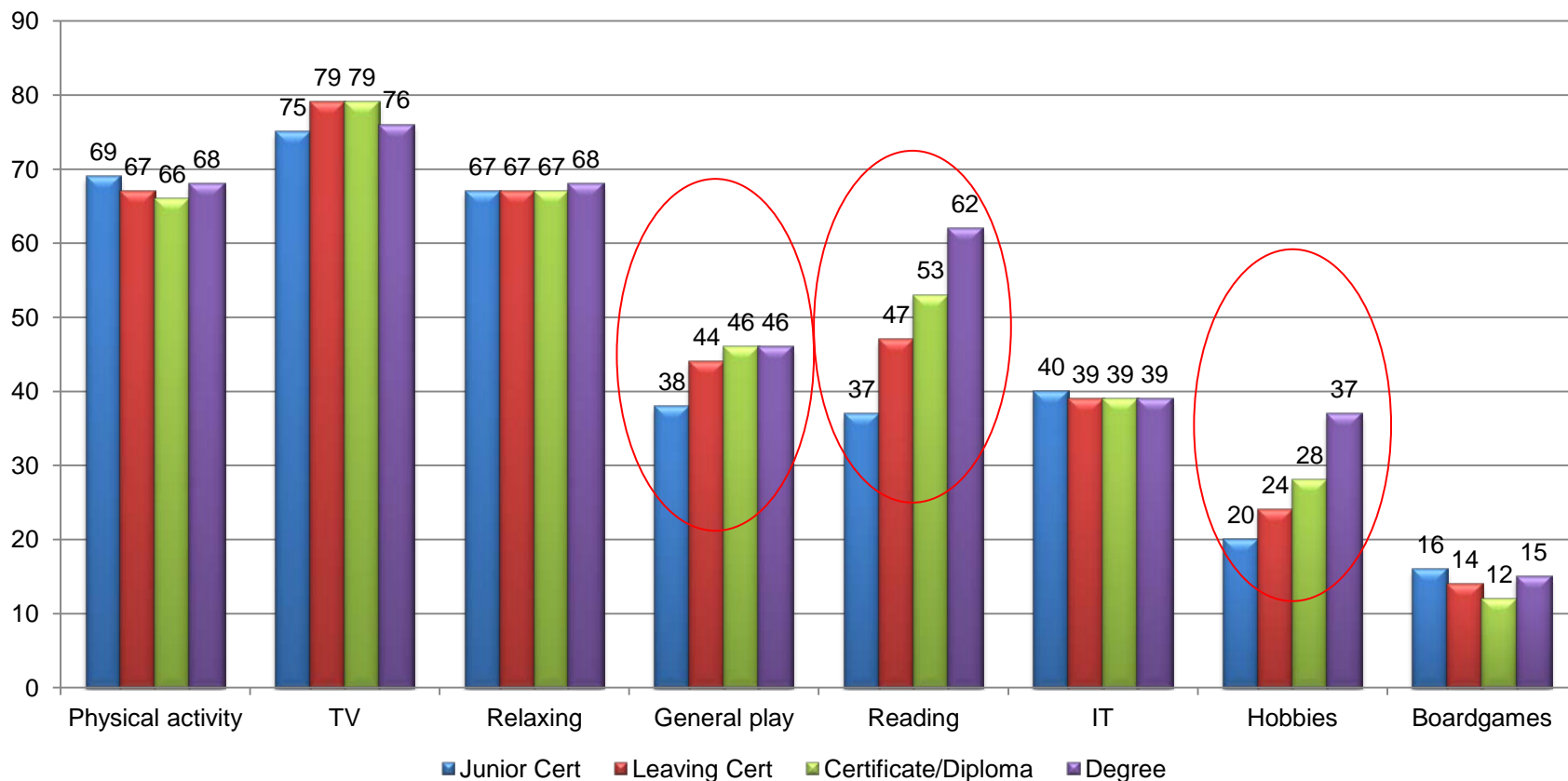
Discretionary time by Family type

% participating in each activity

Data by family type:

| Activity	One Parent 1 or 2 children	One Parent 3 or more children	Two Parent 1 or 2 children	Two parent 3 or more children
Physical activity	68	68	65	69
TV	66	74	79	79
Relaxing	62	72	67	68
General play	43	40	43	42
Reading	41	44	47	50
IT	47	46	39	36
Hobbies	23	18	25	27
Boardgames	17	19	13	14
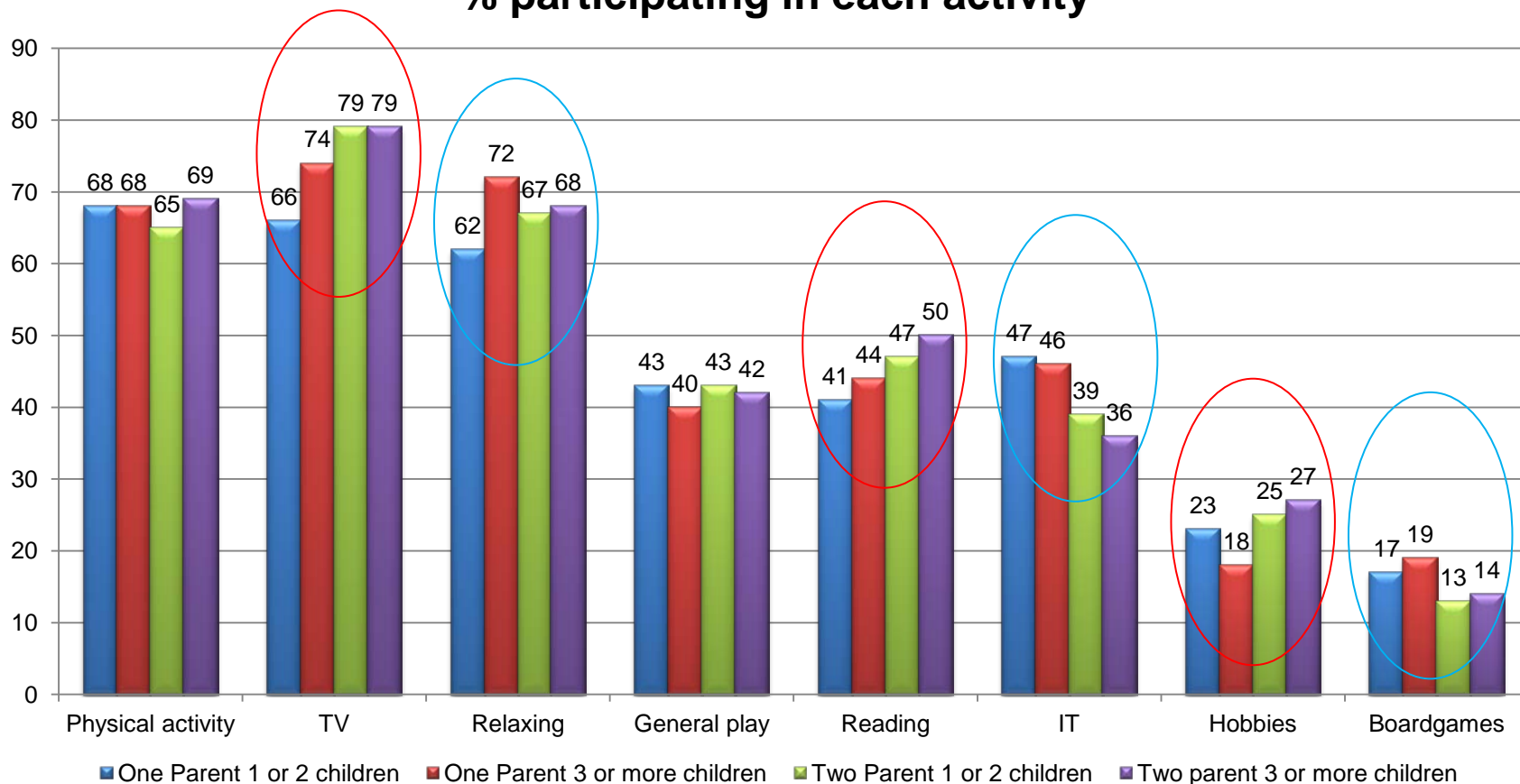
Behavioural Outcome

- **Strength and Difficulties Questionnaire (SDQ)**
- **Parent and teacher report – parent report used**
- **Measures socio-emotional/behavioural problems**
- **4 deficit focused subscales (each running 0-10):**
  - Emotional problems
  - Conduct problems
  - Hyperactivity/inattention
  - Peer relationship problems
- **Total score – higher score = more problems**
- **Top 10% of children in 'abnormal' range – referred to as potentially 'problematic'**

SDQ – by activities
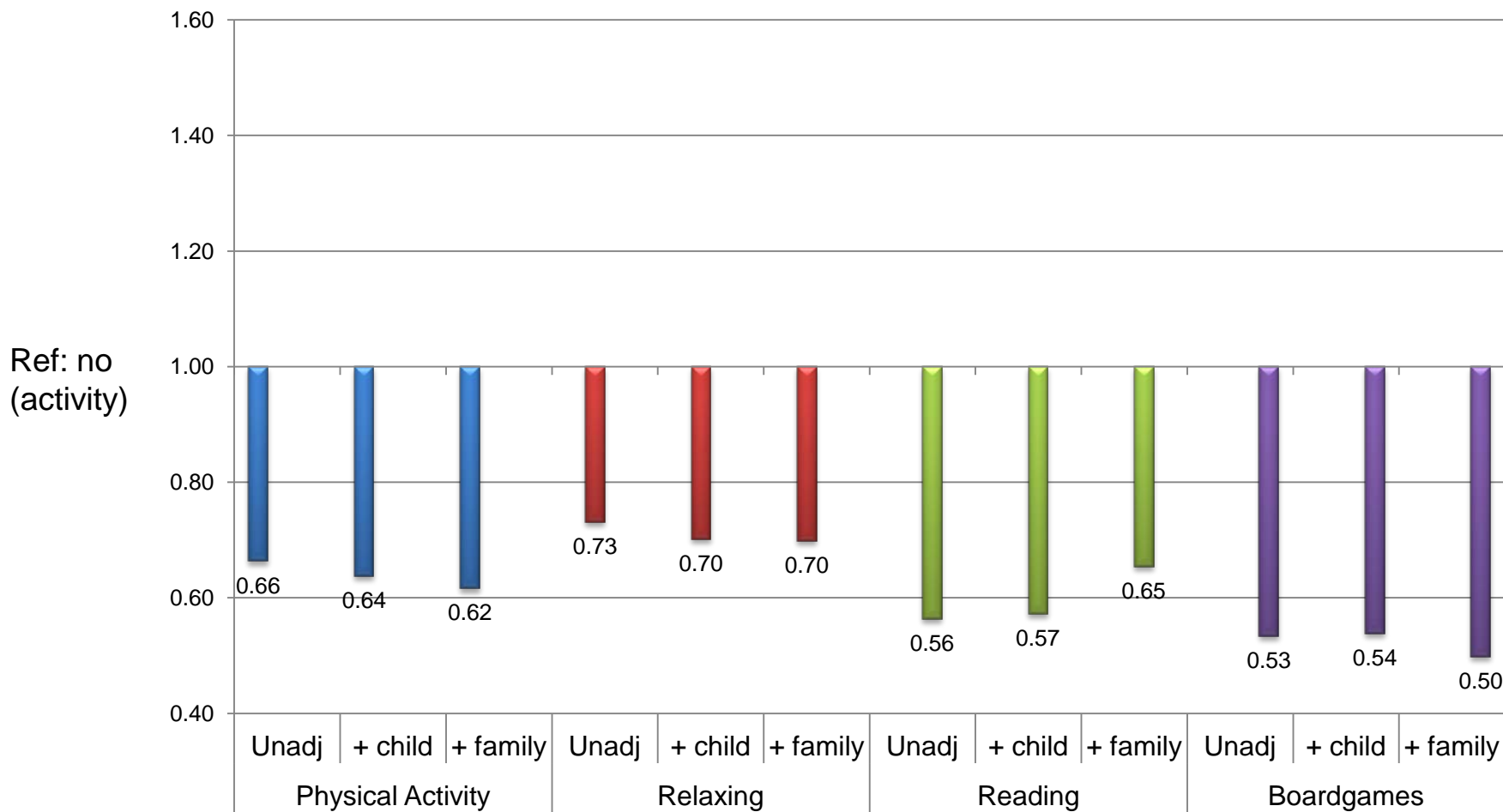
% in Problematic range
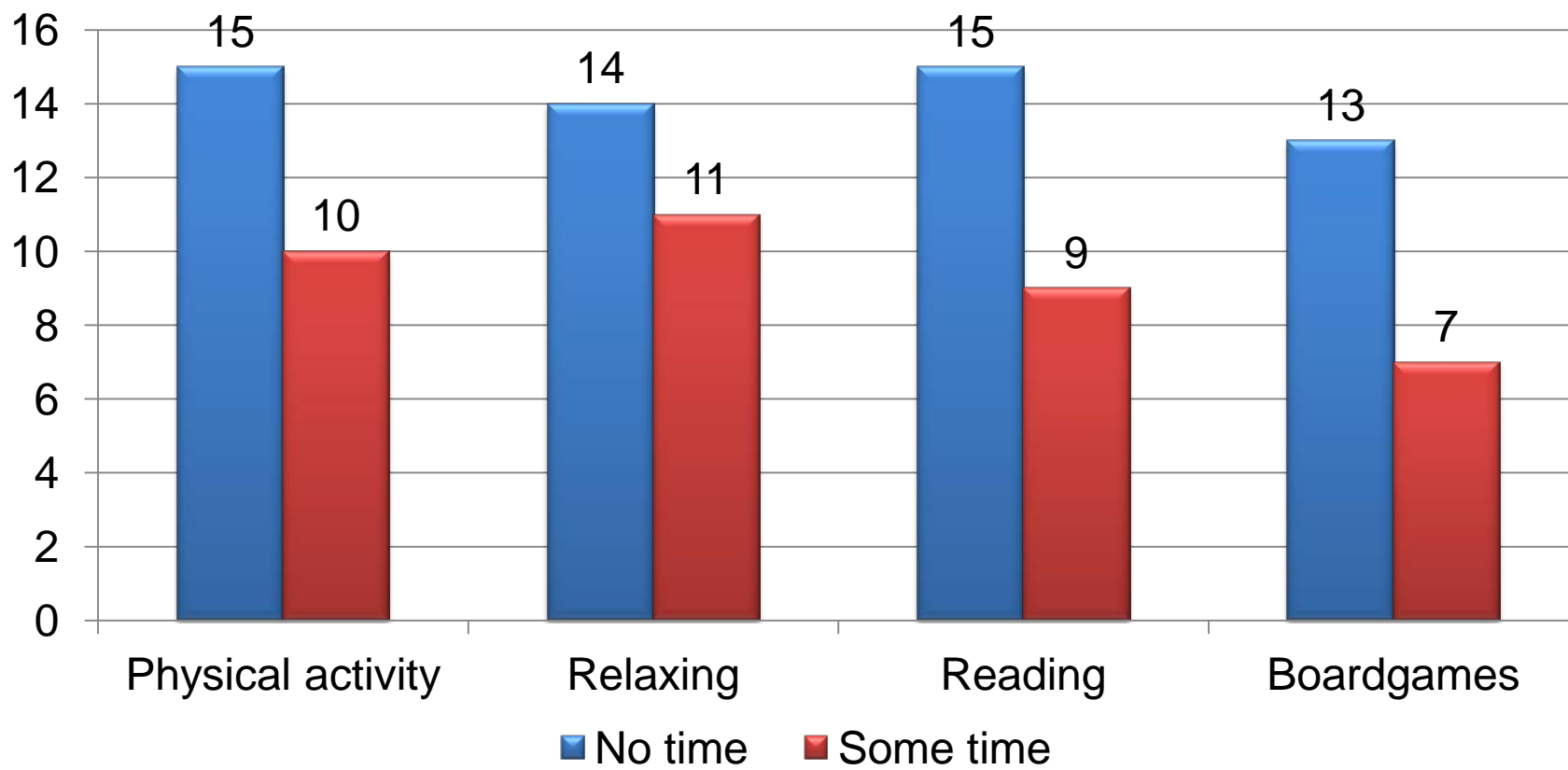
Multivariate Analysis

- **Model 1**
  - Activity

- **Model 2**
  - Plus
  - Child gender
  - Child chronic illness

- **Model 3**
  - Plus
  - PCG education
  - Family type

Odds of being in SDQ problematic range

Ref: no
(activity)

	Physical Activity			Relaxing			Reading			Boardgames		
	Unadj	+ child	+ family	Unadj	+ child	+ family	Unadj	+ child	+ family	Unadj	+ child	+ family
	0.66	0.64	0.62	0.73	0.70	0.70	0.56	0.57	0.65	0.53	0.54	0.50

Controls - Child – Gender & Chronic illness. Family – PCG ed & Family Type
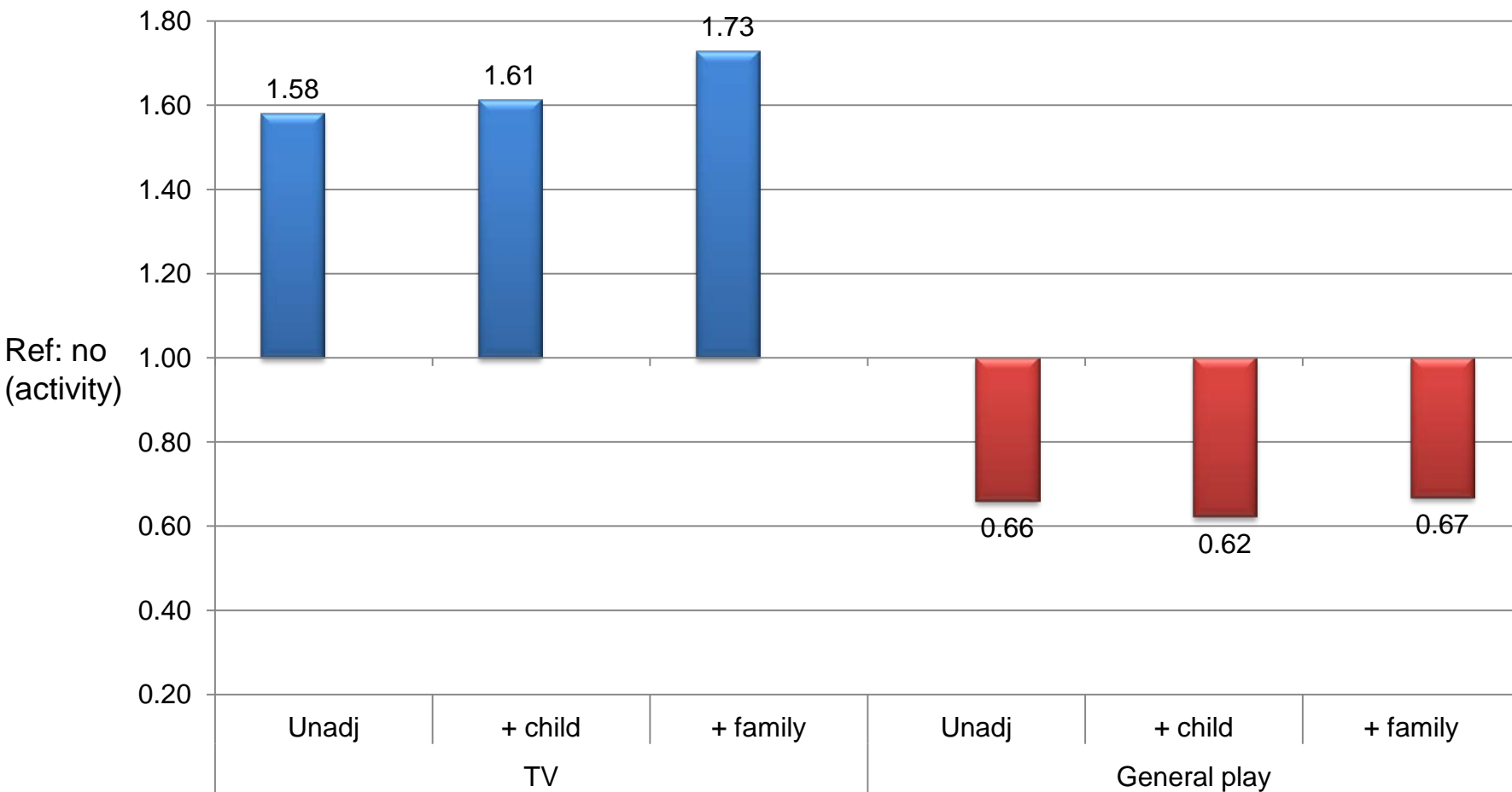*NS – TV, General play, IT, Hobbies*

23

Other outcomes

- **Physical health**
  - Obesity

- **Cognitive**
  - Drumcondra Reading test score
  - Drumcondra Mathematics test score

Odds of being in obese category

Ref: no (activity)

	Unadj	+ child	+ family	Unadj	+ child	+ family
	1.58	1.61	1.73	0.66	0.62	0.67
		TV			General play	

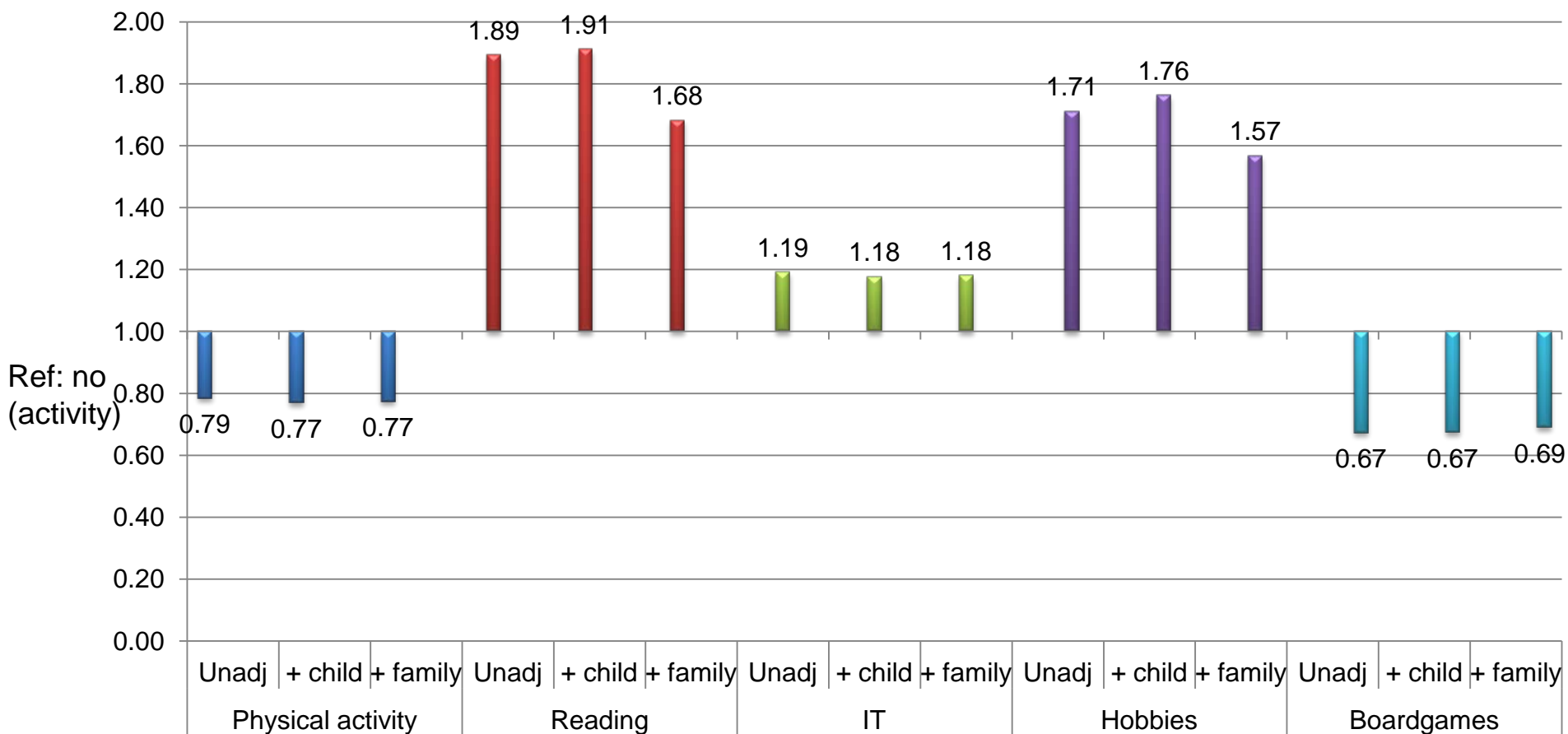*Controls - Child – Gender & Chronic illness. Family – PCG ed & Family Type*
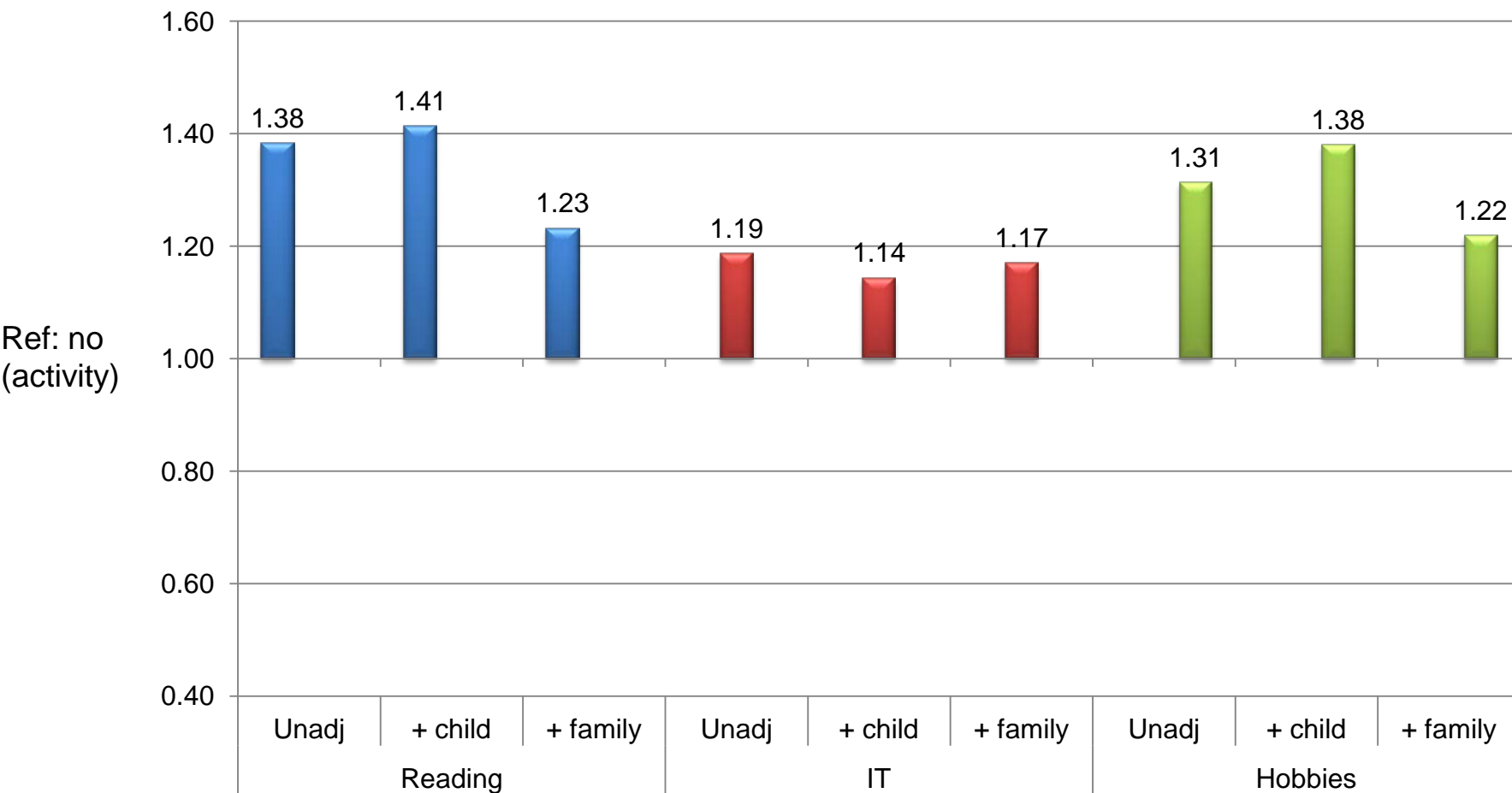*NS – Physical activity, Relaxing, Reading, IT, Hobbies, Boardgames*

25

Ref: no (activity)

	Physical activity			Reading			IT			Hobbies			Boardgames		
Value	0.79	0.77	0.77	1.89	1.91	1.68	1.19	1.18	1.18	1.71	1.76	1.57	0.67	0.67	0.69
	Unadj	+ child	+ family	Unadj	+ child	+ family	Unadj	+ child	+ family	Unadj	+ child	+ family	Unadj	+ child	+ family

Controls - Child – Gender & Chronic illness. Family – PCG ed & Family Type
NS – TV, Relaxing, General play

26

Odds of being in top maths quintile

Ref: no (activity)

	Reading			IT			Hobbies		
	Unadj	+ child	+ family	Unadj	+ child	+ family	Unadj	+ child	+ family
	1.38	1.41	1.23	1.19	1.14	1.17	1.31	1.38	1.22

Controls - Child – Gender & Chronic illness. Family – PCG ed & Family Type
NS – Physical activity, TV, Relaxing, General play, Boardgames

27

Summary

Activity	SDQ Problematic	BMI Obese	Reading Top quintile	Maths Top quintile
Physical activity	Lower	-	Lower	-
TV	-	Higher	-	-
Relaxing	Lower	-	-	-
General play	-	Lower	-	-
Reading	Lower	-	Higher	Higher
IT	-	-	Higher	Higher
Hobbies	-	-	Higher	Higher
Boardgames	Lower	-	Lower	-

28

Conclusions

- **Time use varies according to child and family characteristics**

- **Relationship between children's time use and outcomes varies depending on activity and outcome**
  - Reading – related to lower SDQ, and higher cognitive scores
  - Boardgames – related to lower SDQ, but also lower reading scores

- **Some interesting results**
  - IT positive relationship with cognitive scores
  - Physical activity related to lower reading scores
  - Physical activity not related to obesity

Next steps

- **Need also to look at amount of time spent on activities**

- **Combinations of activities**

- **Expand analysis to include time at weekends/out of term time**

- **Look separately at boys and girls to assess differential associations**

- **Sleep time and family time**

30

Thank you

Questions?