

Niamh at 9 months



Niamh at 3 years



Niamh at 5 years



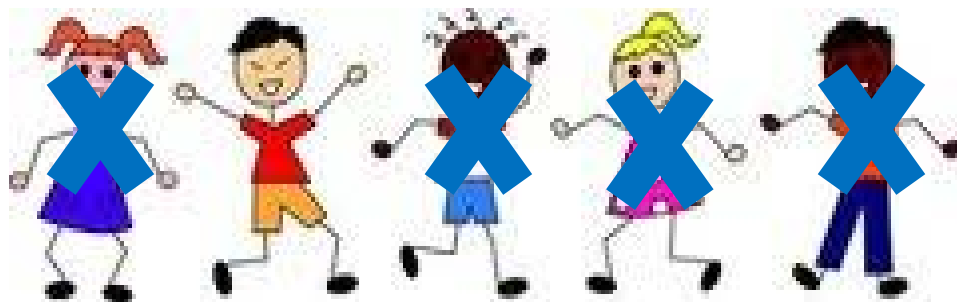
The effects of individual, family and environmental factors on physical activity levels in children

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Background

- WHO recommends that children participate in at least 60 minutes of MVPA/day.
- In Ireland, four out of five children are not meeting this recommendation.



Introduction



Top Christmas gifts



The 80's and 90's

The 80s and 90s



Top Christmas gifts



Since the year 2000

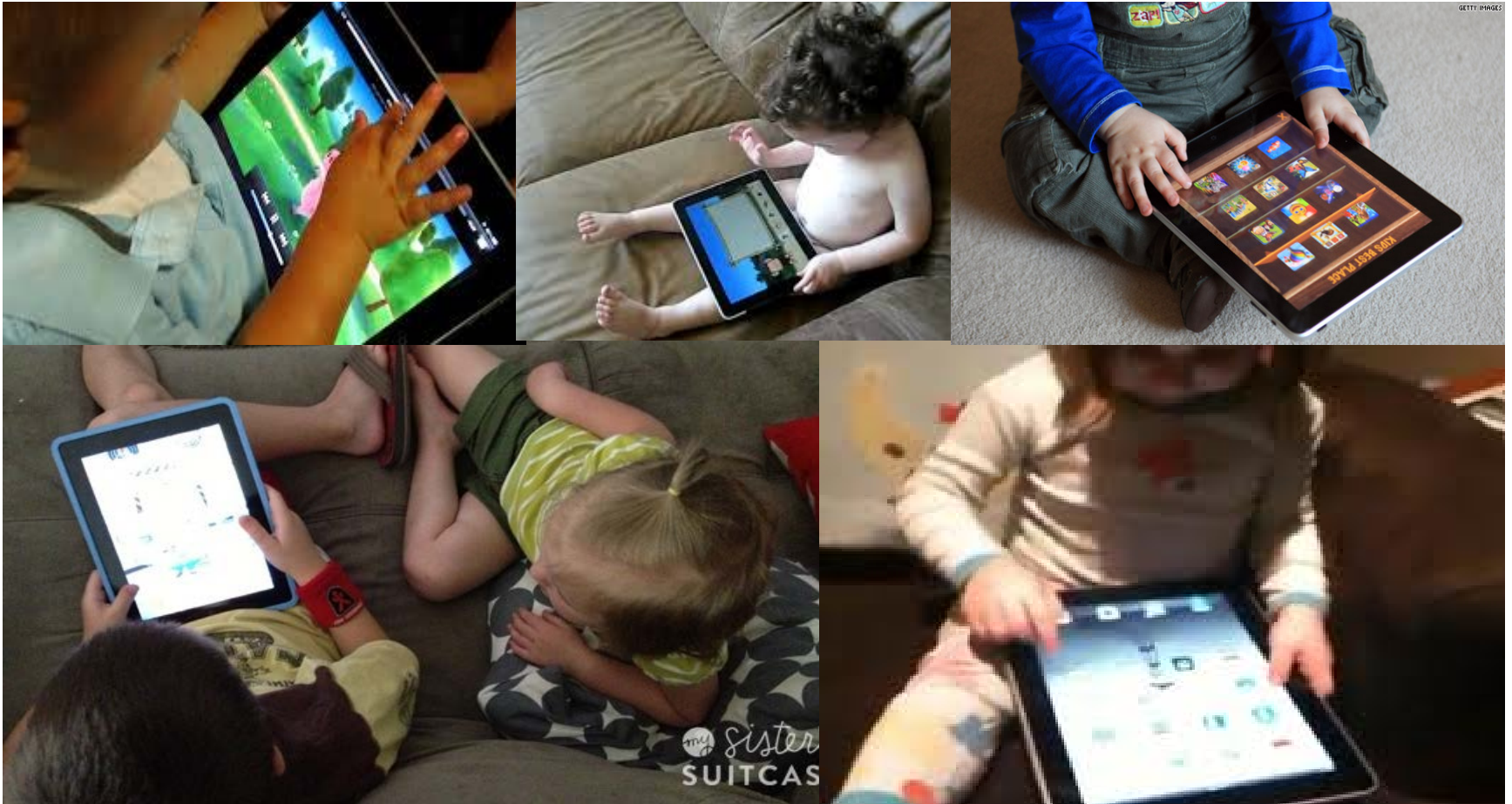
The last decade



The 80s and 90s



Physically active??





Rationale for study

“....define the individual and environmental factors of physical activity using....new models to study both simultaneously” (Sallis, 2009)



Aims of the study

- Identify the distribution of individual, family and environmental factors by physical activity levels
- Model the multi-level effects of these factors on the PA levels of children at age nine



The GUI sample

- Cross sectional analysis
- First wave (2008), N=8,568
- Primary caregiver and child surveys
- Objectively measured height and weight



Analysis plan

- Stata v12
- Weighted data
- Unadjusted and forward stepwise multinomial logistic regression
 - Model 1: Individual level factors
 - Model 2: Family level factors
 - Model 3: Environmental level factors



Dependent variable

- Primary caregiver reported

“How many days out of the previous 14 that the child had engaged in ‘hard’ exercise for at least 20 minutes”

- Classification of physical activity levels

Low: 0-4 days

Moderate: 5-8 days

High: 9+ days



Covariates for study

Individual factors

gender

active hobby

sports or fitness
team

total screen time

measured BMI

Family factors

parenting style

primary caregiver's
education

siblings

One or two parent
household

**primary caregiver's
BMI**

Environmental factors

**mode of transport to
school**

school playground

school sports facilities

after school activities

safe places to play



Methods

Data cleaning procedures

Variable	Recoding
BMI[^]	IOTF cut-offs applied to height and weight data.
Total screen time	TV, video games and computer use (< 2hrs/day).
Active hobby[*]	32 hobbies listed classified as active or inactive.
Active travel	Method of travel to and from school
PCG BMI[^]	Collapsed into normal, overweight, obese

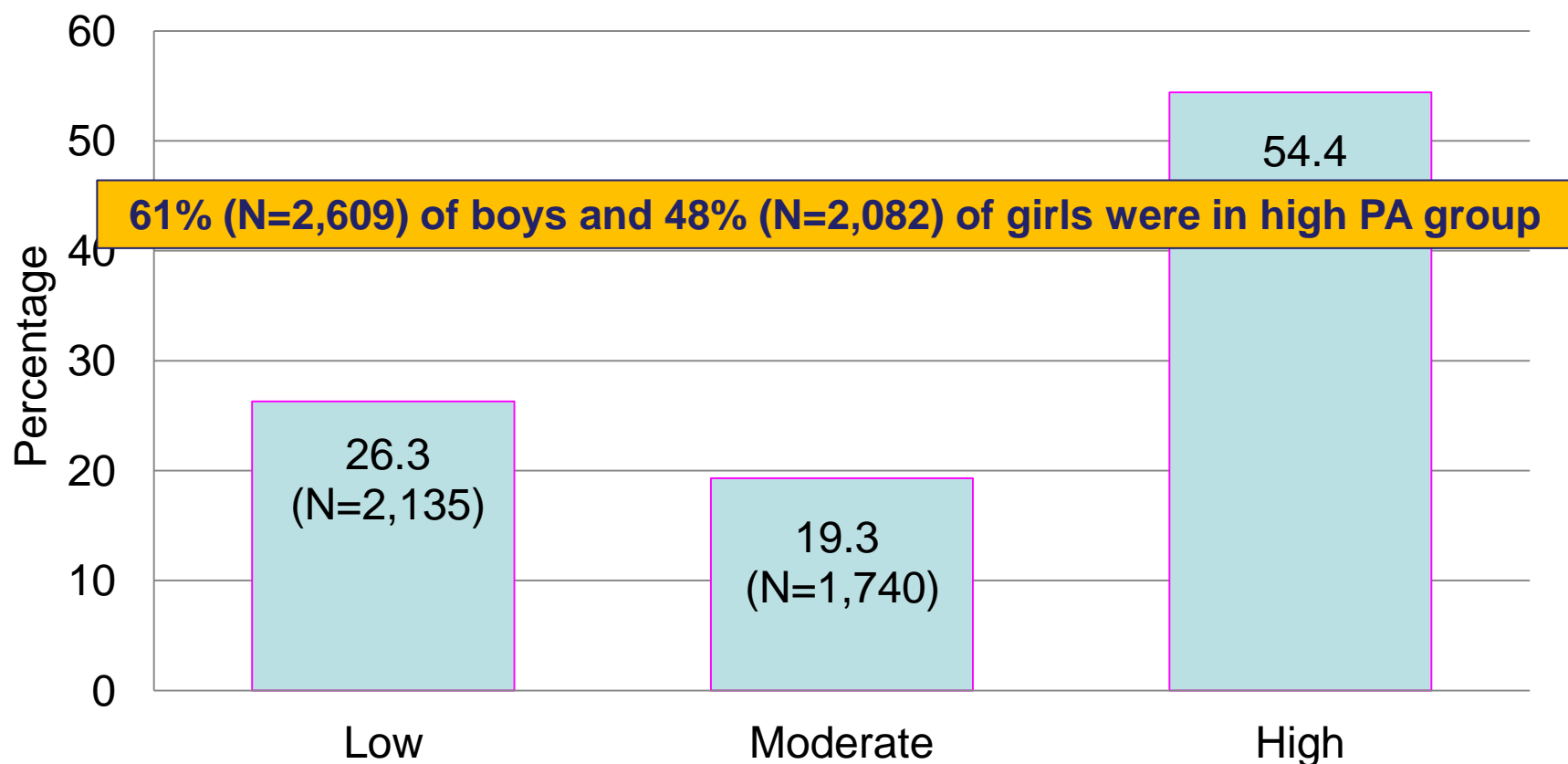
* child reported

[^] objectively measured

Four large, overlapping colored circles (red, purple, pink, and orange) are positioned at the bottom of the slide.

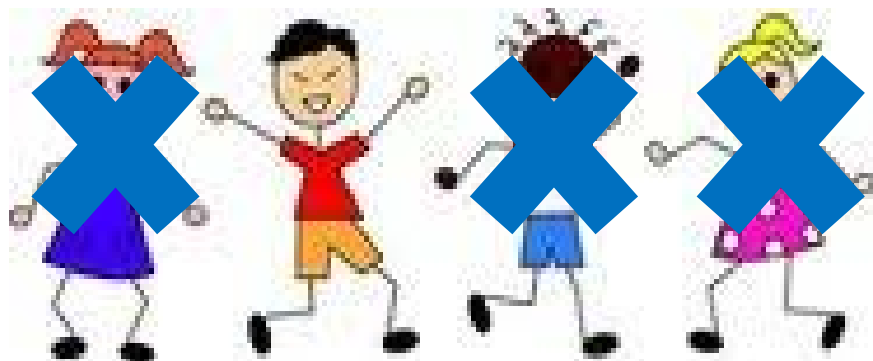
Overview of children

Distribution of physical activity among nine year olds



WHO guidelines

- 25% of children met the WHO guidelines of 60 minutes of MVPA daily (29% of boys vs. 21% of girls; $p=0.000$)





Moderate PA levels

Figure 1: Individual, family and environmental factors associated with moderate physical activity levels

Individual



OR: 2.28; 95% CI [1.66-3.14]

Family



OR: 1.67; 95% CI [1.12-2.50]

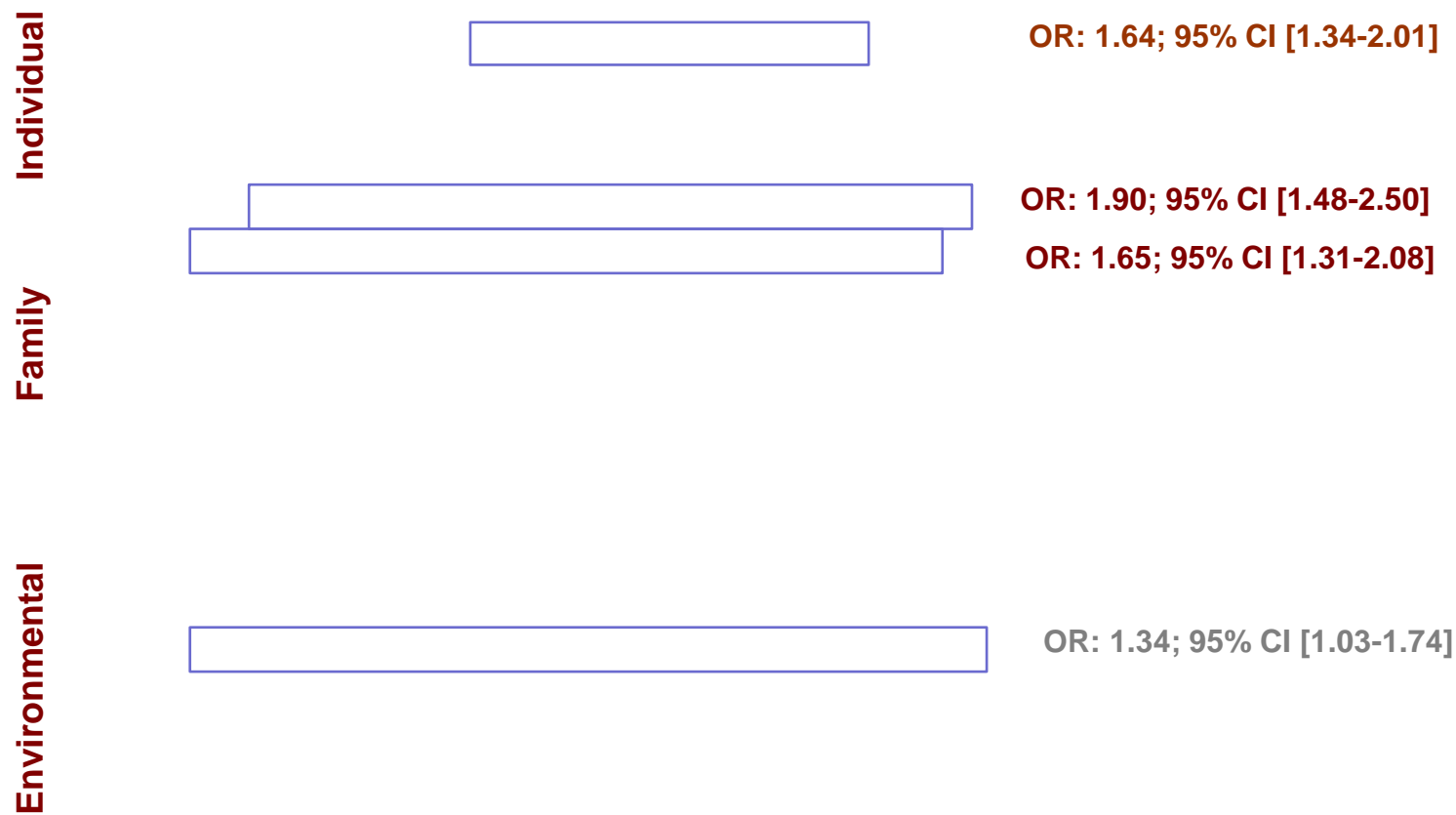
Environmental



OR: 1.42; 95% CI [1.06-1.90]

High PA levels

Figure 2: Individual, family and environmental factors associated with high physical activity levels





High PA levels

Figure 2: Individual, family and environmental factors associated with high physical activity levels

Individual



OR: 0.71; 95%CI [0.60-0.84]

OR: 0.34; 95%CI [0.26-0.44]

OR: 0.66; 95%CI [0.52-0.85]

Family

Negative Association

Environmental



Discussion

- PA has been identified as a method for treating and preventing excess weight and obesity
- Sedentary behaviours, in particular exceeding the recommended maximum total screen time may be replacing active play
- Modifiable individual factors may be promoted by policy (sports participation & active hobbies)

Policy implications

Anti-obesity
plans to cut

Ireland bottom of European table for PE time in primary schools

The EU's physical health body reveals that every other EU state spends more time on primary physical education than we do.

Mar 31 8:45 AM 7,290 Views 44 Comments



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PUPILS IN IRELAND'S

Public health implications of this?

European member state, a new report has found.

The European Union's education information network Eurydice says that in both absolute and proportionate terms, Ireland has fewer hours of compulsory PE classes than any other EU member, and of other developed European countries.

Irish primary pupils have about 37 hours of PE classes throughout a school year – with every other country demanding at least 45 hours a year.

In France, by comparison, primary pupils will typically have PE classes for a total of 108 hours over the year – nearly three times as much as their Irish counterparts. by potentially one third in the new Framework.

childhood
g PE hours?

education reducing the importance

Email 48

ry school pupils receive the
rcise (PE) per week, as
ication and Skills (DES).

ment of Education and
n its new Junior Certificate
shed status of a 'short
10 hours over a 'two or

PE over three years in the
meet the DES
this time allocation for PE

The decision to give PE a "no
backwards", according to mi

EILISH O'REGAN HEALTH CORRESPONDENT - 09 JULY 2013

MAJOR concerns have been raised by a [Department of Health](#) group about plans to allow secondary schools to reduce the amount of time allocated to PE.

Christmas 2014?





Conclusion

- Individual level factors appear strongly associated with high physical activity levels
- Future initiatives should be multi-level and include a wide range of hobbies and activities which are currently popular among children
- Sports and other high intensity activities could be promoted in both school or environmental settings



Acknowledgements

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Questions?



Thank You