

Niamh at 9 months



Niamh at 3 years



Niamh at 5 years



Does a Working Mum work for baby?

- Focus on Early
Childhood Obesity

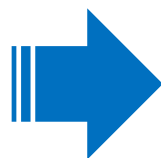
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Outline

- Working Mothers in Ireland**
- Childcare Choices**
- The Obesity Problem**
- Maternal Employment and Childhood Obesity**
 - **International Research**
 - **The Irish Story**
- Conclusion**

The Changing Role of the Irish Mother



Female Labour Force Participation Rates

1983 33%

1997 42%

2007 61%

2012 55%

Participation Rates of Mothers with Child < 5 years (Aged 20-44 Years)

1998 54%

2007 60%



Attitudes, Opinions, Debate.....

“**Working mothers** risk **damaging** their child's prospects” (Daily Mail, 2011)

“**Working mothers** do **no harm** to their young children, research finds”
(Guardian, 2011)

“**Mothers** who return to work just months after giving birth **do not put their baby’s wellbeing at risk**, a groundbreaking study has found.” (Telegraph, 2010)



Attitudes of Irish Women to Maternal Employment

	Employed Full-time	Employed Part-Time	Not Employed
	% Agreeing	% Agreeing	% Agreeing
A job is all right but what women really want is a home and children	28	40	53
A pre-school child is likely to suffer if his or her mother works outside home	24	32	42
All in all, family life suffers when the woman has a full-time job	25	45	52

Source: ISSP 2002, as reported in *A Women's Place: Female Participation in the Irish Labour Market*.

Note: Per cent agreeing is a combination of 'agree' and 'strongly agree' expressed as a proportion of all agreeing and all disagreeing, respondents answering 'neither' are excluded, following O'Sullivan (2007).

ISSP 2012, covering similar information, not as yet released.



Growing Up in Ireland Mothers

- **75%** in workplace before baby
 - Full-time 54%
 - Part-time 21%
- **46%** back in workplace when baby is 9 months
 - Full-time 26%
 - Part-time 20%
- **48%** in workplace when baby is 3 years old
 - Full-time 21%
 - Part-time 27%
- **37%** have a minimum of degree when baby is 9 months old

Includes mothers in both Wave 1 & Wave 2.





Profile of GUI Mothers

Working Mothers

- 32.1 yrs
- 29.2 yrs at first birth
- 43% Overweight
- 44.6% Higher Education

Mothers at Home

- 31.2 yrs
- 27.6 yrs at first birth
- 47.7% Overweight
- 29% Higher Education



Why GUI Mothers Work?

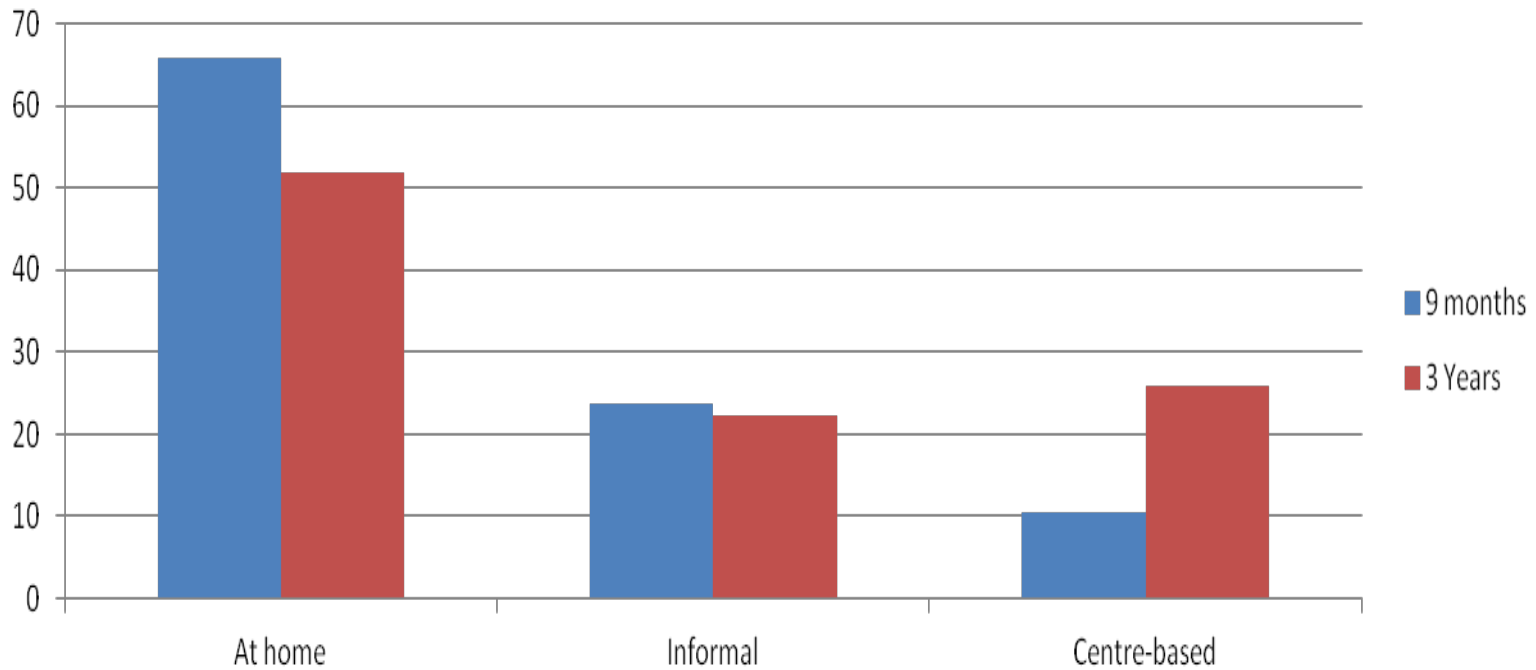
What was your main reason for going back to work?

	Part-time	Full-time	Total
Financial	59%	71%	66%
Maintain a Career	17%	19%	18%
Job related benefits	1%	1%	1%
Need an outlet outside of home	20%	6%	12%
Other reasons	4%	3%	3%

Mothers who have returned to work when child is 9 months

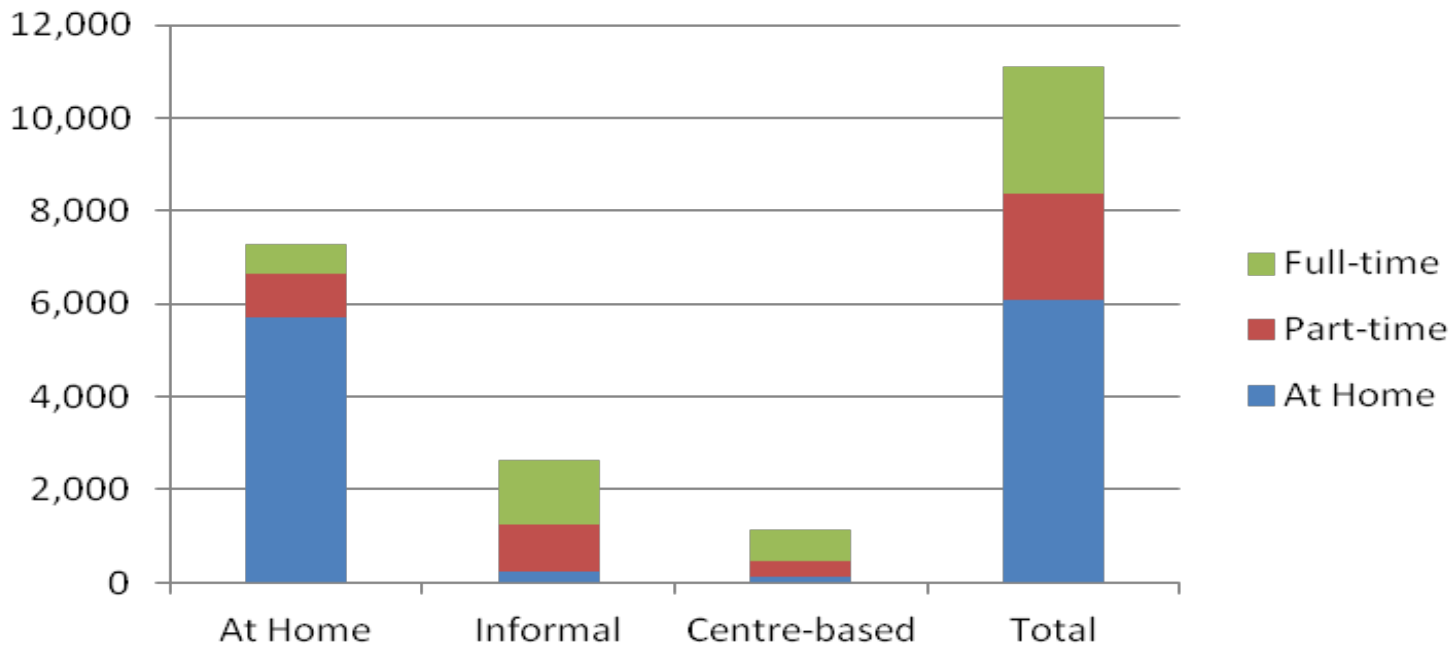
Who's Minding Baby?

Main Form of Childcare when child is 9 months and 3 years



Who's Minding Baby?

Childcare type by Workstatus at 9 months





My Research Question

Question: Is there a relationship between maternal employment when child is 9 months and the weight status of the child at 3 years of age?

Data: GUI Infant Cohort at 9 months (Wave 1) and 3 years (Wave 2)



Obesity Defined

- The World Health Organisation defines overweight and obesity as **abnormal excessive fat accumulation** that may **impair health**. (WHO Fact Sheet No.311, May 2012).
- Body Mass Index (**BMI**) is the most commonly used measure of overweight and obesity. It is calculated as the individuals' **weight in kilograms divided by height in meters squared**
- **Age and gender specific** percentile curves for **children** aged 2 to 18. (Cole et al., 2000).

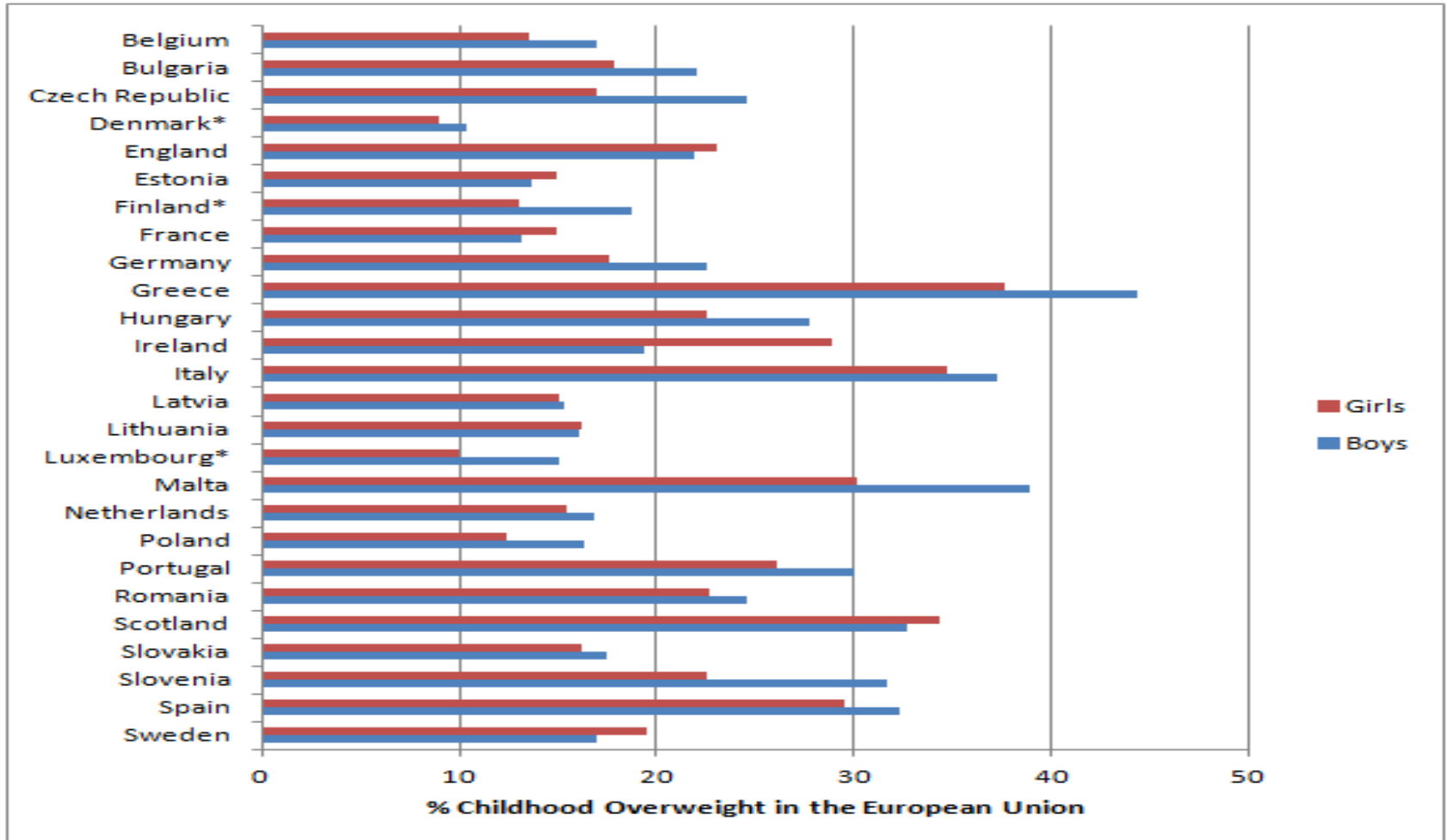


Risks of Childhood Obesity

- Asthma
- Eczema
- Type II diabetes
- Increased risk of middle aged mortality (Gunnell et al., 1998a).
- Higher incidence of depression (Janssen et al., 2004).
- Cognitive ability adversely impacted (Cawley and Speiss, 2008)



European Union & Childhood Overweight



Source: IASO, October 2013. Year of collection and age range of children varies by country.
 All rates based on measured heights & weights except those marked *



Early Childhood Obesity in Ireland (GUI)

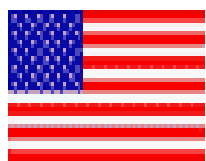
	Mother at Home	Mother Working Part-time	Mother Working Full-time	Total
Total number of children	3,897	2,607	2,011	8,515
Percentage of 3 year olds measured as overweight	23.8%	24.4%	23.2%	23.8%
Percentage of 3 year olds described as overweight by Primary Caregiver	2.6%	2.3%	1.9%	2.3%
Percentage of overweight children not identified as overweight	89.0%	90.6%	91.9%	90.1%

**3 year old children; Excludes mothers classified as unemployed, students, on State training schemes or chronic illness*



Maternal Employment has Adverse Effect on Child Weight

International Research that says **Yes!!**



“a child is **more likely to be overweight** if his/her mother worked more **intensely** (in the form of greater hours per week) over the child’s life”. The effect is particularly evident for children of white mothers, of mothers with more education, and/or mothers with a high income level”. (Anderson et al., 2002).



”**Long hours of maternal employment**, rather than lack of money, may **impede young children’s access to foods and physical activity**”. (Hawkins et al., 2008)



The **risk of overweight increases** by 3 to 5 percentage points with every 15 additional hours of maternal paid work. (Phipps et al. 2006)



Maternal employment has Adverse Effect on Child Weight

International Research that says **No!!**

“An increase in maternal work hours does not increase the likelihood of weight problems for children..... Danish child care and fathers



play a significant role in explaining the absence of a significant relationship between maternal work hours and children’s overweight status.” (Greve, J., 2011).

Denmark:

- Very **high female labour market participation** (76% of mothers with children between ages 1 – 3 years work)
- Collective agreements fix the **maximum number of weekly work hours** at 37 hours – majority of women work full-time.
- Average of 50 weeks **maternity leave**
- Most children enrolled in **day-care** – subsidised – pay no more than 33% of cost, and very high quality



Does Maternal Employment Influence Weight of Irish Pre-School Children?

Dependent Variable: Child overweight at 3 years	TOTAL	Low	Higher	Lowest	Top 4
		Education	Education	Income Quintile	Quintiles
Part-time Work	0.004 (0.0151)	-0.035 (0.0232)	0.043** (0.0193)	-0.019 (0.0436)	0.007 (0.0160)
Full-time Work	0.027* (0.0146)	0.029 (0.0271)	0.034** (0.0168)	0.047 (0.0654)	0.027* (0.0150)
Observations	7,623	3,137	4,486	1,352	6,271

Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Marginal effects probit model

Higher Education: non-degree (e.g. Diploma) or higher

Other controls: maternal education, gender, Csection, breastfed, weaned early, preterm, siblings 2 or more, birth weight, mother overweight, mother smoker, urban, partner present & mother's age



Does Maternal Employment Influence Weight of Irish Pre-School Children?

Dependent Variable: Child overweight at 3 years	Baseline	+Gender
Part-time Work	0.004 (0.0151)	-0.006 (0.0208)
Full-time Work	0.027* (0.0146)	0.001 (0.0193)
Female	0.042*** (0.0116)	0.024 (0.0165)
Part-time Work & Female Child		0.019 (0.0306)
Full-time Work & Female Child		0.052* (0.0286)
Other statistically significant variables:		
Low Income	0.034*	
C Section	0.028**	
High Birth Weight	0.108***	
Mother Overweight	0.074***	
Mother a Smoker	0.049***	
Urban	-0.027**	
Observations	7,623	
<p><i>Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1</i></p> <p><i>Marginal effects probit model</i></p> <p>Other controls: maternal education, gender, Csection, breastfed, w eaned early, preterm, siblings 2 or more,birth w gt, mother overw eight, mother smoker, urban, partner present & mother's age</p> <p>Additional controls added made no impact on figures: ethnicity, mother smoked during pregnancy, mother's age at first pregnancy, maternal depression.</p>		



Role of Type of Childcare?

Dependent Variable: Child overweight at 3 years	Baseline	+Gender
Informal Childcare	0.028** (0.0138)	0.003 (0.0184)
Centre-based Childcare	0.007 (0.0185)	-0.015 (0.0244)
Female	0.035*** (0.0112)	0.018 (0.0141)
Informal Childcare & Female Child		0.052* (0.0280)
Centre-based Childcare & Female Child		0.048 (0.0385)
Observations	8,189	

Robust standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Marginal effects probit model

Other controls: maternal education, breastfed, weaned early, preterm, siblings, mother chronic illness, partner present & mother's age



Snapshot of what Irish Children are Eating

In the last 24 hours has <child> had the following food and drink once, more than once, or not at all?

Dependent Variable:	Cooked			Full-fat							
	Freshfruit	Veg	Raw Veg	Burger	Chips	Crisps	Biscuits	Sweets	cheese	Fizzy	Fizzy diet
1. Maternal Workstatus											
Part-time work at 3 years	0.001 (0.00778)	0.009 (0.00929)	-0.058*** (0.0116)	0.003 (0.0131)	-0.02* (0.0119)	-0.010 (0.0169)	-0.007 (0.0121)	0.015 (0.0138)	0.012 (0.00948)	0.037* (0.0200)	0.024* (0.0127)
Full-time work at 3 years	0.003 (0.00888)	0.040*** (0.0101)	-0.065*** (0.0126)	0.018 (0.0148)	-0.001 (0.0136)	-0.008 (0.0188)	-0.011 (0.0136)	0.005 (0.0154)	0.008 (0.0107)	0.023 (0.0223)	0.030** (0.0143)
2. Childcare Type											
Informal Childcare at 3 years	-0.003 (0.00814)	0.011 (0.00956)	-0.067*** (0.0114)	0.013 (0.0133)	-0.008 (0.0122)	0.008 (0.0139)	-0.021* (0.0124)	0.021 (0.0139)	0.019* (0.00959)	0.005 (0.0122)	0.043*** (0.0130)
Centre-based childcare at 3 years	0.018** (0.00746)	0.024*** (0.00902)	-0.085*** (0.0109)	-0.041*** (0.0126)	-0.019 (0.0116)	-0.035*** (0.0133)	-0.011 (0.0118)	-0.038*** (0.0133)	-0.006 (0.00948)	-0.012 (0.0116)	0.021* (0.0123)

Note: Controlled for Equiv Family Income and Maternal Education

Standard errors in parentheses

***p<0.01, **p<0.05, *p<0.1



Conclusions

- Initial analysis suggests that **full-time maternal employment** when a child is very young could lead to an **increased risk of overweight**.
- Based on the GUI sample, **girls** are particularly at risk
- Part-time work also harmful for children of **more educated mothers (post-leaving cert qualifications)**.



Conclusions

Other factors have substantial influence:

- Impact of mother's weight and behaviour (e.g. smoking) is substantial.
- Higher levels of maternal education and family income may have a protective influence (clear socio-economic gradient).



Building on this research

- **Fathers**

- Approx 1,400 fathers not present
 - A further 1,140 have not completed questionnaire
- Plan:** multiple imputation to address the latter group.

- **Selection bias**

- mothers who work may differ in an **unobservable** way from mother who do not work
 - These unobservables may affect child health outcomes
- Plan:** Propensity score matching & instrumental variables (will require matching GUI data with regional unemployment rates).



Data Limitation

- **Limited work history of mothers**
 - no precise information on work pattern between Wave 1 and Wave 2
 - No details of shift work



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