



Factors associated with the development and well-being of Irish children at 9 months and 3 years

Dr Cristina Taut B.D.S, PhD

Department of Public Health and Primary Care, TCD

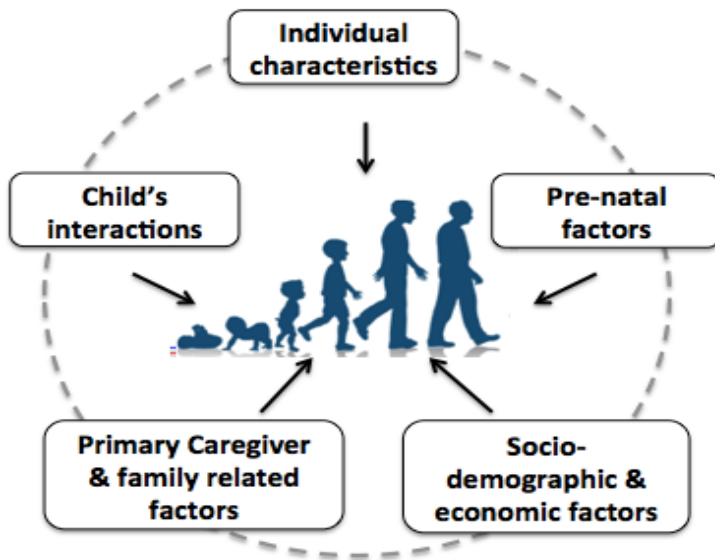
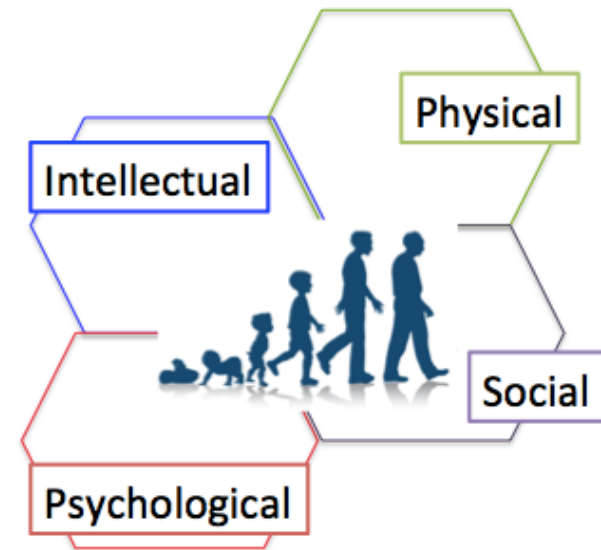


Background

Well-being and early childhood development

Well-being:

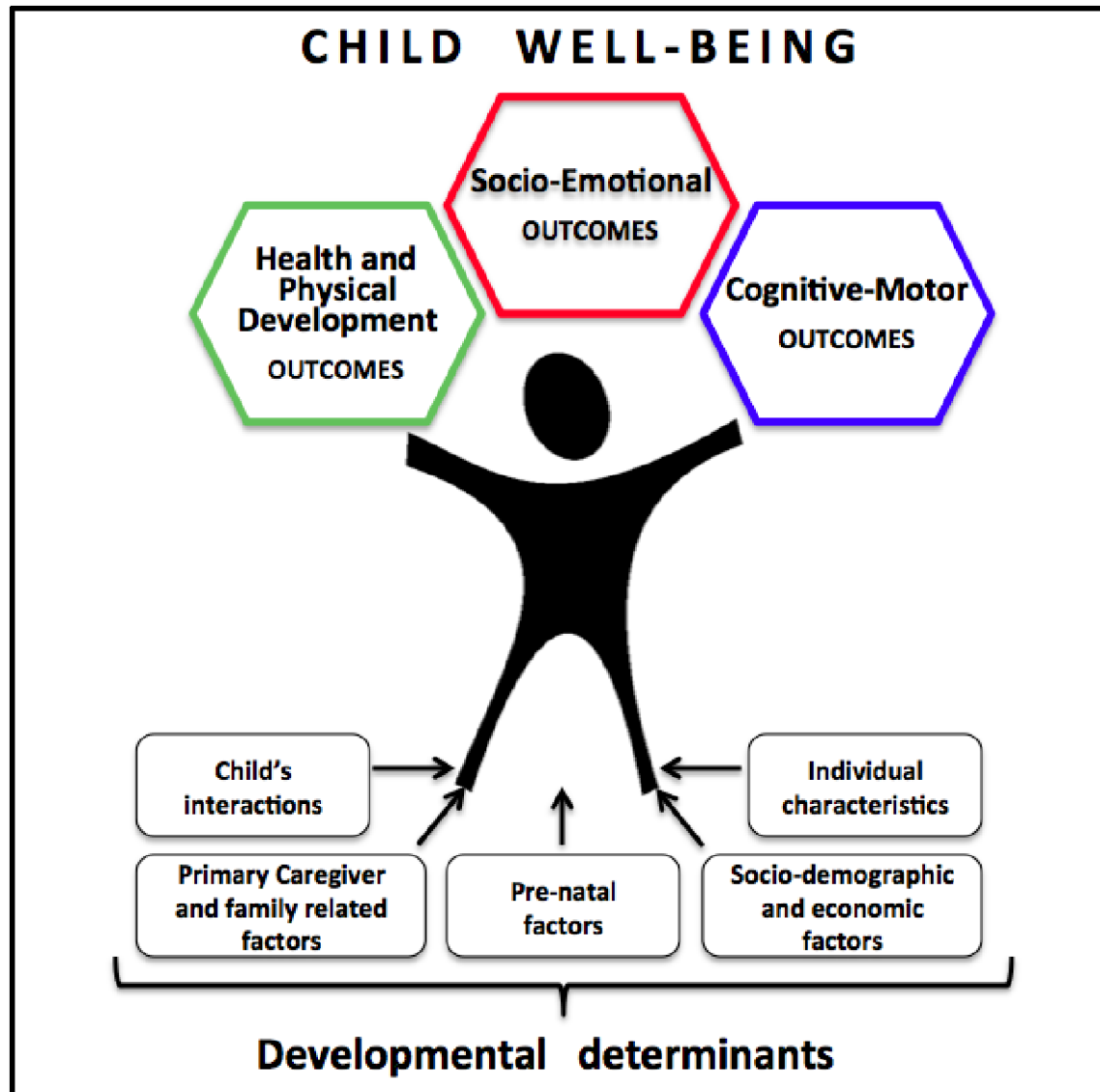
- Multidimensional
- Achieving well-being:
individual ↔ world



Early development:

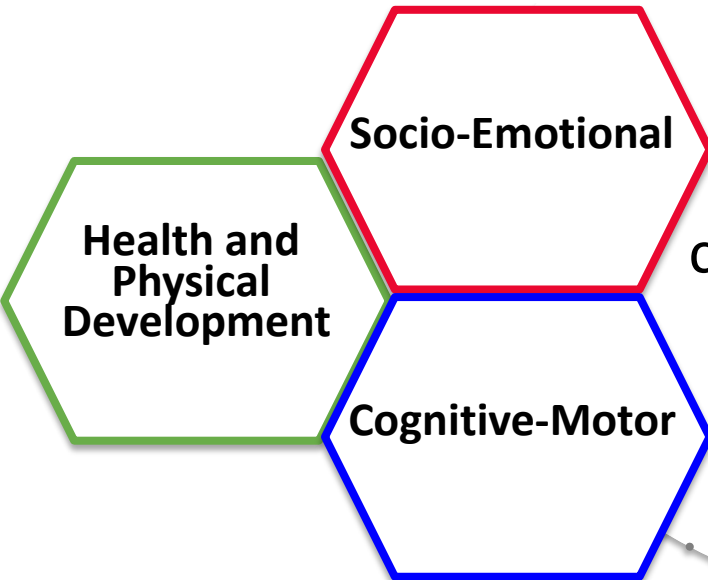
- Multidimensional
- Child development:
child ↔ proximal factors ↔ distal factors

Conceptual framework



Aim

The Well-Being Index



Factors
associated with
*child development and
well-being*

Individual characteristics

Child interactions

Primary Caregiver &
family related factors

Socio-demographic &
economic factors

Pre-natal factors

Participants and Materials

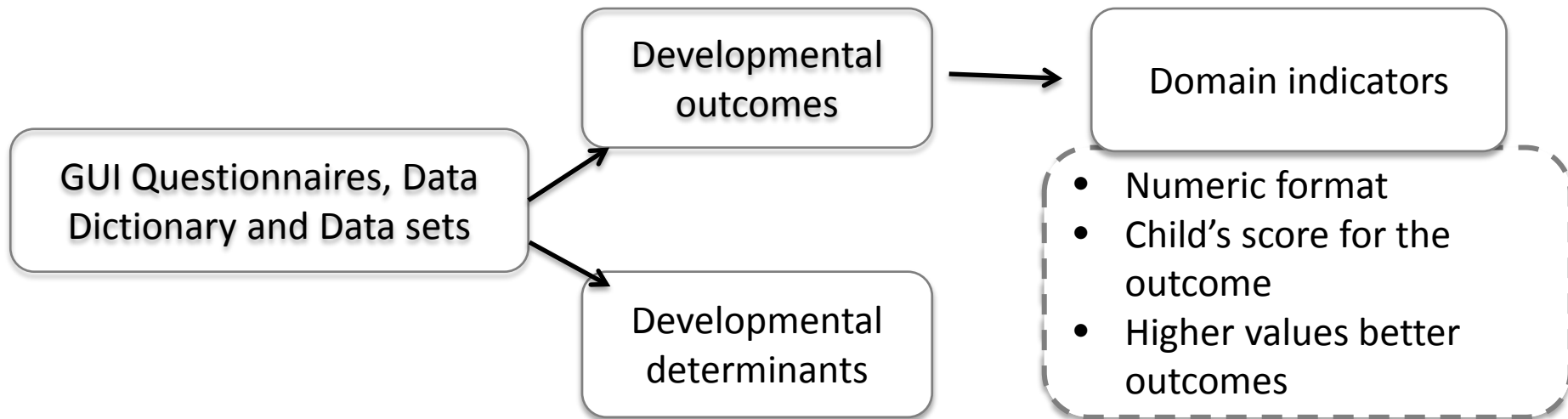
Wave 1- 9 months

Wave 2- 3 years

Wave 3- 5 years

Infant Cohort: Baseline: 11,134 9 month-olds; **Follow-up:** 9,793 3 year-olds

Charts children's **development** and **life context** across time



! Children with **incomplete outcome** data were **excluded**

The Well-being Index: Baseline: N=9,812 & Follow-up: N=8,843

Domain indicators

**Health and
Physical
Development**

Health

**Physical
Development**

Indicators:

- count or ordinal variables

Socio-Emotional

Social

Emotional

Indicators:

- child scores on sub-scales from standardized instruments (ASQ¹, ICQ², SDQ³)

Cognitive-Motor

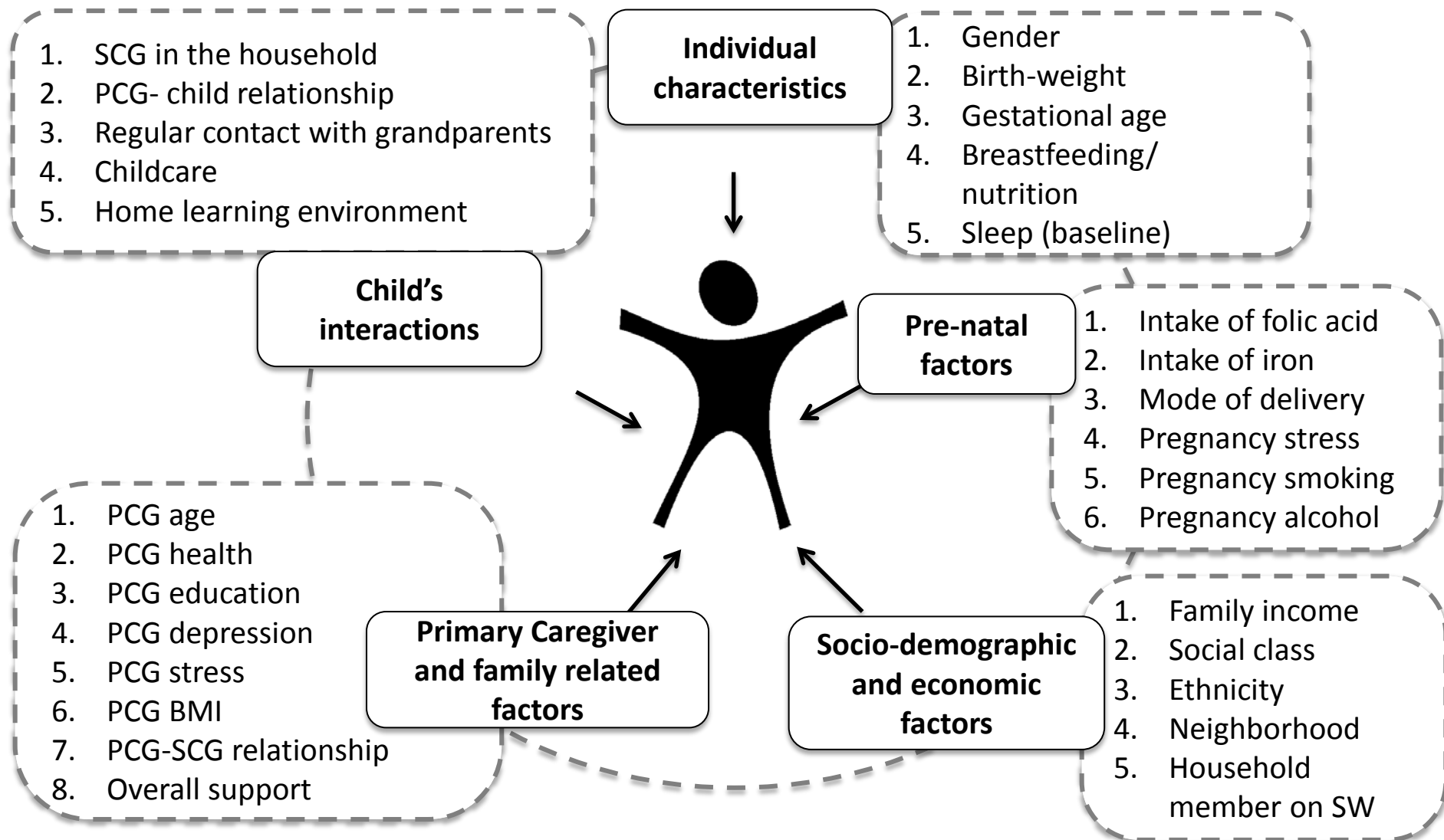
Cognitive

Motor

Indicators:

- child scores on sub-scales from standardized instruments (ASQ¹, BAS²) or observed tasks³

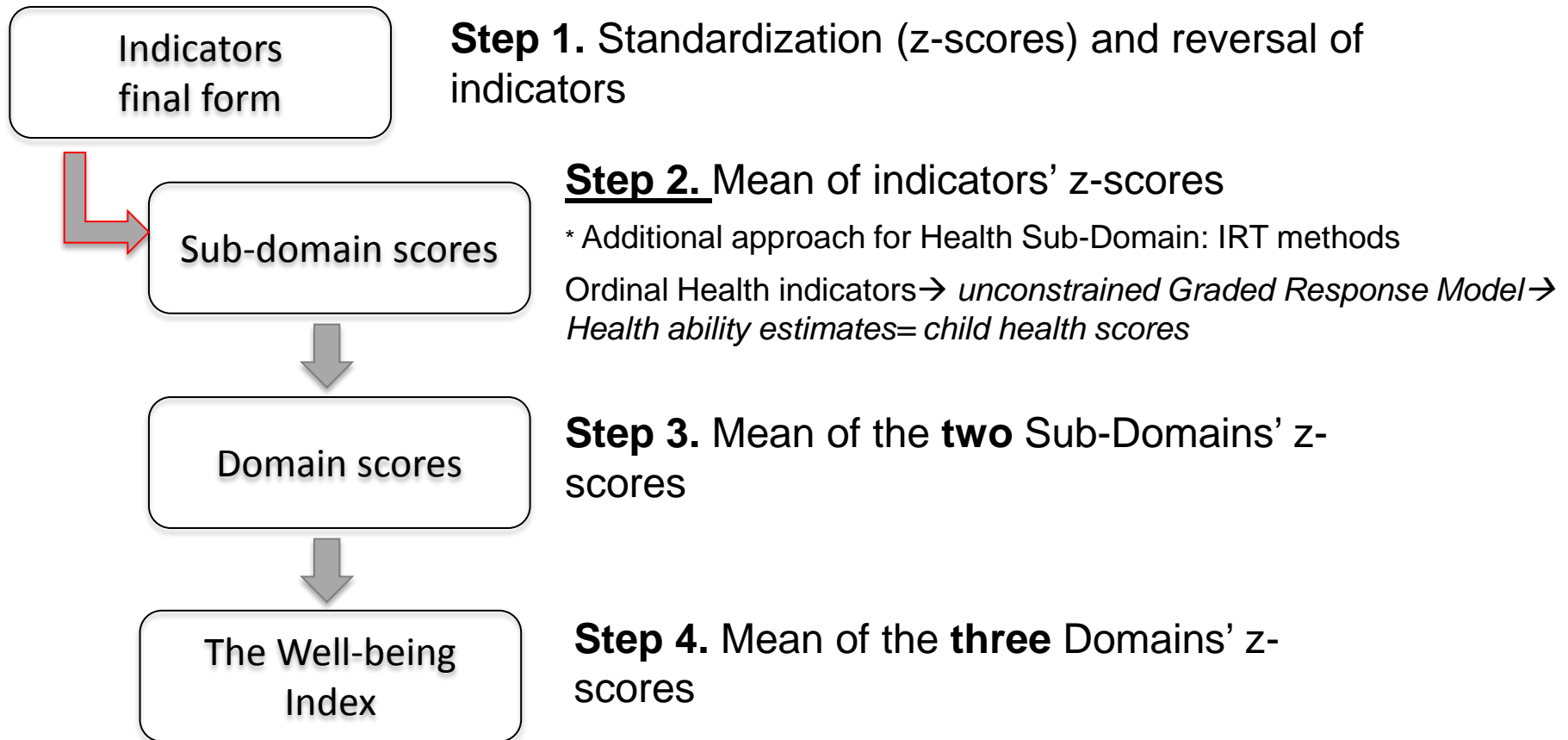
Developmental determinants





Methods

Domain Scales and Well-being Index development





Methods

Factors associated with development and well-being

4 fully adjusted linear regression models for each time point (9m and 3y)

- Outcome variables: each Domain Scale and the Well-Being Index
- Explanatory variables: developmental determinants significantly associated in univariate analysis
- Method: automatic step-wise regression with forward selection approach, Aikaike Information Criterion (AIC) was used to select variables for the final models

Results

The Well-Being Index

9m: N= 9,812

3y: N= 8,843

9m: N= 10,879
3y: N= 9,429

**Health and
Physical
Development
DOMAIN SCALE**

**Socio-Emotional
DOMAIN SCALE**

9m: N= 10,751

3y: N= 9,046

**Cognitive-Motor
DOMAIN SCALE**

9m: N= 10,134

3y: N= 9,046

→ Child-scores standardized to Mean 100 and SD 10

→ Domain Scales and Well-Being Index: distribution close to normal



Results

Factors that promote or constrain Baseline and Follow-up development

Significant determinants of development	Health and Physical development		Socio-Emotional		Cognitive-Motor	
	9m	3y	9m	3y	9m	3y
Baseline development		+		+		+
Gender (female)	+	-	+	+	+	+
Breastfeeding duration	+	+	Not significant		+	Not significant
Gestational age	+	Not significant	+	Not significant	+	Not significant
Child-PCG relationship	+	Not significant	+	+	Not significant	+
Less talking/ reading	Not significant		-	-	-	-
PCG-SCG relationship		Not significant	+	+	+	
PCG stress	Not significant	-	-	-	Not significant	
PCG BMI		-			Not significant	
Reduced pregnancy stress	+	+	Not significant		Not significant	
Smoking during pregnancy	-	Not significant				

Not significant



Results

Factors that promote or constrain Baseline Well-being

	Individual characteristics	Child's interactions	Primary Caregiver factors	Socio-demographic and economic factors
+	<ul style="list-style-type: none"> • Female gender • Higher birth-weight • Higher gestational age • Longer breastfeeding • Increased number of night-sleep hours 	<ul style="list-style-type: none"> • Only child • Higher Quality of attachment score • Frequent talking to the child • Being in small setting or parental care 	<ul style="list-style-type: none"> • Higher dyadic adjustment score 	<ul style="list-style-type: none"> • Maternal ethnicity other than Irish
-	<ul style="list-style-type: none"> • Emergency or Planned C-section 		<ul style="list-style-type: none"> • Higher parental stress scores 	<ul style="list-style-type: none"> • Household member on Social Welfare • Neighborhood not safe for play



Results

Factors that promote or constrain Follow-up Well-being

	Individual characteristics	Child' s interactions	Primary Caregiver factors	Socio-demographic and economic factors
+	<ul style="list-style-type: none"> • Higher baseline Well-being Score • Female gender • Higher birth-weight • Higher gestational age • Longer breastfeeding 	<ul style="list-style-type: none"> • Higher score on the Pianta positive scale • Frequent reading to the child 	<ul style="list-style-type: none"> • Higher maternal age • Higher dyadic adjustment score • PCG educated to Degree level 	
-			<ul style="list-style-type: none"> • Higher parental stress scores • Higher PCG depression score • Higher PCG 	<ul style="list-style-type: none"> • PCG ethnicity • Household member on Social Welfare • Neighborhood rated as not safe for play



Discussion

Findings consistent with previous child well-being research

	Health and Physical development	Socio-Emotional development	Cognitive-Motor development	Well-being
Girls	↑	↑	↑	↑
Longer breastfeeding	↑			↑
Frequent weekly intake of fresh fruits	↑			
Frequent weekly intake of raw vegetables	↑			
PCG educated to Degree level			↑	↑
PCG of ethnicity other than Irish				↓



Discussion

Novel findings

	Health and Physical development	Socio-Emotional development	Cognitive-Motor development	Well-being
Better PCG-child and PCG-SCG rel.		↑		↑
Frequent talking (9m) or reading (3y)		↑	↑	↑
Higher PCG stress scores		↓		↓
Higher PCG depression score (3y)		↓		↓
Higher PCG's BMI	↓			↓
Parental or small-setting childcare (9m)	↑	↑	↑	↑
Parental or small-setting childcare (3y)	↑	↓	↓	

Relevance of findings:

- **Policy makers:** improving child well-being → indirect manner by targeting aspects from children's life (e.g. poverty, neighbourhood safety, access to healthcare)
- **Researchers:** validity of pre-established theories (e.g. Barker hypothesis, bio-ecological model)
- **Caregivers:** prompt changes of detrimental behaviours (e.g. smoking during pregnancy, increased BMI)

Conclusions

- Factors representing areas of national concern (e.g. parental mental health, childcare, parental BMI and child nutrition) are significantly associated with development and well-being
- Current development and well-being are significant predictors of future outcomes



Aknowledgemnts

Supervisors: Prof. Lina Zgaga, Prof. Alan Kelly (RIP)

Department of Public Health & Primary Care,
Trinity Centre

