



Effects of parent and child behaviours on weight in infants and young children from socioeconomically disadvantaged and Indigenous backgrounds

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BACKGROUND

- **Prevalence of childhood obesity**

- Increasing prevalence over the past 3 decades
- Approximately 17% of Australian infants aged 2 to 3 years old are overweight, 4% are obese
- Children and infants from disadvantaged and Indigenous backgrounds are at greater risk of obesity than their more advantaged counterparts

- **Causes of childhood obesity**

- Parental feeding behaviours affect child eating behaviours, food intakes and child weight
- Child eating behaviours and sedentary / active behaviours affect child weight

- Arguably there is a need to better understand the determinants of unhealthy weight gain in disadvantaged groups to enable the development of targeted intervention strategies
 - mechanisms and pathways have not been examined in detail
- **Aim**
 - To identify and synthesize research on the pathways through which infants and children from disadvantaged and Indigenous families may experience greater weight gain than those from more advantaged or non-Indigenous families.

METHODS

Pathways Assessed In The Review

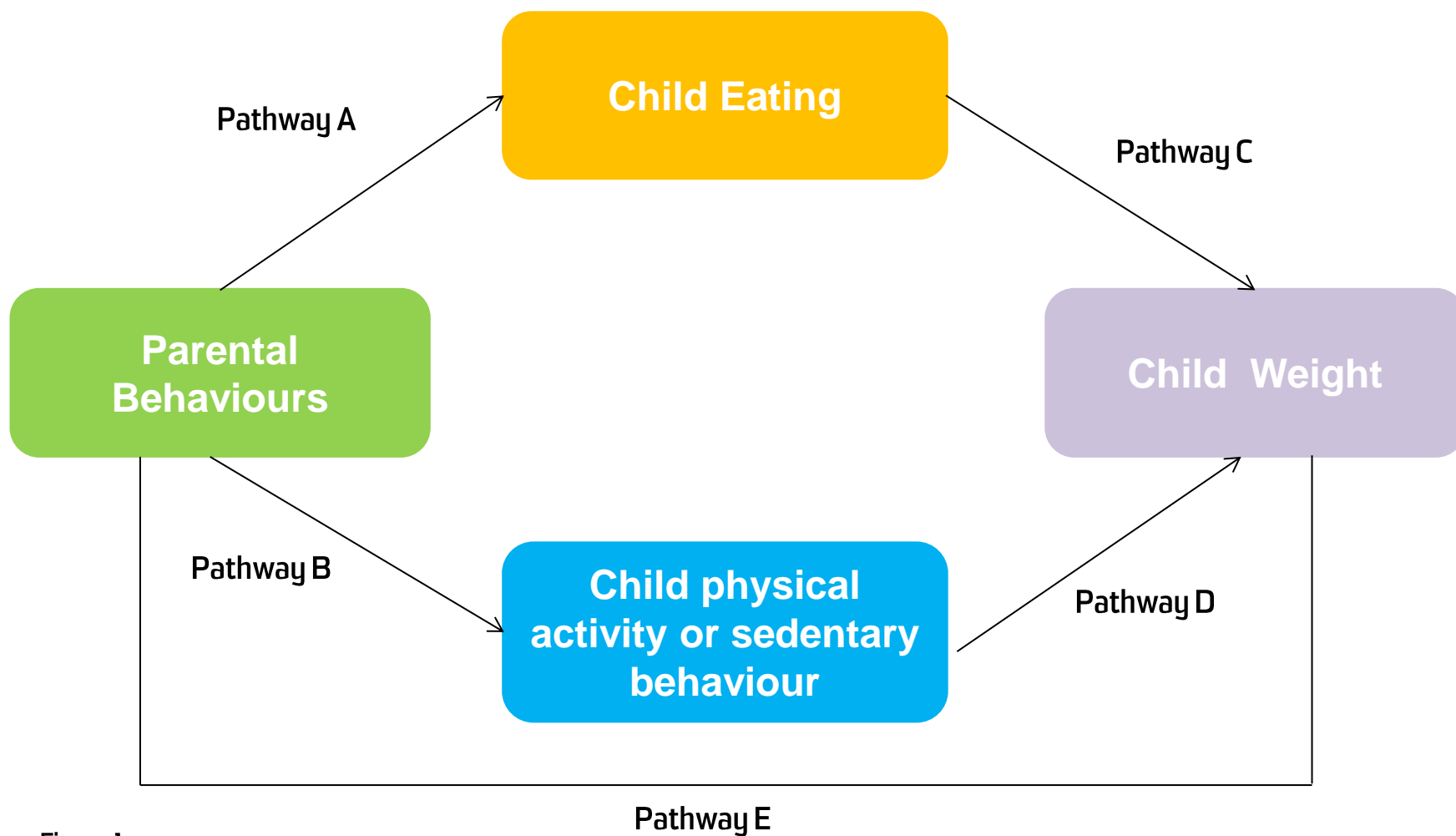


Figure 1.

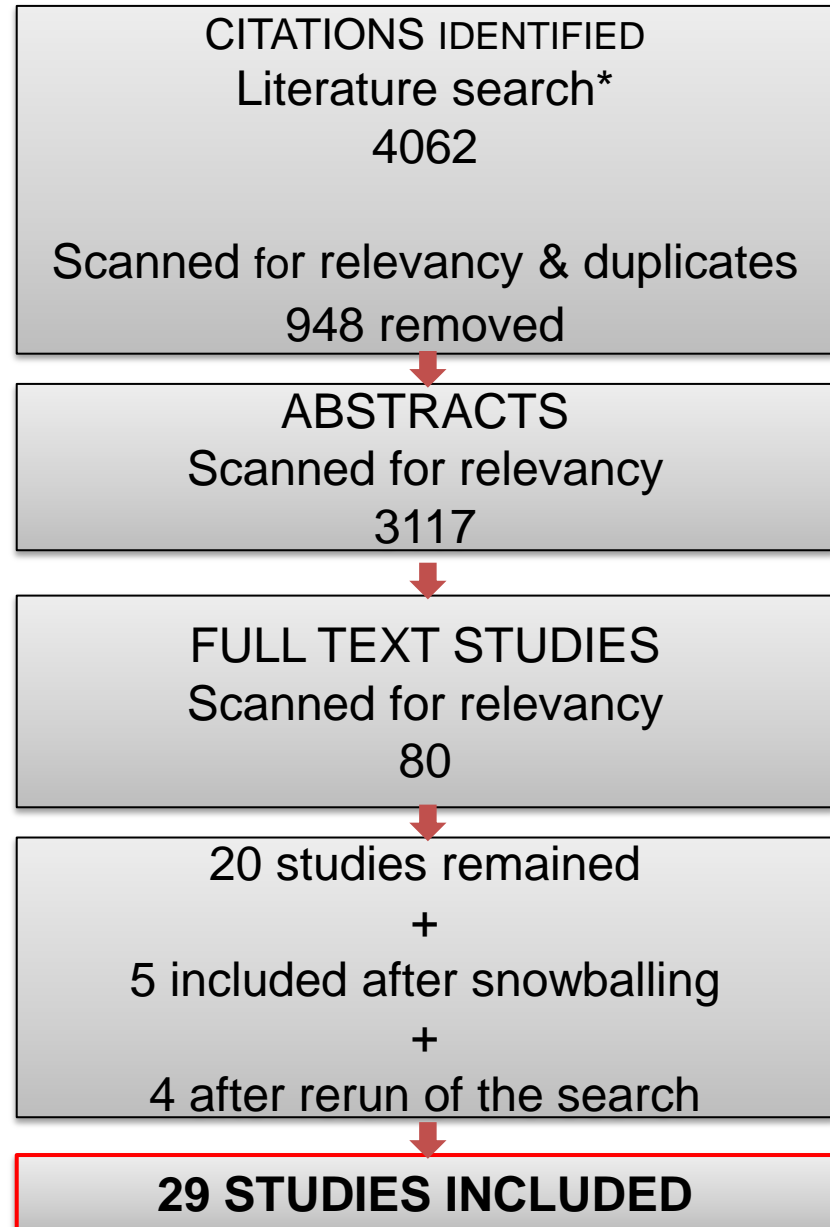
Search strategy and review process

Inclusion

- Published in English
- Disadvantaged background
- Children 0-5 years

DATABASES SEARCHED – (June 2013 and January 2014)

Academic Search Complete, PsycINFO, CINAHL, Medline, EMBASE, Health Collection, Google Scholar, Joanna Briggs Institute, Scopus, Proquest)



Study quality appraisal

- Quality of the selected studies was independently appraised using the Mixed Methods Appraisal Tool (MMAT) by one of the authors

McGill University: Pace et al., 2012

- Quality ratings range from a raw score of zero to four where zero indicates that none of the criteria were met and four indicates that they were all met

RESULTS

Results - Locations



Majority of studies were from North America and Europe

Results - Pathways

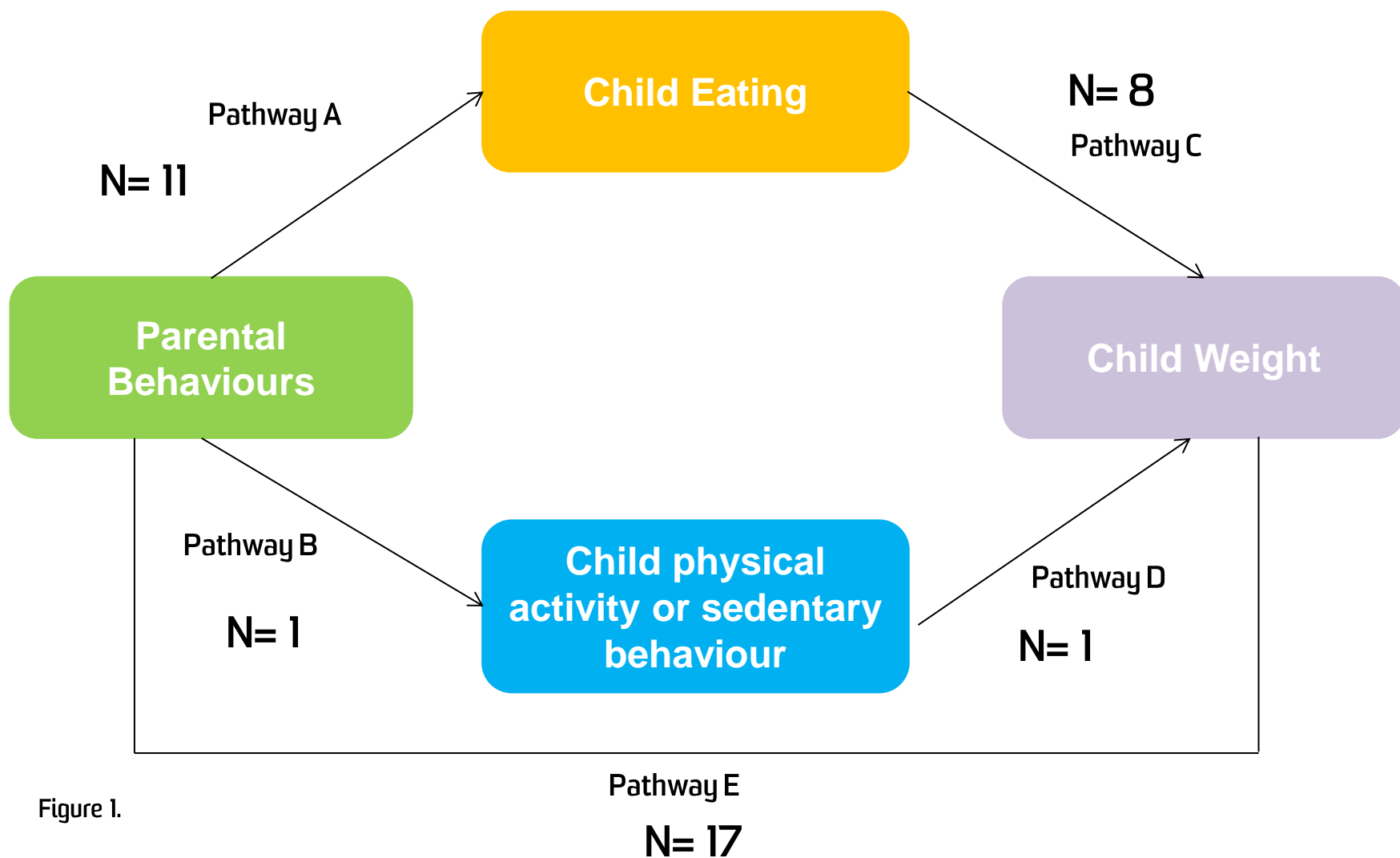
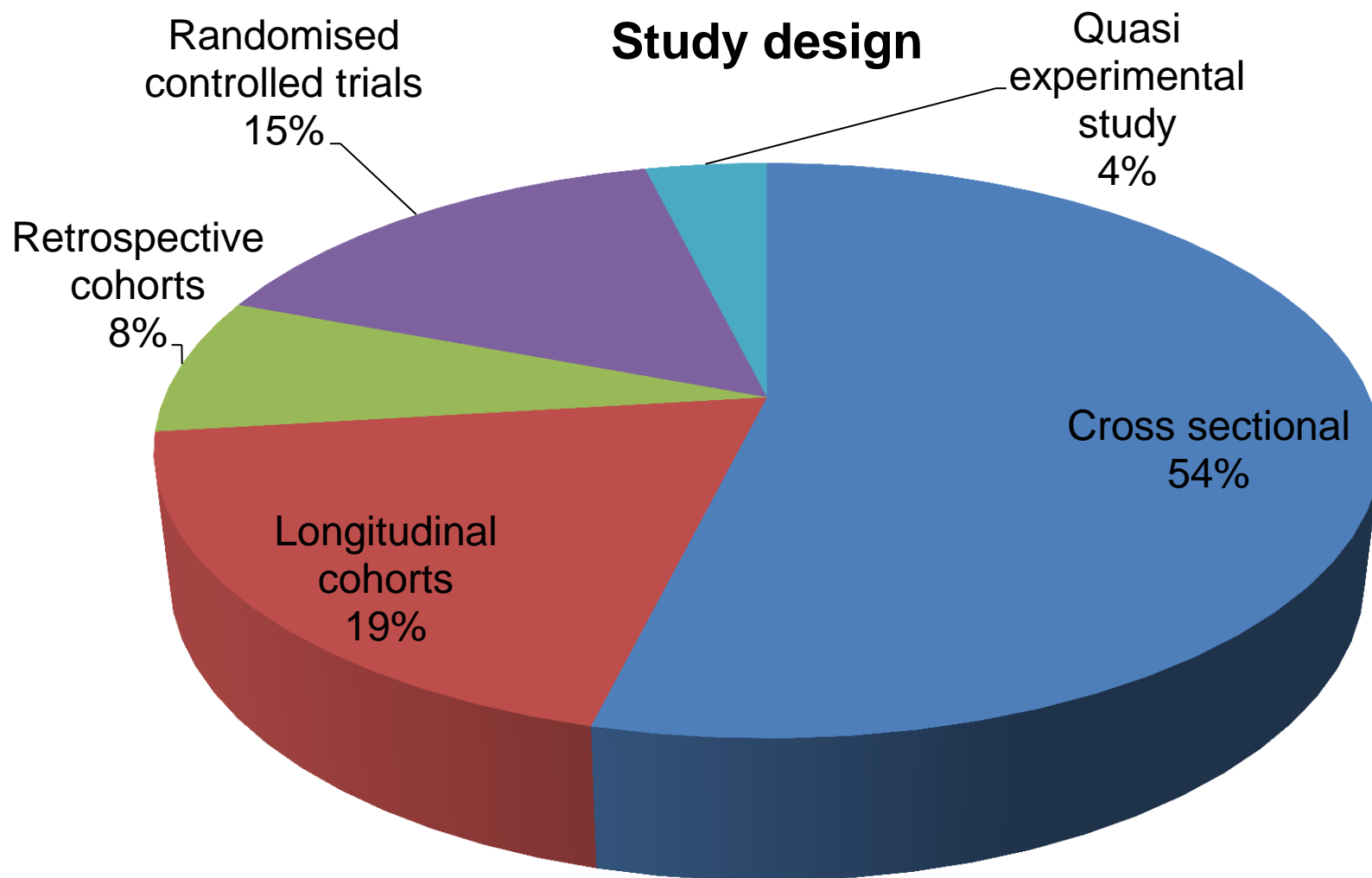


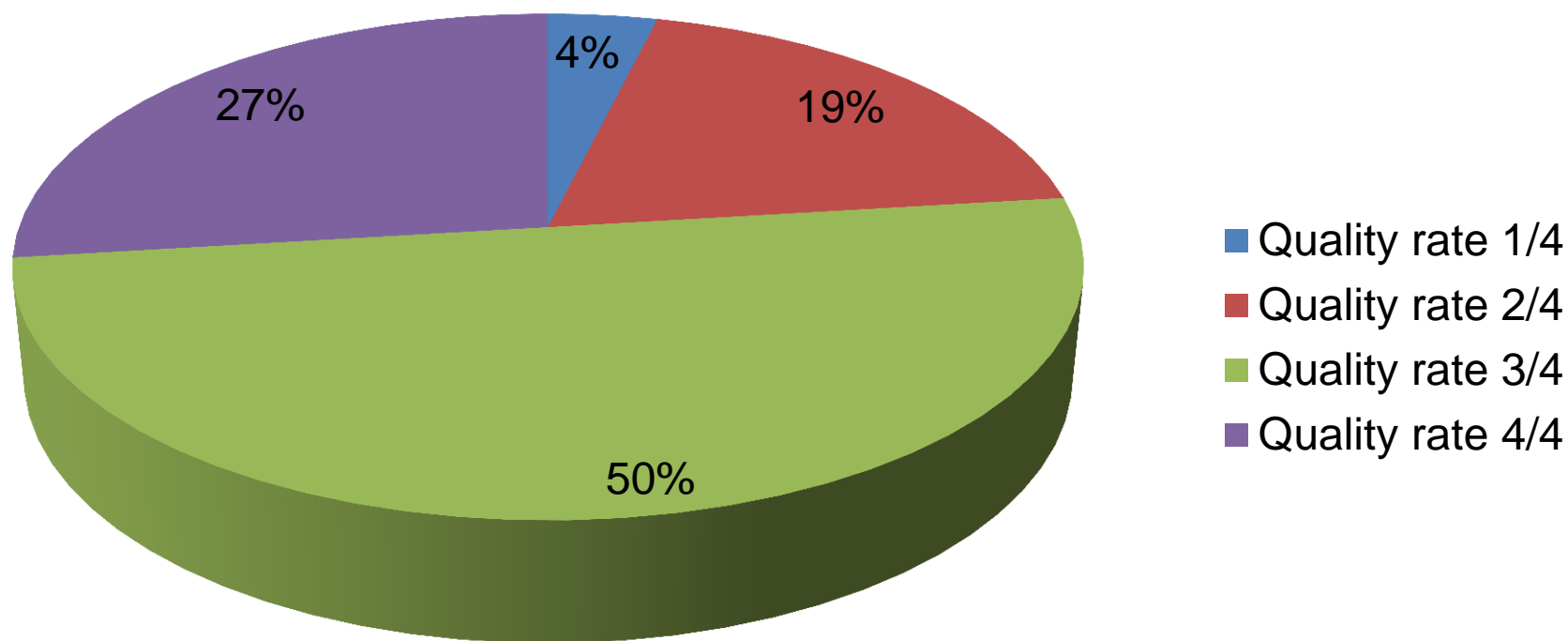
Figure 1.

Results – Study Designs & Quality



Results – Study Designs & Quality

Quality assessment rating



MMAT ratings 0-4 (dependent on number of quality criteria met)

Results – Settings

Primary Health Care
N= 16



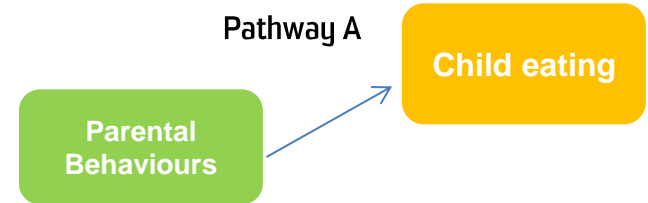
Preschools /
Kindergartens N= 6



Community Centres
N= 6



Results – Pathway A



Measures

- Parenting styles, parental capacity for resilience, various parental feeding practices
- Sugary beverages, snacks, fruit intake, veg intake, nutrient-dense foods

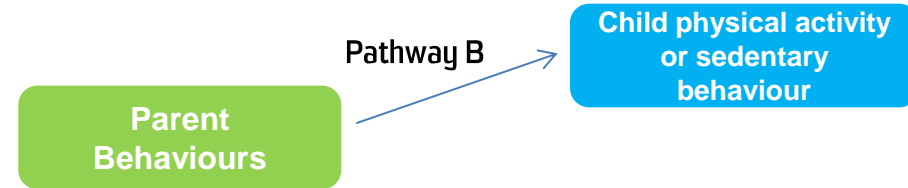
Statistically significant positive associations

- Indulgent / permissive style → increased non-core foods
- Availability / accessibility → increased soft drink
- Pressure to eat / rewarding / child's control → poorer diets
- Monitoring / parent's consumption → increased soft drink/ unhealthy snack
- Capacity for resilience → increased fruit and vegetable and decreased soda consumption

Not statistically significant

- Capacity for resilience → weight status

Results – Pathway B



Measures

- Parental modeling
- Television viewing

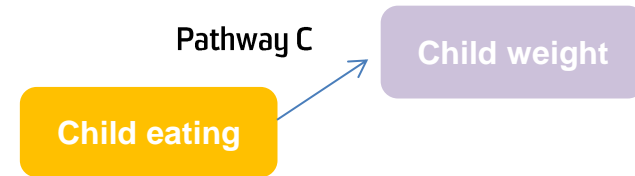
Statistically significant positive associations

- Parental modeling (maternal TV viewing) → increased time infants spent watching TV

Not statistically significant

- N/A

Results – Pathway C



Measures

- Fruit juice intake, snacks, fruit intake, veg intake, nutrient-dense foods
- Weight (overweight/obesity), excess weight gain

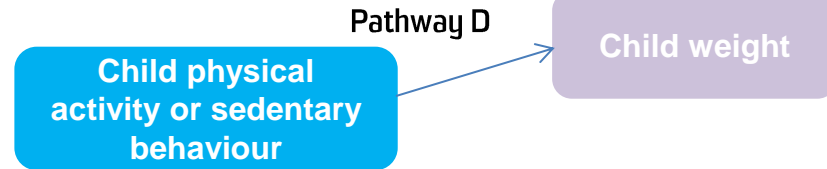
Statistically significant positive associations

- Fruit juice intake → associated with child overweight
- Fruit, bread and other carbohydrates as well as more soda and total calories → consumed more in obese children
- but mixed findings (see below)!

Not statistically significant

- Fruit juice intake → no association with child overweight
- Vegetables, grains, fruits, milk, meat, high-fat fast foods and foods with high sugar content → no association with weight

Results – Pathway D



Measures

- Television viewing (time)
- Weight (overweight/obesity), excess weight gain

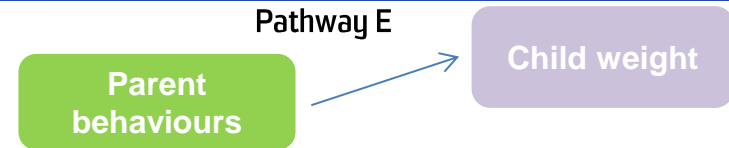
Statistically significant positive association

- Number of hours of TV children watched each day → was associated with overweight

Not statistically significant

- N/A

Results – Pathway E



Measures

- Parental feeding behaviours: pushiness, sensitivity to satiety cues, pressure to eat and restriction, breastfeeding, formula feeding, bottle feeding
- Weight (overweight/obesity), excess weight gain

Statistically significant positive associations

- Breastfeeding beyond three months → Protection against obesity at 4 years
- Intervention on breastfeeding → increased rates in American Indian/Alaskan Native children
- Frequency of formula/day & maternal insensitivity to infant satiety cues → child overweight at one year of age
- ‘Pressure to eat’ → lower BMI
- But mixed results (see below)!!!

Not statistically significant

- Breastfeeding → no association with infant weight gain (Hispanic sample)
- Solids introduced at 4 months → no association with infant weight gain at 6 months
- Pressure to eat or restriction → no association with infant weight gain

Conclusion

- The measured relationships between parent and child behaviours and child weight differed considerably across studies.
- Few studies measured the same combination of behaviours and confounders.
- Definition of constructs and their measurement also varied widely across studies.

Recommendations

- More research to understand why disadvantaged populations experience greater weight gain
 - Large population based samples in various groups
 - Control for confounders
 - Understand mechanisms
 - In Australia!
- Broaden focus within disadvantaged groups beyond breastfeeding and parental pressure to eat to other behaviours such as feeding to appetite and formula feeding behaviours

Questions

