

# Friendship Networks and Child and Adolescent Dietary Behaviour: A Systematic Review

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## INTRODUCTION

- Food choices and diet quality have an important influence on a child's physical and mental health.<sup>1</sup>
- An unhealthy diet, consisting of large quantities of high fat, caloric dense, foods increases the risk of childhood obesity.<sup>1</sup>
- Despite the known health benefits, the diet quality of too many children do not reflect current dietary recommendations.<sup>2</sup>
- The determinants of children's and adolescent's food choices are numerous and complex.<sup>3,4</sup>
- Children's peers play a potential role in influencing their behaviours, including food choices, diet quality, and eating habits.<sup>3,4</sup>

## AIM

- To undertake a systematic review of studies that examine the associations between friendship networks and dietary behaviour in children and adolescents.

## METHOD

### DATABASE SEARCH

- Six databases searched in August 2013 (CINAHL, ERIC, MEDLINE, PsycINFO, PubMed, SocINDEX) for peer-reviewed, English language, primary studies.
- Search terms: population of interest (child, preteen, adolescent, student, teen, boy, girl); exposures (social network, friend, peer, social group), and; outcomes (diet, food, eating, energy intake, nutrition, snack).
- Reference lists of relevant review articles and eligible articles were also searched.

### ELIGIBILITY CRITERIA

- Inclusion:** participants 6-18 years of age; a measure of the participant's friendship network via friendship nominations, and; a measure of food intake or dietary behaviour for the participant and the participant's nominated friend(s).
- Exclusion:** a measure of perceived friend support only or a proxy measure of friends' food choice or dietary behaviour.

### DATA EXTRACTION AND SYNTHESIS

- Tabulated study information:** study design; sample size; participant characteristics; description of friendship network measure; dietary behaviour or intake measure; confounders, and; findings.
- Narrative description and synthesis of study findings, strengths, and limitations.

## FINDINGS

### STUDY CHARACTERISTICS

- 7 studies met the inclusion criteria (Figure 1).
- Studies were undertaken in the USA (n=3)<sup>5,6,10</sup>, Australia (n=2)<sup>7,8</sup> and the Netherlands (n=2)<sup>9,11</sup>.
- The review included 6 cross-sectional and 1 longitudinal study<sup>7</sup>.
- Response rates across studies ranged from 66 to 93%.

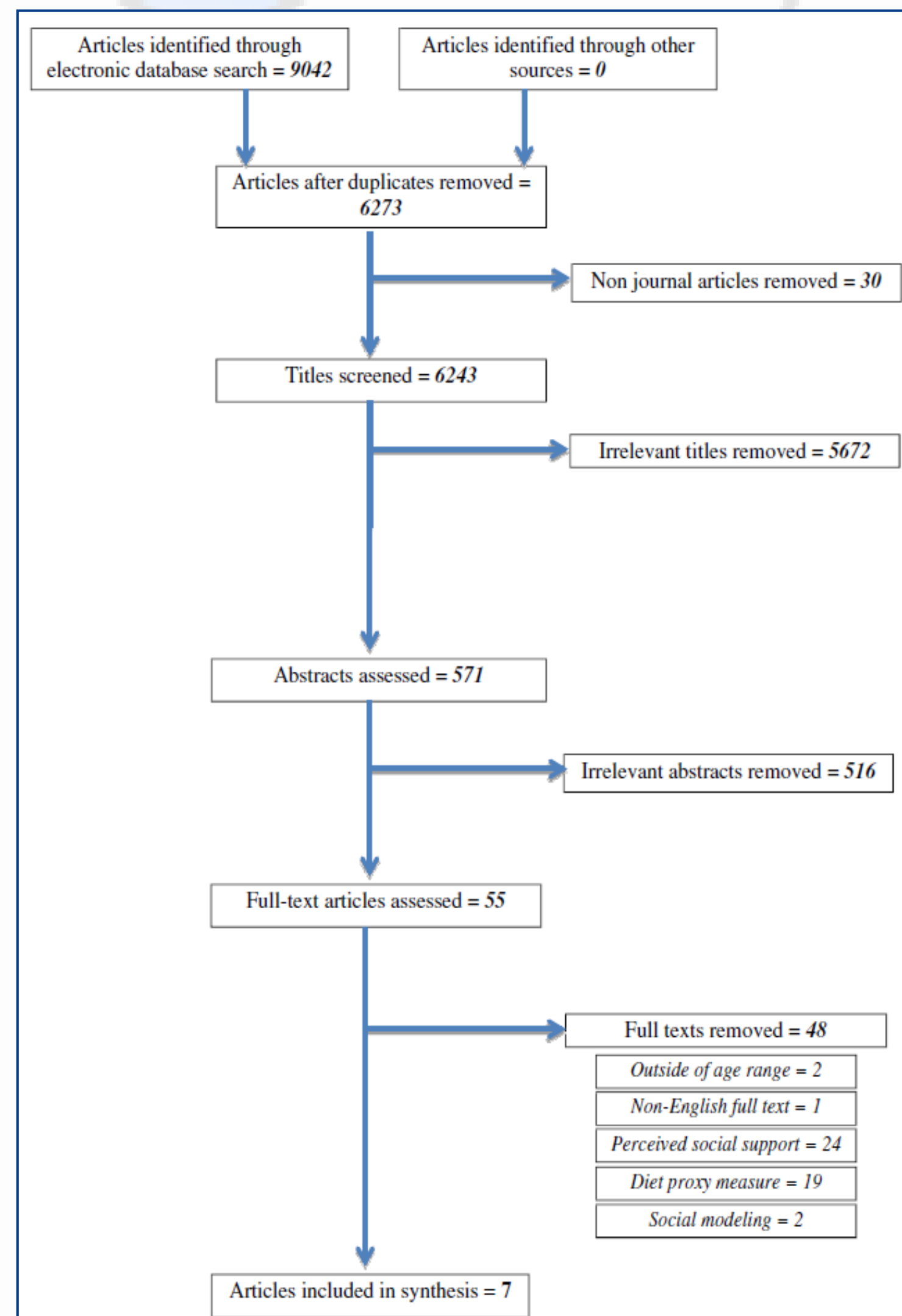


Figure 1: Article search and selection

### PEER NETWORKS AND UNHEALTHY DIET

- 5 studies examined unhealthy food intake.
- An individual's, and their friends, unhealthy food consumption was positively correlated, although a stronger association was found for boys versus girls.<sup>8,11</sup>
- Best friend's total calorie intake was positively correlated with an individual's total calorie intake.<sup>9</sup>
- Compared with less popular children, popular children consumed more unhealthy foods.<sup>7,8</sup>

### PEER NETWORKS AND HEALTHY DIET

- 2 studies examined healthy food and breakfast consumption<sup>5,6</sup> between individuals and their peers but evidence for an association was inconclusive.

### PEER NETWORKS AND FOOD PREFERENCES

- No association was found between friends' and an individual's food preferences.<sup>10</sup>



## SUMMARY OF ASSOCIATIONS BETWEEN FRIENDS' DIETARY BEHAVIOURS AND AN INDIVIDUAL'S DIETARY BEHAVIOURS FROM REVIEWED STUDIES (n=7)

Author	Age (years)	Fast Food	High-Calorie Snack	Fat	Unhealthy Food Index <sup>1</sup>	Fruit	Veggie	Grain	Dairy	Healthy Food Index <sup>2</sup>	Total Energy Intake	Food Preference	Breakfast
Ali <sup>5</sup>	16.2±1.6	+	∅							∅			∅
Bruening <sup>6</sup>	14.4±1.6					∅	+	+	+				+
De la Haye <sup>7</sup>	13.6±0.4				+								
De la Haye <sup>8</sup>	12 to 15				+								
Feunekes <sup>9</sup>	15.1±1.0			∅	+	∅					+		
Rozin <sup>10</sup>	7 to 8												∅
Wouters <sup>11</sup>	12 to 18		+										

<sup>1</sup> index for unhealthy food intake including fast foods, savory snack foods, sweet snack foods, low-nutrient, energy dense foods

<sup>2</sup> index for healthy food intake including fruits or vegetables

+ positive association (p<.05)

∅ no association (p>.05)

## CONCLUSIONS

- We found 6 new studies – not included in a previous review<sup>12</sup> –that quantified the relations between social network variables and diet behaviour and/or intake.
- Friends' unhealthy food intake appears to be associated with children's unhealthy food intake.
- Longitudinal evidence suggests a possible *peer contagion* effect for unhealthy food intake – a friends' dietary behaviour causes changes in an individual's dietary behaviour over time.
- More research is needed to investigate similarities among friends' healthy food intake and breakfast eating habits.
- Our findings could inform programs in social settings (e.g., schools) attempting to decrease unhealthy eating habits among children.

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## ACKNOWLEDGEMENT

Funding for this project was provided by an Alberta Centre for Child, Family, and Community Research Seed Grant. McCormack is supported by a Canadian Institutes of Health Research (CIHR) New Investigator Award.



CIHR IRSC  
Canadian Institutes of Health Research  
Institut de recherche en santé du Canada