

Title

Interpersonal determinants of diet quality and eating behaviours in people aged 13-30 years: a systematic scoping review.

Authors

Tanya Braune¹ (TB), Laura Kudlek¹ (LK), Dr Christina Xiao¹ (CX), Hao Tang¹ (HT), Élisabeth Demers-Potvin² (EDP), Dr Holly A. Harris (HAH)^{1,4}, Erin Fitzsimons-West³ (EFW), Prof Jean Adams¹ (JA), Dr Eleanor M. Winpenny¹ (EMW).

Departments and Institutions

¹MRC Epidemiology Unit, University of Cambridge, Cambridge, United Kingdom

²Centre NUTRISS - Nutrition, santé et société, Institut sur la nutrition et les aliments fonctionnels, Université Laval, Québec, Canada

³School of Clinical Medicine, University of Cambridge, Cambridge, United Kingdom

⁴Department of Psychology, Education & Child Studies, Erasmus University Rotterdam, Rotterdam, The Netherlands

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Correspondence

Tanya Braune, MRC Epidemiology Unit, University of Cambridge, Level 3 Institute of Metabolic Science, University of Cambridge School of Clinical Medicine, Cambridge CB2 0SL, United Kingdom

Email: tanya.braune@mrc-epid.cam.ac.uk

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Abbreviations

MRC, Medical Research Council; BMI, body mass index; DASH, Dietary Approached to Stop Hypertension; WHO, World Health Organisation; PRISMA-ScR, Preferred Reporting Items for Systematic Review and Meta-analysis Protocols Extension for Scoping Reviews; DONE, Determinants of Nutrition and Eating; SEP, socioeconomic position; USA, United States of America; UK, United Kingdom; Project EAT, Project Eating and Activity over Time; HBSC, Health Behaviour in School-Aged Children; HELENA, Healthy Lifestyle in Europe by Nutrition in Adolescence; GSHS, Global School-Based Student Health Survey; FLASHE, Family Life, Activity, Sun, Health and Eating; PeNSE, National School Health Survey; YEP, Youth Eating Patterns; ENDORSE, Environmental Determinants of Obesity in Rotterdam School children; Add Health, National Longitudinal Study of Adolescent Health; GUTS, Growing Up Today Study; SSBs, sugar sweetened beverages; HEI, Healthy Eating Index; DQI, Diet Quality Index; UPFs, Ultra-processed foods; ARFS, Australian Recommended Food Score; DGI, Dietary Guidelines Index; INQ, Index of Nutritional Quality; DTP, Doctoral Training Partnership.

Summary

Adolescence is an important period of increasing independence, when adolescents experience changing influences of family and friends on their diets as they transition into adulthood. We conducted a scoping review to map the literature on interpersonal determinants of diet quality and eating behaviours among individuals aged 13-30 years. We searched seven literature databases, and following screening, 329 papers were included. Determinants were grouped according to sub-categories of the Determinants Of Nutrition and Eating framework: family structure (n=122), social influences (n=121), parental behaviours (n=90), family food culture (n=83), social support (n=69), parental feeding styles (n=24), parental attitudes/beliefs (n=8), and parental resources/risk factors (n=6), and we added two new sub-categories: parenting style (n=74) and partner behaviours (n=6). Fruit/vegetable (n=143) and sugar-sweetened beverage (n=102) intake were the most commonly measured diet outcomes, and breakfast consumption (n=41) and fast food/takeaway intake (n=39) the most commonly examined eating behaviours. This review highlights the gaps in the literature, both across the determinant sub-categories, but also the relative paucity of longitudinal evidence, and lack of evidence in emerging adults, particularly outside of university settings. Future research should focus on these areas to provide stronger evidence to support better design of interventions for this age group.

1. Introduction

The prevalence of people with overweight and obesity is rapidly increasing¹⁻³, particularly among adolescents⁴. With growing evidence linking diet with overweight, obesity and chronic diseases⁵, public health recommendations continue to emphasise the value of a healthy diet during adolescence to help reduce the risk of chronic disease development later in life, including cardiovascular disease, type 2 diabetes and certain cancers⁶⁻¹³. It has been shown that nutrition-related conditions which develop during adolescence, such as obesity, adiposity and elevated body mass index (BMI) can continue into adulthood and, through parenthood, affect subsequent generations^{4,14,15}. Despite the known health risks due to unhealthy diets, studies demonstrate that adolescents are not meeting the frequently used guideline recommending 'five-a-day' fruit and vegetable portions, and their intake of sugar-sweetened beverages and fast food is high¹⁶. To reduce the risk of these adverse health effects, it is therefore of particular importance to better understand what factors influence diets in adolescence that may contribute to the establishment of dietary habits long-term.

Dietary intakes and associated eating behaviours are complex and can be characterised in a variety of different ways. For instance, a 'healthy diet' can be characterised by higher levels of fruit and vegetable consumption, diversity and balance of food groups, or lower intake of fats or sugars¹⁷. Additionally, there are established and validated indicators such as the Dietary Approached to Stop Hypertension (DASH) diet^{18,19}, the Healthy Eating Index²⁰, or adherence to the Mediterranean diet^{21,22} that attempt to quantify the quality of people's diets and their relationship with health outcomes. In addition to these measures, eating behaviours concerning where, when and how individuals consume food defined by consumption habits and food choices also provide an indication of the healthiness of an individual's eating pattern²³.

Adolescence is defined by the World Health Organisation (WHO) as a life stage between the ages of 10 to 19 years²⁴. The Lancet proposes an extension of this as the period of adolescent growth encompassing 10 to 24 years²⁵. This definition also includes the transitional phase of life between adolescence and young adulthood that has been coined as 'emerging adulthood', comprising of individuals aged 18-25²⁶. Emerging adulthood in particular is a period of change during which young people experience a variety of influences on their diets in the transition from adolescence to early adulthood²⁷. One important sphere of influence is the 'interpersonal', referring to the relationships between people, including family, friends, community members and acquaintances²⁸. Interpersonal factors are of particular importance during adolescence and young adulthood as they are experiencing social reorientation. This psychological shift involves a transition in influence from parents to peers, marked by an increase in time spent with peers²⁹, particularly during early and middle adolescence³⁰. Studies have shown that interpersonal determinants such as parental diet, peer modelling and shared family meals positively affect children's and adolescents' overall diet quality³¹⁻³³. For example, a 10-year longitudinal study in adolescents and young adults has demonstrated that shared mealtimes predict healthier dietary intake³⁴, showing the potential importance of how the interpersonal aspects of eating impact diet quality.

As adolescents become older, they gain more independence in relation to their food choices and preferences, becoming less influenced by their parents or caregivers and more influenced by their peers³⁵. Their eating behaviours are often characterised by an increase in fast food intake, eating outside of the home, and meal skipping²⁸. A pooled qualitative study and literature review investigating influences on adolescents' food choices demonstrated that socialising with friends around food took precedence over other factors such as taste or

healthiness and gave adolescents an increasing sense of belonging, identity and autonomy¹⁶. However, there has not been a systematic synthesis and mapping of the broad scope of evidence on interpersonal influences on diet in this particular age group. Previously published reviews have provided a much broader perspective on all determinant levels (individual, environmental, policy and interpersonal)²⁷ and do not capture specific details within the interpersonal level, or have narrowed their focus down to one determinant category, e.g. social norms or parental influences³⁶.

This review included individuals aged at least 13 years, as the focus is on mid-adolescence and the emerging adult period, and no older than 30 years. The age range extends up to 30 years to ensure that papers studying the interpersonal influences during early adulthood are captured, reducing the likelihood of narrowing the search to solely include family influences. Since there is a clear need to improve diets in adolescents and young adults, studying and understanding how diet quality and eating behaviour patterns are established through interpersonal influences from their social environment could allow for better targeted interventions and recommendations for this age group³¹.

A scoping review is a useful method to categorise and map existing literature, gauge the breadth of research, provide a summary of its thematic focus, and identify preliminary questions for systematic reviews³⁷. Despite the large evidence base on interpersonal determinants of diet quality and eating behaviours in young people, no other reviews have synthesised the full extent of current knowledge around interpersonal determinants or specifically focussed on this developmental life stage. Therefore, our aims in this scoping review were to:

- 1) Summarise the extent of the current research evidence on interpersonal determinants of diet and eating behaviours in young people aged 13 to 30 years.
- 2) Map the evidence against an existing conceptual framework of interpersonal determinants to identify gaps in the evidence base.
- 3) Identify opportunities for future research to enhance our understanding of potential causal mechanisms of healthy/unhealthy diet and eating behaviours in this population.

2. Methods

A systematic scoping review method was followed according to published guidelines³⁸⁻⁴⁰. The protocol was written according to the Preferred Reporting Items for Systematic Review and Meta-analysis Protocols Extension for Scoping Reviews (PRISMA-ScR)⁴¹ and registered with PROSPERO on 16 March 2022 (CRD42022316031). The PRISMA-ScR checklist can be found in Table S1.

2.1. Conceptual Framework for Evidence Mapping

Conceptual frameworks have been important tools in gaining a better understanding of the complex influences on diet and eating behaviours experienced by young people. In order to map the available evidence on interpersonal determinants, five conceptual frameworks were considered for this review. These frameworks were: 1) Commission on Social Determinants of Health Conceptual Framework⁴², 2) The 'Innocenti' Framework⁴³, 3) The Lancet Series on Adolescent Nutrition Conceptual Framework for Adolescent Growth and Nutrition⁴⁴, 4) A Conceptual Framework for Understanding Adolescent Eating Behaviours²⁸, and 5) The Determinants of Nutrition and Eating (DONE) Framework^{45,46}. The only framework which considered both the breadth of interpersonal influence across family and peer influence domains, and included sufficient detail on different aspects of interpersonal factors was the DONE Framework. Therefore, we chose to use this as the framework against which to map the literature. As defined by the DONE framework, the interpersonal level contains a social and cultural category, and in this review we focussed on the social category. The social category contains sub-categories, within which examples of determinants are provided. Table 1 outlines these examples of determinants under the nine sub-categories of the social category in the interpersonal level. Where possible, determinants were classified by the primary reviewer (TB) into these existing sub-categories and additional sub-categories were added, as required, to capture the breadth of available evidence.

[Table 1 displayed here]

2.2. Information Sources and Search Strategy

Seven electronic databases were searched: Medline, Embase, PsychINFO, Web of Science, SCOPUS, ASSIA, and Global Health. Relevant reviews were identified during screening. Although these were not included, their reference lists were examined for additional eligible papers. Thirty texts were added for full text screening using this method.

Search strategies were formatted for each database and checked with a medical librarian at the University of Cambridge. Articles were not be restricted by country or date and the search results could include articles in any language. Searches were initially conducted on 28 February 2022 and repeated on 27 March 2023. Terms relating to interpersonal determinants (e.g. [interpersonal], ["social determinant*"]), diet quality (e.g. [diet*], ["healthy eating habit*"]) or eating behaviours (e.g. ["eating behavio*"], ["fast food"]), adolescence and young adulthood (e.g. [adolescen*], ["young adult"]), and observational methodology (e.g. ["observational"]) were combined during the search. See Table S2 for the detailed search strategy used in Medline.

2.3. Screening

Search results were imported to and automatically de-duplicated in Covidence (Covidence Systematic Review Software, Veritas Health Innovation, Melbourne, Australia. Available at www.covidence.org). An additional 142 duplicate references were manually removed during screening. All screening was conducted through Covidence and Mendeley Reference Manager software was used to manage all references.

A random sub-sample of 300 papers were pilot screened by five reviewers (TB, LK, HAH, EFW, EMW) according to the eligibility criteria and assessed for agreement. After the pilot screening, the inclusion and exclusion criteria were refined. Title/abstract screening was conducted by the primary reviewer (TB) or one of four secondary reviewers (LK, HAH, EFW, EMW). Once all titles and abstracts were screened, the eligibility criteria were further refined, notably to exclude interpersonal determinants relating to household socioeconomic position (SEP). This was due to the high volume of included texts and the research team's decision that SEP fell outside of the scope of this review, as this related more to resources, structural or circumstantial factors as opposed to interpersonal influences. Therefore, any papers that investigated socioeconomic measures (e.g. parental education, parental income, parental occupation) as their only exposure variable were excluded. Table 2 outlines the final eligibility criteria used.

[Table 2 displayed here]

Full texts were retrieved for all but 10 papers after title/abstract screening. The retrieved papers were assessed based on the same eligibility criteria outlined in Table 2. Full text screening was conducted by the primary reviewer (TB) independently in duplicate with one of three secondary reviewers (LK, CX, HT). More than 80%

inter-rater agreement was achieved prior to further discussions. All conflicts were resolved through one-on-one discussions between the primary reviewer and each secondary reviewer.

2.4. Data Charting

Pilot data charting was carried out in duplicate by working independently using a form to collect data from 10% of included papers by the primary reviewer (TB) and one secondary reviewer (EDP). For this sub-sample, inconsistencies in pilot data charting were due to differences in wording rather than content, therefore, all remaining data extraction was conducted by the primary reviewer only. The following data items were collected for the included papers:

- General information: Title, author, country
- Study characteristics: Year of data collection, dataset used or location of data collection (school/university/city), aim, study design, sample size, mean age/middle of age range and standard deviation
- Exposures: Interpersonal determinant(s) studied, DONE framework categorisation (if applicable)
- Outcomes: Diet quality measure(s)/eating behaviour(s) assessed
- If qualitative: Key themes and outcome discussed

The 'middle age' of all participants studied in the included papers was derived from rounding the mean age reported or if a paper only reported a range, the middle of the range was taken. Ten papers did not specify an age range or mean, however, these referred to their populations as adolescents/teens or high school/first year college/undergraduate/university students and therefore, were still included as these were considered to fall within the inclusion criteria.

During data charting, interpersonal determinants studied were classified using the DONE framework sub-categories, where possible. Grouping was conducted subjectively by the primary author (TB), with discussion with two co-authors (JA, EMW). This helped identify new determinants and sub-categories outside of the framework. All data extraction was managed through Covidence.

2.5. Synthesis of Results

A narrative synthesis of findings from the included papers was carried out using the UK's Economic and Social Research Council's guidance⁴⁷. The results were displayed in bar charts and tables to summarise the context of the research conducted in the included papers, interpersonal determinants covered by the literature, how they were categorised within the DONE framework and the diet quality measures and eating behaviours explored.

3. Results

3.1. Selection of Sources of Evidence

Title and abstract screening was conducted in 20,380 papers and 601 papers were retained for full text review, of which 329 papers were included in the synthesis. A summary and references of these papers can be found in Table S3. The full table of data extracted for all included papers can be found at the Open Science Framework link: <https://osf.io/fx7qe>. See Figure 1 for the details of the results of the literature search.

[Figure 1 displayed here]

3.2. Description of Included Papers

Of the included papers, the majority (n=265, >80%) used a cross-sectional design, with less than 15% longitudinal papers (n=45), 5% qualitative papers (n=16), and <1% mixed methods papers (n=3). Data from a total of 91 countries were studied. Table 3 shows the countries in which participants were recruited in the papers identified, noting that some papers recruited participants from more than one country. Almost a third of papers recruited participants from the United States of America (USA) and high income countries were highly represented in this topic in comparison to low or middle income countries, based on the World Bank classification⁴⁸. The full table of countries can be found in Table S4.

[Table 3 displayed here]

The settings within which participants were recruited included schools (n=181), cities or regions (n=59), universities (n=57), online (n=15), households (n=7), birth cohorts (n=7), and clinical (n=3). For papers studying participants aged 20 years and older (n=69), 65% of recruitment took place in a university setting (n=45). For those focussing on participants aged 19 years and younger (n=250), 68% of recruitment took place in a school setting (n=169).

Many included papers used specific datasets for analyses. Table 4 demonstrates which dataset were used in which countries with at least 3 papers published. One in three papers from the USA were conducted using the Project EAT (Eating and Activity over Time) dataset, a longitudinal study collecting information on adolescents and young adults since 1997 in Minnesota, USA⁴⁹. Other datasets with a higher number of papers such as Health Behaviour in School-Aged Children (HBSC), Healthy Lifestyle in Europe by Nutrition in Adolescence (HELENA) and Global School-Based Student Health Survey (GSHS) are representative of a wider range of countries.

[Table 4 displayed here]

Participants

Over 60% of papers were in participants with a middle age of 15 years and under (n=205), 5% of papers (n=16) investigated individuals with a middle age between 16-19 years and about 20% of papers (n=69) were conducted in participants with a middle age between 20-30 years, with the highest number focussing on the 20-23 years range (n=53). This could be attributed to most papers recruiting from either schools or universities for their study populations as mentioned above.

Interpersonal determinants

A total of 83 different determinants were identified in the literature. These were grouped into the eight sub-categories of the DONE framework: 1) family structure (n=122), 2) family food culture (n=83), 3) social influences (n=121), 4) social support (n=69), 5) parental resources and risk factors (n=6), 6) parental attitudes and beliefs (n=8), 7) parental behaviours (n=90) and 8) parental feeding styles (n=24). New determinants were identified in all these sub-categories, in particular within social influences (11 new determinants) and family food culture (8 new determinants). Two new sub-categories were identified and suggested as additions to the framework: parenting style (n=74) and partner behaviours (n=6). Table 5 demonstrates how the determinants identified were categorised using the DONE framework, and which of the DONE framework determinants lacked published evidence in this age group. Examples mentioned by the framework that were considered to fall outside of the scope of this review have been removed, new examples of determinants are marked by an asterisk (*) and new sub-categories are shaded in grey. For further details on the range of determinants per paper and categorisation, see Table S3. Figure 2 summarises the distribution of determinants in the included papers.

[Table 5 displayed here]

Diet quality and eating behaviours

A wide range of diet quality measures and eating behaviours were considered in the included papers, with almost 40% of papers investigating more than one outcome and the maximum number of outcomes studied in one paper was eight. Intake of fruit and vegetables (n=143) and sugar sweetened beverages (SSBs) (n=102) were most widely reported as indicators of diet quality. Established indices of diet quality were not widely used (n=29), but included the Healthy Eating Index (HEI) (n=11), KIDMED Index or MEDAS (measures of adherence to the Mediterranean diet) (n=8) and the Diet Quality Index (DQI) (n=4). Over half of papers using a diet quality score or index opted to create their own diet quality or eating behaviour scores (n=40). In terms of eating behaviours, fast food and takeaways intake (n=39) and breakfast frequency (n=41) were common measures used, however, snacking behaviour was only assessed in seven papers, with many more papers assessing snack food intake (n=60). Figure 3 shows details of the diet quality measures and eating behaviours assessed in the included papers, broadly categorised into 1) food groups (n=384), 2) eating behaviours (n=131), 3) diet quality score or index (n=69), and 4) macronutrients and energy (n=47).

[Figure 2 displayed here]

[Figure 3 displayed here]

4. Discussion

4.1. Summary of Evidence

The main objective of this review was to summarise the interpersonal determinants of diet quality and eating behaviours that have been studied and identify gaps in the evidence base. In total, 329 papers were included and 83 determinants were identified. These were categorised within the eight existing DONE framework sub-categories of the social category within the interpersonal level, and two new sub-categories were added. Overall, we found that the literature was primarily focused on family structure (e.g. living arrangement, family composition, household size) and social influences (e.g. peer behaviours, modelling, and social norms). There was less of a focus on DONE sub-categories such as parental feeding styles, which would typically relate to younger children, which is understandable given our focus on adolescents in this review. There were also few

papers focused on parental attitudes and beliefs or parental resources and risk factors, and how these might influence adolescents' diets.

A higher number of participants studied were recruited in the USA, with about 30% of these derived from Project EAT cohort. Younger adolescents (15 years or less) have been the main focus of research in this area (>60%), with much less emphasis on individuals aged 16-19 (~5%) and 20 years or older outside of a university setting (35%). Additionally, more than 80% of papers used a cross-sectional design, which may not capture the changing nature of the interpersonal determinants studied, particularly in adolescents and young adults where changes in social circumstances are frequent.

The majority of included papers only assessed one aspect of the diet, such as fruit and vegetables or sugar-sweetened beverage intake, rather than looking at diet as a whole. Papers that did use a more holistic approach to understanding the diet, often calculated their own scores in an attempt to quantify diet quality, as opposed to using established scores such as the DASH¹⁸ diet or the Mediterranean diet score²¹. This makes it challenging to compare outcomes across these papers. This may reflect data availability. Although comparability may be improved through the use of validated measures, using overall diet may not always be the best way to understand interpersonal determinants of behaviours. There have been suggestions that social influences may affect intake of different foods differently, and unpicking these may provide an understanding of which aspects of the diet are distinctively influenced by members in adolescents' social circles⁵⁰. Therefore, it may be valuable to standardise food group measures further in terms of definitions (e.g. what is considered healthy versus unhealthy foods) and metrics (e.g. frequency of intake, portion sizes)^{51,52}.

Gaps and suggestions for expanding the interpersonal level and social category of the DONE framework

Although the DONE framework provides a broad summary of potential interpersonal determinants, the determinants assessed in the identified papers did not all map onto this framework. This may be due to the framework not addressing the adolescent population specifically and not distinguishing partners from family/peers. Moreover, it does not address the changing role of parents during adolescence, for example, as adolescents become more involved in food purchasing and preparation. There is a much stronger focus on young children and adulthood without considering the more transitional phase of adolescence. We propose two

additional sub-categories: parenting style and partner behaviours. Parenting style included determinants related to general parenting such as strictness, permissiveness, monitoring etc. This new sub-category was added as these determinants fell outside of the scope of the other sub-categories (e.g. parental feeding style was too specific to how parents feed their children). The importance of this sub-category is reflected by a total of 74 papers investigating this topic. Partner behaviours were added as another sub-category. We distinguished partner relationships from both peer and family relationships. There is an increasing emergence and importance of romantic relationships in adolescence and young adulthood⁵³, yet partners in this age group may not yet be considered 'family'.

Transitions and new generations

Emerging adults are experiencing a time of transition, for example, leaving home, starting a job, going to university, starting a romantic relationship or cohabitation⁵⁴. These life changes all tie into shifting social factors that may be influencing their diet, demonstrating the variable nature of interpersonal determinants in this age group. However, these changes cannot be properly understood only through cross-sectional studies alone. This review reveals the scarcity of relevant longitudinal analyses and qualitative studies, which may leave gaps in understanding how the influence of these determinants on diet and eating behaviours are changing over time and therefore, contributing to dietary habits later in life. Although qualitative studies may be able to interrogate changing influences over time without a longitudinal design, only three of the 16 qualitative papers included explicitly addressed life transitions. In addition, participants in the included papers was primarily younger than 15 years, with a shortage of research in the 16-24 years age category, who are experiencing these transitions.

Moreover, it is also important to consider interpersonal determinants that are relevant to new generations and how they are experiencing a changing world. Adolescents now have access to their social networks not only in person but also through social media⁵⁵. In this review, the influence of peer food-related social media behaviours was only evaluated in one qualitative paper⁵⁶ and one cross-sectional paper⁵⁷. A growing number of adolescents have access to different social media platforms, which are often used by young people to share where they eat or where they can find good food¹⁶.

Therefore, future research should focus on longitudinal and qualitative analyses to understand the transient nature of determinants of diet quality and eating behaviours in this age group, as well as identifying emerging determinants, such as peer social media behaviours, that may not have been considered in previous frameworks or research. A deeper investigation into analyses across multiple timepoints could help provide further context on how the identified determinants may be contributing to the establishment of dietary habits in the long-term.

4.2. Strengths and Limitations of This Review

This review's main strength is that it provides a comprehensive overview of the existing literature on interpersonal determinants of diet quality and eating behaviours in 13-30 year olds. The broad search strategy and inclusion criteria allowed for an extensive search to be conducted to include as much relevant literature as possible, including those published in other languages. However, the review was driven by the terms in the search strategy as guided by the DONE framework. Although we attempted to include a wide range of terms for exposures, outcomes and age group, we may not have captured all relevant papers, particularly if they fell outside of the DONE framework's categories. However, this was mitigated during title/abstract screening by including papers that studied determinants outside of the DONE framework and adapting the inclusion and exclusion criteria accordingly through discussions on relevance with the reviewing team. Moreover, all full texts were double screened by reviewers with >80% inter-rater agreement prior to further discussion. Similarly high agreement was seen during pilot data extraction, allowing for it to be completed by the primary reviewer.

Using the DONE framework to systematically classify determinants helped demonstrate the gaps in the literature, as well as provide an opportunity to evaluate and expand upon this existing theoretical framework, focussing on the adolescent and young adult population. However, categorisation of interpersonal determinants within the DONE framework sub-categories was completed by only one reviewer and others may approach classification differently, particularly where terminology used differed to the framework examples. Additionally, the framework does not provide a detailed explanation of the definitions of their determinants; therefore, these could have been interpreted differently by other researchers. Moreover, although using the DONE framework was a helpful guide to identify gaps and to provide structure, there is no definitive way of classifying interpersonal determinants, particularly because there was no special focus on the adolescent to young adult period in this framework.

5. Conclusion

To our knowledge, this review is the first to summarise the broad scope of available evidence investigating the interpersonal determinants of diet quality and eating behaviours in adolescents and young adults aged 13-30 years. The evidence suggests that interpersonal determinants are broadly studied cross-sectionally, particularly around family structure and social influences. We found fewer papers focused on parental attitudes and beliefs, parental resources and risk factors, or partner behaviours and how these might influence adolescents' diets. The DONE framework could be enhanced with additions that pertain more to the adolescent and young adult population (e.g. partner behaviours), providing a more comprehensive conceptual framework for this area of research.

This review provides an important overview of interpersonal determinants that could be individually systematically reviewed for their strength and direction of association with diet quality and/or eating behaviours. Additionally, it can help guide the direction of future studies and analyses to be more geared towards longitudinal and qualitative investigations, with additional focus on emerging adults experiencing transitions.

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7. Author Contributions

TB designed and wrote the review protocol, performed the literature searches, screened titles/abstracts and full texts, extracted and analysed the data, interpreted results, managed references and drafted the manuscript. EMW and JA supported the conceptualization of the study, interpreting results and drafting the manuscript. LK, HAH, EFW and EMW participated in title/abstract screening. LK, CX and HT participated in full text screening. EDP contributed to piloting data extraction. All authors reviewed drafts of the manuscript.

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Table and Figure Legends

Table 1: The sub-categories of the social category in the interpersonal level of the DONE Framework, with examples of determinants⁴⁶.

Table 2: Inclusion and exclusion criteria.

Figure 1: PRISMA flow diagram.

Table 3: Number of papers by country with ≥ 10 published papers.

Table 4: Number of papers by dataset with at least 3 published papers.

Table 5: Mapping the interpersonal determinants in the included papers against the DONE framework sub-categories, including two new sub-categories.

Figure 2: Determinants studied in included papers, presented by DONE framework sub-categories and new sub-categories.

Figure 3: Diet quality and eating behaviour measures studied in included papers.

Table 1: The sub-categories of the social category in the interpersonal level of the DONE Framework, with examples of determinants⁴⁶

Sub-category	Explanation	Examples of Determinants
Family structure	“Composition and cohesion of the family/household”	Caregiving role, family cohesion, family composition, household size
Family food culture	“Food culture existing in the family/household”	Family food culture, family preferences, household food processing (cooking), household food processing (growing)
Household socioeconomic status	“Socio-economic aspects of the family / household”	Household budget constraints, household food security, household income, household socio-economic status, low parental income, parental education level, parental food insecurity, parental income, parental occupation
Social Influences	“Diet- and eating-related influences from others in the environment”	Inter-generational influences on diet, decisional power in groups, eating occasion, peer modelling, perceived important other’s dieting, presence of others, social facilitation of dieting, social norms, social relationships
Social Support	“Diet- and eating-related support from others in the environment”	Bonding with parents, community recommendations, frequency of social contacts, parental recommendations, peer cooking practices and skills, salesperson recommendations, social support, social ties
Parental Resources & Risk Factors	“Parental resources and constraints relevant for diet and eating”	Parental depression, parental food market knowledge, parental food product knowledge, parental nutrition knowledge, parental time constraints
Parental Attitudes & Beliefs	“Parental thoughts and beliefs about food and eating”	Parental body dissatisfaction, parental food ethics, parental risk aversion, parental lay food theories, parental perceived food safety, parental perception of child’s weight, parental trust in food certification, parental trust in food distribution, parental trust in food labelling, parental trust in food producers, parental weight control concerns, parental weight control goal, parental willingness-to-pay
Parental Behaviours	“Parental food- and eating-related behaviours”	Parental conformity to tradition, parental food habits, parental food processing (cooking), parental food production (growing), parental frugality, parental lifestyle, parental modelling, parental smart shopping
Parental Feeding Styles	“How parents go about feeding their children”	Food used as an incentive, parental complementary feeding practices, parental emotional feeding, parental food restriction, parental instrumental feeding, parental portion size habits, parental pressure to eat

Table 2: Inclusion and Exclusion Criteria

	Inclusion criteria	Exclusion criteria
Setting	Any country, any language, human studies.	
Population	Adolescents and young adults: - Mean age of participants should fall within 13-30 years old. - If no mean age reported, middle of age range should fall within 13-30 years old.	- Any other age group. - Institutionalised or clinical populations. - Pregnant and lactating women only.
Exposures	- Interpersonal determinants related to social aspects (i.e. family, parental, peer, partner etc.). These do not have to be related to food/diet. Examples include but are not limited to DONE framework examples (see Table 1). - Social media use is only considered eligible if measured in terms of peer behaviours on social media, rather than exposure to marketing/celebrities/influencers.	Papers only assessing structural factors such as food systems, the physical food environment or SEP.
Outcomes	- Diet quality score/index or dietary pattern/diversity, including scores developed by authors. - Food groups or macronutrients used as an indicator of diet quality e.g. fruit and vegetables, sugar sweetened beverages, ultra-processed foods, total energy intake, fat intake. - Eating behaviours relating to eating outside of the home, fast food consumption or takeaways, meal/breakfast skipping, or snacking behaviours.	- Alcohol/smoking/substance use only - Eating disorders (anorexia, bulimia, etc.), including emotional/binge eating. - Weight loss behaviours including drive for thinness or dieting to lose weight. - Measures of malnutrition or nutritional status e.g. individual biomarkers, stunting, wasting, BMI etc. - Food insecurity, food insufficiency, or undernutrition. - Nutrition knowledge and intentions (rather than intake).
Study types	Qualitative and quantitative observational studies.	Any other study designs (interventions, trials, case-control studies, reviews).
Publication type	Journal articles to include only peer reviewed research.	Any other type of publication (e.g. conference abstracts, study protocols, reports, dissertations, or books).

Table 3: Number of papers by country with ≥ 10 published papers

Country	n	%
USA*	105	31.9
Australia*	27	8.2
Brazil	15	4.6
The Netherlands*	15	4.6
The United Kingdom (UK)*	15	4.6
Belgium*	14	4.3
Iran	13	4.0
Germany*	12	3.6
Italy*	12	3.6
Norway*	12	3.6
Spain*	12	3.6
Japan*	12	3.6
Canada*	10	3.0
Sweden*	10	3.0

*High Income Countries based on World Bank classification⁴⁸

Table 4: Number of papers by dataset with at least 3 published papers.

Name of Dataset	Country	n	%
Project EAT	USA	32	9.7
HBSC	Multiple*	12	3.6
Family Life, Activity, Sun, Health and Eating (FLASHE)	USA	12	3.6
National School Health Survey (PeNSE)	Brazil	9	2.7
Youth Eating Patterns (YEP)	Australia	5	1.5
HELENA	Austria, Belgium, France, Germany, Greece, Hungary, Italy, Spain, Sweden	4	1.2
GSHS	Indonesia, Iran, Laos, Malawi, Egypt, Jordan, Maldives, Dominica, Grenada, Jamaica, Fiji, Malaysia, Mongolia, Indonesia, Philippines, Thailand	5	1.5
Environmental Determinants of Obesity in Rotterdam School childrEn (ENDORSE)	The Netherlands	3	0.9
National Longitudinal Study of Adolescent Health (Add Health)	USA	3	0.9
Growing Up Today Study (GUTS)	USA	3	0.9

*Albania, Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, France, Finland, Germany, Greece, Greenland, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, The Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Russian Federation, Slovakia, Slovenia, Spain, Sweden, Switzerland, UK, Ukraine, USA

Table 5: Mapping the interpersonal determinants in the included papers against the DONE framework sub-categories, including two new sub-categories.

Sub-category	Explanation	Determinants
Family structure (n=122)	"Composition and cohesion of the family/household"	- Caregiving role (n=0) 1. Family cohesion (n=6) 2. Family composition (n=43) 3. Household size (n=7) 4. Family functioning* (n=6) 5. Living arrangement (who you live with)* (n=55) 6. Satisfaction with family life* (n=1) 7. Household chaos* (n=1) 8. Family communication* (n=1) 9. Family conflict* (n=2)
Family food culture (n=83)	"Food culture existing in the family/household"	10. Family food culture (n=4) 11. Family preferences (n=3) 12. Household food processing (cooking) (n=1) 13. Family meals* (n=56) 14. Adolescent involvement in food shopping/meal preparation/food choice* (n=10) 15. Family food habits* (n=1) 16. Family influence* (n=1) 17. Mealtime atmosphere* (n=2) 18. Mealtime communication* (n=2) 19. Person responsible for buy groceries* (n=1) 20. Sibling food habits* (n=2)
Social Influences (n=121)	"Diet- and eating-related influences from others in the environment"	21. Inter-generational influences on diet (n=2) - Decisional power in groups (n=0) - Eating occasion (n=0) 22. Peer modelling (n=15) 23. Presence of others (n=16) 24. Social facilitation of dieting (n=1) 25. Social norms (n=41) 26. Social relationships (n=10) 27. Eating context* (n=4) 28. Family and friends eating concerns* (n=2) 29. Peer attitudes* (n=2) 30. Peer communication* (n=1) 31. Peer dieting* (n=1) 32. Peer food habits* (n=19) 33. Peer food-related behaviours on social media* (n=1) 34. Peer healthy eating attitudes* (n=1) 35. Peer healthy eating concerns* (n=2) 36. Peer pressure* (n=2) 37. Peer weight concerns* (n=1)
Social Support (n=69)	"Diet- and eating-related support from others in the environment"	38. Bonding with parents (n=5) - Community recommendations (n=0) - Frequency of social contacts (n=0) 39. Parental recommendations (n=1) - Peer cooking practices and skills (n=0) - Salesperson recommendations (n=0) 40. Social support (n=57) 41. Social ties (n=2) 42. Social approval* (n=1) 43. Social criticism* (n=1) 44. Social desirability* (n=1)

Parental Resources & Risk Factors (n=6)	"Parental resources and constraints relevant for diet and eating"	- Parental food market knowledge (n=0) - Parental food product knowledge (n=0) 45. Parental nutrition knowledge (n=6) - Parental time constraints (n=0)
Parental Attitudes & Beliefs (n=8)	"Parental thoughts and beliefs about food and eating"	- Parental body dissatisfaction (n=0) - Parental food ethics (n=0) - Parental risk aversion (n=0) 46. Parental lay food theories (n=2) - Parental perceived food safety (n=0) 47. Parental perception of child's weight (n=1) 48. Parental weight control concerns (n=1) - Parental weight control goal (n=0) 49. Parental healthy eating attitude* (n=1) 50. Parental healthy eating concerns* (n=1) 51. Parental disapproval regarding unhealthy eating* (n=1)
Parental Behaviours (n=90)	"Parental food- and eating-related behaviours"	- Parental conformity to tradition (n=0) 52. Parental food habits (n=45) 53. Parental food processing (cooking) (n=4) 54. Parental lifestyle (n=2) 55. Parental modelling (n=28) 56. Conformity to parents* (n=1) 57. Health-promoting parenting practices* (n=1) 58. Health reducing parenting practices* (n=1) 59. Parental presence* (n=8)
Parental Feeding Styles (n=24)	"How parents go about feeding their children"	- Food used as an incentive (n=0) - Parental emotional feeding (n=0) 60. Parental food restriction (n=16) 61. Parental instrumental feeding (n=1) - Parental portion size habits (n=0) 62. Parental pressure to eat (n=6) 63. Parental feeding style* (n=1)
Parenting Style (n=74)	General parenting	64. Parental monitoring* (n=14) 65. Adolescent autonomy* (n=3) 66. Parenting style* (n=14) 67. Co-decision making* (n=3) 68. Parental communication* (n=6) 69. Parental conflict* (n=1) 70. Parental congruence* (n=1) 71. Parental control* (n=5) 72. Parental emotional support* (n=2) 73. Parental expectations* (n=2) 74. Parental hostility* (n=1) 75. Parental knowledge of youth activities* (n=1) 76. Parental permissiveness* (n=2) 77. Parental rules* (n=17) 78. Parenting consistency* (n=1)
Partners behaviours (n=6)	Partner food- and eating-related behaviours	79. Partner modelling* (n=2) 80. Partner norms* (n=1) 81. Partner attitudes towards healthy eating* (n=1) 82. Partner cares about healthy eating* (n=1) 83. Personal power in a romantic relationship* (n=1)

Figure 1: PRISMA Flow diagram

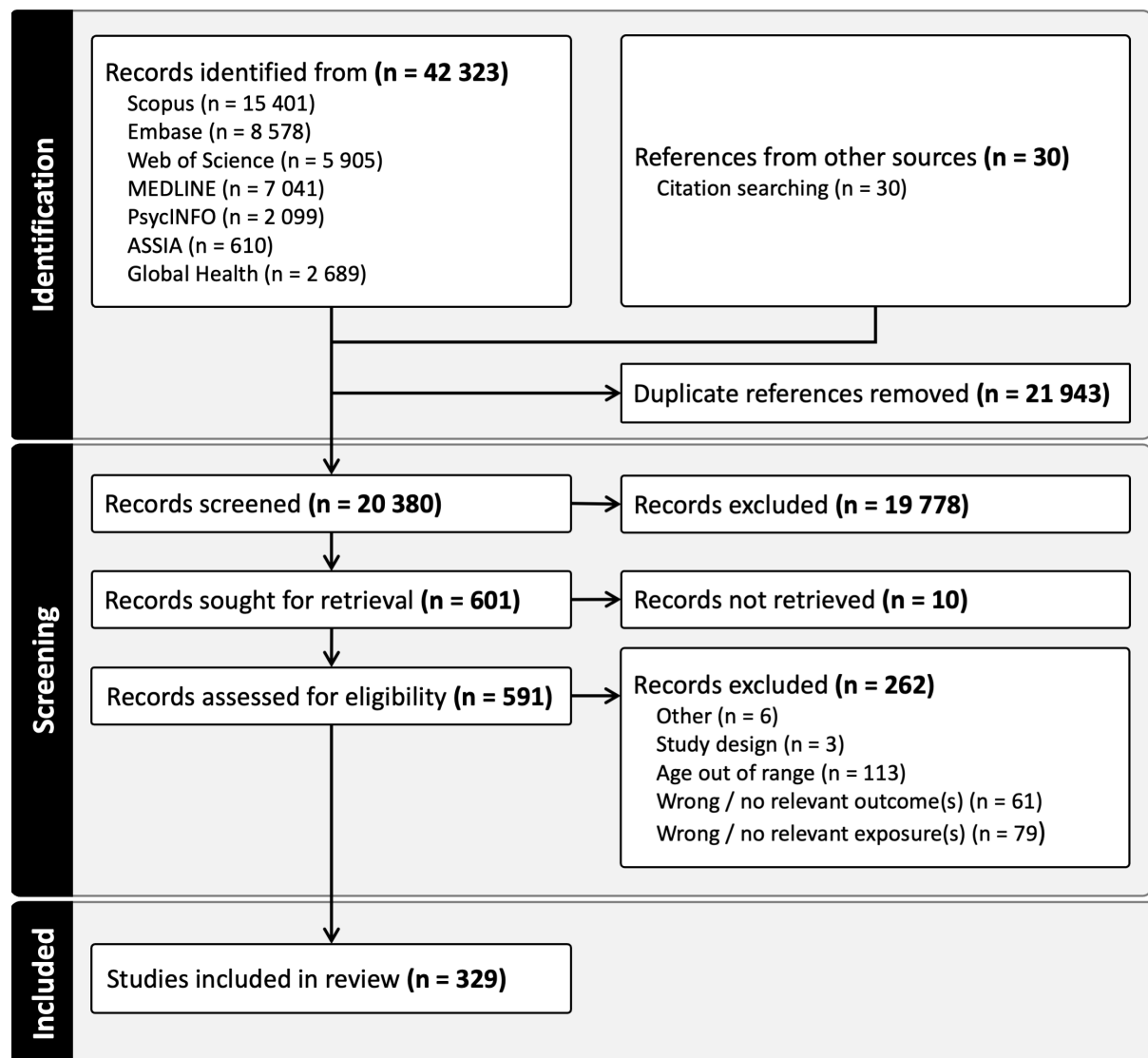


Figure 2: Determinants studied in included papers, presented by DONE framework sub-categories and new sub-categories

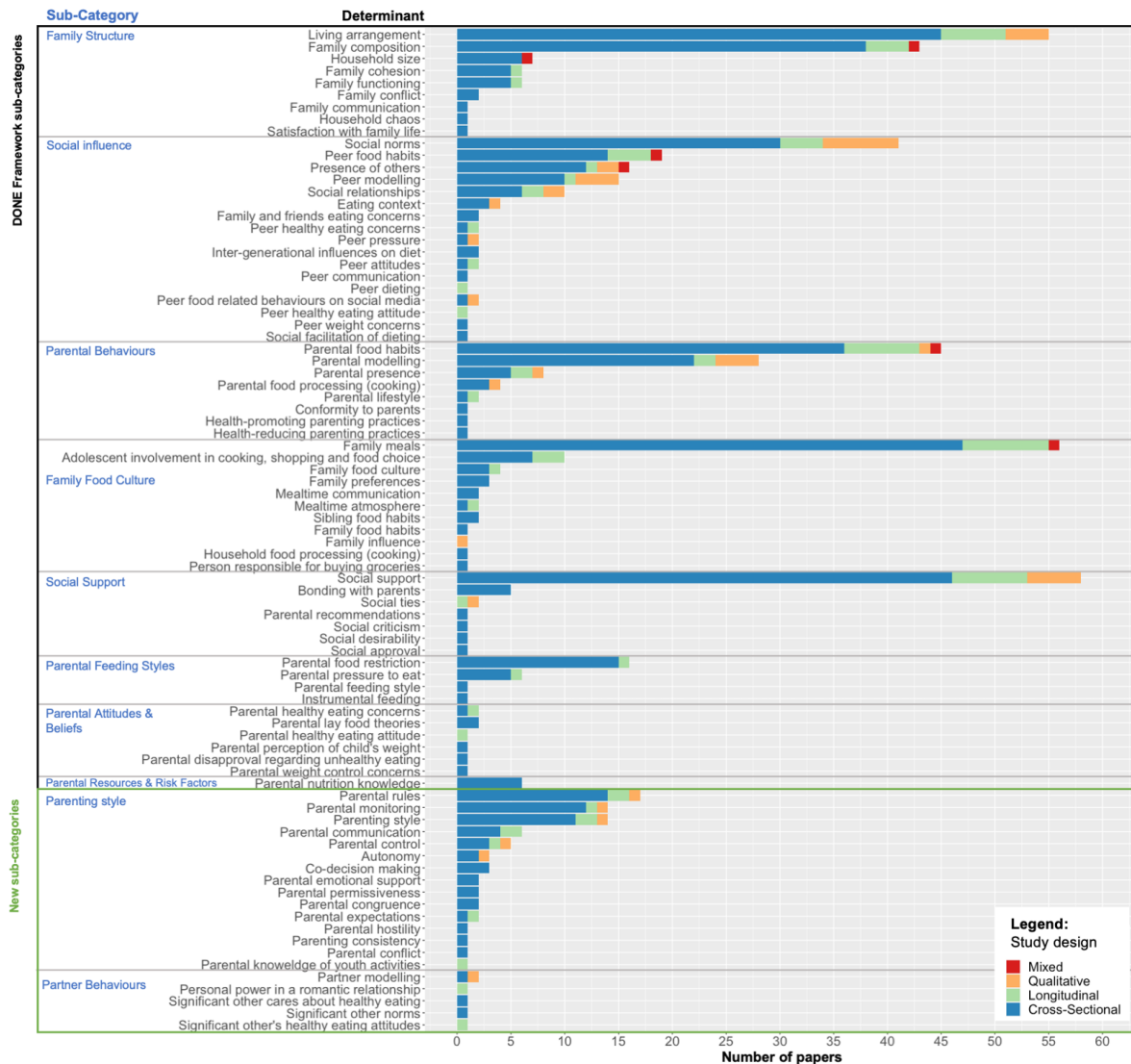
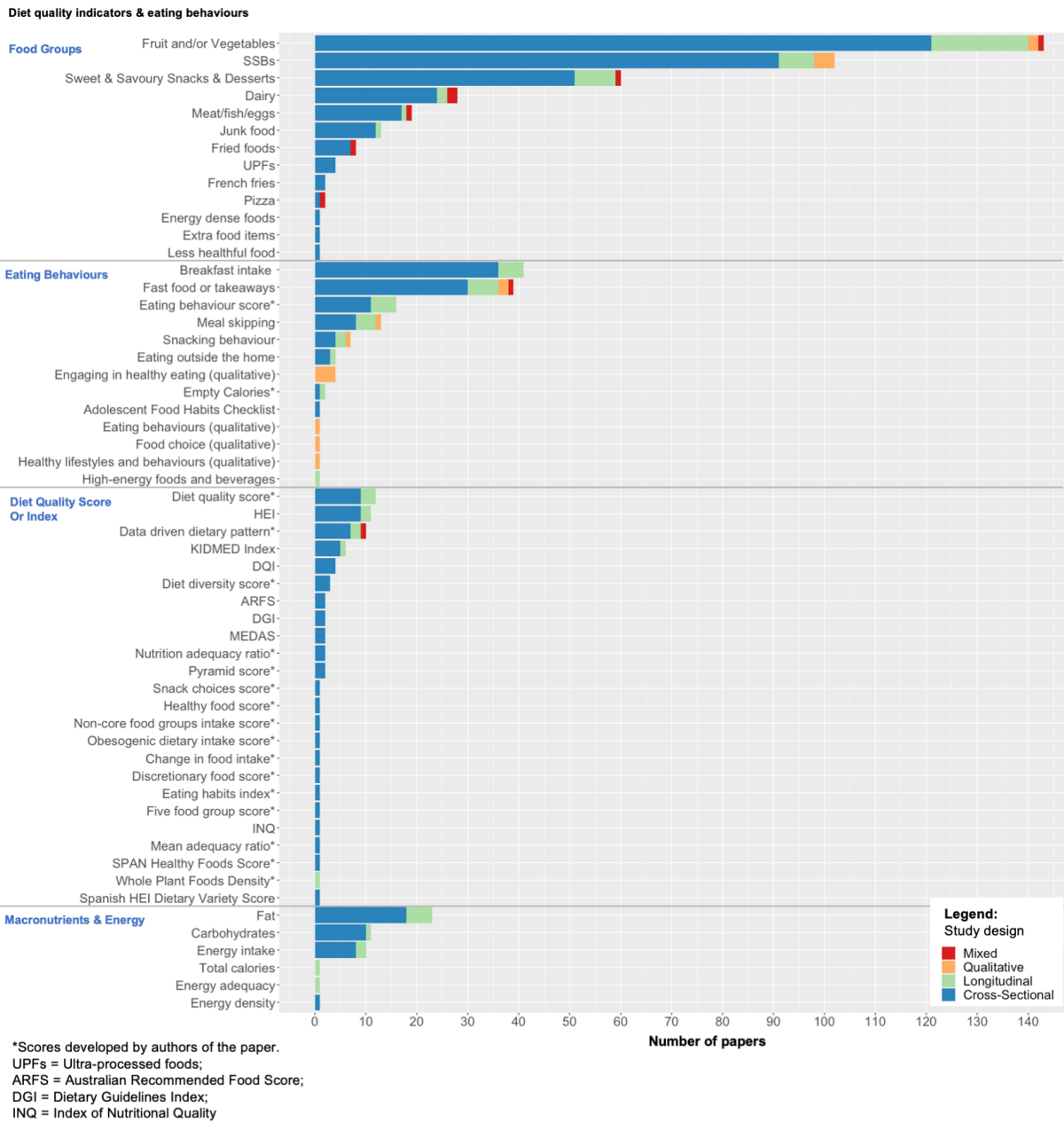


Figure 3: Diet quality and eating behaviour measures studied in included papers



Supporting Information

Title

Interpersonal determinants of diet quality and eating behaviours in people aged 13-30 years: a systematic scoping review.

Authors

Tanya Braune¹ (TB), Laura Kudlek¹ (LK), Dr Christina Xiao¹ (CX), Hao Tang¹ (HT), Élisabeth Demers-Potvin² (EDP), Dr Holly A. Harris (HAH)^{1,4}, Erin Fitzsimons-West³ (EFW), Prof Jean Adams¹ (JA), Dr Eleanor M. Winpenny¹ (EMW).

Departments and Institutions

¹MRC Epidemiology Unit, University of Cambridge, Cambridge, United Kingdom

²Centre NUTRISS - Nutrition, santé et société, Institut sur la nutrition et les aliments fonctionnels, Université Laval, Québec, Canada

³School of Clinical Medicine, University of Cambridge, Cambridge, United Kingdom

⁴Department of Psychology, Education & Child Studies, Erasmus University Rotterdam, Rotterdam, The Netherlands

Key words

Young people, interpersonal determinants, diet quality, eating behaviours

Running title

Scoping review of interpersonal determinants of diet quality and eating behaviours in young people.

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Correspondence

Tanya Braune, MRC Epidemiology Unit, University of Cambridge, Level 3 Institute of Metabolic Science, University of Cambridge School of Clinical Medicine, Cambridge CB2 0SL, United Kingdom

Email: tanya.braune@mrc-epid.cam.ac.uk

Potential conflicts of interest

No conflicts of interest.

Abbreviations

MRC, Medical Research Council; BMI, body mass index; DASH, Dietary Approached to Stop Hypertension; WHO, World Health Organisation; PRISMA-ScR, Preferred Reporting Items for Systematic Review and Meta-analysis Protocols Extension for Scoping Reviews; DONE, Determinants of Nutrition and Eating; SEP, socioeconomic position; USA, United States of America; UK, United Kingdom; Project EAT, Project Eating and Activity over Time; HBSC, Health Behaviour in School-Aged Children; HELENA, Healthy Lifestyle in Europe by Nutrition in Adolescence; GSHS, Global School-Based Student Health Survey; FLASHE, Family Life, Activity, Sun, Health and Eating; PeNSE, National School Health Survey; YEP, Youth Eating Patterns; ENDORSE, Environmental Determinants of Obesity in Rotterdam School children; Add Health, National Longitudinal Study of Adolescent Health; GUTS, Growing Up Today Study; SSBs, sugar sweetened beverages; HEI, Healthy Eating Index; DQI, Diet Quality Index; UPFs, Ultra-processed foods; ARFS, Australian Recommended Food Score; DGI, Dietary Guidelines Index; INQ, Index of Nutritional Quality; DTP, Doctoral Training Partnership.

Table S1: Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	Title Page
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	1
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	1-3
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	3
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	3
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	5 (Table 2)
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	4
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	4 (Supporting information Table 2)
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	4-5
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	6
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	6
Critical appraisal of individual	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this	N/A

Interpersonal determinants of diet quality and eating behaviours in people aged 13-30 years: a systematic scoping review.

sources of evidence§		information was used in any data synthesis (if appropriate).	
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	6
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	7
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	7 (Supporting Information Table 4).
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	Supporting Information Table 4 and link: https://osf.io/fx7qe
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	7-9
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	9-11
Limitations	20	Discuss the limitations of the scoping review process.	12
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	13
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	14

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med*. 2018;169:467–473. doi: [10.7326/M18-0850](https://doi.org/10.7326/M18-0850).

Table S2: Detailed search strategy for MEDLINE.

1	Interpersonal determinants	interpersonal.tw. OR family.tw. OR parental.tw. OR parent.tw. OR parents.tw. OR paternal.tw. OR maternal.tw. OR father*.tw. OR mother*.tw. OR peer*.tw. OR friend*.tw. OR "social influence*".tw. OR "social interaction*".tw. OR "social determinant*".tw. OR "social relationship*".tw. OR "social norm*".tw. OR "eating occasion*".tw. OR "shared meal*".tw. OR "social support".tw. OR "caregiver* recommendation*".tw. OR "social ties".tw. OR "social contact*".tw. OR "social network*".tw. OR "social desirability".tw. OR "caregiver* resource*".tw. OR "caregiver* attitude*".tw. OR "caregiver* belief*".tw. OR "caregiver model*".tw. OR "caregiver* cook*".tw. OR "feeding style*".tw. OR "caregiver* feeding style*".tw. OR "food restriction*".tw. OR "food parenting practices".tw. OR "home food".tw. OR "home food environment".tw. OR "social environment".tw. OR psychosocial.tw. OR "psycho-social".tw. OR "household socioeconomic status".tw. OR "household socio economic status".tw. OR "household socioeconomic position".tw. OR "household socio economic position".tw. OR "household socioeconomic class".tw. OR "household socio economic class".tw. OR Social Determinants of Health [MeSH]
2	Diet Outcomes	food*.tw. OR beverage*.tw. OR diet*.tw. OR fruit*.tw. OR vegetable*.tw. OR dairy.tw. OR "soft drink*".tw. OR "fizzy drink*".tw. OR soda*.tw. OR SSB.tw. OR

	Eating behaviours	SSBs.tw. OR "sugar sweetened beverage*".tw. OR "sugar-sweetened beverage*".tw. OR sugar.tw. OR "unhealthy eating habit*".tw. OR "unhealthy food choice*".tw. OR "healthy eating habit*".tw. OR "healthy food choice*".tw. OR "energy dens*".tw. OR "energy-dens*".tw. OR "junk food".tw. OR "nutrient-poor".tw. OR "nutrient poor".tw. OR "nutrient rich".tw. OR "nutrient-rich".tw. OR "ultra processed food".tw. OR "ultra-processed food".tw. OR cook*.tw. OR "food preparation".tw. OR "eating behavio*".tw. OR meal*.tw. OR snack*.tw. OR "dining out".tw. OR breakfast.tw. OR dinner.tw. OR lunch.tw. OR supper.tw. OR "fast food".tw. OR fastfood.tw. OR "fast-food".tw. OR restaurant.tw. OR "take away".tw. OR takeaway.tw. OR takeout.tw. OR "take out".tw. OR "take-out".tw. OR "eating out".tw. OR "away from home".tw. OR "out of home".tw. OR "away-from-home".tw. OR "out-of-home".tw. OR "home cook*".tw. OR "home prepar*".tw. OR Food [MeSH] OR Diet [MeSH] OR Beverages [MeSH] OR
3	Age range	adolescen*.tw. OR teen*.tw. OR student*.tw. OR "young adult*".tw. OR "early adult*".tw. OR "emerging adult*".tw. OR youth*.tw. OR "young people".tw. OR "young person".tw. OR freshm*.tw. OR

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		Adolescent [MeSH]
4	Study type	observational.tw. OR "cross-sectional".tw. OR "cross sectional".tw. OR cohort.tw. OR longitudinal.tw. OR prospective.tw. OR "follow-up stud*".tw. OR "follow up stud*".tw. OR Observational Study [MeSH] OR Longitudinal [MeSH] OR Cross-Sectional [MeSH]
5	Additional filters	Humans [Limits]
6		1 AND 2 AND 3 AND 4 AND 5

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Table S3: Included papers and categorisation of determinants (for further details on study characteristics, see the Open Science Framework link: <https://osf.io/fx7qe>).

Glossary

FV = Fruit and Vegetables

SSBs = Sugar-Sweetened Beverages

DQI = Diet Quality Index

ARFS = Australian Recommended Food Score

UPFs = Ultra-Processed Foods

HEI = Healthy Eating Index

MEDAS = Adherence to the Mediterranean Diet

DGI = Dietary Guidelines Index

EHI = Eating Habits Index

CS = Cross-sectional

L = Longitudinal

Qual = Qualitative

*Scores developed by authors

Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category										
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Parenting style	Partner behaviours	
Abar et al ¹	USA	L	Households	5419	13	FV	Family routines, perceived parental knowledge of youth activities		✓								✓	
Abizari and Ali ²	Ghana	CS	School	366	15	Data driven dietary pattern*	Living with parents	✓										
Agustina et al ³	Indonesia	CS	City/region	238	15	DQI for Adolescents	Family size	✓										
Al-Naggar et al ⁴	Malaysia	CS	University	1100	22	FV	Living status (with parents, with roommates)	✓										
Al-Otaibi ⁵	Saudi Arabia	CS	University	960	21	FV	Household member's won't eat FV		✓									
Ali et al ⁶	Jordan	CS	School	1013	15	Breakfast intake	Mother's encouragement to have breakfast				✓							
Alimoradi et al ⁷	Iran	CS	City/region	553	16	Fast food	Family's interest in fast food, friends' effect on fast food intake, eating companion (alone, friends or family)		✓	✓								

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category									
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Parenting style	Partner behaviours
Almutairi et al ⁸	Saudi Arabia	CS	University	1656	25	Eating Behaviour Score*	Family structure, place of residence	✓									
Alolabi et al ⁹	Syria	CS	University	728	22	Eating Behaviour Score*	Place of accommodation (family, friends, alone)	✓									
Alsunni and Badar ¹⁰	Saudi Arabia	CS	School	367	22	FV	Residency (living with family, alone or sharing)	✓									
Aluqmany et al ¹¹	Saudi Arabia	CS	School	600	17	Energy drinks (SSBs)	Family member/close friend intake		✓	✓							
Alzahrani et al ¹²	Saudi Arabia	CS	University	378	21	Eating Behaviour Score*	Living arrangement (alone vs family), number of family members	✓									
Ambrosini et al ¹³	Australia	CS	Birth cohort	1631	14	Data driven dietary pattern*	Single- or dual-parent family	✓									
Anastacio-Landa et al ¹⁴	Mexico	CS	School	296	13	SSBs	Parental hostility									✓	
Appannah et al ¹⁵	Australia	L	Birth cohort	1377	14	Data driven dietary pattern*	Two-parent family structure, family functioning	✓									
Arabi-Mianrood et al ¹⁶	Iran	CS	University	248	21	Eating Behaviour Score*	Relationship score (getting on with parents, friends, siblings)			✓							
Arcan et al ¹⁷	USA	L	School	509 pairs	15	FV, dairy	Parents' intake							✓			
Arora et al ¹⁸	India	CS	School	1814	14	Breakfast intake	Peer's influence (peers care about eating healthy food), parents' influence (parental encouragement to eat healthy food)			✓	✓						
Arroyo et al ¹⁹	USA	L	University	380	20	Eating Behaviour Score*	Co-rumination (talking with friends about weight)			✓							
Ashton et al ²⁰	Australia	Qual	City/region	61	20	Engaging in healthy eating (qualitative)	Social influences - social inclusion and social environment including peers and family. Barriers - social context of eating, emphasis on the role of peers, social norms for men			✓							
Azeredo et al ²¹	Brazil	CS	School	109104	13	Diet Quality Score*	Meals with parents		✓								

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Backman et al ²²	USA	L	School	780	16	Total calories, fat, FV	Normative beliefs (mother, sibling, friend, father, coach), support and encouragement				✓					
Badrasawi et al ²³	Palestine	CS	City/region	193	13	Breakfast intake	Family type (nuclear or extended), number of family members	✓								
Bagherniya et al ²⁴	Iran	CS	City/region	172	13	FV, junk food	Nutritional social support				✓					
Baig et al ²⁵	Oman	CS	School	3468	14	Diet Quality Score*	Parental involvement (check homework, understand problems, know what you're doing in your free time, go through your things)								✓	
Bailey et al ²⁶	India	Qual	City/region	38	29	Food choice (qualitative)	Family influence		✓							
Baker et al ²⁷	USA	L	School	279	15	Eating Behaviour Score*	Social norms			✓						
Baldwin et al ²⁸	Australia	CS	City/region	1005	21	ARFS	Social eating scale (social influence on eating)			✓						
Baltaci et al ²⁹	USA	CS	City/region	191 dyads	12	FV, SSBs, snacks, fast food	Father's food parenting practices (setting expectations/limits, role modelling, home availability), family meals		✓					✓		
Barco Leme and Tucunduva Philippi ³⁰	Brazil	CS	School	253	16	FV, dairy, meat/fish/eggs, sweet and savoury snacks	Parents support, family meals		✓		✓					
Bau et al ³¹	Germany	CS	School	1519	12	Diet Quality Score*	Family situation (single or dual parent)	✓								
Bauer et al ³²	USA	CS	School	253 dyads	15	SSBs, FV	Parental intake, family meal frequency, encouragement to eat healthy		✓		✓			✓		
Bauer et al ³³	USA	L	School	806	12	Fast food	Family meals, maternal/paternal concern with healthy eating, friends' concern for healthy eating, friends dieting, adult supervision (during meals)		✓	✓			✓	✓		
Befort et al ³⁴	USA	CS	City/region	228	15	FV, fat	Home availability, meals with family		✓							
Benetou et al ³⁵	Greece	CS	School	3525	13	Diet Quality Score*	Eating with family		✓							

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Berge et al ³⁶	USA	CS	School	58 sibling pairs	14	FV, fast food, SSBs, breakfast intake	Parental intake, sibling intake		✓					✓		
Berge et al ³⁷	USA	CS	School	585	24	FV	Family meals		✓							
Berge et al ³⁸	USA	CS	School	2108	14	FV, SSBs, fat, breakfast intake, fast food	Adolescent/mother/father involvement in meal preparation		✓					✓		
Berge et al ³⁹	USA	CS	School	1212		FV	Significant other cares about healthy eating									✓
Berge et al ⁴⁰	USA	CS	School	200 families	14	FV, fast food, SSBs, breakfast intake	Resident and non-resident parental behaviours							✓		
Berge et al ⁴¹	USA	CS	School	2348	14	FV, breakfast intake, SSBs, fast food	Parent weight-related conversations about eating						✓			
Berge et al ⁴²	USA	CS	School	40	14	FV	Characteristics and frequency of family meals, family functioning	✓	✓							
Berge et al ⁴³	USA	L	School	2516	15	FV	Parenting style (authoritative, authoritarian, permissive, neglectful)								✓	
Bibi Nabihah et al ⁴⁴	Malaysia	CS	City/region	300	26	FV	Influence of family			✓						
Billon et al ⁴⁵	France	CS	Clinical	398 families	14	Breakfast intake	Father's, mother's and siblings intake		✓					✓		
Bohara et al ⁴⁶	Nepal	CS	City/region	538	16	Junk food	Family type (nuclear or joint), living status (parents or others), eating context	✓		✓						
Borlu et al ⁴⁷	Turkey	CS	University	246	24	FV	Number of people in the household, accommodation type (home or dorm)	✓								
Bourdeaudhuij and Oost ⁴⁸	Belgium	CS	City/region	104 dyads	15	Healthy Food Score*, fat, FV, SSBs, snacks	Social support, family modelling, friends modelling, food interactions restriction/obligation rules			✓	✓			✓	✓	✓
Boylan et al ⁴⁹	USA	L	School	305	14	FV	Parental supervision, expectations and communication								✓	
Brindal et al ⁵⁰	Australia	Mixed	City/region	157	20	Fast food	Eating in groups			✓						
Bruening et al ⁵¹	USA	CS	School	2043	14	SSBs, fast food	Friend group and best friend intake			✓						

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category									
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Parenting style	Partner behaviours
Burgess-Champoux et al ⁵²	USA	L	School	677	12	FV, SSBs, meal skipping, fast food, total energy	Family meals		✓								
Burke et al ⁵³	Australia	L	City/region	219	9	Fat, total energy	Parental intake							✓			
Campbell et al ⁵⁴	Australia	CS	Birth cohort	350	13	Snacks, high-energy fluids (SSBs), takeaway foods	Parenting style (authoritarian, permissive, indulgent), mother's and father's intake, parental pressure to eat, family conflict, praise child for eating healthy, parenting consistency	✓			✓			✓	✓	✓	
Chan et al ⁵⁵	Australia	CS	City/region	133	24	Five Food Group Score*, discretionary food score*	Social context (social interaction), eating companion			✓							
Chan et al ⁵⁶	Australia	CS	City/region	133	24	Energy density	Social context (social interaction)			✓							
Chang et al ⁵⁷	Taiwan	CS	University	606	23	Energy drinks (SSBs)	Live away from parents' home	✓									
Chansukree and Rungjindarat ⁵⁸	Thailand	CS	University	1200		Adapted Australian DGI	Social support from parents and peers				✓						
Chaves et al ⁵⁹	Brazil	CS	School	53274	14	FV, SSBs, snacks	Family composition, parental monitoring, main meal with family	✓	✓							✓	
Cheikh Ismail et al ⁶⁰	United Arab Emirates	CS	University	529	23	Eating Behaviour Score*	Residential type (with family or not)	✓									
Chen et al ⁶¹	USA	CS	School	743	16	Data driven dietary pattern*	Family structure (mother, father, both)	✓									
Choi and Choi ⁶²	South Korea	CS	School	510	17	Breakfast intake, breakfast type (fast food)	Person they eat out with (family, friend or alone), persons who have breakfast together (all family members, father/mother, brothers/sisters, alone), who prepares breakfast (mother, father, myself)		✓	✓					✓		
Christofaro et al ⁶³	Brazil	CS	City/region	2526	15	FV, fried foods, snacks, SSBs	Mother's and father's behaviours							✓			
Chung et al ⁶⁴	USA	CS	School	5248	12	Breakfast intake, SSBs	Living with parents (dual vs single), communication with parents, monitoring by parents, spending time with friends,	✓		✓						✓	

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
							number of friends, communication with friends									
Cluskey and Grobe ⁶⁵	USA	Qual	University	19	19	Healthy lifestyles and behaviours (qualitative)	Linked Lives — Others (eg, life partners, roommates) provide a lifestyle environment that influences and models behaviors. Transition — A life change in social roles or responsibilities			✓						✓
Cornelius et al ⁶⁶	USA	L	City/region	157 couples	17	Healthy eating behaviours	Relationship power (personal power in a relationship)									✓
Cusatis et al ⁶⁷	USA	CS	School	242	16	Pyramid score*, Diet Quality Score*	Conformity to parents							✓		
Cutler et al ⁶⁸	USA	L	School	2322	15	FV, snacks	Family meal frequency, parental and peer support		✓		✓					
Darfour-Oduro et al ⁶⁹	Dominica, Egypt, Fiji, Grenada, Indonesia, Jamaica, Jordan, Malaysia, Malawi, Maldives, Mongolia, Philippines, Thailand	CS	School	89843	15	FV	Parental supervision, connectedness, bonding				✓				✓	
De Bruijn et al ⁷⁰	The Netherlands	CS	Clinical	208	15	SSBs	Parenting practices regarding soft drink consumption (measure of parental strictness)								✓	

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
De la Haye et al ⁷¹	Australia	L	School	378	13	Junk food	friends' food intake (descriptive peer norms, injunctive peer norms, descriptive adult norms)			✓						
De Souza et al ⁷²	Brazil	CS	School	102072	15	Data driven dietary pattern*	Household composition (single vs dual parent or without)	✓								
DeJong et al ⁷³	The Netherlands	CS	School	1089	14	Breakfast intake	Subjective norm, modelling by parents and friends, meals with parents		✓	✓				✓		
Delbosq et al ⁷⁴	Italy	CS	School	2145	14	FV, snacks, SSBs, breakfast intake	Family meals, family support, mother-child communication, mother's monitoring (general)		✓		✓				✓	
Deliens et al ⁷⁵	Belgium	CS	University	425	21	Energy drinks (SSBs)	Social norm, social support, modelling from partner/parents/friends, family rules			✓	✓			✓	✓	✓
Deliens et al ⁷⁶	Belgium	CS	University	185	20	FV, fat	Residency (student residence or home), social support, social criticism, social norm, modelling	✓		✓	✓					
Deliens et al ⁷⁷	Belgium	Qual	University	35	20	Eating behaviours (qualitative)	Parental control, social support from family and friends, peer pressure, living arrangement	✓		✓	✓				✓	
Demissie et al ⁷⁸	USA	CS	School	11458	16	FV, dairy, fried foods, pizza, SSBs	Eating dinner with parent/guardian		✓							
Dewi et al ⁷⁹	Indonesia	CS	School	375	16	Diet Quality Score*	Household size, family type, maternal nutrition literacy, mother's eating habits/norms, subjective norms	✓		✓		✓				
Dickens and Ogden ⁸⁰	UK	L	School	93 dyads	18	Eating Behaviour Score*	Parental control (overt, covert, pressure to eat), parental modelling							✓	✓	
Doegah and Acquah ⁸¹	Ghana	Qual	School	16	21	Engaging in healthy eating (qualitative)	Social support, upbringing				✓				✓	

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Dong et al ⁸²	China	L	City/region	5201 dyads	12	Eating outside the home, snacking behaviour, meat/fish/eggs	Parent diet, household structure	✓						✓		
Dwyer et al ⁸³	USA	CS	Online	1443 dyads	14	FV	Parental intake							✓		
El Tantawi et al ⁸⁴	Saudi Arabia	CS	City/region	478	13	Snacks, SSBs	Mother's/father's/friend's practices			✓				✓		
Elstgeest et al ⁸⁵	Australia	L	Birth cohort	6534	27	Data driven dietary pattern*	Change in living arrangement	✓								
Endalifer et al ⁸⁶	Ethiopia	CS	School	411	16	Dietary diversity	Family size	✓								
Eto et al ⁸⁷	Japan	Mixed	City/region	598	13	Data driven dietary pattern*	Family structure (family size, family form, number of siblings), family meals	✓	✓							
Feldman et al ⁸⁸	USA	CS	School	4746	14	FV, SSBs, fried foods, snacks, calories	Family meals with or without TV		✓							
Ferrara et al ⁸⁹	Italy	L	University	2001	22	Eating Behaviour Score*	Relationship status (live with family, live alone, other)	✓								
Feunekes et al ⁹⁰	The Netherlands	Mixed	School	361 networks	15	Meat/fish/eggs, dairy, pizza, fried foods, snacks, dairy, FV	Intake resemblance between parents and friends			✓				✓		
Figueroa et al ⁹¹	USA	CS	Online	1649 dyads	14	SSBs	Mother's and father's SSB intake							✓		
Fink et al ⁹²	USA	CS	Households	1992	14	FV, SSBs	Family meal frequency		✓							
Fismen et al ⁹³	Norway	CS	School	4475	13	FV, snacks, SSBs	Family structure (single/dual/step parents or other)	✓								
Fleary and Ettienne ⁹⁴	USA	CS	Online	1859 dyads	14	FV, junk food, SSBs	Food parenting practices (encouragement, rules/limits), parental eating behaviours				✓			✓	✓	✓
Fondevila-Gascón et al ⁹⁵	Spain	CS	University	161	21	UPFs	Residence type (living away from family)		✓							
Forleo et al ⁹⁶	Italy	CS	University	548	25	Meat/fish/eggs, dairy, FV, snacks, SSBs	Living with family	✓								
Franco et al ⁹⁷	USA	CS	City/region	2379	9	SSBs, breakfast intake, dairy, FV	Family cohesion	✓								

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
French et al ⁹⁸	USA	CS	School	4745	15	Fast food	Family eats meals together, parent concerns about healthy eating, peer health and weight concern		✓	✓				✓		
Fu et al ⁹⁹	China	CS	School	3595	14	FV, SSBs, junk food	Parental control, modelling, co-decision making							✓	✓	
Galimov et al ¹⁰⁰	Germany	L	School	6902	13	Energy drinks (SSBs)	Peer usage			✓						
Gan et al ¹⁰¹	Malaysia	CS	School	421	13	SSBs	Peer social influence, parenting practices (restrictive food parenting)			✓				✓		
Ganasegeran et al ¹⁰²	Malaysia	CS	University	132	22	Eating Behaviour Score*	Living arrangement (with family)	✓								
Garrido-Fernandez et al ¹⁰³	Spain	CS	School	8068	15	Breakfast intake, snacks	Family type	✓								
Gebremariam et al ¹⁰⁴	Norway	CS	School	742	13	SSBs, snacking behaviour, FV	Parental modelling, parental rules, accessibility							✓	✓	
Gebremariam et al ¹⁰⁵	Norway	CS	School	706	13	Breakfast intake	Parental modelling, rules and co-participation at breakfast							✓	✓	
Gebremariam et al ¹⁰⁶	Norway	CS	School	440		SSBs, FV	Parental rules related to SSBs/FV								✓	
Gevers et al ¹⁰⁷	The Netherlands	CS	School	329	13	Snacks	General parenting (nurturance, structure, behavioural control, coercive control, overprotection), restrictive snacking rules, parental congruence							✓	✓	
Gillman et al ¹⁰⁸	USA	CS	City/region	16202	11	FV, dairy, meat/fish/eggs, snacks, fried foods, eating outside of the home, SSBs, fat	Family meal frequency		✓							
Glozah and Pevalin ¹⁰⁹	Ghana	CS	School	770	16	Eating Behaviour Score*	Perceived social support from family				✓					

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Goñi Murillo et al ¹¹⁰	Spain	CS	School	465	17	Diet diversity score*	Family meal frequency, involvement in family food choice, pressure to eat		✓						✓	
Graham et al ¹¹¹	USA	CS	University	1201	21	FV	Family modelling, friends modelling			✓				✓		
Granner et al ¹¹²	USA	CS	School	843	13	FV, snack choices score*	Peer/family normative beliefs, family dinners, social food attributes (social influence)		✓	✓			✓			
Grunseit et al ¹¹³	Australia	Qual	University	51	25	Takeaway foods	Social support, living with parents, social context and interactions	✓		✓	✓					
Gulati et al ¹¹⁴	India	CS	City/region	1800 dyads	13	FV, meat/fish/eggs, dairy, carbohydrates, sweet and savours snacks, SSBs	Mother's intake							✓		
Gummeson et al ¹¹⁵	Sweden	CS	City/region	218	13	Dairy	Subjective norms, normative beliefs, friends influences			✓			✓			
Haddad and Sarti ¹¹⁶	Brazil	CS	School	209601	14	Diet Quality Score*	Family status (living with both parents or other)	✓								
Haddad et al ¹¹⁷	Brazil	CS	School	172560		Data driven dietary pattern*	Meals with parents, living with both parents (family type)	✓	✓							
Haidar et al ¹¹⁸	USA	CS	School	6716	14	FV, SSBs, SPAN Healthy Foods Score*	Parental disapproval regarding unhealthy eating, parent/peer support				✓		✓			
Haines et al ¹¹⁹	USA	CS	City/region	6382	20	Fast food, SSBs	Family functioning, family structure, parent-adolescent relationships	✓			✓					
Haley et al ¹²⁰	Canada	L	School	1096 across 3 years	13	Diet Quality Score*	Family size	✓								
Hallström et al ¹²¹	Austria, Belgium, France, Germany, Greece, Hungary,	CS	School	2672	14	Breakfast intake, SSBs, dairy, meat/fish/eggs, FV, snacks	Family structure (single parent, shared care or traditional)	✓								

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								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Parenting style	Partner behaviours
	Italy, Spain, Sweden																
Hamade et al ¹²²	Japan	CS	University	75	21	Fat, carbohydrates, FV, meat/fish/eggs, dairy, sweet and savoury snacks, SSBs	Living with family vs alone, cooking behaviours and skills	✓	✓								
Hanson et al ¹²³	USA	CS	School	902 dyads	15	FV, dairy	Household availability, served at meals, parental intake							✓			
Harker et al ¹²⁴	Germany	CS	University	305	21	FV, dairy, meat/fish/eggs	Residence (dependent or independent)	✓									
Hasan et al ¹²⁵	Bangladesh	CS	School	213	15	SSBs	Parent intake of SSBs, friend intake of SSBs			✓				✓			
Hassan et al ¹²⁶	Malaysia	CS	City/region	300	21	Eating Behaviour Score*	Place of living (hostel or others)	✓									
Hattersley et al ¹²⁷	Australia	Qual	University	35	24	SSBs	Social cues for consumption (contexts in which young adults socialise, family influence)			✓							
Haugland et al ¹²⁸	Norway	CS	City/region	13269	15	Meal skipping, breakfast intake, FV, meat/fish/eggs, snacks, SSBs, energy drinks	Parental monitoring (general), parental emotional support, parent-offspring conflict									✓	
Hawkins et al ¹²⁹	UK	CS	University	369	22	FV, snacks, SSBs	Descriptive and injunctive norms			✓							
Hayek et al ¹³⁰	Lebanon	L	School	341	16	KIDMED score, breakfast intake, snacking behaviour, FV, snacks, fast food	Parenting style (neglectful, permissive, authoritarian, authoritative)									✓	
Hong et al ¹³¹	South Korea	CS	School	222662		Meal skipping	Family members (living with parents or not)	✓									
Hormenu ¹³²	Ghana	CS	School	1311	12	Data driven dietary pattern*	Parental communication									✓	
Huamancayo-Espíritu and Perez-Cardenas ¹³³	Peru	CS	University	371	23	FV	Living with parents in charge of food	✓									

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								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Parenting style	Partner behaviours
Ilesanmi et al ¹³⁴	Nigeria	CS	School	294	15	FV	Living arrangement, parent family type (monogamous vs polygamous), number of siblings, supportive social environment	✓			✓						
Imoisili et al ¹³⁵	USA	CS	Online	1555 dyads	14	SSBs	Parent SSB intake							✓			
Isabirye et al ¹³⁶	Uganda	CS	City/region	598	14	Diet diversity score*	Living with both / one parent / guardian, household size	✓									
Johnson et al ¹³⁷	USA	CS	School	1457	14	FV	Family and friends support				✓						
Jones and Robinson ¹³⁸	UK	L	University	340	21	Snacks, SSBs	Peer norms			✓							
Jorgensen et al ¹³⁹	Denmark	CS	School	6269	13	Breakfast intake	Family structure (traditional, single-parent, reconstructed)	✓									
Karimi-Shahanjarini et al ¹⁴⁰	Iran	CS	School	739	13	Junk food	Perceived parental control of junk food intake, subjective norm			✓					✓		
Kassem and Lee ¹⁴¹	USA	CS	School	564	15	SSBs	Subjective norm			✓							
Kawasaki et al ¹⁴²	Japan	CS	University	203	20	FV, meat/fish/eggs	Resident status	✓									
Kelles and Adair ¹⁴³	Philippines	L	City/region	1885 pairs	11	Energy adequacy, fat, carbohydrates	Mother's dietary intake							✓			
Keski-Rahkonen et al ¹⁴⁴	Finland	CS	Birth cohort	5448 twins and their parents (4660)	16	Breakfast intake	Mother's and father's breakfast eating,							✓			
Khalaf et al ¹⁴⁵	Saudi Arabia	CS	University	663	20	FV, breakfast intake, dairy, SSBs, fast food, French fries, snacks, energy drinks (SSBs)	Number of siblings	✓									
Kilanowski ¹⁴⁶	USA	Qual	City/region	24	13	FV	Mothers influence on healthy eating, friends encourage unhealthy food choices				✓				✓		

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								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Kim et al ¹⁴⁷	USA	CS	City/region	106	14	Calories, carbohydrates, fat	Perceived parenting style (nurturing vs control)									✓
Kim et al ¹⁴⁸	Korea	CS	University	476	21	Meal skipping, meat/fish/eggs, dairy, snacks, SSBs, fast food	Type of residence (parents, self-boarded, lodging, dorm)	✓								
Klaiber et al ¹⁴⁹	Canada	L	University	67	20	HEI	Perceived social support, social integration			✓	✓					
Kobayashi et al ¹⁵⁰	Japan	CS	University	1336 families	18	Carbohydrates, FV, SSBs, meat/fish/eggs, energy intake, eating outside of the home, sweet and savoury snacks	Cohabitation with mother and grandmother	✓		✓						
Kobayashi et al ¹⁵¹	Japan	CS	University	4017	18	Fat	Living status (with family or alone)	✓		✓						
Koehn et al ¹⁵²	UK	Qual	City/region	16	17	Engaging in healthy eating (qualitative)	Changes in priorities - greater independence, external influences - parents cook, peer modelling, social activities			✓				✓		✓
Kremers et al ¹⁵³	The Netherlands	CS	School	643	16	FV	Parenting style (authoritative, authoritarian, indulgent, neglectful)									✓
Kumari and Jain ¹⁵⁴	India	CS	School	100	14	FV, sweet snacks	Family type (joint, nuclear)	✓								
Kwon et al ¹⁵⁵	South Korea	CS	School	186227	15	Fast food	Household type (single, dual or no parents)	✓								
LaCaille et al ¹⁵⁶	USA	Qual	University	49	19	Engaging in healthy eating (qualitative)	Living off campus, cooking & shopping for self, social support, friends and family influence	✓	✓	✓	✓					
Lahmann et al ¹⁵⁷	Australia	CS	University	2017	20	Energy intake, fat, carbohydrates, sweet snacks, FV, dairy, meat/fish/eggs	Mother resemblance in dietary intake							✓		
Lally et al ¹⁵⁸	UK	CS	School	264	16	FV, SSBs, snacks	Injunctive/actual social norms			✓						

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Larson et al ¹⁵⁹	USA	CS	School	2507	14	FV, dairy, SSBs, energy intake, fat	Breakfast with family frequency		✓							
Larson et al ¹⁶⁰	USA	CS	School	827	15	HEI	Family breakfast frequency		✓							
Larson et al ¹⁶¹	USA	CS	School	3699	14	FV, fried foods, SSBs, fat	Food preparation & shopping involvement, family meal frequency		✓							
Larson et al ¹⁶²	USA	CS	School	1687	20	FV, SSBs, fast food, energy intake, fat	Eating with others			✓						
Larson et al ¹⁶³	USA	CS	School	2540	14	Snacks	Involvement in at-home food preparation, family meal frequency, perceived encouragement to eat healthy food, parental restriction of high-calorie food, peer attitudes/behaviours and weight related behaviours		✓		✓					
Larson et al ¹⁶⁴	USA	L	School	1710	15	FV, SSBs, energy intake, fat, breakfast intake, meal skipping	Family meal frequency		✓							
Larson et al ¹⁶⁵	USA	L	School	1686	15	Fast food	Parental/peer support for healthy eating, living situation, meal preparation and shopping involvement, family meal frequency	✓	✓		✓					
Larson et al ¹⁶⁶	USA	L	School	1495	15	FV	Food preparation & shopping involvement, parental and peer support for healthy eating, family meal frequency		✓	✓	✓				✓	
Larson et al ¹⁶⁷	USA	L	School	1130	15	FV	Parents' /friends' /significant other's healthy eating attitudes, food preparation involvement		✓	✓			✓			✓
Larson et al ¹⁶⁸	USA	L	School	2052	25	FV, dairy, SSBs, energy intake, fat	Shared meals			✓						
Lau et al ¹⁶⁹	USA	L	University	532	21	Eating Behaviour Score*	Parent health behaviours, peer influence, living at home	✓		✓				✓		

Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category									
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Parenting style	Partner behaviours
Lazzeri et al ¹⁷⁰	Belgium, Canada, Croatia, Czech Republic, Denmark, Estonia, France, Finland, Germany, Greenland, Hungary, Ireland, Latvia, Lithuania, Macedonia, Netherlands, Norway, Poland, Portugal, Russian Federation, Slovenia, Spain, Sweden, Switzerland, UK, Ukraine, USA	CS	School	455391	13	Breakfast intake	Family structure (living with two parent, one parent or others)	✓									
Lebron et al ¹⁷¹	USA	CS	School	280 dyads	13	FV, sweet snacks	Mealtime communication		✓								
Lebron et al ¹⁷²	USA	CS	School	280	13	FV, sweet snacks	Mealtime communication		✓								

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								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
LeCroy et al ¹⁷³	USA	CS	City/region	1214	14	Obesogenic dietary intake score*	Parental feeding style (controlling, pressuring, disciplinary, tracking, indulgent)								✓	
LeCroy et al ¹⁷⁴	USA	CS	City/region	740	12	HEI, FV, dairy, empty calories	Peer support for FV intake				✓					
Lenne et al ¹⁷⁵	USA	CS	Online	1717 dyads	14	FV, junk food	Parenting style (responsiveness, autonomy-granting, authoritative)								✓	
Levin et al ¹⁷⁶	UK	CS	School	26626	13	Breakfast intake	Family structure (single/dual/step parents or other)	✓								
Lien et al ¹⁷⁷	Norway	CS	City/region	613	14	FV	Parental monitoring, positive relationship with parents/peers, perceived parental evaluation of diet,			✓					✓	
Lipsky et al ¹⁷⁸	USA	L	School	566	16	HEI, Whole Plant Foods Density*, Empty Calories*	Family meal frequency		✓							
Lipsky et al ¹⁷⁹	USA	L	School	2785	16	FV, SSBs, snacks	Family meals		✓							
Loth et al ¹⁸⁰	USA	CS	School	2383 dyads	14	FV, SSBs, snacks	Parental modelling, overall food restriction							✓	✓	
Loucaides et al ¹⁸¹	Republic of Cyprus	CS	School	1966	14	FV	Parental support, friends intake, family eating patterns		✓	✓	✓					
Lundeen et al ¹⁸²	USA	CS	Online	990 dyads	14	SSBs	Parental SSB intake, parental knowledge of conditions related to SSB intake					✓		✓		
Ma and Hample ¹⁸³	USA	CS	Online	1657	14	FV, SSBs, less healthful food	Parental control, modelling, co-decision making							✓	✓	
MacFarlane et al ¹⁸⁴	Australia	CS	School	1448 dyads	13	Snacks, extra food items	Parental concern about adolescent weight						✓			
Madani et al ¹⁸⁵	Saudi Arabia	CS	School	1408	15	SSBs	Parental intake, friends intake			✓				✓		
Mahjabin et al ¹⁸⁶	Bangladesh	CS	School	710	13	Diet diversity score*	Mother's nutritional knowledge					✓				
Maia et al ¹⁸⁷	Brazil	CS	School	10926	15	Data driven dietary pattern*	Meals with parents/guardians		✓							
Mario Arango-Paternina et al ¹⁸⁸	Colombia	CS	School	988	15	FV, fast food	Friendship network behaviours			✓						

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								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Martens et al ¹⁸⁹	The Netherlands	CS	School	601	13	FV, snacks, breakfast intake	Subjective norm, social support, perceived behaviour of mother and father			✓	✓			✓		
Martins et al ¹⁹⁰	Brazil	CS	School	102072	15	FV, SSBs, snacks, UPFs, fast food, fried foods	Family meals		✓							
Mathur et al ¹⁹¹	India	Qual	School	13 focus groups + 14 interviews	15	SSBs	Social norms			✓						
Matsumoto et al ¹⁹²	Japan	CS	School	288 dyads	13	Carbohydrates, fat, FV, SSBs, meat/fish/eggs, dairy, sweet and savoury snacks	Mother's nutrition knowledge level					✓				
Mehlig et al ¹⁹³	Belgium, Cyprus, Estonia, Germany, Hungary, Italy, Spain, Sweden	CS	City/region	1603	13	Fast food	Friends behaviours			✓						
Melbye et al ¹⁹⁴	Norway	CS	School	440	14	FV	Family structure, family functioning, family cohesion, family conflict, parental healthy eating guidance, parental positive encouragement for vegetable consumption, family meals	✓	✓		✓				✓	
Mellin et al ¹⁹⁵	USA	CS	School	9957	14	Breakfast intake, FV, snacks	Family connectedness, parental expectations, parental monitoring	✓								
Merten et al ¹⁹⁶	USA	L	School	7788	15	Breakfast intake	Parental presence in the morning							✓		
Michels et al ¹⁹⁷	Austria, Belgium, France, Germany,	CS	School	2081	14	DQI for Adolescents	Parental influence, friends influence (social norms, social support)			✓	✓					

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								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
	Greece, Hungary, Italy, Spain, Sweden															
Mieziene et al ¹⁹⁸	Lithuania	CS	City/region	1336	22	MEDAS	Family and social support, social trust, communication, collaboration, participation, distant communication, cohabitation	✓		✓	✓					
Mieziene et al ¹⁹⁹	Lithuania	CS	School	1863	16	MEDAS	Family support				✓					
Miller et al ²⁰⁰	Australia	Qual	City/region	59	25	SSBs	Rules, modelling, social norms			✓				✓	✓	
Mirhadyan et al ²⁰¹	Iran	CS	School	341	16	Junk food	Household composition (living with parents, only father, only mother or others)	✓								
Mirkarimi et al ²⁰²	Iran	CS	School	500	16	Fast food	Subjective norms			✓						
Mitri et al ²⁰³	Lebanon	CS	School	798	15	KIDMED Index	Number of meals with family, autonomy, social support and peers,		✓		✓				✓	
Monge-Rojas et al ²⁰⁴	Costa Rica	CS	City/region	813	15	FV, SSBs, UPFs, fast food	Family meals, parenting styles (authoritative, authoritarian)		✓						✓	
Moraes et al ²⁰⁵	Brazil	CS	School	429	14	FV	Descriptive norms, injunctive norms			✓						
Morton et al ²⁰⁶	Canada	CS	School	857	14	Adolescent Food Habits Checklist	Transformational parenting								✓	
Mwafi et al ²⁰⁷	Jordan	CS	University	503	21	Fast food	Living with family or in a dorm, eating companion (friends, alone, family, colleagues)	✓		✓						
Nagahata et al ²⁰⁸	Japan	CS	University	386	21	Breakfast intake	Living arrangement (home vs independently)	✓								
Nakade et al ²⁰⁹	Japan	CS	University	1455		FV	Living with family or not, presence of others during breakfast	✓		✓						

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								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Nasirzadeh et al ²¹⁰	Iran	CS	School	264	14	FV	Social support (friend support), observational learning			✓	✓					
Navarro-Gonzalez et al ²¹¹	Spain	CS	University	318	21	KIDMED Index	Living arrangement	✓								
Nelson Laska et al ²¹²	USA	CS	School	1687	20	Meal skipping, snacking behaviour, fast food, FV, energy intake, fat, SSBs	Living arrangement (rented, with parents, on campus)	✓								
Neumark-Sztainer et al ²¹³	USA	CS	School	3957	14	FV	Parental/peer support for healthy eating, family meals frequency, parental presence at meals, priority of family meals		✓		✓				✓	
Neumark-Sztainer et al ²¹⁴	USA	CS	School	36284	15	FV	Family connectedness	✓								
Neumark-Sztainer et al ²¹⁵	USA	CS	School	4746	14	FV, snacks, SSBs, energy intake, carbohydrates, fat	Family meal frequency		✓							
Nickelson et al ²¹⁶	USA	CS	School	4049	13	SSBs	Parental limits on SSBs								✓	
Niermann et al ²¹⁷	Germany	CS	School	198 families	14	FV	Family health climate (the shared perceptions and cognitions concerning a healthy lifestyle within a family i.e. experience of daily family life, the evaluation of health-related topics and expectations with respect to typical values, behavior routines and interaction patterns within the family)		✓							
O'Leary et al ²¹⁸	UK	CS	Online	603 households	15	SSBs	Adult household members behaviours							✓		
Oliveira et al ²¹⁹	Brazil	CS	School	14653	14	FV, dairy, French fries, fried foods, snacks, SSBs	Lunch at home with parents							✓		
Orlowski et al ²²⁰	USA	CS	Online	1354 dyads	14	FV	parents promote FV intake, parents ensure FV intake				✓				✓	

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Overcash et al ²²¹	USA	CS	Online	1657	14	FV, SSBs, junk food, fast food	Family meal frequency and characteristics		✓							
Pandey et al ²²²	Nepal	CS	Online	461	22	FV	Social influence regarding vegetables			✓						
Papadaki and Mavrikaki ²²³	Greece	CS	School	525	14	KIDMED Index	Living with both parents	✓								
Parikka et al ²²⁴	Finland	CS	Clinical	944	15	Meal skipping, breakfast intake	Family type (nuclear, reconstituted, single-parent, other)	✓								
Park ²²⁵	South Korea	CS	University	2250	23	Nutrition adequacy ratio*, mean adequacy ratio*, Index of Nutritional Quality*, Eating Behaviour Score*	Residential status (living with family at home, student accommodation, independently)	✓								
Parks et al ²²⁶	USA	CS	Online	805	14	FV	Parental preferences, role modelling, encouragement, rules, pressure to eat		✓		✓			✓	✓	✓
Pearson et al ²²⁷	UK	CS	School	328	14	FV, snacking behaviour, breakfast intake	Parenting style, parental status (single/dual), sibling status (none/one or more)	✓							✓	
Pearson et al ²²⁸	Australia	L	School	1850	13	FV, snacks	Perceived support for healthy eating by best friend/family, modelling of healthy eating by best friend/mother			✓	✓			✓		
Pedersen et al ²²⁹	Denmark	CS	School	3054	14	Breakfast intake	Family functioning (close relations to parents, quality of family communication, family support), family structure (traditional or other)	✓								
Pelletier et al ²³⁰	USA	CS	University	1000	21	FV, fast food, SSBs	Family/friends/significant other social norms, perceived behaviours of friends, living arrangement	✓		✓						✓
Peltzer and Pengpid ²³¹	Bangladesh, Barbados, Cameroon, China,	CS	University	17789	20	FV	Living arrangement (on campus, with parents), social support	✓			✓					

Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
	Colombia, Egypt, Grenada, India, Indonesia, Ivory Coast, Jamaica, Kyrgyzstan, Laos, Madagascar, Mauritius, Namibia, Nigeria, Pakistan, Philippines, Russian Federation, Singapore, South Africa, Thailand, Tunisia, Turkey, Venezuela															
Pendergast et al ²³²	Australia	CS	City/region	986	24	Meal skipping	Living situation (family, alone, flatmates)		✓							
Pengpid and Peltzer ²³³	Indonesia	CS	School	11124	14	FV, SSBs	Parental support, peer support				✓					
Pengpid and Peltzer ²³⁴	Bangladesh, Barbados, Cameroon, Colombia,	CS	University	21958	20	Breakfast intake	Living with or away from parents, social support	✓			✓					

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								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
	Egypt, Grenada, India, Indonesia, Ivory Coast, Jamaica, Kyrgyzstan, Laos, Madagascar, Malaysia, Mauritius, Namibia, Myanmar, Nigeria, Pakistan, Philippines, Russian Federation, Singapore, South Africa, Thailand, Tunisia, Turkey, Venezuela, Vietnam															
Pengpid and Peltzer ²³⁵	Laos	CS	School	3683	16	FV	Peer/parental support				✓					
Perkins et al ²³⁶	USA	CS	School	5841	15	SSBs, FV	Perceived and actual behavioural norms			✓						
Perkins et al ²³⁷	USA	CS	School	3831	14	SSBs	Perceived peer norms			✓						
Pokorski et al ²³⁸	Poland	CS	University	657	23	DQI, Change in Food Intake*	Place of residence, parental monitoring	✓							✓	

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								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Parenting style	Partner behaviours
Prichard et al ²³⁹	Australia	CS	University	112	19	Energy dense foods (EB), FV	Mother's intake, closeness				✓			✓			
Qiu et al ²⁴⁰	China	CS	School	3819	14	Junk food, SSBs	Perceived parental attitudes							✓	✓	✓	
Rafiroiu et al ²⁴¹	USA	CS	City/region	2021	15	Pyramid score*	Family and friends eating concerns			✓							
Rezaeipour et al ²⁴²	Iran	CS	School	270	13	Eating Behaviour Score*	Parental lifestyle							✓			
Riebl et al ²⁴³	USA	CS	City/region	100	14	SSBs	Subjective norm, parental SSB intake			✓				✓			
Riediger et al ²⁴⁴	Canada	CS	City/region	18524	15	FV	Living arrangements (single or dual parent, or others)	✓									
Riggsbee et al ²⁴⁵	USA	Qual	School	30	14	FV, fast food	Parental influences - positive/negative role modelling, access							✓			
Rimal ²⁴⁶	USA	CS	City/region	824	15	Eating Behaviour Score*	Parental dietary behaviours							✓			
Robinson et al ²⁴⁷	UK	CS	University	1056	21	SSBs, snacks	Perceived descriptive peer dietary norms			✓							
Roesler et al ²⁴⁸	USA	CS	School	992	14	SSBs	Peer norms			✓							
Rosenrauch et al ²⁴⁹	Australia	L	School	1785	13	Breakfast intake, meal skipping	Friends level of support for healthy eating, friend eat healthy foods with you, friends encourage you not to eat 'junk' food			✓	✓						
Rossow and Rise ²⁵⁰	Norway	CS	City/region	272 families	18	Fat	Parental intake							✓			
Salvy et al ²⁵¹	USA	L	School	2144	16	Diet Quality Score*	Familism (needs of the family override those of the individual), peer social functioning	✓		✓							
San Román Mata et al ²⁵²	Spain	CS	University	597	19	KIDMED Index	Living arrangement	✓									
Santaliestra-Pasías et al ²⁵³	Austria, Belgium, France, Germany, Greece, Hungary,	CS	School	1703	14	FV, carbohydrates, sweet and savoury snacks, dairy, meat/fish/eggs, SSBs	Eating companion during main meal occasions			✓							

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
	Italy, Spain, Sweden															
Santomauro et al ²⁵⁴	Italy	CS	City/region	1127	16	KIDMED Index	Source of dietary information, relationship with parents				✓	✓				
Sato et al ²⁵⁵	Japan	CS	School	933	15	FV	Social support				✓					
Schnettler et al ²⁵⁶	Chile	CS	City/region	300 triads	13	Adapted HEI	Satisfaction with family life	✓								
Schnettler et al ²⁵⁷	Chile	CS	City/region	300 dyads	13	Spanish HEI and Dietary Variety Score	Maternal food-related practices (control of snacking behaviour, presence during eating, child involvement in food choice)		✓					✓	✓	
Schnettler et al ²⁵⁸	Chile	CS	City/region	430 families	13	Adapted HEI	Father's and mother's modelling							✓		
Scully et al ²⁵⁹	Australia	CS	School	8392	14	Fast food	Go to fast food outlets with family/friends, social norms		✓	✓						
Seedat and Pillay ²⁶⁰	South Africa	CS	University	353	19	Breakfast intake	Person responsible for buying food/groceries (self, parents/family, housemates), place of residence	✓	✓							
Sexton-Dhamu et al ²⁶¹	Australia	CS	City/region	625	24	DGI	Eating alone, social support from family/friends, living situation (friends, family, alone), involvement in food preparation & shopping	✓	✓	✓	✓					
Shahanjarini et al ²⁶²	Iran	CS	School	790	13	Snacks, junk food	Influential people (friends, parents, siblings, healthcare professionals, media)			✓						
Sharma et al ²⁶³	Germany	CS	University	205	21	FV, dairy, meat/fish/eggs,	Residence (independent or dependent)	✓								
Silva et al ²⁶⁴	Brazil	CS	School	101996	15	Breakfast intake	Meals with parents, living with parents/mother/father/alone	✓	✓							
Silva et al ²⁶⁵	Brazil	CS	School	16324	15	UPFs	Living with mother/both parents, number of people in household, frequency of meals with parents	✓	✓							
Simões et al ²⁶⁶	Brazil	CS	School	1232	13	Breakfast intake	Meal context, lunch and dinner with family		✓							

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Small et al ²⁶⁷	USA	L	University	746		FV	Parental communication								✓	
Smith et al ²⁶⁸	USA	CS	Households	1522	13	FV	Parental provision of fruit and vegetables at meals or as a snack							✓		
Stephens et al ²⁶⁹	Australia	CS	School	1014	13	FV	Family/friends support for healthy eating, mother/father/friends' role modelling, meal-time atmosphere, family meal-time rules		✓	✓	✓			✓	✓	✓
Stephens et al ²⁷⁰	Australia	L	School	521	13	FV	Family meal time rules, vegetables served at dinner									✓
Stephens et al ²⁷¹	Australia	L	School	1938	13	High-energy foods and beverages	Evening meal atmosphere, meal-time rules								✓	✓
Stewart et al ²⁷²	USA	L	School	3744	15	FV, sweet snacks, breakfast intake, meal skipping, fast food	Father's involvement, household structure (single, dual, step parents)	✓								
Stok et al ²⁷³	Poland, Portugal, Netherlands, UK	CS	School	2764	13	Diet Quality Score*	Peer encouragement for healthy/unhealthy eating				✓					
Sugiyama et al ²⁷⁴	Japan	CS	School	3635	13	Breakfast intake	Living status (living with or without mother), eating status at breakfast (with parents/siblings/alone)	✓		✓						
Tabak et al ²⁷⁵	Poland	CS	School	605	13	FV, meal skipping	Family meal frequency		✓							
Tak et al ²⁷⁶	The Netherlands	CS	School	1361	14	SSBs	Parental modelling, parental rules, parental norm			✓				✓	✓	
Tang et al ²⁷⁷	Australia	CS	City/region	1003	21	ARFS	Social desirability score, social approval score				✓					
Tassitano et al ²⁷⁸	Brazil	CS	University	717	20	FV	Peer and parental support				✓					

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category									
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Parenting style	Partner behaviours
Thomson et al ²⁷⁹	USA	CS	Online	1657 dyads	14	Junk food	Parenting practices (negative emotions, restriction, monitoring, modelling, child involvement)		✓					✓	✓	✓	
Toumpakari et al ²⁸⁰	UK	CS	Households	666	14	Non-core food groups intake score*, energy intake	Eating companion (alone, parents/carers, parents & siblings, family & friends, friends), eating context (home, friend's/relative's house, school, eateries, on the go, activity/other places, work)			✓							
Vågstrand ²⁸¹	Sweden	CS	Birth cohort	474	16	SSBs	Mother's intake of SSBs, fruit juice and total energy							✓			
Vågstrand et al ²⁸²	Sweden	CS	Birth cohort	471 dyads	16	Energy intake, fat, carbohydrates, snacks, FV, fast food, SSBs, dairy	Mother's intake							✓			
van den Bogerd et al ²⁸³	The Netherlands	CS	University	717	22	FV	Housing situation (shared, alone, parents)	✓									
van den Broek et al ²⁸⁴	The Netherlands	L	School	2051	13	Snacks	Mother's snacking							✓			
van der Horst et al ²⁸⁵	The Netherlands	CS	School	383	13	SSBs	Modelling from parents/friends, social norms, social pressure, parenting style (strictness, involvement)			✓				✓		✓	
van der Horst et al ²⁸⁶	The Netherlands	CS	School	1293	14	SSBs	Parents and friends modelling, parental norm			✓				✓			
Van Hulst et al ²⁸⁷	Canada	CS	School	377	16	FV	Household chaos, dual-parent household	✓									
Van Lippevelde et al ²⁸⁸	Belgium	CS	School	867	14	SSBs, snacks	Health-promoting/reducing parenting practices (scales), family type (traditional or other)	✓						✓			
Vanhelst et al ²⁸⁹	Austria, Belgium, France, Germany,	CS	School	2943	14	DQI	Father, mother, brother, sister and best friend diet engagement and encouragement			✓							

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
	Greece, Hungary, Italy, Spain, Sweden															
Vaterlaus et al ²⁹⁰	USA	Qual	University	34	20	Food choices (qualitative)	Connection between food and social media - increased food choices (e.g. recipes), shared pictures from peers of food, and as a distraction when making food choices.			✓						
Vejrup et al ²⁹¹	Norway	L	School	1504	12	FV	Parental intake							✓		
Verstraeten et al ²⁹²	Ecuador	CS	School	784	13	SSBs	Parenting practices (rules, role modelling, permissiveness)							✓	✓	
Verzeletti et al ²⁹³	Italy and Belgium	CS	School	14407	13	FV	Dinner with family, family rules		✓						✓	
Verzeletti et al ²⁹⁴	Italy and Belgium	CS	School	14407	13	SSBs	Daily breakfast or evening meal with parents, restriction/obligation rules		✓						✓	
Videon et al ²⁹⁵	USA	CS	School	18177	15	Breakfast intake, FV, dairy	Parental presence, family meals, autonomy with food decision making		✓					✓	✓	
Vogel et al ²⁹⁶	UK	Qual	Households	74	15	Energy drinks (SSBs)	Peer and parental influence			✓				✓		
Walton et al ²⁹⁷	USA	CS	City/region	2728	19	FV, SSBs, takeaway foods, fast food	Family structure (dual or single parent), family functioning, family dinner frequency	✓	✓							
Wang et al ²⁹⁸	Japan	CS	City/region	2308		FV	Social support				✓					
Watts et al ²⁹⁹	Canada	CS	City/region	173	13	Canadian HEI	Peer modelling, eating out with friends			✓						
Watts et al ³⁰⁰	USA	CS	School	2793		SSBs	Parental encouragement for healthy eating, parental pressure to eat, parental restriction of unhealthy food, parental intake, frequency of family meals,		✓	✓	✓			✓	✓	

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
							parental modelling, peer intake, peer attitudes about healthy eating									
Watts et al ³⁰¹	USA	CS	School	2491	14	FV	Parental modelling, parental encouragement for healthy eating, parent communication, family meal frequency		✓		✓			✓		
Watts et al ³⁰²	Canada	CS	City/region	165 dyads	13	FV, fat, SSBs, sweet and savoury snacks	Parent intake							✓		
Welsh et al ³⁰³	USA	CS	City/region	75	14	FV, snacks, SSBs	Family cohesion, family meals	✓	✓							
Wills ³⁰⁴	UK	Qual	School	31	20	Meal skipping, snacking behaviour	Living arrangement, adult surveillance, eating environment (presence of parents vs friends), peer influences, parental modelling	✓		✓				✓	✓	
Winpenny et al ³⁰⁵	USA	L	School	2902	14	Fast food	Leaving the parental home, cohabitation		✓							
Winpenny et al ³⁰⁶	Norway	L	City/region	1100	22	FV, snacks, SSBs	Living situation (parents, friends/others, spouse/partner, alone)		✓							
Woodruff et al ³⁰⁷	Canada	CS	School	1293	12	Canadian HEI	Eating companion, family dinners		✓	✓						
Woodward et al ³⁰⁸	Australia	CS	School	2082	13	Snacks, SSBs, meat/fish/eggs, FV, dairy	Parental and friends' intake			✓				✓		
Wouters et al ³⁰⁹	The Netherlands	CS	School	1330	14	Snacks, SSBs	Friendship group consumption			✓						
Wroblewski et al ³¹⁰	USA	CS	City/region	216 dyads	13	HEI	Parental monitoring of diet, parental beliefs about nutrition, peer eating behaviour			✓			✓		✓	
Wu et al ³¹¹	USA	CS	School	274	15	EH1	Social support for healthy eating				✓					
Xiang et al ³¹²	Malaysia	CS	University	422	19	Snacks	Perceived parental control of snacking								✓	
Xu et al ³¹³	USA	CS	Online	1890	14	Fast food, FV, sweet snacks	Parental intake, family meals		✓					✓		
Yasugi et al ³¹⁴	Japan	CS	University	290		Breakfast intake	Living arrangement	✓								

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Yazdi Feyzabadi et al ³¹⁵	Iran	CS	School	1320	14	Snacking behaviour, snacks	Family structure (dual or single parent), social norms, perceived parental control	✓								
Young et al ³¹⁶	USA	CS	School	366	14	FV	Authoritative parenting, parent control, parent modelling, parent support, FV availability				✓			✓		✓
Young and Fors ³¹⁷	USA	CS	School	3155	15	FV, breakfast intake	Parental monitoring, family communication	✓								✓
Yuan et al ³¹⁸	China	CS	University	419	25	FV, SSBs, sweet and savoury snacks, eating outside of the home	Peer effects of dorm-mates			✓						
Yuhas et al ³¹⁹	USA	CS	Online	1560	14	SSBs	Social norms, perceived parenting practices			✓				✓	✓	✓
Zaborskis et al ³²⁰	Albania, Austria, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, England, Estonia, Finland, France, Germany, Greece, Greenland, Hungary, Iceland,	CS	School	192755	13	FV, snacks, SSBs	Family structure (intact vs not)	✓								

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
	Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, North Macedonia, Norway, Poland, Portugal, Republic of Moldova, Romania, Russian Federation, Scotland, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine, and Wales.															
Zaborskis et al ³²¹	Lithuania	CS	School	17189	13	FV, snacks, SSBs, fast food	Family structure (intact, non-intact)	✓								
Zahra et al ³²²	UK	CS	School	10645	14	Meal skipping, junk food	Authoritarian, authoritative, permissive, uninvolved, neutral								✓	
Zarychta et al ³²³	Poland	L	School	100	16	Diet Quality Score*	Parental health behaviours, parental verbal pressure						✓	✓		

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Reference	Country	Study design	Setting	n participants	Middle-age	Outcome(s)	Determinant(s)	Determinant Sub-Category								
								Family structure	Family food culture	Social influence	Social support	Parental Resources & Risk Factors	Parental attitudes & beliefs	Parental behaviours	Parental feeding styles	Partner behaviours
Zeinivanmoghadam et al ³²⁴	Iran	CS	School	332	13	FV	Social support				✓					
Zhang et al ³²⁵	China	CS	School	1090 dyads	13	Carbohydrates	Parental intake, knowledge, attitude and guidance behaviour					✓		✓		
Ziaei et al ³²⁶	Iran	CS	School	1517	16	FV	Parental support, parental connectivity, peer support				✓					
Zolghadr et al ³²⁷	Iran	CS	School	330	14	Diet Quality Score*	Social support				✓					
Zuercher et al ³²⁸	USA	CS	Households	836	14	FV, dairy, meat	Head of household intake							✓		
Zytnick et al ³²⁹	USA	CS	Households	815 dyads	14	Sports drinks (SSBs)	Caregiver attitudes toward sports drinks						✓			

Table S4: Countries studied across all included papers, by study design

Country	Cross-Sectional (n)	Longitudinal (n)	Qualitative (n)	Other (n)	Total (n)
Albania	1	0	0	0	1
Australia	14	8	4	1	27
Austria	5	0	0	0	5
Bangladesh	4	0	0	0	4
Barbados	2	0	0	0	2
Belgium	13	0	1	0	14
Brazil	15	0	0	0	15
Bulgaria	1	0	0	0	1
Cameroon	2	0	0	0	2
Canada	8	2	0	0	10
Chile	3	0	0	0	3
China	5	1	0	0	6
Colombia	3	0	0	0	3
Costa Rica	1	0	0	0	1
Croatia	2	0	0	0	2
Cyprus	2	0	0	0	2
Czech Republic	2	0	0	0	2
Denmark	4	0	0	0	4
Dominica	1	0	0	0	1
Ecuador	1	0	0	0	1
Egypt	3	0	0	0	3
Estonia	3	0	0	0	3
Fiji	1	0	0	0	1
Finland	4	0	0	0	4
France	7	0	0	0	7
Germany	11	1	0	0	12
Ghana	3	0	1	0	4
Greece	7	0	0	0	7
Greenland	2	0	0	0	2
Grenada	3	0	0	0	3
Hungary	7	0	0	0	7
Iceland	1	0	0	0	1
India	5	0	2	0	7
Indonesia	6	0	0	0	6
Iran	13	0	0	0	13
Ireland	2	0	0	0	2
Israel	1	0	0	0	1
Italy	11	1	0	0	12
Ivory Coast	2	0	0	0	2
Jamaica	3	0	0	0	3
Japan	11	0	0	1	12
Jordan	3	0	0	0	3
Kyrgyzstan	2	0	0	0	2
Laos	3	0	0	0	3
Latvia	2	0	0	0	2
Lebanon	1	1	0	0	2
Lithuania	5	0	0	0	5
Luxembourg	1	0	0	0	1
North Macedonia	2	0	0	0	2
Madagascar	2	0	0	0	2
Malawi	1	0	0	0	1
Malaysia	8	0	0	0	8
Maldives	1	0	0	0	1

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Malta	1	0	0	0	1
Mauritius	2	0	0	0	2
Mexico	1	0	0	0	1
Mongolia	1	0	0	0	1
Myanmar	1	0	0	0	1
Namibia	2	0	0	0	2
Nepal	2	0	0	0	2
Nigeria	3	0	0	0	3
Norway	10	2	0	0	12
Pakistan	2	0	0	0	2
Peru	1	0	0	0	1
Philippines	3	1	0	0	4
Poland	5	1	0	0	6
Portugal	3	0	0	0	3
Republic of Moldova	1	0	0	0	1
Romania	1	0	0	0	1
Russian Federation	4	0	0	0	4
Saudi Arabia	8	0	0	0	8
Singapore	2	0	0	0	2
Slovakia	1	0	0	0	1
Slovenia	2	0	0	0	2
South Africa	3	0	0	0	3
South Korea	5	0	0	0	5
Spain	12	0	0	0	12
Sweden	10	0	0	0	10
Switzerland	2	0	0	0	2
Syria	1	0	0	0	1
Thailand	4	0	0	0	4
The Netherlands	13	1	0	1	15
Tunisia	2	0	0	0	2
Turkey	3	0	0	0	3
Uganda	1	0	0	0	1
United Kingdom	10	2	3	0	15
Ukraine	2	0	0	0	2
United Arab Emirates	1	0	0	0	1
United States of America	77	23	5	0	105
Venezuela	2	0	0	0	2
Vietnam	1	0	0	0	1

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