Family as a health promotion setting: A scoping review of conceptual models of the health-promoting family

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Abstract

Background

The family is a key setting for health promotion. Contemporary health promoting family models can establish scaffolds for shaping health behaviors and can be useful tools for education and health promotion.

Objectives

The objective of this scoping review is to provide details as to how conceptual and theoretical models of the health promoting potential of the family are being used in health promotion contexts.

Design

Guided by PRISMA ScR guidelines, we used a three-step search strategy to find relevant papers. This included key-word searching electronic databases (Medline, PSycINFO, Embase, and CINAHL), searching the reference lists of included studies, and intentionally searching for grey literature (in textbooks, dissertations, thesis manuscripts and reports.)

Results

After applying inclusion and exclusion criteria, the overall search generated 113 included manuscripts/chapters with 118 unique models. Through our analysis of these models, three main themes were apparent: 1) ecological factors are central components to most models or conceptual frameworks; 2) models were attentive to cultural and other diversities, allowing room for a wide range of differences across family types, and for different and ever-expanding social norms and roles; and 3) the role of the child as a passive recipient of their health journey rather than as an active agent in promoting their own family health was highlighted as an important gap in many of the identified models.

Conclusions

This review contributes a synthesis of contemporary literature in this area and supports the priority of ecological frameworks and diversity of family contexts. It encourages researchers, practitioners and family stakeholders to recognize the value of the child as an active agent in shaping the health promoting potential of their family context.
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Introduction

Understanding the importance of the family as a setting for health promotion

The objective of this scoping review is to provide details as to how conceptual and theoretical models of the health promoting potential of the family are being used in health promotion contexts. This knowledge is important because the family is a key setting for health promotion. Throughout infancy and childhood, we live among others who can provide for our basic needs, guide and nurture us as individuals, and launch us on health trajectories that follow us throughout the life course. Socioecological models place individuals within families and depict family settings as the most intimate context of health and social influence [1, 2].

Why are models of “health promoting settings” important?

Health promotion practitioners often leverage the structure that exists in the physical and social environments of the settings in which everyday life unfolds in order to establish scaffolds for programs and services. The health promoting school, for example, has developed as a well-articulated context where healthy policy, health education, health environmental features and partnerships can be established [3–5]. Similarly, other health promoting environments have been described in detail, including health promoting outdoor environments [6], health promoting workspaces [7], health promoting hospitals [8] and health promoting municipalities [9].

The health promoting family—a conceptual framework

In 2004, Christensen added to this dialogue by proposing a conceptual model of the “health promoting family” [10]. In doing so, she drew attention to the scarcity of research related to how families engage in promoting their health in the context of their everyday lives and argued for the importance of increased understanding about how the family can play a part in promoting both the health of children and the children’s capacities as health-promoting actors. Along with environmental factors such as income, education and resources, she suggested an emphasis on the family’s ecocultural pathway (family values and goals) and family practices (including practices around food, physical activity, risk behaviors and meaningful social connections) for promoting health. In addition to adult or parental figures in families, core to Christensen’s model is the importance of the child as a “health promoting actor” who has opportunity to participate in, contribute to, and manage their own health and well-being [10].

As we engaged with Christensen’s model [10], we were struck by how underdeveloped conceptual and/or theoretical frameworks of health promoting families appeared to be in comparison to frameworks that have been developed to describe and guide other settings. Indeed, while the family is repeatedly noted as an essential and universally critical context for health promotion, the development of conceptual modeling for a “health promoting family” is limited. We also noted how limited any attempts in the literature have been to clearly define what might constitute a “health promoting family.” To date, such a definition does not appear to exist. There are numerous likely reasons for these gaps, including that family, parenting and child development are intimate and culturally bound activities which vary significantly across homes and settings and for which authority remains largely in the personal versus the public, state or organizational sphere. Further, families are complex and diverse. Any attempt to delineate what might characterize a family as a health promoting context must be broad and flexible enough to recognize the complexities of real people’s lives. Indeed, some research has moved from setting up a false normal of what a family should look like, to a focus on what families do, and how they operate as a unit [11–14].

Prompted by our examination of Christensen’s model, we conducted a scoping review with the objective of identifying, analyzing and interpreting conceptual and theoretical frameworks or models that focus on the health promoting potential of the family context. A scoping review was appropriate in that it enabled us to conduct a broad, interdisciplinary survey of previous research with the purpose of identifying key characteristics related to the concept of the health promoting family [15]. Our hope was that we would be able to use the findings from this review to inform research on family health by building on current and high-quality evidence. Further, we anticipated that this synthesis of knowledge would be valuable to practitioners who are involved in health promotion and whose work involves supporting families in their own contexts. Finally, through this review, we hoped to identify strengths and gaps in the ways that health promoting families are modelled in the academic literature and inform future initiatives at such modelling.

Methodology

Overview

The approach to this scoping review was adapted from the PRISMA [16] guidelines for scoping reviews. Guidance in formulating our search strategy was sought from a Senior Health Sciences Librarian at the Bracken Library at Queen’s University, Kingston, Ontario.
A three-step search strategy was used to find relevant papers in order to contribute to answering the question: How is the health promoting potential of the family portrayed in conceptual and theoretical models in academic and grey literature? In step one, studies were identified by key-word searching electronic databases: Medline (1996–2021); PsycINFO (1967–2021); Embase (1996–2021); and CINAHL (1981–2021). For example, we used the following search strategy in Ovid MEDLINE(R) without revisions (<1996 to Present-June, week 2, 2015) and (June week 2, 2015 –Present-September, 2020) was: ((family [MeSH terms] OR family characteristics [MeSH terms] OR family relations [MeSH terms] OR parent-child relations [MeSH terms] OR nuclear family [MeSH terms]) OR family health [MeSH terms]) AND ((models, theoretical [MeSH terms] OR models, educational [MeSH terms]) OR conceptual framework$.[abstracts and titles] OR conceptual model$.[abstracts and titles] OR theoretical framework$.[abstracts and titles]) AND (Health Behaviour [MeSH terms] OR Health Knowledge, Attitudes, Practice [MeSH terms] OR health status [MeSH terms] OR Nutritional Status [MeSH terms] OR exp. obesity [explode, MeSH terms] OR “Social Determinants of Health” [MeSH Terms] OR exp. social environment [explode, MeSH terms] OR support$.[abstracts and titles] OR strong famil$.[abstracts and titles]). Fig 1 describes the search string that was adapted for each database.

![Fig 1. Search string.](https://doi.org/10.1371/journal.pone.0249707.g001)

Step two involved a hand search of the archives of the Journal of Marriage and Family, a search of the reference lists of included studies, and a thorough backward and forward search using Google Scholar and Web of Science for Christensen’s key article [10], each of which enabled us to identify additional studies. In step three, we conducted an intentional search for grey literature that may not have been found in the scientific databases that we searched in steps one and two. This step generated an additional set of models from textbooks, dissertations, thesis manuscripts, literature reviews, academic journals and reports. English language documents that included an illustrated model related to the concept of the health-promoting family were included. Sources were excluded if they did not mention families that included adult(s) and child(ren) or if the outcomes or exposures of interest were not related to individual or family health. No additional restrictions were set on study date, study design, types of families, types of exposures or outcomes. After duplicates were removed, titles were reviewed by a research assistant to exclude articles that obviously did not meet inclusion criteria. All abstracts and then full text articles were reviewed by VM and either CD (studies up until 2017) or KP (studies from 2017 to 2020). A data charting spreadsheet was jointly developed by VM, CM and KP to determine which models to include. Three researchers (VM,CM, and later KP) independently charted the data, discussed results and updated the spreadsheet through an iterative process as inclusion and exclusion decisions were made. This project spanned multiple years. The first stage involved a search for models between the earliest date possible for each database up to June and August 2015. The second stage involved a search for models between June (week 2, 2015) and September, 2020. A research assistant (JB) was involved with every aspect of this scoping review until 2017. A post-doctoral fellow (KP) then provided extensive input in all aspects of this literature scan throughout 2020. To synthesize our results, we initially grouped the models by the disciplines from which they emerged and the family characteristics that were identified. As we engaged in an iterative and inductive process of analysis and critical discussion between researchers, we identified further ways of synthesizing the models. This included synthesizing the ecological and environmental factors that were identified as important; the health promoting features of the family; and the role of the child as an active or passive agent in promoting family health.

Results
Study selection

After applying the inclusion and exclusion criteria, the overall search from all three steps generated 113 included manuscripts/chapters with 118 unique models relevant to the "health promoting family". The flow diagram depicted in Fig 2 outlines the steps that we used to arrive at the included studies and unique models in our search results.

Fig 2. Flow diagram of included studies.
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Summary table of identified models

Table 1 provides a summary of the 118 distinct models that our review yielded. It includes: (1) the name of the model (including variations on the model that are included in the same source); (2) a short description of each model; (3) a description of the child's role in shaping health experiences and trajectories, which is described in more detail in Table 6; and (4) a reference for each model. Please note that many of the authors displayed their models in different ways in order to highlight different analyses. As long as the overarching model in any given paper was the same, it was counted only one time even though it may be have been reflected by several distinct figures.

Table 1

| Model Name | Description | Child's Role | Reference |
|------------|-------------|--------------|-----------|
| Model 1   | Description | Role details | Source 1  |
| Model 2   | Description | Role details | Source 2  |
| Model 3   | Description | Role details | Source 3  |

https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0249707
| Page 5 of 22 | Article Title | DOI | Article ID |
|-------------|---------------|-----|-----------|
| 2021-06-03, 10:31 AM | Family as a health promotion setting: A scoping review of conceptual models of the health-promoting family | https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0249707 | |

| Table 1: Conceptual models of the health-promoting family | | | |
|---|---|---|---|
| Model | Description | Source |
| | | |
| Health-promoting family | Family as a setting for health promotion, emphasizing the importance of family cohesion, communication, and support in promoting individual and collective health. | Aronson, 2001 |
| Health-enhancing family | Family as a setting for health enhancement, focusing on the role of family in promoting individual and collective health outcomes. | Aronson, 2001 |
| Family-centered health care | Family as a setting for health care, emphasizing the role of the family in promoting individual and collective health outcomes. | Aronson, 2001 |
| Family health promotion | Family as a setting for health promotion, emphasizing the importance of family cohesion, communication, and support in promoting individual and collective health. | Aronson, 2001 |
| Family health care | Family as a setting for health care, emphasizing the role of the family in promoting individual and collective health outcomes. | Aronson, 2001 |
| Family health enhancement | Family as a setting for health enhancement, focusing on the role of family in promoting individual and collective health outcomes. | Aronson, 2001 |

Note: This table is a simplified representation of the conceptual models of the health-promoting family. The actual models and their descriptions may vary in complexity and detail. The sources listed are for reference and may not be exhaustive.
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Table 1. Summary table of identified models.
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Description of studies by discipline

Of the 118 unique models identified, 11 broad disciplines were represented in terms of the area of study. This broad range of disciplines, described in Table 2, illustrates the breadth of interest in understanding the multi-dimensional factors that shape family health in a wide range of contexts.

Table 2. Description of studies by discipline.
https://doi.org/10.1371/journal.pone.0249707.t002

Family characteristics and behaviors identified in models

The family characteristics and behaviors that were identified in the models collectively are described in Table 3.
Table 3. Family characteristics and behaviors identified in the models.
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Environmental and/or ecological factors described in models

The environmental and/or ecological factors that were described in the models varied. Some focused more on social and physical health determinants and others emphasized intrapersonal and interpersonal health determinants. In all models, multiple levels of influences were described as having an impact on family health, health behaviors and health outcomes. Table 4 displays these ecological factors. To see how these environmental and ecological factors map onto each individual model, please see S2 Table (S2 Table Ecological factors and models).

Table 4. Examples of environmental and/or ecological factors described in the models.
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Core characteristics of health promoting families

Table 5 presents core characteristics of health promoting families as observed through our next analysis. While the models prioritized positive characteristics, many of the models also offered what we have described as characteristics of “health threatening families.” These health threatening characteristics were sometimes directly yet conversely related to the health promoting characteristics. Illustratively, family stability and positive mother and father relationship were identified as health promoting characteristics while interpersonal conflict and having an unsupportive family were health threatening characteristics. While each family is unique, broad characteristics were universally important. These include holding shared values, having healthy intra-family relationships and communication, and encouraging healthy behaviours. Note that there was no consensus between models on what these healthy behaviours would be, and models all had specific foci around behaviours (e.g., dietary behaviours and exercise). Even more consistent across models, regardless of the behavioural focus of the model, was access to basic determinants of health such as socio economic background (and related determinants such as access to nutritious food) and education and positive relationships and support within the family.
Table 5. Core characteristics of health promoting families.

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The child's role in the health promoting family

There were variations in the models as to how the role of the child was represented. Thirty-two of the models specifically ascribe a role to the child that positions them as active agents in shaping their own health experiences. Another twenty-nine models represent the child as an individual member of the family but with the child having a less prominent or active role in shaping their own health. We describe this as having an active/passive role. Nearly half of the models (58) depict the child as a passive recipient of the actions of others, and the ecological determinants that surround him or her, and as part of a wider system but not necessarily as an active agent in his or her own right. Table 6 presents the various ways that the different models present the role of the child in the family. (The specific ways that the child's role is depicted in each model is also noted briefly in column 3 in Table 1).
and dynamic relationships between various aspects of the child and family environment were characterized in diverse ways. The United States context may be interpreted differently in another. For instance, the Environmental factors are important but their conceptualization varies by context

A strong similarity among most of the papers and models we reviewed was the priority given to ecological frameworks or approaches when considering the health promoting nature of families. Overwhelmingly, authors argued that human behaviors and health outcomes cannot be understood without taking into consideration the contexts in which they occur [21, 76, 82, 119]. This kind of thinking was integrated into most of the models, and the ways that each family interacts with various contextual aspects were described as influencing family functioning and health outcomes for all family members. Indeed, individuals within family systems not only influence each other, but are simultaneously influenced by interactions between family members and the environment [21]. Illustratively, the model by Fisher-Owens et al. (2007) depicts community, family and child level influences as important in shaping child oral health [55]. These authors elucidate their model by describing how the influences on oral health do not act in isolation but rather dynamically, via complex interactions. In 2017, Kalil [72] used Fisher-Owen's et al. (2007) model to further posit that these community, family and child level influences are bound by time and environment as complex interactions in which children live and experience their lives, and they have an impact on child oral health. In their 2014 model, De Coster and Zito demonstrate the importance of contextual factors by describing how emotional attachment of young people to their mothers is shaped by maternal distress, which in turn influences adolescent mental health outcomes [41].

The importance of environmental or ecological factors is well-established in the academic literature [1, 2], and our observation about their importance in these models is hardly groundbreaking. What is interesting about our findings, however, is that while there were variables that were seen in models repeatedly (for example, SES, family organization, etc.), there was no real consensus about what the actual environmental factors that were important to the various models might be. In part, identifying environmental factors that are important is complicated by the importance of contextually and culturally appropriate measurement and interpretation; what is a valid measurement or factor in one context may be interpreted differently in another. For instance, the environmental, individual and family factors related to acculturation in adolescent Latino [84] and Spanish [87] immigrant mental health differ from the influences related to youth mental health and parental risk taking, alcohol dependency, or single parent households [108, 123]. The issues that appear to shape the influence of parents over their child's mental health are different in different cultural contexts. While in all of these models [84, 87, 108, 123] child/adolescent mental health is influenced by parental and family variables, in some models, parental variables are predisposed by culture and context. Illustratively, in some contexts, acculturation [84] and immigration [87] are important shaping factors on youth/adolescent mental health, in other contexts these are not relevant. From geographic and cultural contexts as far ranging as rural northwest China [86], Romania [107], Latino youth in the United States [84], South Africa [78], South Korea [102], Kenya [42], Spain [87], African American [57], and Uganda [69] complex and dynamic relationships between various aspects of the child and family environment were characterized in diverse ways.

Table 6. Child’s role in shaping health experiences.

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Summary of main findings of the studies

Our search for models related to the health promoting family resulted in the consideration of studies from a very broad range of disciplines, methodological approaches, purposes and perspectives. Whether the study was looking at effects of parental depression [20], weight loss and obesity [66, 77]; academic outcomes [107]; mental health outcomes [105]; dieting and nutrition [82]; the participation of children with disabilities [76], child resilience [19], influences on participation in physical activity [36, 60, 61, 122], or parental perceptions regarding health behaviors for their children [63, 111] the importance— but also the complexity—of the task of modeling the potential of the family in the promotion of health or well-being was acknowledged.

Through our analysis, three main themes were apparent. First, and not unexpectedly, ecological or environmental factors are central components to most models or conceptual frameworks [17, 19, 27, 40, 43, 44, 52, 74, 96, 100]. Yet, the factors that were presented and their relative importance vary among the models. Second, most models were attentive to cultural and other diversities. In doing so, it appeared that authors were being intentional about presenting models that were broad enough to make room for a wide range of differences across family types, and for different and ever-expanding social norms and roles pertaining to families and family life. Rather than focus on what a family looks like, many of the models focused on how the family operates together [23, 58, 66, 75, 87, 125]. And finally, our review drew attention to the way that the role of the child is often presented in models of the health promoting family: less as an active agent and contributor to his or her own health within a family and more as a passive recipient of health that is shaped by a complex range of contexts.

Discussion

Environmental factors are important but their conceptualization varies by context

A strong similarity among most of the papers and models we reviewed was the priority given to ecological frameworks or approaches when considering the health promoting nature of families. Overwhelmingly, authors argued that human behaviors and health outcomes cannot be understood without taking into consideration the contexts in which they occur [21, 76, 82, 119]. This kind of thinking was integrated into most of the models, and the ways that each family interacts with various contextual aspects were described as influencing family functioning and health outcomes for all family members. Indeed, individuals within family systems not only influence each other, but are simultaneously influenced by interactions between family members and the environment [21]. Illustratively, the model by Fisher-Owens et al. (2007) depicts community, family and child level influences as important in shaping child oral health [55]. These authors elucidate their model by describing how the influences on oral health do not act in isolation but rather dynamically, via complex interactions. In 2017, Kalil [72] used Fisher-Owen's et al. (2007) model to further posit that these community, family and child level influences are bound by time and environment as complex interactions in which children live and experience their lives, and they have an impact on child oral health. In their 2014 model, De Coster and Zito demonstrate the importance of contextual factors by describing how emotional attachment of young people to their mothers is shaped by maternal distress, which in turn influences adolescent mental health outcomes [41].

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conceptual frameworks that were developed were influenced by geographic and cultural contexts. One of the challenges of developing a conceptual framework for the health promoting family, and which indeed was recognized strongly in the studies in this review, is the importance of acknowledging that cultures, contexts, and families are unique. So too are at least some of the environmental factors that contribute to family well-being [24, 85, 91, 96].

Despite these natural contextual variations, the environmental and/or ecological factors that were described in the models mapped readily onto already well established social, physical, and structural determinants of health. Overall, while not surprising, our review suggests that researchers continue to find and use determinant of health frameworks when developing conceptual models related to family health [31, 46, 103]. While each family is unique, as our analysis in Table 5 demonstrates, there are other broad characteristics that appear to characterize family health. These include shared values (it does not matter what the values are so much as that they are shared); positive relationships; attitudes that support positivity, flexibility, care and healthy behaviours; access to basic determinants of health such as sufficient income and other health resources and access to healthcare. Table 5 also includes an analysis of health threatening family characteristics and includes factors such as family and interparental conflict; negative health behaviours (improper diet, lack of sleep and physical activity; family substance problems) and lack of basic determinants of health such as insufficient income; food insecurity and lack of access to health care providers and healthcare relationships. This review was prompted by our observation that a universal definition of a health promoting family does not exist. This scoping review reinforces the complexity of providing such a definition. Yet, what it does contribute is a synthesis of some of the basic categories and characteristics of health promoting (and health threatening) features of families, even in their uniqueness.

Diversity, and changing norms around social roles

Over the past many decades, dramatic societal shifts have occurred around norms of family life (including, for example, shifts in social and employment roles of men and women [28, 41], and the role and status of women overall). These societal changes include a resistance to restrictive paradigms about what it is to be a family, and a growing recognition that families come in many shapes, sizes and configurations. This makes it difficult to determine what a healthy family might look like in a diversity of contexts, and perhaps more importantly, reveals not only the pointlessness but also the danger of prescribing a typical family life cycle too specifically. This is especially true as families inevitably have expected or unexpected transitions over the life span. The focus we see in this literature review away from what “constitutes” a family to how a family operates is certainly healthy and avoids claims of any false normal.

As thinking around health and families evolve in ways that centre what may be considered “normal”, it draws attention to how understandings of health have evolved. This, too, was reflected in our review. Illustratively, Ball, Moselle & Pedersen (2007), point to the way that as understandings of health have expanded, “scholars and policy makers focused on families are increasingly subscribing to understandings of health as reciprocally determined by a broad array of biological and non-biological factors” [23, p. 6]. Notably, Denham (2003) [43] encourages thinking that moves beyond Western, dualistic and biomedical foci on health, illness and disease to a consideration of more diverse ways to approach individual and family health.

Consideration of adult gender was important across the models. It was then surprising that it was not as big a consideration in relation to the children in the majority of the models. However, where gender was considered, it was important. Illustratively, in their model, Molborn & Lawrence [84] drew attention to the overall weakening of socioeconomic disparities in health lifestyles and a strengthening of gender disparities as children age. Niemann et al. [96] model gender differences in the association between family functioning and weight status. While a higher level of family functioning was associated with decreased likelihood of being overweight among girls, this was not the case for boys. In the 2018 model by Shapiro et al., [113] there was a significant association between child’s gender and the Precaution, Adoption, Process Model (PAPM) stage of decision-making, with parents of boys more likely to report being in earlier PAPM stages. Here, parents of daughters (compared to sons), parents of older children, and parents with a health care provider recommendation had decreased odds of being in any earlier PAPM stage as compared to the last PAPM stage (i.e. decided to get vaccinated). None of the models made any room for gender diversity or non-binary gender. We would expect as models of the family continue to evolve, attention to non-binary gender among all family members will become much more prominent in future models.

The child as a health promoting actor is undervalued

In our analysis of these models, the lack of attention to the kind of robust vision that was cast by Christensen in 2004 [10] as to the value of the child as health-promoting actor in these models was striking. Admittedly, and as depicted in Table 6, 32 (out of a possible 118) of the models that were reviewed did present children as active participants in achieving their own health. For example, both Gold et al. (2008) [59] and Wade et al. (2015) [123] noted self-efficacy as important to their model and Hauser-Cram et al. (2001) [64] drew attention to the child’s ability to attain mastery and also to regulate one’s own behavior. We were interested to note that gender did not appear to be a consideration in terms of the child’s active or passive role. Age, however, appears to be important. In the 32 “active participant”, older children and adolescents were more likely to be described as having an active role than younger children. This is not surprising given that as children and youth age, they naturally begin to take a more independent role in their own health. Several studies drew attention to the child’s role in avoiding risk behaviors such as risky tobacco and alcohol use [5, 17, 35, 40, 51, 94, 96, 97, 99]. While another 28 of the models presented children’s roles in what we categorized as “active/passive” roles, more often, however, these models (58 out of 118) presented children as passive recipients of health rather than as contributing agents to their own health journeys.
This lack of attention is short-sighted, because as Christensen [10] and others [129] [130] have argued, when children themselves are not included and encouraged as competent, capable agents, they are deprived of the opportunity to learn to make their own health related decisions, and to gradually learn to take responsibility for their own health behaviors and decisions. Including the child in this way is not intended to diminish the importance of the role of the parent(s) or environmental and contextual factors in shaping the health trajectories of children. Rather, it is in keeping with a growing body of research that illuminates the importance of children's contributions to the health promoting nature of their own families, and the empowerment that ensues when children are encouraged to contribute to the health promoting activities in the family [80, 129, 130]. In keeping with this scholarship, Woodhead and Faulkner [131] use research evidence to describe how the emergent competencies of children are not so much set along an artificial developmental timeline as they are grown into through active participation. When children are guided in their participation by supportive adults, their developmental capabilities evolve. In other words, when children are encouraged to become active agents in their own health journey, their participation itself appears to serve the dual purpose of also supporting their development [131].

One area to which this scoping review draws attention is in relation to illness acceptance, maintenance and self-management behavior in adolescents, and the ways that these kinds of active roles can be of particular importance [90, 128]. For instance, in their model, Mannen et al. (2018) [90] describe how self-management behaviors are motivated by personally important outcomes in teens related to their own ideas about symptom perceptions, medication beliefs, symptom management, and personal goals and priorities. Additionally, Zheng et al. (2019) [128] describe how the active roles that adolescents play in terms of understanding of their illness, overcoming limitations, normalization and readiness for responsibility lead to positive consequences of higher self-esteem, stronger sense of identity, better disease control, and improved quality of life in adolescents. In turn, all of this supports illness acceptance.

We observed a slow but potentially encouraging shift that appears to have occurred over the past five years. Whereas we observed that in earlier models, children were prescribed a primarily passive role (for example, only about ¼ of the models identified before Christensen's model was published in 2004 recognized the child as having an active role), a shift towards recognizing children as active agents in promoting their own health in many of the later studies was notable. Illustratively, within the 44 models that we identified between 2016 and 2020, over 1/3 of them (16/44) depicted the child as having an active role in promoting family health. It may be that the initial vision Christensen [10] proposed in her original theoretical framework, which includes the child as a health promoting actor, and that was the impetus for this review, is becoming more widely accepted as important to the health promoting potential of family contexts.

The notion of the child as a key health promoting actor in families is in keeping with Article 12 of the Convention on the Rights of the Child (CRC), which outlines participation rights [132]. Children from countries who have ratified the CRC, in keeping with their age and evolving capacities, have the legal right to express their opinions, to have a say in matters affecting their own lives, and to participate fully in society. This enables not only public agency, but also agency in their own family context. Participation as active, health promoting agents in the life of their family is an opportunity by which young people can have their ideas valued and recognized and can influence decision-making in ways that affect their lives. These kinds of roles not only contribute to the life of the family overall, but also facilitate growth, resilience, meaning and agency in the life of the child [71, 93]. This kind of active participation is also an internationally protected right [132]. Consequently, attending to children's voice, agency and participation should remain central to the ways that models of family health are shaped [133, 134].

Strengths and limitations

To our knowledge this is the first scoping review to identify studies that model the health promoting family. The strengths of this review include the systematic methods used for identifying included models. It provides an overall summary table that demonstrates the diversity of interest in this topic, and the different ways that health promoting families have been modelled across disciplines over decades. A limitation of this review is that only papers written in English were considered and relevant material written in foreign languages were omitted. This inevitably introduced a layer of bias in the final sample of included models.

Conclusions

In this review, we identified 118 models that describe the health promoting potential of families. The complexity of contemporary family life was well-described, including appropriate attentiveness to rapidly changing social norms and roles. Ecological and environmental factors were given high importance in all models, yet consensus on what the specific factors are that would facilitate a health promoting family rightly remained elusive. The models identified in this literature review come from a diversity of disciplines and indicate a broad and general relevance of family health. This could imply that a broad range of stakeholders are open to considering family health promotion and intervention strategies in a variety of different disciplinary contexts. The role of the child as an active agent—rather than a passive recipient—of their health journey was highlighted as an important gap in many of the identified models. Future research would do well to pay attention to the capacity of children within families to be active agents in shaping their own lives and the lives of their family members [134]. Not only is the active participation of children an internationally protected right, it is a powerful vehicle for supporting the emergent competencies of young people in terms of managing their own health experiences and trajectories.
The family is a key setting for health promotion. Contemporary health promoting family models can be used to establish scaffolds for shaping health behaviors and outcomes for families and can be useful tools for education and health promotion. This review contributes a synthesis of contemporary literature in this area and supports the priority of ecological frameworks and diversity of family contexts. It also encourages researchers, practitioners and family stakeholders to recognize the value of the child his or herself as an active agent in shaping the health promoting potential of their family context.

Supporting information

S1 Table. HPF review evidence table.
https://doi.org/10.1371/journal.pone.0249707.s001
(DOCX)

S2 Table. Environmental and/or ecological factors detailed in models.
https://doi.org/10.1371/journal.pone.0249707.s002
(DOCX)

S3 Table. Preferred reporting items for systematic reviews and meta-analyses extension for scoping reviews (PRISMA-ScR) checklist.
https://doi.org/10.1371/journal.pone.0249707.s003
(DOCX)

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