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Research Advances on the Concept and Measurement Tools of Family Health (Postprint)

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Date: 2026-02-02T17:16:28+00:00

Abstract

The family is the basic unit of society and an important setting for individual development, exerting a significant influence on individuals' physical and mental health. Conducting review studies on the connotation of family health and on measurement instruments is a key task for building a family health service system, continuously improving the level of family health, and giving full play to the role of family health in supporting high-quality population development. This paper systematically sorts out the connotation of family health, focuses on elaborating the relationships between family health and related concepts such as healthy family, and analyzes in stages the development of family health measurement tools. Family health refers to the family's capacity to maintain and promote the health of its members, and its connotation has evolved from an internal to an external focus and from the whole to the individual. Family health is an important pathway to building healthy families, while healthy families are a manifestation that family health has reached a certain level. Before 2020, most family health measurement instruments were applicable only to specific populations or were used to measure partial dimensions of family health. Since 2020, family health measurement tools have been further developed in terms of target populations and evaluation dimensions, resulting in two family health scales that are applicable to multiple groups and encompass multiple evaluation dimensions. At present, the family health scales most widely used among Chinese populations include four dimensions: emotional health, healthy lifestyle, health resources, and external social support, and they have been applied in psychological and behavioral surveys of Chinese residents. Although these scales demonstrate high reliability and validity, they are adapted from family health scales developed by foreign scholars; therefore, it is still necessary to further integrate relevant policies, views on marriage and childbearing, family traditions, parenting styles, and other factors reflecting China's national conditions and Chinese culture, so as to develop family health scales that better capture the

characteristics of China' s population.

Full Text

1 Literature Search

This study employed the search terms “(”family health” + ”healthy family”) * (”definition” + ”concept” + ”measure” + ”scale” + ”framework”)” in CNKI and “”family health” AND (”definition” OR ”concept” OR ”measure” OR ”scale” OR ”framework”)” in Web of Science Core Collection, with a cutoff date of December 31, 2024. The search yielded 16 Chinese articles and 33 English articles. After screening, 1 Chinese article and 14 English articles were retained. Inclusion criteria were: (1) formally published articles within the search timeframe; (2) articles that defined family health or addressed family health measurement tools; (3) preference for articles indexed in SCIE, SSCI, or Peking University Core Journals. Exclusion criteria were: (1) articles not written in English or Chinese; (2) editorials, correspondence, or short communications.

2.1 Family

Traditionally, family refers to a fundamental social unit composed of two or more members connected by blood, marriage, adoption, emotional bonds, or commitment, who live together, depend on each other, and work collectively toward life goals [8]. Subsequent research has expanded this definition to include groups of two or more intimate individuals who provide social support and assistance when members face physical or psychological crises, encompassing emerging family forms such as cohabiting and same-sex families [9-10].

These definitions emphasize the cohabitation and mutual influence among family members. Clearly, family members spend substantial time together, interact frequently, maintain close relationships, and exert significant influence on one another. Ecological systems theory posits that family is the earliest and most influential microsystem in individual development [11]. Andersen' s Behavioral Model suggests that family support can help individuals utilize health services more effectively [12]. Consequently, a well-functioning family system contributes to maintaining and promoting the physical and mental health of its members.

2.2 Family Health

The concept of family health initially emerged in Denham' s family health framework, which defined family health as “the health-influencing interactions and processes among family members living together, which may be affected by complex environmental systems” [3]. This framework comprises three components: function, environment, and structure. Function refers to relationships and interactions among family members; environment refers to the interplay between the family' s past, present, and future; and structure refers to the family' s daily lifestyle patterns, manifested in six areas: self-care, safety and prevention,

mental health behaviors, family caregiving, family nursing, and illness care [13-16]. Developed for nursing science, this framework primarily focused on internal family elements.

Weiss-Laxer et al. [4] refined the concept of family health, defining it as “a resource at the family level, composed of internal elements such as each member’s health, capabilities, behaviors, character, and member interactions, as well as external elements including the family’s physical, social, emotional, economic, and medical aspects.” This conceptualization encompasses six dimensions: family relationships, social environment, family member health, health behaviors, health resources, and time management. By incorporating external elements like social environment, this definition enriched the scope of family health.

Li et al. [5] further expanded the concept of family health within the Chinese context, proposing that family health includes both collective and individual elements. Collective elements encompass family structure, relationships, environment, behaviors, and (internal) resources, as well as external social support. Since family is a setting where individuals spend considerable time in frequent, close interactions, these collective elements become integrated into individual lives through daily interactions, subsequently influencing individual behaviors, awareness, and capabilities. These individual elements, in turn, constitute components of family relationships, environment, and behaviors, working together with collective elements to form the family’s capacity to maintain and promote member health. Li et al. [5] introduced individual elements for two reasons: first, research objectives differed. While Weiss-Laxer et al. [4] aimed to provide measurement tools for U.S. population surveys, Li et al. [5] also sought to offer intervention strategies for China’s health initiatives, which directly target individual behaviors, awareness, and capabilities. Second, the relationship between family and individual matters: family relationships, environment, and behaviors are composed of individual behaviors, awareness, and capabilities, making individual elements essential components that should be incorporated into the concept of family health [5].

In summary, family health represents the family’s capacity to maintain and promote the health of its members. Early concepts focused primarily on internal elements such as function, environment, and structure [3]. Weiss-Laxer et al. [4] extended the concept from internal to external factors by incorporating elements like social environment. Li et al. [5] further enriched the concept by introducing individual elements such as behaviors, awareness, and capabilities. Clarifying the concept of family health facilitates targeted efforts to enhance the family’s capacity to maintain and promote individual health, thereby improving population and societal health levels.

Promoting family health holds strategic significance in two aspects. First, it facilitates the integration of medical treatment and preventive care. The Decision of the Central Committee of the Communist Party of China on Further Deepening Reform Comprehensively to Advance Chinese Modernization, adopted at the Third Plenary Session of the 20th CPC Central Committee, proposed

Figure 1

Figure 1: Figure 1

“promoting social co-governance, coordination between medical treatment and prevention, and integration of medical treatment and prevention” [17]. The coordination and integration of medical treatment and prevention represent a governance mechanism led by the government with participation from multiple social actors. Promoting healthy families enables families, as important social entities, to better participate in this coordination and integration. Second, it helps implement the Party’s health policy in the new era. “Focusing on primary-level care and accelerating the construction of a tiered diagnosis and treatment system” constitutes a crucial component of implementing the Party’s health policy in the new era [18]. Family is the most fundamental social unit and a vital link connecting individuals with external society. Enhancing families’ capacity to maintain and promote individual health contributes to building a tiered diagnosis and treatment system centered on primary-level care.

2.3 The Distinction and Connection Between Family Health and Healthy Family

In 2024, the National Health Commission and seven other ministries jointly issued the Notice on Comprehensively Developing Healthy Family Construction, which established the important status of healthy family construction and defined a healthy family as “a family where members fulfill their primary health responsibilities, master essential health knowledge and skills, practice civilized, healthy, and green lifestyles, uphold excellent family traditions and education, maintain a clean household environment, and where family members enjoy good physical, psychological, and social well-being” [19].

The terms “healthy family” and “family health” are often used interchangeably in existing literature [20]. Distinguishing these concepts is essential for implementing targeted initiatives to promote family health and build healthy families. Based on their definitions, a healthy family represents a family with specific characteristics, whereas family health refers to the family’s capacity to maintain and promote member health. This paper posits that their relationship is: family health serves as the pathway to building healthy families, while healthy families represent the manifestation of family health reaching a certain level. Figure 1

illustrates the pathway roles of various dimensions of family health in healthy family construction, based on the family health framework proposed by Li et al. [5].

3.1 Early Family Health Measurement Tools

The Thai Family Health Routines (TFHR) scale primarily focuses on family daily lifestyle patterns, evaluating the healthfulness of Thai families' daily routines through six aspects: self-care, safety and prevention, mental health behaviors, family caregiving, family nursing, and illness care [21]. The scale's reliability and validity have only been tested in Thai samples, limiting its applicability.

The Family Health Behavior Scale (FHBS) is designed for families with children aged 5-12, focusing on how families promote healthy child development [22]. Completed by parents, it includes four dimensions: parental behaviors, physical activity, dietary habits, and child behaviors [21]. The scale's reliability and validity have been tested in Spanish and Brazilian populations [23-24].

The Family Health Status Scale is designed for families using nursing services, evaluating nursing service effectiveness by measuring family members' perceptions of family health status across eight dimensions: social environment, family integration, family functioning, family confrontation, family coping, family support, standardization, and family investment [25]. However, the scale's reliability and validity have not undergone exploratory and confirmatory factor analysis, limiting its use in academic research.

The Family Health Climate (FHC) scale measures the family environment that promotes two types of behaviors: healthy diet and physical activity [26]. It includes two versions: one for physical activity promotion (FHC-NU) comprising values, cohesion, and information; and another for healthy diet promotion (FHC-PA) comprising values, communication, cohesion, and consensus [26]. The scale's reliability and validity have been tested in Turkish and Iranian populations [27-28].

Researchers have also introduced three existing scales to measure specific aspects of family health. The Family APGAR measures family functioning across five dimensions: adaptation, partnership, growth, affection, and resolve [29]. The Family Assessment Device (FAD) also measures family functioning and can classify families as healthy or unhealthy based on results, covering seven aspects: problem-solving, communication, roles, affective responsiveness, affective involvement, behavioral control, and general functioning [30]. The Family Adaptability and Cohesion Evaluation Scale (FACES) measures two dimensions: family adaptability and cohesion [31].

In summary, early family health research developed and introduced various measurement tools. However, these tools have two limitations: first, they are only applicable to specific populations, not all groups. For example, TFHR is for Thai families, FHBS for families with 5-12-year-old children, FHS for families using caregiving services, FHC for family environments promoting exercise and healthy diet, APGAR and FAD for family functioning, and FACES for family adaptability and cohesion. Second, they measure only partial dimensions of

family health rather than covering all dimensions.

3.2 Family Health Measurement Tools Since 2020

Since 2020, researchers have developed two scales applicable to diverse populations and covering multiple dimensions of family health, expanding both the target populations and dimensional coverage of measurement tools. Weiss-Laxer et al. [4] developed a family health scale comprising six dimensions: family relationships, social environment, family member health, health-related practices, health resources, and time management. Family relationships refer to the quality of interactions among members and beliefs about family responsibilities. Social environment refers to members' overall evaluation of family life and environment. Family member health refers to the overall physical and mental health of members. Health-related practices refer to mutual encouragement among members regarding diet, exercise, and caregiving. Health resources are the family's assets for disease resistance and health maintenance, including economic capacity, parental caregiving abilities, and self-recovery capabilities after illness. Time management refers to members' balance between work and family life [5].

Crandall et al. [6] developed the Family Health Scale (FHS) with four dimensions: social/emotional health, healthy lifestyle, health resources, and external social support. Social/emotional health refers to relationship quality among members and positive expectations about family life. Healthy lifestyle refers to how daily routines promote health. Health resources refer to the sum of material and health resources available to members. External social support refers to the family's ability to seek help from outside the family when members encounter work or life difficulties [6]. The scale's reliability and validity have been tested in Chinese and Danish populations [7, 32], and it has been applied in the Psychology and Behavior Investigation of Chinese Residents since 2021, becoming the most widely used family health scale in China [33]. However, this scale was translated and adapted from a foreign-developed instrument. Although it demonstrates high reliability and validity, future research should further incorporate Chinese national conditions and cultural elements such as relevant policies, marriage and childbirth concepts, and family traditions to develop a family health scale better suited to the Chinese population.

3.3 Summary

Table 1 presents basic information on the aforementioned family health scales. As shown, pre-2020 tools were only applicable to specific populations or measured partial dimensions of family health [21-31]. Since 2020, measurement tools have expanded in both applicable populations and dimensions, yielding two scales suitable for diverse populations and covering multiple dimensions [4-5]. Among these, the scale developed by Crandall et al. [6] is currently the most widely used in the Chinese population [5, 7, 33].

Existing literature has extensively studied the conceptualization and measure-

ment of family health. Family health refers to the family's capacity to maintain and promote member health, with its concept evolving from internal to external factors and from collective to individual elements. Family health differs from healthy family: family health is the pathway to building healthy families, while healthy family represents the manifestation of family health reaching a certain level. Clarifying the concept of family health facilitates accurate measurement and targeted improvement of family health levels, which holds strategic significance for promoting coordination between medical treatment and prevention and implementing the Party's health policy in the new era.

Family health measurement tools have developed in terms of applicable populations and dimensions. Pre-2020 research developed and introduced various scales, but these were not universally applicable or only covered partial dimensions. Post-2020 research has produced two scales applicable to diverse populations and covering multiple dimensions. Among them, the scale developed by Crandall et al. [6] has demonstrated reliability and validity in the Chinese population and has been used annually in the Psychology and Behavior Investigation of Chinese Residents since 2021, making it the most commonly used family health scale in China. Despite its high reliability and validity, this translated and adapted foreign scale requires further revision and validation that incorporates Chinese national conditions and cultural elements such as relevant policies, marriage and childbirth concepts, and family traditions to create a measurement tool better suited to Chinese population characteristics.

Funding: This study was supported by the Tsinghua University "Double High" Plan for Liberal Arts Construction (2024TSG06402).

Citation: WANG T R, LIU W W, WANG Y R, et al. Progress in research on the conceptualization and measurement of family health[J]. Chinese General Practice, 2026. DOI: 10.12114/j.issn.1007-9572.2025.0015. [Epub ahead of print].

Author Contributions: WANG Tianran was responsible for conceptualization, design, and manuscript writing; LIU Wenwen, WANG Yiran, and YAN Chenyu were responsible for data collection and manuscript revision; LIANG Wannian provided overall quality control and took responsibility for the entire article.

Conflict of Interest: The authors declare no conflicts of interest.

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