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1 ORIGINAL PAPER

2 Structural Dialectic Model of Care: A Guide to Beliefs, 3 Scenarios and Social Actors Analysis in Nursing Research

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7 **Abstract**
8 The structural dialectic model of care provides a data analysis method that facilitates
9 the identification of beliefs and structural and functional characteristics. To demon-
10 strate the relevance of the structural dialectic model of care for data analysis inte-
11 grating beliefs, scenarios and social actors. The characteristics and functions of the
12 model are described and explained through an analysis of its application in fifteen
13 doctoral theses (2009–2017). This model has three structures, the functional unit
14 (beliefs), the functional element (social agents), and the functional framework (sce-
15 narios). The Structural Dialectic Model of Care constitutes a useful methodological
16 tool for studies of nursing, organizing analysis of the data according to the dynamic
17 and dialectical nature of their structures.

18 **Keywords** Nursing · Religion and health care · Culture of care · History of nursing ·
19 Qualitative data analysis · Nursing models · Structural dialectic model of care

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20 Introduction

21 The Structural Dialectic Model of Care (SDMC) has its origin in a mid-1990s
22 doctoral thesis entitled "Family structure and social role of women in Alicante,
23 1868–1936", which employed this model for the first time. This thesis established
24 the links between social structures, norms, beliefs, and values, the people who per-
25 form social and health care activities and the scenarios where these occur. The pre-
26 sent article aims to describe the characteristics of the SDMC and to explain why it
27 was relevant for organizing and analyzing the data in 15 doctoral theses submitted
28 between 2009 and 2017. The theoretical approach adopted for this study encom-
29 passes the contributions of various authors. These characteristics concerning the
30 characteristics of models (Armatte 2006; Matas 2007; Callejo 2018), especially
31 those based on structuralism, functionalism, and dialectics.

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For this study, we posed the following research questions regarding the SDMC:

- What are the paradigmatic and theoretical bases that underpin it? What are its essential characteristics?
- What kinds of beliefs and values are identified and analyzed with the dialectical structural model of care?
- What kind of research is it suitable for and what benefits does it offer in the context of health care?
- What are its advantages and disadvantages?

State of the Art

In the context of nursing, numerous studies have conducted on the models that have emerged ever since care understood from a religious perspective (Fernandes and Siles 2008). Thus, a basic pattern of care surfaced during the first attempts to professionalize nursing, providing a structure similar to that of a scenario-based model. Abundant studies have explicitly focused on nursing models (Henderson 2009; Marriner and Alligood 2011; Fawcett 2011; Meleis 2004; Riehl Sisca 2002; Durán 2007; Cutcliffe et al. 2012).

The SDMC has been used to describe to obtain an overview of the historical development of community nursing (Siles 1999). It has proved especially useful in historical and cultural research on nursing Siles (2011). Similarly, it applied to the cultural study of nursing management from a gender perspective (Rebolledo and Siles 2008), and in cross-sectoral studies of nursing analyzing cultural differences between the public and private health care sectors (Rebolledo et al. 2011). The SDMC has also been applied to facilitate functional analysis in historical studies in various contexts: on cholera (García et al. 2012); on the social role of prehistoric women in care aimed at survival through an analysis of narrative sources (Mezquita and Siles, 2014; Siles and Solano, 2014) on training materials for midwives in the seventeenth and eighteenth centuries (Martínez et al. 2014); on mental health care in pre-industrial societies (Piñeiro and Siles 2018); and on the role of nursing in building critical thinking in school children (Ceolin et al. 2017).

The Paradigmatic and Theoretical Framework of the SDMC

SDMC and Structuralism

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69 The concept of the structure has a systemic nature, given that its elements are
70 inter-related in such a way that any alteration in one of them results in a modification
71 of the rest: functional unit (F.U.), functional framework (FF) and functional element
72 (F.E.). Thus, structure functions as a model since any modifications affect all the
73 elements that constitute the family. These changes are evident and, to some extent,
74 predicted. In this respect, the structure is not an observable empirical reality, but a
75 theoretical explanatory model. Lévi-Strauss interprets structure as a (non- empirical)
76 mental framework, which is dynamic and, therefore, subject to historical changes,
77 although these occur very slowly precisely because of the structural nature. The
78 dynamics of a structure are slow and operate in the long term. They are to resist-
79 ance to the passage of time and consequently to change. In addition to their nature
80 as frameworks and their slow dynamics, structures have a third characteristic: their
81 propensity to add different meanings according to cultural pressure or the historical
82 moment. It is this tripartite condition that endows structures with their dynamism
83 and also their potential for change (Lechte 2008).

84 SDMC and Functionalism

85 Another conceptual grounding of the SDMC is functionalism. Malinowski inter-
86 prets functionalism as a process of identifying and understanding the institutions of
87 life, where the institution functions as a set of ideas, beliefs, values, and norms that
88 determine the forms of social exchange (Malinowski 1988). This situation reflects an
89 organic vision that relates the cultural system to the biological system of the people
90 who comprise it. For example, one cultural need is health, and the cultural response
91 is hygiene. From this perspective, one can observe both the structural and functional
92 nature of the family: as a basic social structure of socialization and coexistence that
93 has assigned the role and function of care to women for centuries. The family is a
94 conceptual framework composed of mental categories that are sufficiently robust to
95 withstand change for a long time until a historical-cultural change prompts a sub-
96 stantial alteration in its meaning.

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97 SDMC and Dialectics

98 Dialectics as a method to assess changing historical and social reality constitutes
99 one of the cornerstones underpinning the SDMC, based on one fundamental consid-
100 eration: that health and illness form a dialectic and cultural process.
101 In science, successive models have emerged to interpret the principle of meth-
102 odological and instrumental relevance to the characteristics of the object-subject
103 studied in a discipline's epistemological framework. The first method to respect the
104 dynamic nature of reality, providing a processual synthesis that integrates its differ-
105 ent parts, is the Hegelian dialectic method reinterpreted by Kojeve (1994), and the
106 dialectic and historical materialism developed by Marx and Engels (Engels 1979).
107 In line with this latter author, the dynamic nature of reality is as follows: "Dialectics,
108 however, is nothing more than the science of the general laws of motion and the
109 development of nature, human society and thought" (Engels 1997, p. 33).

110 Within the framework of the SDMC, a theory applied in practice never emerges 111 unscathed, whole or unchanged; rather, the result constitutes a synthesis between the 112 moment before application of the theory and the resistance generated by the setting 113 to said application. This synthesis contains new elements that comprise the practical 114 reality following the application of the theory, but this reality, in turn, encompasses 115 components that existed before said application.

116 **SDMC's Links with Nursing: Henderson's Assumptions** The essential concepts and 117 assumptions of the model of Henderson (Marriner, Alligood 2011) and Fawcett's 118 meta-paradigm (Fawcett 2011) clarifies the relationship between the SDMC and 119 nursing (Fig. 1). Thus, we can appreciate the utility of this model to organize and 120 analyze data in our field of study. We all need to satisfy our basic needs. The way 121 to achieve these changes according to life's different phases, according to a social 122 and cultural context. These contexts shared values, beliefs, norms and lifestyles (the 123 functional unit), depending on a given place (the functional framework) and with the

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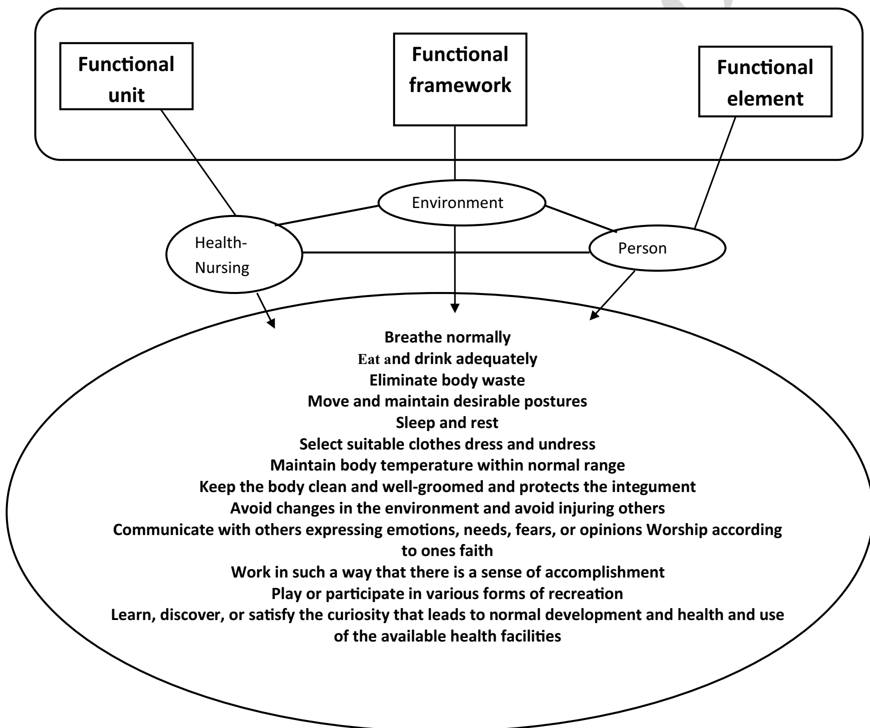

Fig. 1 Analysis of the needs satisfaction process with the Structural Dialectic Model of Care. Source: own elaboration based on: Henderson V. La naturaleza de la enfermería. Reflexiones 25 años después. Madrid: Interamericana; 2005

help of a social actor, either through self-care (autonomous actions) or delegated care (the functional element).

Henderson proposes to analyze 14 necessities from three perspectives (F.U., F.F., and F.E.), thus leading to a dialectic and synthetic approach. Links with nursing in the SDMC and its validity as a tool to analyze and organize data supported by positions derived from Fawcett's meta-paradigm.

Structures F.U, F.F, and F.E. are dynamic and interrelated in such a way that some interfere with others along the course of their evolution.

Functional Element identifies the person's (human being) role about care. The human being is an indivisible whole. Also, the person interacts with biological, psychological, sociocultural, and spiritual components. A being constitutes a vital and dynamic whole (changes in age, health) whose needs require personalized care to be satisfied. The person is an individual (human being) with whom the nurse interacts. Both a nurse and the person is taken care of (a patient) are bio-psycho-social beings: their minds and bodies act as a single unit. The person is an individual who requires assistance to achieve health and independence. The 14 basic needs formulated by Henderson converge in an individual, and nurses must focus on analyzing each individual's need satisfaction process.

Functional framework the environment or place where the person is. It consists of social, economic, cultural, and aesthetic factors that affect different ways of life and the way of organizing nursing in society. The environment refers to any site of interaction between patients and nurses. The environment should be analyzed by nurses according to the patient's level of independence and taking risks involved in the account. Likewise, nurses must, to the extent possible, modify the environment to adapt it to patients' needs.

Functional Unit nursing has its ideology based on values, beliefs, norms, principles, and feelings that determine and motivate the way of organizing and implementing care. The tenets of nursing are dynamic and influenced by cultural and social elements. Health is a dynamic concept that depends on the social concept of the society that the group is a part. The concepts of health and nursing are tightly linked. In short, the Henderson model has been used to clarify the relationship between the SDMC and nursing. When assessing the main concepts of the Henderson meta-paradigm (Fig. 1), the relevance of using the SDMC to organize and analyze data across three categories becomes evident:

- Characteristics of human beings and their behavior during the process of need satisfaction (both nurse and patient) (F.E.).
- Characteristics of the area/place where care is developed (F.F.).
- Characteristics of beliefs, values, ideas, knowledge, and feelings that determine how to apply nursing care.

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Explicit Assumptions of SDMC Derived from Henderson's Postulates

- Health and disease are dynamic and interrelated processes that affect physiological, psychological, and social structures.
- Human beings generate meanings during the process of satisfying their needs, and nursing care culturally organized.

Nursing Care has Three Dimensions

a. The functional dimension (mechanisms of adapting care to different situations while allowing for the highest possible autonomy).
b. The structural dimension (systemic nature of the human being where all elements are related and resistance to change allows analyzing the differences between acute processes and long-term or continuous evolutions).
c. The dialectic dimension (health and disease are part of a processual and dynamic nature).

The patient and nurse are human beings whose behaviors (functional element) unfold in specific places/areas/environments (functional framework). They are determined by their own beliefs, values, knowledge, and feelings (functional unit).

Method

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The SDMC was constructed based on various theoretical contributions in anthropology and cultural history: for example, the model's analytical approach draws on the works of Lévi-Strauss (1995) and Malinowski (1988). Works by Burke (2006) Chartier (2009) and (Siles 1995, 2010) were used to clarify the relevance of cultural history to study the world of care and nursing as social representation and practice. To assess the SDMC's theoretical framework, characteristics, applications, and limitations for research, we analyzed 15 doctoral theses (Valles 2000; Piñel 2002). The author supervised all this studies with this model and addressing the field of research called "Culture of Care," which is part of the following doctoral programs offered at the University of Alicante: "Biological Anthropology and Health" (2001–2011), "Nursing and the Culture of Care" (2003–2012) and "Health Sciences" (2013 to the present). This analysis focused on the following aspects: paradigm and theoretical framework, method, and techniques, results, and conclusions (Tables 1 and 2). The inclusion criterion consisted of doctoral theses that used the SDMC to organize and analyze data over the 2009–2017 period.

The data were organized and analyzed according to the three functional categories: F.U., F.F., and F.E. These categories structure the data in three big thematic blocks making it easier to organize the data. Subcategories were subsequently identified and codified in each block. Relational networks among the categories established.

Ethical considerations: the fifteen theses analyzed were supervised or cosupervised by the authors of this article, and permission to conduct this study obtained from all the

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Table 1 Theses on the Culture of Care (TCC)

Theses	Theoretical/methodological framework	Results	Conclusions
TCC1	Hermeneutic paradigm/cultural ethnographic study from a gender perspective/SDMC/ethnography and participant observation/document and content analysis	F.U (Hospitals as institutions of professional socialization: norms, beliefs, values, etc., depending on gender and public–private sector status) F.F (Clearly differentiated public and private institutional spaces) F.E (The professional activity of nurses is mediated by a dual perspective: gender and public–private sector)	The social construction of gender is very different depending on whether the nurses work in public or private hospitals Nurses play a more important managerial role in public hospitals The management function of nurses in the public sector has more substance than in the private sector
TCC2	SDMC/ethnography, participant observation, interviews and field journal	F.U (Ideology, norms and beliefs in the Colombian health system. Institutional culture and the subculture of professional nursing) F.F (Scenarios where care is dispensed: hospitals, health centers and the homes of indigenous or "tambo" people) F.E (Nurses, auxiliary nurses, shamans, healers, jaibanás [traditional healers], midwives)	The cultural clash between the institutional and professional ideology (F.U.) of the Colombian health system on the one hand, and the ideology (F.U.) of indigenous peoples on the other, hinders the dispensation of care by nurses and auxiliary nurses The hospitalization unit in Antioquia simultaneously hosts the ideologies (F.U.), care dispensers (F.E.) and scenarios where these practice (F.F.) of both indigenous people (shamans, healers) and Colombian health system professionals (nurses and auxiliaries)
TCC3	Hermeneutic paradigm/ethno-nursing-participant observation/open-ended interview/SDMC	F.U. (Different family-institution ideologies) F.F. (Scenarios that are foreign or strange) F.E (Caregivers as intruders in residents' personal lives)	The change in ideologies, scenarios and caregivers depersonalizes the experiences of people living in homes for the elderly in Almeria. This depersonalization causes stress and anxiety in the residents that intensifies at times of great emotional turmoil (grief)

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Table 1 (continued)

Theses	Theoretical/methodological framework	Results	Conclusions
TCC4	Hermeneutic paradigm/ethnography-participant observation/interview/SDMC	F.U (Ideology, beliefs and principles regarding birth in the family home/hospital) F.F (Scenarios suitable for home delivery/description and comparative analysis) F.E (Mothers, fathers, professionals who are involved in home births)	Home births entail prior adoption of a decision, which in turn requires a decision-making process based on reliable information about the real possibilities of achieving a delivery under the required conditions. This implies a previous study of the characteristics of the pregnancy (exhaustive monitoring), the conditions of the home (accessibility, comfort, hygiene, etc.) and the health system's capacity to adequately perform the delivery
TCC5	Nursing in the construction of critical thinking in school children: from technical rationality to socio-critical action	F.U. (Socializing potential of schools and the transition of values, beliefs and ideas rooted in technical rationality to forms of critical thinking) F.F. (Scenarios where education takes place, transmitting values, beliefs, ideas, knowledge, etc.) F.E (Educator and nurse as a hermeneutist who leads the socializing, teaching and learning process. Active and participatory involvement of students in this process)	The role of school nurses is limited to curative activities and talks on communicable diseases The collective debate on strategies for overcoming the culture of technical rationality evidenced the need to implement socio-critical methods in health education, in which learners are actively involved Dialogue, communication and the active participation of students and teachers constitute the basis for socio-critical thinking Implementing socio-critical thinking in nursing and schools involves humanizing education and health care

TCC Theses on the Culture of Care. Details of all the theses on the Culture of Care are given after the references in the "Sources" section

Source: by authors, based on the theses discussed in this study

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Table 2 Theses on the History of Nursing (THN)

Theses	Theoretical/methodological framework	Results	Conclusions
THN1	Hermeneutic paradigm/cultural historical study/SDMC/document and content analysis	F.U (Nursing associations as a socialized professional family) F.F (Enabling spaces for the development of a nursing association in Alicante) F.E (Members of the professional association who are actively involved in the same)	The development of the ideology of the practitioners' association was observed to transform through a process of social construction, into a completely different system of beliefs, values and knowledge in the association for nursing graduates These transformations are reflected in aesthetic changes in the scenarios and people who make up these institutions
THN2	Hermeneutic paradigm/cultural historical study/SDMC/document and content analysis	F.U (Comparison between the ideologies, norms and beliefs of the health system founded by members of the St. John of God religious order in Chile and the popular/folk ideology of the indigenous health system) F.F (Scenarios where care is dispensed: hospitals of the order of St. John of God and the homes of indigenous people) F.E (Members of the St. John of God religious order, shamans, sorcerers, women caregivers)	In sixteenth century Chile, health care depended on three contrasting systems: the St. John of God caregivers, popular/domestic indigenous caregivers (women carers in their homes) and folk caregivers (shamans, sorcerers, etc.). Eventually, through a process of syncretism, the resulting official system now reflects influences from all three systems

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Table 2 (continued)

Theses	Theoretical/methodological framework	Results	Conclusions
THN3	Hermeneutic paradigm/cultural historical study/SDMC/document and content analysis	F.U. (Socializing potential of the tribes, including both supernatural and rational interpretations of illness and death) F.F. (Scenarios where care is dispensed to members of the tribe: around the fire in camps/caves) F.E (Sorcerer as a hermeneutist who leads healing rituals Women as caregivers in the context of everyday life: pregnancy, birth, breastfeeding, child rearing, etc.)	The socialization of the tribe is based on the beliefs and values shared by its members Animism constitutes the primary system of supernatural interpretation of phenomena such as health, illness and death
THN4	Hermeneutic paradigm/cultural historical study/SDMC/document and content analysis	F.U. (Between the nineteenth and twentieth centuries, the Spanish press reflected the ideology whereby women's sole form of wage labor was related to their biology: prostitution and wet nursing) F.F. (Spaces where wet nurses performed their work: homes, institutions such as hospitals, orphanages, etc.) F.E. (Types of wet nurses in Spain during the study period: private, employed by institutions)	The ideology whereby women's professional opportunities are reduced to biologically-related activities such as prostitution and wet nursing was reflected in the Spanish press during the study period

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Table 2 (continued)

Theses	Theoretical/methodological framework	Results	Conclusions
THN5	Hermeneutic paradigm/cultural historical study/SDMC/document and content analysis	F.U (Textbooks written by seventeenth century European midwives reveal their shared ideology in the study period) F.F (Textbooks written by seventeenth century European midwives describe the spaces suitable for performing their professional tasks) F.E (Textbooks written by seventeenth century European midwives detail the physical and personal characteristics that should distinguish these professionals)	Textbooks written by seventeenth century European midwives give an exhaustive description of the knowledge, beliefs, techniques, values, ethical principles and other component elements of the ideology of these professionals Textbooks written by seventeenth century European midwives constituted a powerful tool for socialization of this group
THN6	Hermeneutic paradigm/cultural historical study/SDMC/oral history/life stories/documentary and content analysis	F.U (Ideology, beliefs and principles regarding popular delivery practices in Almanza and Cebanico during the first half of the twentieth century) F.F (Scenarios suitable for home delivery/description and analysis of home births) F.E (Midwives, and practitioners involved in childbirth in Almanza and Cebanico)	Delivery in Almanza and Cebanico during the first half of the twentieth century was influenced by popular beliefs and practices rooted in the domestic sphere The domestic sphere exerted a strong influence in rural areas during the early twentieth century Midwives performed this activity throughout this time

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Table 2 (continued)

Theses	Theoretical/methodological framework	Results	Conclusions
THN7	Hermeneutic paradigm/cultural historical study/SDMC/oral history/life stories/document and content analysis	F.U (Ideology, beliefs, principles, symbols and values that inspired the emergence and development of the Lady Nurses of the Spanish Red Cross during the first third of the twentieth century) F.F (Scenarios in which Lady Nurses of the Spanish Red Cross performed their caregiving activities) F.E (Social, ideological and cultural characteristics of the women who studied and graduated as Lady Nurses of the Spanish Red Cross)	The corps of Lady Nurses of the Spanish Red Cross was created in Spain under the auspices of the royalty (Victoria Eugenia) and the aristocracy. The main purpose was to instil practical charity in Catholic women through personal work in the form of health care Students were trained through courses of varying duration, lectures, conferences, workshops, etc The teaching staff consisted of men, usually physicians from the institution, supported by the Sisters of Charity The Sisters of Charity were responsible for teaching management and administration of the institution's clinical centers

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Table 2 (continued)

Theses	Theoretical/methodological framework	Results	Conclusions
THN8	Hermeneutic paradigm/cultural historical study/SDMC/oral history/life stories/document and content analysis	F.U (Ideology, beliefs, principles, symbols and values that inspired the emergence and development of the Salus Infirmorum nursing school in the second half of the twentieth century) F.F (Scenarios in which María Madariaga's founding initiative unfolded and characteristics of the spaces occupied by the Salus Infirmorum schools) F.E (Social, ideological and cultural characteristics of María Madariaga and the students who studied and graduated from the Salus Infirmorum nursing schools)	Cultural history and the SDMC have made it possible to link events to their origins, going beyond a superficial interpretation and facilitating confirmation of hypotheses and objectives The initial Infirmorum Salus project emerged within the so-called "specific nursing movement" instigated by María de Madariaga within the "Catholic Action" movement, which was supported by Pope Pio XI and constituted a general call to unite all nursing professions The Spanish Civil War brought an abrupt end to this specific process of uniting the nursing profession After the Civil War, the Bishop of Madrid-Alcalá urged María de Madariaga to create a branch of nursing based on "Catholic action". This would give rise to Salus Infirmorum As a Catholic school, one notable characteristic of the Salus Infirmorum was that it trained and awarded qualifications to lay women

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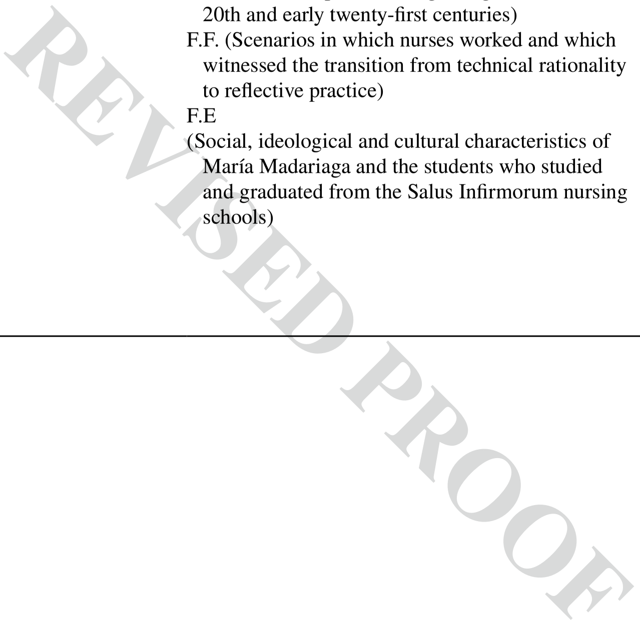

Table 2 (continued)

Theses	Theoretical/methodological framework	Results	Conclusions
THN9	Hermeneutic paradigm/cultural historical study/SDMC/oral history/life stories/document and content analysis	F.U (Ideology, norms, beliefs, principles, symbols and values that inspired nursing thought in the late 20th and early twenty-first centuries) F.F. (Scenarios in which nurses worked and which witnessed the transition from technical rationality to reflective practice) F.E (Social, ideological and cultural characteristics of María Madariaga and the students who studied and graduated from the Salus Infirmorum nursing schools)	Based on the premises of a socio-critical paradigm, communication (verbal, non-verbal, symbolic) constitutes a tool for change in personal, social and professional practice The reflective practice and critical thinking described by Habermas together facilitate patient emancipation and, by extension, autonomy through active participation in the treatment of their health problems This process originates with an awareness of the role that professionals and citizens/patients should play in health care planning During the 1970s, technical rationality was called into question by important sections of Spanish nursing, who advocated for a paradigm shift: reflective practice and critical thinking

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Table 2 (continued)

Theses	Theoretical/methodological framework	Results	Conclusions
THN10	Hermeneutic paradigm/cultural historical study/SDMC/comparative analysis. Document and content analysis	F.U. (Socializing potential of tribes, including both supernatural and rational interpretation of mental illness) F.F. (Scesnarios swhere mental health care is dispensed to members of pre-industrial societies: around the fire in camps/caves) F.E (Sorcerer as a hermeneutist who leads care and healing rituals in mental health processes Women as caregivers for mental health patients in the context of everyday life)	Among the societies studied by leading anthropologists, knowledge about the health-illness process is based on the supernatural. Mental illness has a primarily social and cultural origin based on values, beliefs, principles and ideas, etc. (F.U.) The shaman (F.E.) acts as a mediator between the gods and humans. It is he who knows the hidden secrets of nature and performs religious acts (rituals, offerings, fasts, trips to sacred places, animal sacrifices, celebrations, etc.) to appease the wrath of the offended god and heal the mental health problem All ancient societies cared for the mentally ill, and such care fulfilled a social function while also reflecting a humanistic conception of relations within groups Studies by Malinowsky, Bateson and Mead all contributed, from different perspectives, to interpreting mental illness as a fundamentally socio-cultural problem that created contexts and meta-contexts

THN Theses on the History of Nursing. Details of all the theses on the History of Nursing are given after the references in the "Sources" section.

Source: by the authors, based on the theses discussed in this study

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authors of the theses. All theses met the corresponding ethical protocols established by the Ethics Committee of the University of Alicante.

Results and Discussion

Characteristics of the Structural Dialectic Model of Care (SDMC)

The SDMC applied in doctoral theses and research published in various journals and monographs. In brief, the model on the following structures: functional unit, functional framework, and functional element.

SDMC and Data Analysis

Fifteen doctoral theses produced within the framework of the "Nursing and the Culture of Care" research group at the University of Alicante implemented the SDMC across different subjects and contexts (five in the field of history of nursing and ten in the field of culture of care) (Tables 1 and 2).

Three Categories were Identified Across the 15 Doctoral theses as Follows

- The functional unit constitutes the ideology under study (F.U.): beliefs, values, norms, traditions, myths (from the perspective of Henderson´s postulates and Fawcett's meta-paradigm), in other words, the notions of health, illness, and nursing, care.
- The functional framework (F.F.) includes the characteristics of the setting, space, or environment where the care provided (from the perspective of Henderson´s postulates and Fawcett's meta-paradigm), i.e., the context and the place.
- The functional element (F.E.): corresponds to the professional, personal, and esthetical characteristics of the social actors who provide care in different contexts under study. (from the perspective of Henderson´s postulates and Fawcett's meta-paradigm), i.e., the human being, nurse, and patient. The F.E identifies characteristics of human beings and their behavior during the need satisfaction process (both nurses and patients).

Two Examples Demonstrating the Relevance of the SDMC for Data

More specifically, and to explain more in-depth on how SDMC is relevant for data analysis, we presented two examples.

In: "Nursing in colonial Chile," identifying and analyzing:

1. The idea of nursing is one of the concepts included in Henderson´s paradigm (Marriner and Alligood 2011; Meleis 2004). Religion influenced nursing, and its interpretation requires considering religious principles in their historical context. The ideology: norms, beliefs, values, traditions, and myths that influenced

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Table 3 Functional unit

Works of corporal mercy
1) Visiting the sick
2) Feed the hungry
3) Give drink to the thirsty
4) Give the pilgrim an inn
5) Dress the naked
6) Visit the prisoners
7) Bury the deceased
Spiritual works of mercy
1) Teach the one who does not know
2) Give good advice to those who need it
3) Correct the wrong one
4) Forgive the one who offends us
5) Comforting the sad
6) To suffer with patience the defects of the neighbor
7) Pray to God for the living and the deceased

Source: Catechismus Catholicæ Ecclesiæ

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234 the establishment of nursing in colonial Chile (F.U.). The core of beliefs and
235 values are originals of mercy (7 physiological works and seven spiritual works)
236 (Table 3).
237 2. The first places built to provide care (colonial hospitals) (F.F.). According to
238 Henderson (Meleis 2004), the environment where nursing care was applied had
239 a significant impact on its organization. These hospitals organized according to
240 regulations whereby patients had to purify themselves spiritually before being
241 assisted physiologically (reminiscent of the prevailing dualistic system in ancient
242 cultures) (Chartier 2009). Patients had to confess and receive communion before
243 being admitted. They also attended religious ceremonies prostrated in their beds
244 because the altar installed at one end of the room (Fernandes and Siles 2008).
245 3. The first colonial caregivers (religious nurses of San Juan de Dios) maintained an
246 aesthetic following their ideology. Their belonging strictly determined religious
247 habits and lifestyles according to the norms of the religious order (F.E.). Patients,
248 obligatorily, attended the religious ceremonies from their beds, since the altar was
249 at the end of the room. (Huaiquián et al. 2012).

250

251 In: "Experiences and scenarios of grief in the elderly," identifying and
252 analyzing:

253 1. The ideology: norms, beliefs, values, traditions, and myths are influencing how
254 the care provided in homes, hospitals, geriatric centers (F.U.). Geriatric regula-
255 tions are inspired by official regulations that regulate these types of sanitary
256 institutions in Spain (Martínez-Sola and Siles, 2010). Henderson's presuppositions
257 contemplated patients together with their relations to their families as well as the
role of geri-

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atric centers regarding the care of the elderly (Marriner, Alligood 2011; Meleis 2004; Kérouac et al. 2004), a triangular relationship established between the values, beliefs, ideas, and feelings of patients, their families and health institutions.

2. Depending on the scenario, care has different characteristics: nursing homes, geriatric centers, homes (F.F.). The environment generates environmental conditions that affect the way of organizing and giving care to the elderly. The social representations of the daily life of the elderly are related to the place where they live.
3. Social actors (nurses, social workers, helpers) in charge of care (F.E.) (Martínez-Sola and Siles, 2010). Clash of perspectives and conceptions between families, home nurses, or geriatric center nurses.

In any case, as asserted by Henderson (Meleis 2004) these three structures (FU, FF, and FE) that make up the SDMC are strictly interrelated and subject to evolutionary processes whose dynamics depend on social, political, economic and, above all, cultural factors (Chartier 2009; Bordieu 2002). For example, geriatric institutions (FF) function very differently according to their functional unit (norms, values, beliefs about nursing and the social role of the elderly in society) and, of course, this series of norms influences the shaping of a specific theoretical ideal of geriatric nurse (Chinn and Jacobs 2010) as well as the way of organizing nursing, thinking and generally care (Marriner and Alligood 2011; Kérouac et al. 2004).

Furthermore, several articles and monographs have described or applied the SDMC, since this model described in a monograph derived from a doctoral thesis. This model has proved especially useful for historical and cultural research on nursing Siles (1999, 2010, 2011, 2016). Similarly, SDMC applied in the cultural study of nursing management from a gender perspective, and in intersectoral nursing studies that analyze cultural differences between the public and private health sectors (Rebolledo et al. 2011).

The model has again been particularly useful in ethnographic studies of clinical practice "(Siles et al. 2009; Siles and Solano 2019). Also, it facilitate functional analysis in historical studies in various contexts: cholera (García 2012); the social role of prehistoric women in care aimed at survival, based on an analysis of narrative sources (Mezquita and Siles 2014); and training materials for midwives in the seventeenth and eighteenth centuries (Martínez et al. 2014).

Burke (2006) claims that representations constitute the main subject of study in cultural history and reflect, imitate or echo social reality—as do texts, images or spaces. These studies analyze the practices, beliefs, and values transmitted by the functional unit (socializing structure) that give rise to specific representations of care, health, illness, and death (Chartier 2009). Hence, this socializing process generated through the functional unit determines both the scenarios where the care provided (functional framework) and the type of social agents responsible for dispensing it (functional element). Consequently, this model is particularly relevant to analyze cultural representations and their relationship with the social practices that shape them on three levels:

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302 • The collective representation of care ingrained in each individual, as a struc-
303 ture of the social world in which the mechanisms of perception, assessment, and
304 judgment operate (Chartier 2009); this influences each individual's way of think-
305 ing and acting and generates a feeling of belonging to the social world and iden-
306 tification with other social groups.
307 • The representation that each individual has of him or herself defined by personal
308 gestures, lifestyle, level of health, and care.
309 • The third level proposed by Chartier consists of an institutionalized or objecti-
310 fied representation composed of the political, social, and professional leaders and
311 health institutions that prescriptively direct the life of the group (Ávila 2011).

312 These three levels of collective representation of the care projected onto the three
313 structures that comprise the SDMC. Their relationship is as dialectical as the rela-
314 tionship between the field and Bourdieu's habitus (social subjectivity) (Bordieu
315 2002), and they incorporate a considerably symbolic component (Bordieu 1999).

316 Data Analysis Using the SDMC

317 Data can be analyzed using the SDMC in a traditional fashion or by adopting the
318 hypertext system perspective to create, add, link, and share data from various pri-
319 mary sources to facilitate the non-linear reading of the information in the sense of
320 reading per unit of meaning. The process is very similar to that followed in some
321 qualitative analysis programs:

322 1. Organize all primary documents (15 doctoral theses). Some programs such as the
323 Atlas. Ti stores them and saves all work on them in a Hermeneutic Unit.
324 2. Perform analytical reading "Lexia by Lexia," or process of analysis and encod-
325 ing; split the text of the document into units of meaning, compiling what is called
326 "quotations by the unit of meaning" in the Atlas. Ti program. These quotations or
327 fragments encoded with keywords used to construct categories: thus, the keyword
328 "functional unit" served to encode all text fragments related to beliefs, values,
329 feelings, and knowledge. The keyword "functional framework" served to encode
330 text passages whose meaning is related to the scenarios, places, equipment, and
331 instruments involved in nursing care. Lastly, the keyword "functional element"
332 served to encode all fragments of text, giving details about the social agents
333 responsible for care. Next connections established between the different quota-
334 tions and a network of sub-categories created using new keywords related to the
335 objectives of our historical study. For example, the keyword "treatment" used to
336 select quotations previously assigned to the functional unit, functional framework,
337 or functional element. This situation will generate a series of passages on treat-
338 ment in the study period that concern beliefs, values, feelings, and knowledge
339 (F.U.). A group contains data on places, equipment, and instruments related to
340 treatment (F.F.). The third set of text fragments describing the characteristics of
341 the people responsible for dispensing care (F.E.). Also, the use of a keyword is

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342 appropriate to reorder the citations in these structures. For example, the keyword
343 "nutrition" could use to reorder quotations in these three categories of meaning:
344 beliefs, values, knowledge, and feelings related to nutrition; spaces, equipment,
345 and instruments linked to nutrition; and people associated with the preparation,
346 serving and consumption of meals.
347 3. These different sets of quotations, codes, and sub-codes can be grouped into
348 families whenever a shared quality observed, e.g., a family of codes related to
349 beliefs, a family of quotations related to nutrition and hygiene.
350 4. By establishing relationships between different families, codes, and quotations.
351 An entire inter-related network emerges encompassing all the data obtained.

352 As with the majority of models, the SDMC facilitates data analysis by clarify-
353 ing and organizing category selection. It also enables relationships to be established
354 between different conceptual levels such as epistemology, methodology, data collec-
355 tion techniques, and data analysis (Piñel 2002). Furthermore, it not only facilitates
356 studying the structures responsible for the persistence and stability of the phenom-
357 enon of care by enabling them to identify and study them in any historical period or
358 cultural context (Siles 2010). Also permits identifying more dynamic and less stable
359 elements of care, those that dialectically favor changes and are so fundamental in
360 nursing given the importance of the social construction of gender and its relation-
361 ship with nursing. The SDMC helps unveil how the social construction of the phe-
362 nomenon of care operates, revealing the "linearity" or "directionality" of the phe-
363 nomenon under study.
364 Once the structure constructed using the relational network underpinning the
365 phenomenon under study (ideology, beliefs, norms, scenarios, social agents and
366 their functions and aesthetics), a paradigmatic overview obtained of the question
367 through the identification of universal principles and elements (Fawcett 2011). A
368 comparative analysis of similar and dissimilar elements reveals trends or schools of
369 thought grouped in the same family or different families (Kuhn 2010). For exam-
370 ple, religious nursing shares sufficient characteristics to include it within a nurs-
371 ing family in which different trends coexist, which in turn permits individuality at
372 the level of the functional unit, functional framework, and functional element: St.
373 John of God, the Obregones Brothers, the Sisters of Charity (Authors 2008). Vari-
374 ous authors have successfully used this model to conduct a functional analysis
375 in historical studies (García et al. 2012)." Thus, this model fulfils the require-
376 ments that characterize models according to various author (Marriner and Alligood
377 2011; Fawcett 2011; Riehl Sisca 2002; Durán 2007; Cutcliffe et al. 2012), and
378 con-stitutes a fundamental tool for the systematic construction of theory (Chinn
379 and Jacobs 2010). Above all, it is beneficial to identify new trends and forms of
380 nursing thought (Kérouac et al. 2004).

381 Advantages and Limitations of the Structural Dialectic Model of Care

382 Beliefs are at the heart of SDMC, and their analysis in the context of health care
383 facilitates:

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- Beliefs serve as the genesis of structures and institutions in the health care context
- Beliefs facilitate the functioning of structures to meet the needs of human groups from prehistoric times to the present.
- Beliefs hold people together in work necessary to satisfy the needs of a human group.

The SDMC is an excellent instrument that demonstrates its usefulness in historical, anthropological, and social studies. It is particularly useful for overcoming the limits of reductionism that derives from a "static image" (isolation of its temporal dimension).

Alternatively, the SDMC contributes to overcoming a fragmentary vision such as that produced by studying isolated factors. Its main virtues are its sensitivity to socio-historical dynamism and its simultaneous capacity to assess the less apparent aspects of a phenomenon (those which reside in the underlying roots of the same: mentality, beliefs, values, and feelings).

The model's main limitation is that processual studies of a phenomenon, according to its dynamic reality and without renouncing its complexity, require more preparation and time throughout the research process.

The SDMC has three essential characteristics deriving from its structural, functional, and dialectic nature: its structure presents slow dynamics due to resistance to the passage of time and change. Structures have the potential to function as frameworks endowing stability (resistance to change). Also, put differently, they only change during lengthy processes, and therefore their functioning can be observed over long periods; nonetheless, structures are dynamic/dialectical because they transform, albeit slowly. Lastly, its dialectical nature makes it possible to visualize and analyze different meanings according to cultural pressure or historical period.

This model is not as a theory of nursing, but it can help identify what is essential in nursing practice; the SDMC provides clues and directs their interpretation according to an analysis of their functional structures. Consequently, it helps to:

- Circumscribe the identity of nursing in a social and cultural context.
- Identify and clarify the relationship between nursing and other disciplines.
- Differentiate nursing interventions from the activities of other health professionals.

Similarly, it facilitates an analysis of the collective representation of care ingrained in each individual as a structure of the social world in which perception, assessment, and judgment mechanisms operate influencing individual ways of thinking and acting and generating a feeling of belonging to the social world and identification with other social groups. The representation that each individual has of him or herself defined by gestures, lifestyle, and level of health and care. While, the third level of representation occurs at the health institution level and determined by a high-ranking professional, social, and political leader in the health system hierarchy.

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Implications for Nursing and other health sciences

The SDMC identifies social representations of nursing and incidental factors. Also, it facilitates a dialectical view between functional unit, functional element, and functional framework. It provides a dynamic vision of nursing and facilitates the holistic approach to it. It allows analyzing the incidence of individuals, beliefs, values and feelings, and the context in the development of nursing. SDMC allows evaluating the incidence of power dynamics in health institutions and the incidence of historical-cultural pressure on this dynamic.

Conclusions

The dialectical structural model clarifies the incidence of beliefs and values in the organization of the health care system throughout history. Following prior reflection, all research should consider the principles of methodological relevance in the sense of maintaining coherence between objectives, theory, methods, and techniques. This methodological relevance is what endows research with coherence, in the way that rhyme in poetry provides the unifying thread between verses.

The existence of nursing historiography demonstrated by three necessary factors: the continuity of events; the specific consistency of this continuity based on logical connections between events; and a precise interpretation of these two preceding factors through a properly contextualized hermeneutical process.

Therefore, the process of conceptual interpretation of the history of nursing—its theoretical and epistemological construction—constitutes a prior and essential step in any research process. Various methods and techniques, including observation, documents, and data collection in oral history (e.g., life stories, biographical documents, case studies, different kinds of interviews), comprise the instrumental arsenal of the nursing historian. The SDMC is a useful tool for data organization and analysis when the aim is to obtain an overview of historical phenomena from the perspective of the cultural history or anthropology of nursing. It is especially relevant in the history and anthropology of care. Also is essential in the cross-sectional factors that have influenced the historical development of nursing: religion, the social construction of gender, biological factors, the role of women in society, technology, power relations, health and illness, and the economic and political system.

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Compliance with Ethical Standards

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