

PERCEPTION OF DESIGNERS OF AN ENABLING ENVIRONMENT FOR DEMENTIA CARE IN THAILAND

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Abstract

This paper explores the perception of designers towards an enabling environment for dementia care in Thailand. The global number of people living with dementia has increased, and the number is growing in developing countries with the decline in the quality of care and the high turnover rates of formal caregivers. A dementia-friendly environment can support the challenging dementia symptoms, employing a specialised environment for quality care that is a significant therapeutic resource for supporting residents' well-being, such as comfort, familiarity, and organised space. Thus, the salutogenic design approach becomes vital in supporting personalised narratives related to personality, lifestyles, and a decision-making process to enable the person-centred care to enrich their quality of life. The concept of salutogenic design has become a trend for people with dementia to live in small-scale and home-like care settings to enhance meaningful daily activities in familiar domestic settings. This study thematically analyses 15 semi-structured interviews of architects and therapists in Thailand about their perception towards the dementia environment and its relation towards salutogenic design and capabilities approach. Based on such analysis, an enabling environment for dementia care should balance functions and aesthetics for the positive affordances between users and the environment. Instead of perceiving design as a physical environment, the design of an enabling environment should have contextual factors of politics, urban-rural gaps, and education for the whole community.

Keywords: design for dementia care, enabling environment, perception of designers, salutogenic design, Thailand

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Enabling environment for dementia care

This paper explores the perception of designers towards an enabling environment for dementia care. Contemporary dementia care, driven by person-centred care philosophy (Kitwood, 1997), has promoted the importance of the physical environment of dementia care facilities as a factor to improve the quality of life (O'Rourke et al., 2022). Person-centred care emphasises the quality of care with mutual interactions and treats patients as individual and equal partners (Kitwood, 1997). The existing therapeutic design approaches support the residents' well-being, such as concepts of comfort, familiarity, and spatial organisation (Burton & Sheehan, 2010; Lee et al., 2021). Interior design features, such as colour contrast, high-intensity lighting, appropriate dining room size, and noise-controlling system are design interventions which can manage their challenging behaviours (Bowes & Dawson, 2019; Fleming et al., 2017; Goudriaan et al., 2021). However, the design features are highlighted only in the specialised design environment and often focus on their challenging behaviours, limiting them from expressing their therapeutic needs and selfhood (Fazio et al., 2018). Therefore, the barriers of psychosocial environment and care stakeholders' attitudes to improve their capabilities can be enhanced by a design of an enabling environment. This study begins by discussing the concept and approach of salutogenic as a design approach for a dementia care environment. It outlines the methodologies of collecting data regarding designers' perceptions towards the dementia care environment. Based on the analysis towards such data, the study then elaborates on the emerging themes of an enabling environment for dementia care in Thailand.

Salutogenic design and dementia care

To create an enabling environment, salutogenic design becomes an approach to support and enhance the quality of life of people with dementia (Kenning, 2018) by introducing personalised narratives related to residents' personalities and lifestyles. The personalised narratives are crucial to support decision-making processes in healthcare services. Figure 1 demonstrates the concept of salutogenic and its relation to health-promoting settings. Originally, salutogenesis (origins of health) was introduced by Aaron Antonovsky (1979) to focus on health promotion factors of well-being rather than on preventive factors (Fries, 2020) and the pathogenic approach (origins of disease). As a result, opportunities for social interaction are stimulated within the physical environment forms for human lifestyles (Golembiewski & Zeisel, 2022), comprises meaningful and occupied places (Sallis et al., 2012), and may reduce anxiety and promote positive psychological emotions (Dilani, 2009). Nonetheless, the design of an enabling environment for caregivers and communities still needs to be addressed.

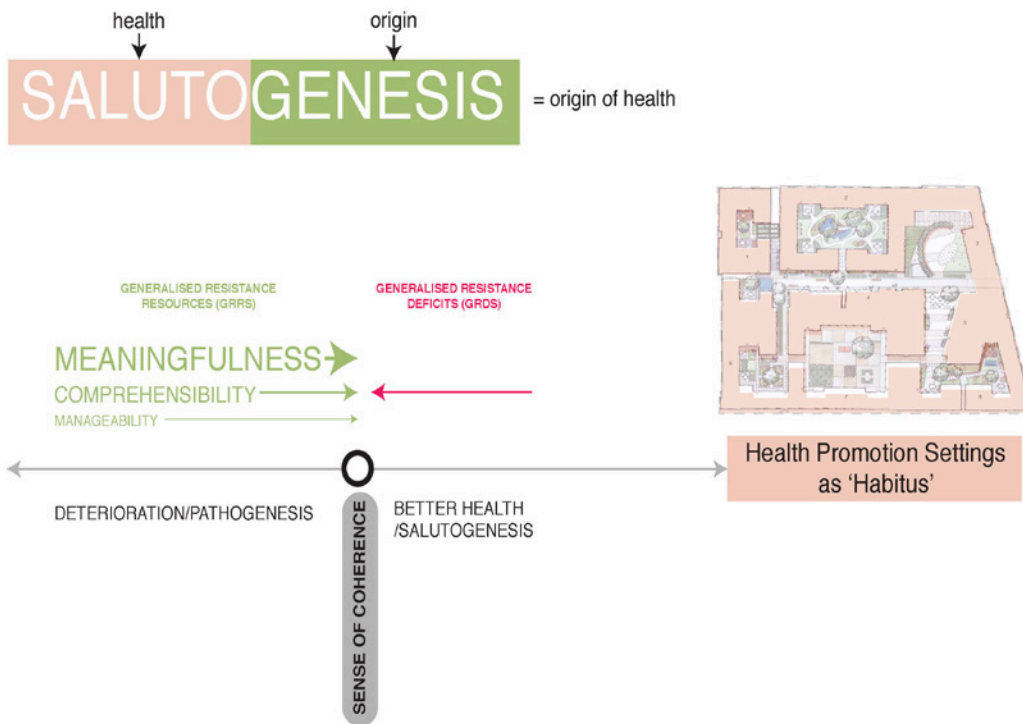


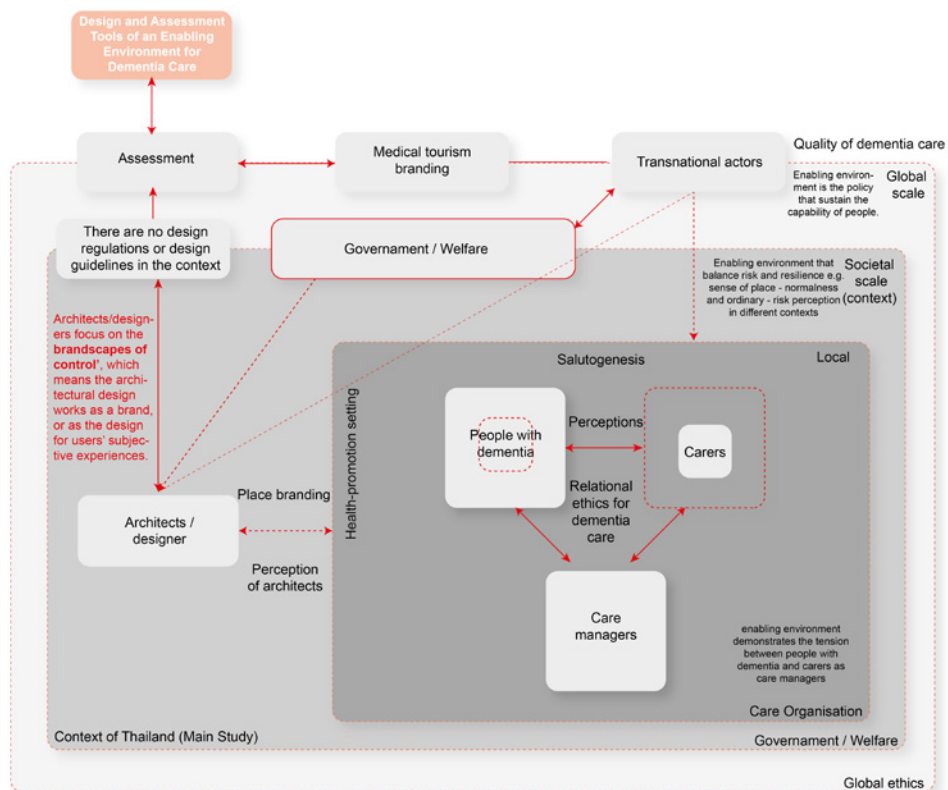
Figure 1. Concept of Salutogenesis (Image by author, adapted from Golembiewski, 2017)

In the context of dementia, the design of dementia care facilities enhances the culture change movement to de-institutionalise care institutions as therapeutic places (Tyler & Parker, 2011). Embodied objects transform human needs and intention by using cognitive processes in design as a purposeful tool (Diethelm, 2019). However, design can shape the apparent inauthenticity of people with dementia's lives of real experiences and may overlap with the glimpse of a "staged authenticity" (Avellino, 2016, p. 244; Maccannell, 1973). As a result, the capabilities approach of care organisations supports design that enhances people with dementia's independence and their activities of daily living (Dahlin-Ivanoff et al., 2022), ensuring that a dignified life and basic needs of care stakeholders can be fulfilled (Melander et al., 2018; Nussbaum, 2009). Consequently, users' safety is dependable on risk management and regulations, and their autonomy should be balanced in the design of an enabling environment (Smebye et al., 2016).

In Thailand, dementia care resort typologies can be articulated as an enabling environment for dementia care where the quality of care and work experiences of care stakeholders are heightened. On the other hand, non-kin-based relations are offered in the context of the skilled culture of dementia care (Pratt & Johnston, 2021), in which the mentality of culture is reflected in a standard level of hospitality and care services for their guests (Shapoval et al., 2021). Therefore, how the quality of dementia care can be achieved through the design of an enabling environment by the concept of salutogenic and capabilities approach is the main research question. Hence, designing an enabling environment for dementia in dementia resort typologies in Thailand will be developed from designers' perceptions which will be the focus of enquiry throughout this publication.

Research methodology

This research study's theoretical framework comprises salutogenic theory and the capabilities approach (Figure 2). Salutogenic Theory by Aaron Antonovsky demonstrates an operational instrument for acknowledging design processes as a linear spectrum of health and disease moving in a continuum (Golembiewski, 2017). In parallel, a Capabilities Approach by Nussbaum (2001) was considered as a design strategy for dementia care organisations to enable people with dementia and the caregivers. It should be defined as a solution to emphasise and reframe a problem towards faster innovation through systematic methods (Richardson et al., 2021). Especially in Thailand, healthcare design gradually enhances user experiences and becomes a branding strategy for healthcare businesses for the quality of care. Hence, it is essential to explore the perception of designers in the context of Thailand to achieve better care standards.



A semi-structured interview was implemented as the primary research method to investigate the contextual factors of the salutogenic design process between designers and users to achieve quality care. Research participants were selected with the concerns of the designers' specialised disciplines. Architects, interior designers, and occupational therapists were recruited as dementia care facilities designers. The development of interview questions uses existing literature to capture the designers' perception of the design of dementia care facilities. The study was conducted with 15 interview participants in Thailand (Table 1), including eight architects/interior designers

Figure 2. The research design for examining the perception of designers regarding dementia care design in the context of Thailand (Image by author)

and seven occupational therapists who have design experiences with healthcare architecture. The snowballing effect was used to recruit each interviewee. Details of research participants are listed as the following.

Participant No.	Occupation/Role	Gender	Nationality	Age	Type of Organisation	Interviews
1	Architect	Female	Thai	30-34	Private architectural company	Telephone interview
2	Architect	Male	Thai	30-34	Private architectural company	Face-to-face interview
3	Architect	Male	Thai	40-44	Private architectural company	Face-to-face interview
4	Architect/ Academic	Female	Thai	40-44	Public university	Face-to-face interview
5	Interior designer	Female	Thai	35-39	Private architectural company	Telephone interview
6	Interior designer	Female	Thai	40-44	Private company	Face-to-face interview
7	Interior designer	Female	Thai	40-44	Private company	Face-to-face interview
8	Interior designer	Male	Thai	45-49	Private cross-national company	Telephone interview
9	Occupational therapist	Female	Thai	25-29	Private care facility	Face-to-face interview
10	Occupational therapist	Female	Thai	25-29	Private care facility	Face-to-face interview
11	Occupational therapist	Female	Thai	25-29	Public hospital	Face-to-face interview
12	Occupational therapist	Female	Thai	25-29	Private hospital	Telephone interview
13	Occupational therapist	Female	Thai	25-29	Public hospital	Telephone interview
14	Occupational therapist	Female	Thai	30-34	Freelancer/ PhD student	Face-to-face interview
15	Occupational therapist	Male	Thai	40-45	Academic/ Public university	Face-to-face interview

Table 1. List of interview participants

The primary data analysis methods are implemented by thematic, content, and visual analysis. A descriptive presentation of qualitative data is employed by thematic content analysis. Then, interview transcripts collected from research participants were taken into text identification on the study topic (McMullin, 2023). As a result, a thematic analysis method followed the interview analysis, following the structure of the Sheffield Care Environment Assessment Matrix (SCEAM) tool. The convergent thinking method was coded by interview transcribing. The software NVivo11 was applied as an analysis tool to code emerging themes. The following section elaborates on the domains of salutogenic design, outlines the emerging themes and interrogates such domains in position with literature.

Emerging domains of salutogenic design and themes of dementia care enabling environment

The research shows that designing an enabling environment for dementia care should balance functions and aesthetics. The designers argued for residents and care staff that their actions are the affordances of the environment. Instead of perceiving design as a physical environment, the participants perceive the design of an enabling environment for dementia care to have contextual factors of politics, urban-rural gaps, and education for the whole community. The domains of salutogenic design were expanded into the addition of capabilities approach of the cultural context and its care systems. In this case, differences between design stakeholders exist—architects focus on structure and planning, interior designers focus on a human scale, and occupational therapists focus on adaptability and planning strategies. As a result, salutogenic design may consider the adaptability of structure and design of each human scale, and design processes should start from personalised end users and a flexible conceptual framework.

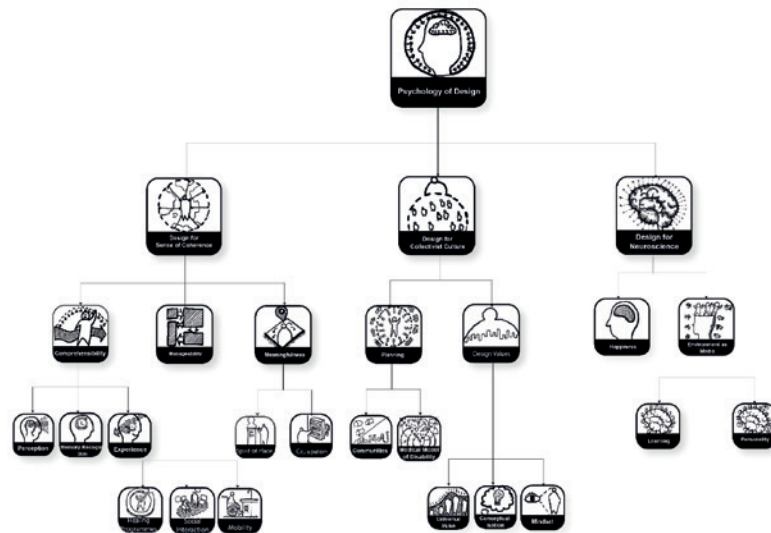


Figure 3. Emerging domains of salutogenic design and themes of dementia care enabling environment (Image by author)

The categorisations of domains, themes, and sub-themes were developed from designers' perceptions of an enabling environment as a unified and homogeneous whole. The totality concept argues that all the design parts belong to the wholeness of the physical environment design to support individuals with dementia and their care stakeholders. As illustrated in Figure 3, three main domains emerged from the research finding, namely (1) design for the sense of coherence, (2) design for collectivist culture, and (3) design for neuroscience.

Design for Sense of Coherence (SOC)

The first domain, **design for SOC**, suggests the coherence of the psychosocial environment to the most pronounced hierarchy that enhances the individuals' experiences of the design of the physical environment (Dilani, 2009). People with dementia's positive experiences can empower their sense of control in the

physical environments and pertain to positive experiences by design for a sense of coherence (SOC). The SOC explains the dynamic adjustment to life's changing circumstances. Good emotional, psychiatric, and somatic health can be balanced with constructive stimulation (Golembiewski, 2017) and a positive mindset (Boscherini, 2017). The design for the SOC domain was extended in the research findings to include a designed environment that certainly allows and embraces people with dementia to control spaces and their cognitive cues. The interview demonstrates the emergence of three main themes in the SOC domain (as shown in Figure 4), which include comprehensibility, manageability, and meaningfulness.

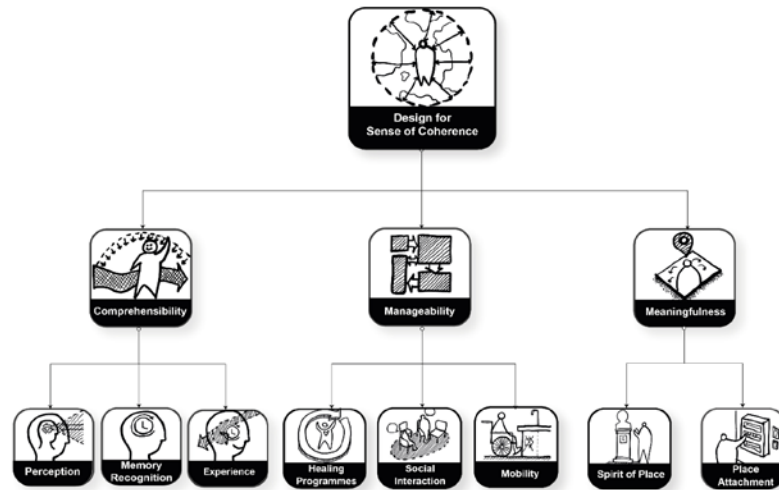


Figure 4. Domain, themes, and sub-themes of design for sense of coherence (Image by author)

First, the concept of comprehensibility refers to their surroundings as ordered. In terms of salutogenic design, the concept comprises three sub-themes: human perception, recognition memory, and user experiences. People with dementia perceive the coherence of the surrounding environment through comprehensibility (Super et al., 2016). As a result, comprehensibility includes the theme of perception, which clarifies perceptive process of people in seeing the world. Secondly, recognition memory explains the remembrance of environmental stimuli which human memory can recognise. Finally, human experiences that demonstrate positive feelings which can precisely influence progressive behaviours. Hence, comprehensibility is a continuous operational process that affects positive behaviours and provides order and familiarity.

Visual-perceptual difficulties are the foremost significant challenges for people with dementia (Li et al., 2014). In this case, colour contrast, lighting, and different material edges are design interventions that can moderate the misconception and misinterpretation of dimensions. For example, black colours on the floor can be perceived as a giant black hole due to the two-dimensional perception of the physical world. Human perception deals with different graphics and images, which human senses can perceive through clear input signals in the physical environment. In particular, designers and end users interpret architectural elements and concepts embedded and

attached to human memory based on the universal language of forms (such as doors, windows, fences, rooms, and buildings).

The concept of memory recognition for dementia care often underlines the home-like environment, which can stimulate people with dementia's memories (Førsund et al., 2018), including furniture arrangements or zoning that can work as landmarks. The concept of personalised objects in their new bedrooms can give them the feeling to recognise their belongings and place-making. Hence, a clear perception by imitating familiar settings of kitchens and living rooms must be functionally designed by architects. However, the benefits of 'neutral' living spaces or universal decorations are still debatable.

Moreover, memory patterns and expectations depend on the subjective experience of people with dementia (Xanthopoulou & McCabe, 2019). The recognition of comfort and security can cause inner recognition and safe experiences to feel relaxed. Warm colour tones and warm lighting can enhance relaxation. Likewise, a spa-like bathroom setting can enable a guest's experiences due to the introduction of unique images, relaxing sounds (e.g., flowing water or music), touch (e.g., soft towels), or natural scents (e.g., aromatherapy) to soothe and comfort people with dementia. Notably, the quality of the sense of smell signifies the hygienic transnational environment.

In addition, healing programmes, social environment, and mobility are three sub-themes that have emerged from the manageability theme. Due to their low sense of coherence (Smebye et al., 2012), people with dementia have difficulties with decision-making skills and managing their daily activities independently, which may require re-training. As a result, accessible resources must be managed and available for access in challenging situations, in which an individual requires resources to cope with challenges or demands (Antonovsky, 1991). Healing programmes are the first sub-theme of manageability to arrange and design functional spaces for users. Mobility, the second sub-theme, indicates how the outside environment and surveillance can manage user accessibility. Thirdly, social interactions involve and support relationships between people with dementia and caregivers in a physical and social environment.

Based on the first theme, people with dementia and their caregivers can be assisted in rehabilitating through their activities of daily living (ADLs) based on therapy, healing, and restoration to maintain their health. By creating healing spaces and time for users to occupy, each re-learning programme and activity are provoked by the designers (Sage, 2011). Thus, leisure and cognitive activities are important to stimulate human brains to concern programming as a goal.

Social interaction among people with dementia and care staff can be enriched by the arrangement of communal spaces and furniture, as stated by research participants. Furthermore, loneliness and the possibilities of mental health treatment are solved by telemedicine, which can be operated physically and virtually. Staff training and motivation sessions were included

to allow people with dementia and care stakeholders to reduce a social hierarchy in physical spaces.

The positioning of bed can increase physical and visual accessibility to bathrooms. Appropriated handrails along corridors were applied to reduce fall risks. However, a lack of understanding of ergonomics is still the main challenge that results in inaccessible sinks, tables, and relatively narrow walkways. As walking and wandering are generally interchangeable and interpreted as akin to escaping, a nurse station should locate at the main entrance to monitor every wardroom (Halek & Bartholomeyczik, 2011). A circular corridor is recommended to allow people with dementia to have the freedom to walk.

At last, two sub-themes, including the spirit of place and place attachment, are included in the theme of meaningfulness. The occupation of spaces and time can be articulated as occupational meaningfulness to contribute to a personal life meaning (Ivtzan et al., 2013). According to the research participants, occupational meaningfulness positively correlates with the concept of meaningfulness of SOC. The theme, meaningfulness, deduct into two sub-themes. The first sub-theme, the spirit of place, can increase people with dementia's self-esteem and confidence based on users' spiritual experiences or the physical environment's metaphoric design. The second theme is place attachment, which highlights the contexts' familiarity and a flow of occupation.

The first sub-theme of the spirit of place explains human touches and logical experiences between buildings and places. It is defined as how architecture forms an order of place and its interrelations within the urban context (Rifaioğlu & Sahin Güçan, 2008). The availability and training of daily living activities can support and enhance life motivation and improve the self-esteem and confidence of people with dementia. The remainder of their therapeutic goals and interventions can spiritually maintain hope for people with dementia in the worst circumstances. Hence, available resources for care stakeholders can emphasise human wit, struggles, and creativity.

Secondly, through three main elements of time, space, and identity, place attachment is active progress and speeds up the time to recognise the meaning of the environment (Scannell & Gifford, 2014). The factor of a sense of time was expressed in the occupational process by the concept of 'occupying' to define a purposeful and meaningful process of taking up spaces. As a result, design stakeholders' perception of object attachment was not only on the physical familiarity but also on the authenticity of spaces and everyday objects that gave off a home-like feeling and a sense of familiarity.

Design for collectivist culture

According to salutogenic design, individualism defines a social pattern of independent collectives which usually prioritises personal goals over the goals of others to associate with societal well-being (Krys et al., 2019; Triandis, 1995). On the

other hand, the concept of collectivism indicates prioritising a group over an individual in the group (Dierdorff et al., 2011). The second domain, **design for collectivist culture**, explains how designers perceive and design the social environment based on how social values are engaged. As illustrated in Figure 5, planning and design values are the two themes of this domain.

Communities and the medical model of disability are the two main sub-themes of planning. Maintaining people with dementia's independence and quality of life can be achieved through a well-planned enabling environment (Barnes & The Design in Caring Environments Study Group, 2002). In architecture, the planning stage and a clear understanding of the historical/cultural context often influence planners and are required before the design process (Booth, 2011). Especially in Thailand, the Westernised built environment and its political culture have influenced and intertwined the urban planning system to sustain power dynamics. A revolution in Bangkok's local municipalities has recently been led by community fragmentation (Preyawanit, 2016), influenced by the national identity of rural-urban movements of Thai social mobilities (Mills, 2012). The process of self-imaging national identity paradoxically leads to the conventional understanding of the rural-urban divide (Vorng, 2011). Hence, the research participants mentioned that universal design and diversity could be applied as primary concepts to bridge the gap between user groups.

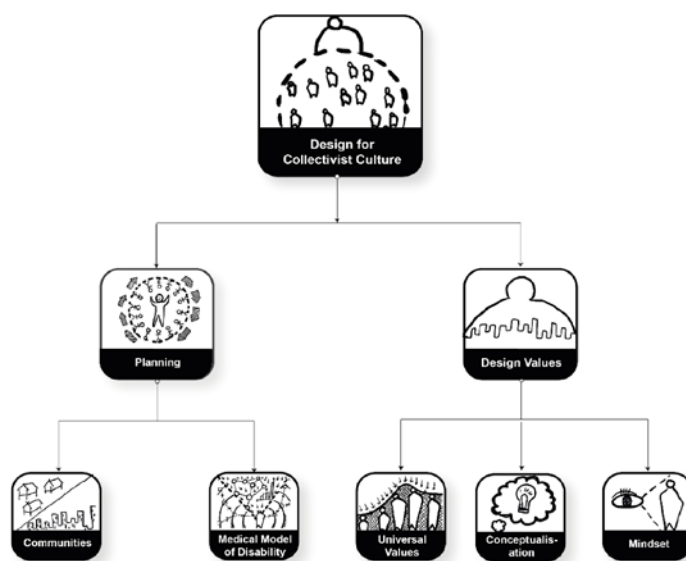


Figure 5. Domain, themes, and sub-themes of design for collectivist culture (Image by author)

The understanding of the model is significant. Perceiving dementia through the medical model lens concerns dementia as a rationalistic and scientifically oriented disease in Western society. In Thailand, the medical model of disability is mainly embedded in the design methodology, and most research participants suggested that design for dementia care should be established in healthcare projects using case studies or best practices to provide positive results. However, these healthcare designs should integrate the aspects of the social model of disability to allow the architectural design features to be

flexible and adaptive for individuals with dementia in long-term care facilities.

Another emerging theme is design values, which focus on the materiality and social practice between human and non-human actors based on the design and the roles of designers (Knobel & Bowker, 2011). In this case, the design values depend on the consequences of what designers do, the value types that designers add, and reflect the necessary, ethical, and appropriate needs of individual designers. Three main themes emerged from the domain of design values, involving universal values, conceptualisation, and mindset.

A cross-cultural interpretation is part of constant residuals within intercultural spaces to create design values. When people with dementia have independence, quality of life, dignity, and basic human needs are positively accomplished, a universal value should be achieved and fulfilled in the quality of life for an individual's part of values. Therefore, depending on the context, universal human values in Thailand are not yet embedded in individuals.

As human behaviours are assumed and reproduced in all design stages, most of the concept has resulted from the architects' direct social behaviours through their work, belief system, and context (Spence, 2020). The diverse perceptions and knowledge about dementia and care stakeholders can also occur in the architectural design. Noticeably, the original terms from translating English and Thai concepts can influence the translation of abstract, concepts, or the in-depth meanings of design (Narata & Rakpa, 2021).

Consequently, the whole system of healthcare design principles reveals opportunities for research participants to support by means of the built environment through social, technical, and physical systems. Essentially, people's cultural worldviews and the perspective of value equity influence the mindset and mental model, which can enable the sustainable design system more comprehensively.

Design for neuroscience

The third domain is **design for neurosciences**, which affects human behaviours based on how individuals' brains perceive the physical environments. As shown in Figure 6, two main themes are comprised in the domain, including happiness and environment as media. In both healthy development and human disease disciplines, the structure of human brains and human function are essential in the design of neuroscience (Messe et al., 2014; Peters, 2006). Architects and designers can develop building design that improves user behaviours, performance, and well-being by acknowledging the working patterns of human brains and how space affects cerebral functions.

The first main theme—which is happiness, responds to how the terms 'happiness', 'well-being,' and 'welfare' can describe the physical state and condition of human beings in the world of existence, which leans on the wish and will (Hill, 1999). In this case, neurotransmitters often work through specific hormones

in daily activities to promote positive feelings in sensory and transitional environments (Alexander et al., 2021). An index of happiness and mental well-being can help users to set goals at standards and should be measured in every care setting.

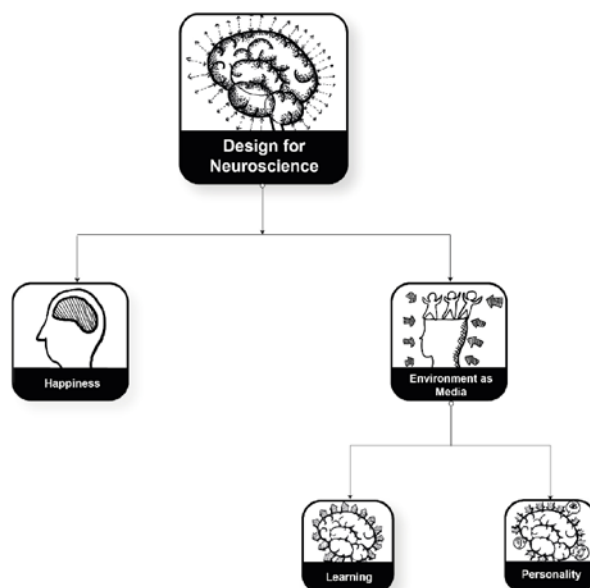


Figure 6. Domain, themes, and sub-themes of design for neuroscience (Image by author)

The second theme is the existence of the environment as a form of media. In general, the definition of the term 'environment' originates from the French word *environ*, which means surrounding. People's personality traits and learning capacity can be enhanced by environmental style, indicating that physical environments can work as media to match the learning styles with their personalities. Hence, the theme environment as media consists of two sub-themes and two sub-sub-themes.

First, learning is a fragment of reality by stimulating concepts inside the brain and forming an internal model of the external world (Mashour et al., 2020). Knowledge of design objects and interactions with external environments are encoded and learnt through a mental map. As human ages, occupational therapists provoked the concept of brain ageing to indicate the brain maturity of 25 years old and should promote health promotion within 25–40 years old. Thus, the design of the physical environment should enhance senses and cognitive abilities for the whole lifespan.

Notably, daily and leisure activities in care organisations can coordinate with their cultural and social environments to determine people with dementia's personalities. In addition, the learning styles of different people, such as the Visual–Auditory–Kinesthetic (VAK) learning styles model (Hamdani, 2015), can be used as an elementary way to explain and use as decision-making factors for people with dementia.

Conclusion

This study explores designers' perceptions in designing an enabling environment for dementia care in Thailand, utilising salutogenic and capabilities approaches. The study shows how

designing such an environment should balance functions and aesthetics. The designers argued for residents and care staff that their actions are the affordances of the environment. Instead of perceiving design as a physical environment, the participants perceive the design of an enabling environment for dementia care to have contextual factors of politics, urban-rural gaps, and education for the whole community.

In summary, based on the interviews, an enabling environment for dementia care is supported by the design stakeholders to establish three major domains. The three main domains are the design for a Sense of Coherence (SOC), design as collectivist culture, and design for neuroscience. The first domain, design for SOC, suggests the coherence of the psychosocial environment to the most pronounced hierarchy that enhances the individuals' experiences of the design of the physical environment. Secondly, design for collectivist culture clarifies how social values and designers' perceptions impact the design when they design for society. Thirdly, design for neurosciences discusses how individuals' brains are influenced by how humans perceive the physical environment. Hence, designing an enabling environment for dementia care should follow the three domains to generate a sustainable environment. The findings on domains of salutogenic design and its emerging theme demonstrate expansion into the addition of capabilities approach of the cultural context and its care systems. In this case, differences between design stakeholders are that architects focus on structure and planning, interior designers focus on a human scale, and occupational therapists focus on adaptability and planning strategies. As a result, salutogenic design may consider the adaptability of structure and design of each human scale, and design processes should start from personalised end users and responds to a flexible conceptual framework.

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