Psychosocially Supportive Design-
As a Theory and Model to Promote Health

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Introduction

This paper provides a critical view of the challenges facing the field of health care design. The persistence of institutional and narrow functionally oriented approaches in which high priority is given to functional efficiency has largely neglected environmental qualities that could be considered psychosocially supportive. Modern disease concepts are no longer narrowly pathogenic; rather disease is seen as multifaceted, oriented to systems, with a variety of psychosocial factors in which the quality of physical environment has great impact.

Psychosocially Supportive Design, as theory and a model, presents a possible paradigm for health promulgation by design within the physical environment, generally and in particular within healthcare facilities. The Psychosocially Supportive Design approach is offered as a useful theory and framework to guide healthcare designers and planners who consider how the physical environment impacts wellness factors in order to promote health. The main issue here is to emphasize that the qualities of the physical environment require both functional efficiency and psychosocially supportive design, aimed at enhancing and creating conditions for health processes to evolve.

In order to define the characteristic of psychosocially supportive design, we need a clearer understanding of health definitions and to determine the distinguishing connection between the physical environment and health promotion.

Health and Wellbeing

In the 1930's it was discovered that something in the mind could lead to somatic diseases, revealing that some diseases are psychosomatic and that exposure to the surroundings, as positive distraction, has great impact on human health (Antonovsky, A. 1996). Human distress is highly affected by an integrated organism that has psychological, social and somatic aspects. Health promotion, as a conceptual platform for health, has been developed by the World Health Organization (WHO); it's vision states: "Health is a state of optimal physical, mental and social well-being, and not only the absence of disease." WHO has emphasized a range of recommendations for people to engage in practices and behaviors which promote health promotive, all

leading to a decrease in human suffering and an increase in human happiness. The consequences will be crucial for disease prevention. WHO contends that successful promotion of health would have a major economic impact, because it would decrease the need for disease care expenditures and consequently allow people to be more economically productive, reducing absenteeism, and increasing work efficiency.

The concept of health promotion as championed by WHO is very attractive. The organization advances original ideas about how health promotion should be developed and implemented in broader fields. Unfortunately the economical consequences with respect to cost saving of health promotion have not been well documented. Presumably, people who are healthy are people who will live longer and might well have secure more years of economic dependency.

According to Aaron Antonovsky, the best arguments for health promotion lie in value rather than in market oriented terms. He cites the paragon of museums in which no one challenges that the museum experience pays off in cash.

Health promoters have not confronted the question of life style and the creation of appropriate social conditions that promote health. As a target for health promotion policy, “lifestyle” refers, for some, to the consciously chosen personal behavior of individuals as it may relate to health. Another interpretation of “lifestyle” is a composite expression of the social and cultural circumstances which condition and constrain personal behavior (McKinlay, J.B. 1993).

Environmental solutions that affect urban space and access to urban structure of the city have great impact on lifestyle and human behaviors.

Figure 1 *Providing wellness factors by designing place that stimulate social wellbeing (Sunderby Hospital Sweden)*

The quality of urban space can support health promotion by providing wellness factors that stimulate social and mental wellbeing. There is a lack of empirical knowledge about the effect of more appropriate physical environments on health promotion, despite the fact that world scientists continue to emphasize the environmental quality of disease prevention.

It is because there are good theories, a world of empirical knowledge, sophisticated techniques and methodologies, and of course most important evidence that many problems can be understood and managed. If the same efforts were used to address the causes of health and toward developing empirical knowledge with evidence, we could develop the concept of health promotion much further in a broader field. According to the WHO European Regional Office, "Health promotion is the process of enabling people to increase control over, and to improve, their health." "Health Promotion" is often understood as disease prevention in the community that encourages individual measures to help people develop lifestyles that maintain and enhance the state of well-being.

The concept of lifestyles as it appears in the literature is well documented. It includes a list of risk factors such as smoking, other substance abuse, over and under nutrition, drinking and driving, unsafe sex and exposure to injuries. The focus remains on the realm of disease prevention. However, lifestyle is somewhat broader-banded, because it identifies risk factors that are often precursors to a variety of diseases. The physical environment provides a context for lifestyle and thereby affects our behavioral and, in consequence, our health condition.

Salutogenic orientation as a basis for health promotion mandates both research and action towards developing psychosocially supportive design as context for a healthy lifestyle and positive distractions. Design factors such as wellness that actively promotes health, rather than only seeks to prevent risk factors aimed at preventing injuries, should be developed.

The salutogenic perspective which was developed by Aaron Antonovsky's concern for health promotion factors emphasizes wellness factors rather than risk factors. Antonovsky founded the concept of "salutogenes." He describes health as a continuum and an incessant process in which the extremes are health and disease. The factor that determines where on the continuum a person finds himself is a question of high or low sense of coherence.

The stimuli bombarding one from inner and outer environments were perceived as information that affects our behaviors. This stimuli and thought led to the emergence of the sense of coherence (SOC).

In the following text, I will describe my observations regarding the salutogena principles in a health promotion approach for the physical environment. My point of departure includes the factors which, in various ways, affect the sense of coherence in the physical environment that may stimulate our behavior in a positive way. According to Antonovsky, the decisive factors driving the sense of coherence are comprehensibility, manageability and meaning.

The strength of every one's sense of coherence is a significant factor in facilitating the recognition of health promotion and confronting the stressor. Persons with a strong sense of coherence will believe that a challenge are understandable (comprehensibility), believes that resources to cope are available (manageability) and finally wish to be motivated to cope (meaningfulness).

Figure 2 *Designing for the senses and place for social interaction. (Rikshospital, Oslo- Norway)*

Design that stimulates healthy behavior

Within the context of psychosocially supportive design, its implementation supports the coherence that stimulates and engages persons, both mentally and socially. The basic function of psychosocially supportive design is to start a mental process that, by attracting a person's attention, may eliminate or, at least, reduce anxiety, bringing about positive psychological changes. Design from a salutogenetic perspective defines, not only the causes of stress, but introduces wellness factors that strengthen health processes. Psychosocially supportive design should challenge our mind in order to create pleasure, stimulation, creativity, satisfaction, enjoyment and admiration (Dilani, A. 2001).

My hypothesis, based on the sense of coherence, is that there is a decisive link between psychosocially supportive design that creates healthy environments which then promote healthy behavioral responses that result from this creative health process. In this case, we need powerful, comprehensive and systematic theoretical guidelines for research and implementation of psychosocially supportive design.

Within this point of view, I do not wish to dismiss those whose concern for design addresses the prevention of risk factors in which the efforts are limited to functional factors rather than issues essential to design. These issues address functionality and our senses, both providing positive stimulation.

We need more longitudinal studies regarding the evidence to support such a hypothesis and to measure the salutogenic model approach in designing our daily environments. These studies could demonstrate the efficacy of such an approach in design toward producing significant health related change outcomes. We need to structure a program based on an intellectually systematic organizing framework that answers questions about how to define wellness factors

in the design process, supporting our behavior to strengthen the sense of comprehensibility, manageability and meaningfulness.

There is an important relationship between a sense of coherence and the characteristics of the physical environment that strengthen people's emotional wellbeing. What movements in the daily life of a person, acting within the physical environment, could activate his/her emotion and strengthen his or her collective experience? Do the characteristics of a designed environment affect our behavior and thereby our emotional state? These characteristics will lead us to the science of psychoneuroimmunological effects of the environment on the immune system and neuroscience, and to research about how the brain perceives design qualities related to the central nervous system in relation to the effect of exposure from the surroundings.

During my past fifteen years of research, I focused on the effects of design on health and wellbeing, finding a more profound understanding of the problem through the theoretical approach of the Salutogenic model for creating a healthy environment. Assuming the need for social support, a core problem of elderly persons living alone who are socially isolated, it is through the physical environment we could provide more access to social support. For example, we could build a central setting that facilitates part of a social structure for the community or, close to other settings, we could facilitate social interaction. Within the local community, it would be desirable to provide places where elderly persons could easily socialize- by attraction and stimuli from other activities such as at a children's school close to elderly, as in the following photo in the next page (Norling, I. 2001).

With the aging of the population and the increase in the incidence of neurodegenerative diseases, the medical costs of Alzheimer's disease will increase steadily in the coming decades. It would be useful to know exactly how much care will cost, who will pay for it, and to what extent it is likely to grow. However, the specific medico-social costs of Alzheimer's disease are difficult to distinguish from other costs because of physical dependence and multiple disorders that may affect elderly people generally. Currently, it is almost impossible to obtain reliable financial data. Through the physical environment, there are possibilities to reduce social costs, anxiety levels, and depression accompanied by the consumption of drugs (Zeisel, J. 2005).

The quality and character of the built environment has a profound influence on our health. During the last thirty years, architecture and design have been influenced by our industrial society. Public buildings like airports and hospitals were designed to function like factories. In hospitals, clinical practice formerly focused on treating illness while neglecting the psychological, social and spiritual needs of patients. Entering one of today's older hospitals, you may find that signs that are difficult to interpret and the corridors, with people rushing about, appear endless. It makes you feel lost and anxious. If you weren't ill before, you certainly might be after waiting for hours in a crowded, stuffy, featureless waiting room (Dilani, A. 2000). Contrast that with the welcoming environment of some of the best of the new hospitals where you may encounter water features, an orchestra playing pleasant music, natural daylight, and works of art. Such an environment stimulates our senses, soothes our nerves and makes the whole hospital experience comprehensible, manageable and meaningful.

The Importance of Design for our Senses

Aesthetic enjoyment through wellbeing- of the eyes, the ears, touch taste or smell- is a fundamental human need. Like other abilities, the senses need stimulation and practice to thrive. Sounds, for example, contribute to enlarg-

ing and reducing an architectural experience. Rooms and materials reflect sound in various ways. There are pleasant sounds and unpleasant sounds. Designers and architects sometimes spend a great deal of effort on the sound of environments, independent of their designing concert houses and theaters. One goal is to reduce or filter unwanted sound; another is to highlight beautiful and serene sounds such as rippling water and clicking sounds, informing us that a box or a door is closed. To find the right sound for a product has become an increasingly more important job for designers. If the sensory appeal is heightened with a pleasing handle, pleasurably tactile and smelling materials etc., it will increase people's inclination to make the most of these environmental qualities. Personal insight is awakened, reflecting well on the value of a good environment. Medical research has shown how these sensory qualities stimulate patient recovery; the environment has a great positive influence on elderly patients, in particular.

Care and maintenance is often neglected in public environments; a worn and unattractive environment contributes to a sense of hopelessness and recklessness. Lack of administrative and caretaker sensibility becomes a vicious circle. A scrubby environment lowers the inclination to care for this environment, thus increasing wear and tear and littering. A beautiful environment increases the will to keep up maintenance. Durable materials which age in a beautiful way contributes, therefore, to long-lasting aesthetics and a more sustainable society.

By design I also mean form and architecture; that the built environment consists of components which together make up the architectural whole. Size and variation affect aesthetic and physical qualities toward the final architectural result. The same argues for colors, wallpaper, lamps and rugs, furnishing the building, floor and wall materials, interior products, bathroom and kitchen equipment, use of materials

Figure 3 *Elderly and school setting integrated within the social structure of the city.*

such as ceramic design, textile design, interior design and industrial design, all skills of the design professions. Products for the outside environment, such as bus stop booths, public telephones, signs and other typographical items, materials for groundcover etc., all have a shape which someone needs to make a decision about. If all of these factors do not function well or do not have the qualities which correlate to the need for a suitable purpose, good architecture will not be achieved. Details and the whole are interdependent. It is not unusual that furniture which the furniture designer developed and tiles and washbasin which the ceramicist designed, specifically for a particular interior, turned out so well that they thereafter were produced on a big scale for a larger market.

Research and action

Despite the fact that the human being spends more than ninety-percent (90 %) of his/her time in man-made indoor environments, the existing knowledge of how these environments affect human health is still insufficient (Evans G. W. 2003). Earlier research in environmental psychology has shown that architectural parameters such as stimulation (intensity, variety, complexity, mystery, novelty, noise, light, odor, color, crowding, visual exposure, proximity to circulation, adjacencies), coherence (legibility, organization, thematic structure, predictability, landmark, signage, pathway configuration, distinctiveness, floor plan complexity, circulation alignment, exterior vistas), affordances (ambiguity, sudden perceptual changes, perceptual cue conflict, feedback), control (crowding, boundaries, climatic & light controls, spatial hierarchy, territoriality, symbolism, flexibility, responsiveness, privacy, depth, interconnectedness, functional distances, focal point, sociofugal furniture arrangement), and restoration (minimal distraction, stimulus, shelter, fascination, solitude) are closely linked to the perception of positive and negative stress.

Figure 4 *Music performance in the main entrance of hospital Chelsea and Westminster, London*

The question is: Can the positive architectural characteristics required to reduce stress, as mentioned previously, be concretized and implemented in current workplaces and the overall built environment, thus strengthening the sense of coherence and its consequent promotion of health? We need to go one step further in order to pursue this concept that links health promotion and design- that is, how to reduce stress through architectural design.

It is of critical importance that the field of design, as the creator of the physical context for health promotion, lacks a theoretical approach. As a basic foundation, the salutogenic approach should be considered to be the crucial point of departure in an attempt to develop a theoretical approach for psychosocially supportive design. It should be developed further as common ground for a design theory to promote health.

This theory has been proposed as a direction and focus, allowing the field to commit to its concern about all aspects of the human encounter in relation to the physical environment. The theory suggests that we not only design for stress reduction, but focus on salutary rather than risk factors. Designers and planners should always focus on stimulating and rejuvenating the entire person's mind and body, rather than only addressing risk and prevention factors. As one methodology, the sense of coherence linked to this design approach is a respectable way to apply health promotion by design. I have discussed a comprehensive source and guide for research and action. I believe that the salutogenic approach in design provides a common objective and is a particularly appropriate model for psychosocially supportive design.

Conclusion

The salutogenic approach, as a link and model to a design approach for health promotion, provides a basic theoretical framework for Psychosocially Supportive Design. It provides a model and theory to promote health by design. There is a need to systematically investigate and conduct more empirical studies that verify this model. It is a model that posits that health outcomes are not only linked to stress reducing factors but are linked to environmental qualities that could measure the positive effects of health outcomes. Furthermore, this effort requires informed leadership to guide the organization through the salutary approach process.

The issue of psychosocially supportive design is not only the task for designers; it requires that the entire organization should understand the meaning of salutary organization. Designers could support the effort by quantifying the benefit of such an approach. The organization should measure the sense of coherence; the staff should comprehend it and act on it. We believe that the staff resources to cope are available (manageability), waiting to be motivated (meaningfulness). Design qualities that could be included as wellness factors should be identified follow: access to nature; art; colors; sound of music and nature; lighting; access to pets; use of culture; familiarity; creating landmarks and references in buildings; aesthetics; harmonious and cheerful color; social interaction and neighborhoods; spatial composition and articulation; provision of inviting spaces for social support, all of which seek to engage mentally with positive stimulation that could strengthen people's sense of coherence. This approach emphasizes both psychological and social components that are crucial for health outcomes.

In this nascent stage of scholarship about design and health promotion, the most pressing need is for a better understanding of the psychological and social components that could potentially link a sense of coherence to quality of wellness factors within the designed environment. Psychologically Supportive Design provides the theory, knowledge and models for advancing healthcare design.

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