Public Understanding and Opinion on Thai Wellbeing Standard

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Abstract

The idea of wellbeing is based on Abraham Maslow's theory called "the Hierarchy of Needs" and Martin Seligman's theory called "PERMA". In Year 2021, the Thailand Green Building Institute (TGBI) issued the SOOK building standard as a design and evaluation criterion for buildings. Upon review, the researcher found that both theories and the standard were in conflict. Therefore, this research aims to investigate people's perceptions of the standard and to identify which criteria are important to them. The research questions, therefore, focused on public understanding and opinions about the standard as well as the criteria considered most essential. The researcher selected about 800 members who met the criteria from the Khon Design group as population and distributed online questionnaires. After 2 months with 122 participants, constituting approximately 15.25% of the total population which is considered a proper sample size. The poll results revealed that 91% knew its benefits, but 56.2% believed that the standard was merely a marketing tool. They merely devoted themselves to general items such as plants, safety, universal design, light, thermal comfort, ventilation, and noise, with percentages of 81%, 86.9%, 83.6%, 79.5%, 86.9%, 81.1%, and 78.7% respectively. Conversely, they exhibited less concern for certain aspects: 33.8% expressed awareness of the sense of place, 61.5% considered toxic materials, 50% were mindful of smoking control, and 57.4% were concerned about air leakage. Moreover, while the standard related to both architectural and engineering design, participants demonstrated more attention to architectural design aspects than to engineering systems.

Keywords: Well-being standard, Thai wellbeing standard, Sook building standard, building standard,architecture
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1. Introduction

Wellbeing, also known as "Sook Ka Pa Wa" in Thai, refers to the stage of human satisfaction in physical, mental, social, emotion, spiritual, environment, socio-culture and economic (Sinuraiphan, n.d.). It encompasses many aspects of life, and people from different cultures and societies have discussed and explored it extensively. The study of wellbeing is mostly in the field of psychology, and there are various theories and frameworks. The most influential theories are Maslow's hierarchy of needs and the PERMA model by Martin Seligman.

Maslow's hierarchy of needs includes "psychological", "safety", "belonging and love", "social needs" or "esteem", "self-actualization" and "transcendence" (Mcleod, 2022).

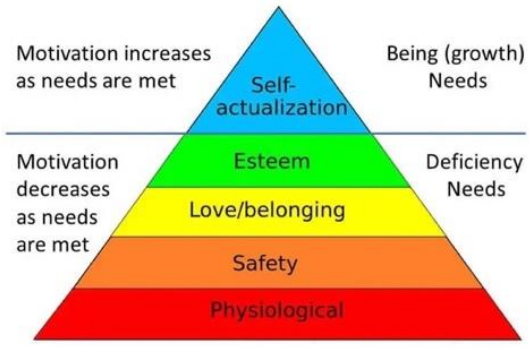

Figure 1 Maslow's Hierarchy of needs (Mcleod, 2022)

Maslow was the first psychologist to describe "wellbeing" with the characteristics of self-actualized person (Madeson, 2017). The PERMA model consisted of 5 components: "positive emotion", "engagement", "relationships", "meaning" and "accomplishments" (Madeson, 2017).

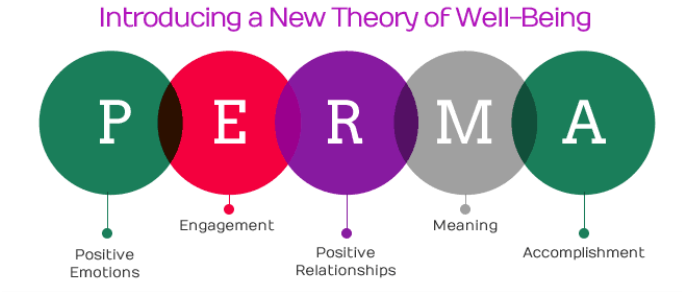

Figure 2 The PERMA model (Miranda, 2022)

In 1948, World Health Organization (WHO) developed the standard of well-being. Since then, many organizations around the world have established more specific standards and indicators of well-being in conjunction with TGBI in Thailand.

TGBI or Thai Green Building Institute issued the SOOK building standard (Sreshthaputra et al., 2021), a building standard that focuses on well-being notions in 2021. SOOK standard is classified into 5 categories consisting of Biophilia & Neighborhood, Architectural Design, Interior design and materials, Environmental system & engineering, SOOK innovation. Each category has several subtopics. On the contrary, the well-being standard covered most areas of human well-being, such as physical health, mental health, social connections, and a sense of purpose or meaning in life, while the SOOK building standard mostly had focused on criteria related to building design that could affect human health, such as air quality but ignored many other aspects of human well-being. After analyzing them, I became skeptical about whether some of these criteria were essential. Therefore, this research aims to find out what topics or sub-topics of the SOOK building standard matter in general people's opinions.

The questionnaires mostly spotlighted on the topic and sub-topic of the SOOK standard. And researchers made the questions very simple for anyone to understand and conduct by listing them in sequence, mimicking the SOOK topics and sub-topics and adding checkbox for them to choose. After that, the researchers summarized the responses for each topic and sub-topic and demonstrated them in percentages.

2. Objectives

The objectives of the research are as follow

1) What people perceive the SOOK standard.

2) What criteria are essential for people.

3. Materials and Methods

To select the population, the researchers used probability sampling by choosing ***The Khon Design*** as target population because the group had 12,000 members with a broad range of ages and careers. The main topic discussion in the group was residential issues, varying on broad ranges such as home improvements, maintenances, construction and so on. Researcher screened the group members profiles then selected the participances based on educations, ages, various area of residence, their interest topics and frequency of participation in the group. Subsequently, the researcher asked the members to complete online questionnaires. The purpose of the research was clearly communicated to participants, assuring them that the questionnaires collected no personal data such as names, birthdates, beliefs, email addresses or IP address, and that no personal contact would be made at all. The results would solely focus on their opinions about SOOK standard. In cases, some refused to participate, researcher find the replacements with the same method. By this means, the researcher selected members about 800 individuals as the targeted population. Thus, the expected sample size was approximately 10% - 15% which is commonly recommend range for sample sizes.

The questions were divided into 2 parts, the first part focused on general information about the samples, such as age, education, family incomes and type of residences. The other part consisted of lists of SOOK standard topics, sub-topics with checkbox, along with their details and explanations. Afterwards, the researcher summarized the score in percentages. Consequently, the researcher would be aware of what the matter criteria were.

The SOOK building standard is the building standard issued by TGBI in 2021. It has 5 topics with several subtopics. Those 5 categories are Biophilia & Neighborhood, Architectural Design, Interior design and materials, Environmental system & engineering, SOOK innovation. SOOK innovation, nevertheless, has no specific criteria. So, this research does not include it in the questionnaires. To provide comprehensive details in each table, Researcher selected criteria that were essentially and easily understood by audiences. Similar items were grouped together, and some criteria requiring special equipment for measurement were eliminated.

Details of the criteria and SOOK score are shown in the following Tables.

Table 1 Biophilia & Neighborhood

BIOPHILIA & NEIGHBPRHOOD(BN)		SOOK Score
BN1	Connect with nature (Biophilia)	2
BN2	Exercise Space	1
BN3	Sense of Place	1
BN4	Surrounding Community	1
BN5	Disaster Management	1
BN6	Pest & Pesticide Control	1
BN7	Community Garden	1

Source: Sook building standard

Table 2 Interior and Material

INTERIOR DESIGN & MATERIALS(IM)		SOOK Score
IMp1	VOC Reduction (Basic)	Compel
IM 1	Surface Design	1
IM 2	Color Quality	2
IM 3	Toxic Materials Reduction	2
IM 4	Antimicrobial	2
IM 5	Cleanable Environment	1
IM 6	Circadian Lighting	2

Source: Sook building standard

Table 3 Architectural Design

ARCHITECTURAL DESIGN (AD)		SOOK Score
ADp1	Smoking Control	Compel
AD 1	Safety (Reduce accident)	10
AD 2	Security	6
AD 3	Universal Design	5
AD 4	Access to View	1
AD 5	Private Space	1
AD 6	Natural Ventilation	4
AD 7	Visual Lighting	1
AD 8	Glare control	2
AD 9	Right to Light	1
AD 10	Shading and dimming	1
AD 11	Operable window	1
AD 12	Acoustic Comfort	2

Source: Sook building standard

Table 4 Environmental system and Engineering

ENVIRONMENTAL SYSTEM & ENGINEERING (EE)		SOOK Score
EEp1	IAQ standard	Compel
EE 1	Thermal Comfort	4
EE 2	Olfactory Comfort	2
EE 3	Water Quality	5
EE 4	Outdoor Air Filtration	2
EE 5	Air Leakage	2
EE 6	Direct Source Ventilation	2
EE 7	Outdoor Air System	3
EE 8	Air Purification	3
EE 9	Noise reduction	2

Source: Sook building standard

This research was conducted by online questionnaires using Google form and distributed to the public via social media as mentioned above. Details of the SOOK building standard, and their descriptions were appended with the questionnaires. The survey had a 2-month online availability. Afterwards, the google system summarized and created pie charts of results.

4. Results and Discussion

After 2 months, out of the population of 800, there were 122 responses to poll, constituting approximately 15.25% of the population which met the proper sample size. The majority of the participants lived in Bangkok and its vicinity. The age range was predominantly 50-60 with an income of 20,001 – 50,000-Baht incomes and a minimum bachelor's degree. The primary type of residential buildings were single or twin houses, while row houses or townhouses were secondary, as showed in Figure 3 and 4.

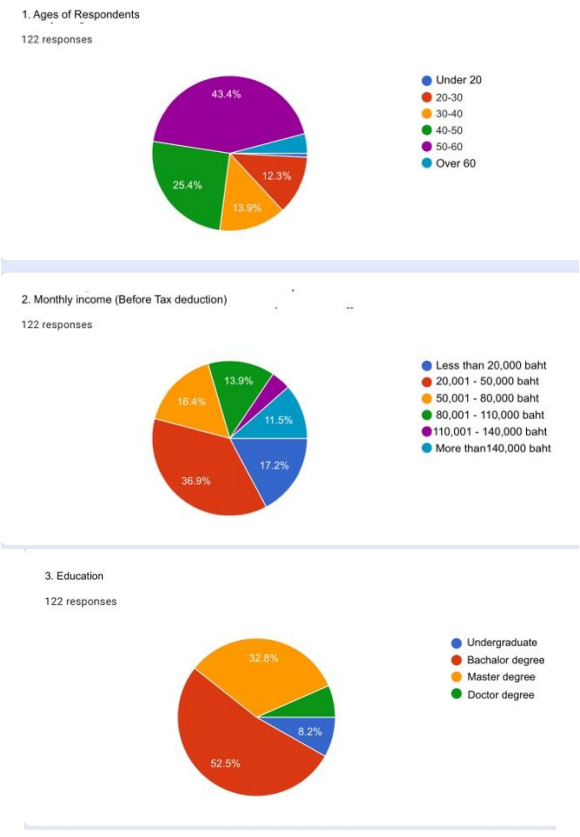

Figure 3 Participants Information on ages, incomes, and education

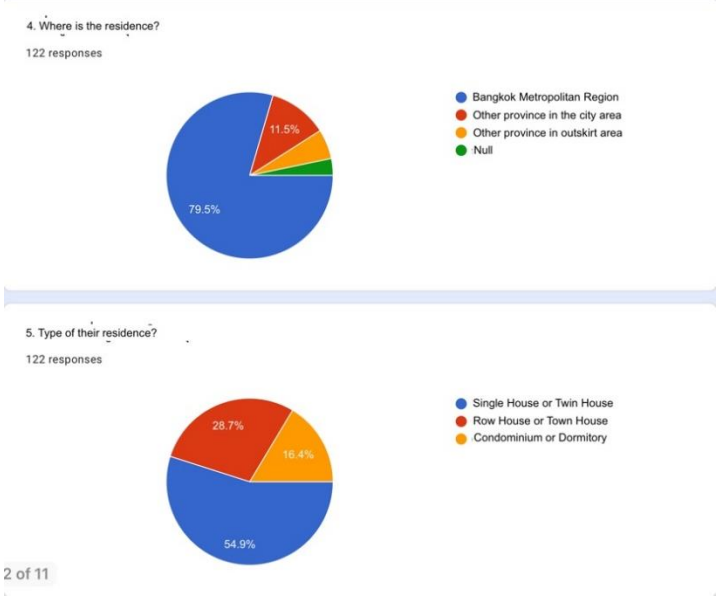

Figure 4 Participants Information on living location and type of house

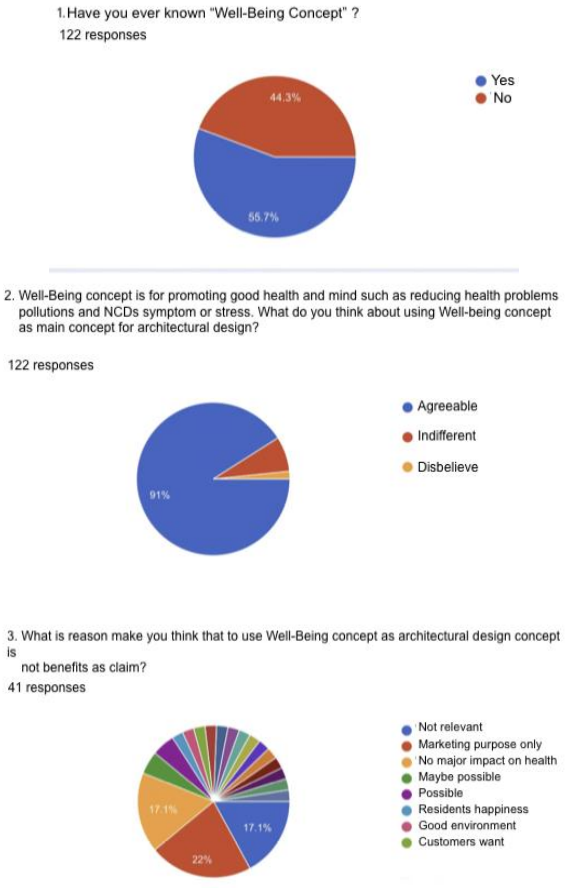

Figure 5 Participants' Opinion on the Standard

Figure 5 consisted of 3 pie charts. The top and middle pie charts demonstrate that 55.7% of respondents were aware of the wellbeing standard, and 91% were aware of its benefits. However, 22.0 % believed that well-being was merely for marketing. In addition, 17.1% thought that it had no major impact on human health, and another 17.1% speculated that it was irrelevant.

Responses for each topic are detailed in Tables 5 to 8 below.

Table 5 Biophilia & Neighborhood

Subtopics		Result (%)
BN1	Connect with nature (Biophilia)	81.1
BN2	Exercise Space	66.4
BN3	Sense of Place	33.8
BN4	Surrounding Community	42.6
BN5	Disaster Management	77.0
BN6	Pest & Pesticide Control	51.6

Subtopics		Result (%)
BN7	Community Garden	49.2

Table 6 Interior and Material

Subtopics		Result (%)
IMp1	VOC Reduction (Basic)	86.9
IM 1	Surface Design	63.9
IM 2	Color Quality	69.7
IM 3	Toxic Materials Reduction	61.5
IM 4	Antimicrobial	63.9
IM 5	Cleanable Environment	84.4
IM 6	Circadian Lighting	79.5

Table 7 Architectural Design

Subtopics		Result (%)
ADp1	Smoking Control	50.0
AD 1	Safety (Reduce accident)	86.9
AD 2	Security	76.2
AD 3	Universal Design	83.6
AD 4	Access to View	78.7
AD 5	Private Space	71.3
AD 6	Natural Ventilation	67.2
AD 7	Visual Lighting	76.2
AD 8	Glare control	58.2
AD 9	Right to Light	64.8
AD 10	Shading and Dimming	75.4
AD 11	Operable window	76.2
AD 12	Acoustic Comfort	73.0

Table 8 Environmental system and Engineering

Subtopics		Result (%)
EEP 1	AQI standard	69.7
EE 1	Thermal Comfort	86.9
EE 2	Olfactory Comfort	77.0
EE 3	Water Quality	74.6
EE 4	Outdoor Air Filtration	62.3
EE 5	Air Leakage	57.4
EE 6	Direct Source Ventilation	81.1
EE 7	Outdoor Air System	59.0

Subtopics		Result (%)
EE 8	Air Purification	63.1
EE 9	Noise reduction	78.7

Table 9 First 3 subtopics with high score for each topic

Subtopics	Result (%)
Biophilia & Neighborhood	
Connect with nature (Biophilia)	81.1
Disaster Management	77.0
Exercise Space	66.4
Interior and Material	
VOC Reduction (Basic)	86.9
Cleanable Environment	84.4
Circadian Lighting	79.5
Architectural Design	
Safety (Reduce accident)	86.9
Universal Design	83.6
Access to View	78.7
Environmental system and Engineering	
Thermal Comfort	86.9
Direct Source Ventilation	81.1
Noise reduction	78.7

Table 10 Last 3 subtopics with low score for each topic

Subtopics	Result (%)
Biophilia & Neighborhood	
Sense of Place	33.8
Surrounding Community	42.6
Community Garden	49.2
Interior and Material	
Color Quality	69.7
Toxic Materials Reduction	61.5
Antimicrobial	63.9
Architectural Design	
Smoking Control	50.0
Glare control	58.2
Right to Light	64.8

Subtopics	Result (%)
Environmental system and Engineering	
Air Leakage	57.4
Outdoor Air System	59.0
Outdoor Air Filtration	62.3

According to Table 9, survey participants were particularly interested in subtopics related to connecting with nature (Biophilia) and disaster management within the Biophilia & Neighborhood topics, while exercise space received less attention. They also prioritized VOC reduction and cleaning environment over circadian lighting in the Interior and Material topic. Furthermore, they were more concerned about safety and universal design than access to views in the Architectural Design topic. In the Environmental system and Engineering topic, respondents rated thermal comfort and direct source ventilation more highly than noise reduction.

Table 10, on the contrary, shows that respondents had less concern for the sense of place, surrounding community and community garden subtopics in Biophilia & Neighborhood. They also demonstrated a lower interest in color quality, toxic materials reduction and antimicrobial in Interior and Material topic. In the Architectural Design topic, the survey demonstrated the lower percentage for smoking control, glare control and right to light. Respondents provided lower scores for air leakage, outdoor air system, and outdoor air filtration in the Environmental system and Engineering topic.

Comparing the SOOK topic score with the percentage result on each topic, researcher formed tables to show sequel of both. Table 11 demonstrated the juxtaposition of first 3 topics, while Table 12 rendered the collation of last 3 topics.

Table 11 First 3 subtopics with high score for each topic

Subtopics	SOOK score	Survey score (%)
Biophilia & Neighborhood		
Connect with nature (Biophilia)	2	81.1
Disaster Management	1	77.0
Exercise Space	1	66.4
Interior and Material		
VOC Reduction (Basic)	compel	86.9
Cleanable Environment	1	84.4
Circadian Lighting	2	79.5
Architectural Design		
Safety (Reduce accident)	10	86.9
Universal Design	5	83.6
Access to View	1	78.7

Subtopics	SOOK score	Survey score (%)
Environmental system and Engineering		
Thermal Comfort	4	86.9
Direct Source Ventilation	2	81.1
Noise reduction	2	78.7

Table 12 Last 3 subtopics with low score for each topic

Subtopics	SOOK score	Survey score (%)
Biophilia & Neighborhood		
Sense of Place	1	33.8
Surrounding Community	1	42.6
Community Garden	1	49.2
Interior and Material		
Color Quality	2	69.7
Toxic Materials Reduction	2	61.5
Antimicrobial	2	63.9
Architectural Design		
Smoking Control	compel	50.0
Glare control	2	58.2
Right to Light	1	64.8
Environmental system and Engineering		
Air Leakage	2	57.4
Outdoor Air System	3	59.0
Outdoor Air Filtration	2	62.3

Table 11 demonstrated that both scores had the same tendency, except for some subtopics. Specifically, for Biophilia & Neighborhood topic, disaster management, and exercise space, the SOOK standard and survey scores had the same score, but there was a 10% difference in the survey score. Regarding the Interior and Material topic, VOC reduction was the center of attention for both. On the other hand, Sook focused on circadian lighting over cleanable environments, which was the opposite of the survey results. Both score on subtopics of Architectural Design had the same tendency. However, the Sook standard paid very little attention to “access to view” compared to the survey. For the last topic, both score were utterly the same.

In Table 12, the first two topics, Biophilia & Neighborhood and Interior and Material, had aligned scores for both. However, Right to Light on the Architectural Design topic was different; the result on survey demonstrated a higher value compared to the SOOK standard. On the contrary, the SOOK standard compelled smoking control, but the survey results were only fair. For the last topic, both scores were generally the same except for outdoor air system versus outdoor air filtration, where the SOOK standard and the survey had opposite priorities.

5. Conclusion

The SOOK building standard was designed to enhance human life quality. However, the survey results indicated that people perceived the standard more as a marketing tool or an audience illusion with no significant impacts on human health. The most valuable criteria for respondents were plants, safety including the prevention of indoor accidents and natural disasters, and universal design rather than omitting smoking area, which differed from the SOOK standard. The survey revealed that the respondents also agreed with the SOOK on the use of low or non-VOC materials, but disagreed on Cleanable Environment topic, which they considered highly essential. Additionally, they expressed concerns about suitable thermal comfort, direct ventilation, and noise reduction, placing more emphasis on these aspects than on air leakage, outdoor air system and outdoor air filtration. These findings align with Maslow's Hierarchy of needs, indicating that people feel a sense of well-being when their physiological and safety needs are fulfilled. Additionally, none are inconsistent with the PERMA theory.

Upon evaluating the survey results, the researcher identified simple factors such as nature, sunlight, wind, trees and the use of natural ventilation and thermal comfort as essential for respondents. These factors differed from the SOOK standard that place more value on engineering aspects. This inconsistency needs further investigation.

The discoveries from this research suggest that the most essential criteria derived from the survey could serve as architectural design guidelines for well-being issues. This could potentially become the focal point of future research. Additionally, the SOOK standard may need to be re-evaluated.

6. References

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