

1 Supplementary Material

2 Table S1. Study Participants

Process	Participation		No	Type of Institutions	Positions	Specialty	Age (yrs)	Gender	Experience (yrs)
	Session 1	Session 2							
Expert-Focus Group Interview	Yes	No	1	University	Professor	Preventive Medicine	58	Male	33.7
	Yes	No	2	University	Professor	Preventive Medicine	53	Male	28.2
	Yes	No	3	University	Professor	Urban planning	46	Male	18.3
	Yes	No	4	University	Professor	Urban planning	58	Male	33.5
	Yes	No	5	University	Professor	Urban Planning	46	Female	19.2
	Yes	No	6	University	Professor	Health Promotion	52	Female	26.4
	Yes	No	7	University	Professor	A Healthy City	51	Female	19.7
	Yes	No	8	University	Professor	Management Information Systems	43	Female	20.3
	No	Yes	9	University	Professor	Governance	55	Male	19.2
	No	Yes	10	University	Professor	Science and Technology Policy	58	Male	28.0
	No	Yes	11	University	Professor	Urban planning	57	Male	33.3
	No	Yes	12	University	Researcher	Urban planning	35	Male	8.1
	No	Yes	13	University	Professor	Medical Informatics	46	Female	21.3
	No	Yes	14	University	Professor	Occupational therapy	40	Female	17.4
	Yes	No	15	Research Institute	Researcher	Atmospheric science	45	Male	16.2
	Yes	No	16	Research Institute	Researcher	Health Promotion	43	Male	25.1
	Yes	No	17	Research Institute	Researcher	Health Promotion	54	Male	30.3
	Yes	No	18	Research Institute	Researcher	Occupational Therapy	41	Male	14.2
	Yes	No	19	Research Institute	Researcher	Occupational Therapy	37	Male	10.3
	Yes	No	20	Research Institute	Researcher	Occupational therapy	50	Female	28.5
	No	Yes	21	Research Institute	Researcher	Living Lab	62	Male	24.0
	No	Yes	22	Research Institute	Researcher	Motor Learning and Control	46	Male	21.0
	No	Yes	23	Research Institute	Researcher	Urban Planning	42	Female	15.1
	Yes	No	24	Research Institute	Researcher	Health Promotion	38	Female	12.2
	Yes	No	25	Research Institute	Researcher	Endocrinology and Digital health	45	Female	20.0
	Yes	No	26	Software Company	CEO	Digital Healthcare	54	Male	31.3

Process	Participation		No	Type of Institutions	Positions	Specialty	Age (yrs)	Gender	Experience (yrs)
	Session 1	Session 2							
Process 1	Yes	No	27	Software Company	CEO	Digital Healthcare	41	Male	13.5
	Yes	No	28	Design Company	CEO	Urban Planning	44	Male	19.6
	Yes	No	29	Design Company	CEO	Urban Planning	52	Male	26.8
	No	Yes	30	Municipal Office	Public Officer	Internet of Things	59	Male	22.7
	No	Yes	31	Research Institute	Researcher	Living Lab	51	Female	27.4
	No	Yes	32	Patient Support Group	Advisor	Living Lab	46	Female	21.3
	No	Yes	33	Public Institution	Public Officer	Preventive Medicine	62	Female	37.5
	No	Yes	34	Public Institution	Public Officer	Health Promotion	54	Female	27.6
	No	Yes	35	Public Institution	Public Officer	Health Promotion	55	Female	31.1
			Mean				49.11	0.57 ¹	22.92
			S.D.				7.33	0.50 ¹	7.26
Group Concept Mapping	Yes	Yes	1	University	Professor	Preventive dentistry	42	Male	6.6
	Yes	Yes	2	University	Professor	Health promotion	59	Male	25.3
	Yes	Yes	3	University	Professor	Urban planning	47	Male	7.3
	Yes	Yes	4	University	Professor	Urban planning	58	Male	7.1
	Yes	Yes	5	University	Professor	Architecture and urban planning	36	Male	0.8
	Yes	Yes	6	University	Professor	Politics	56	Male	6.0
	Yes	Yes	7	University	Professor	Occupational therapy	53	Male	10.8
	Yes	Yes	8	University	Professor	Urban planning	47	Female	5.3
	Yes	Yes	9	University	Professor	Urban planning	47	Female	8.3
	Yes	Yes	10	University	Professor	Health policy and administration	52	Female	12.8
	Yes	Yes	11	Education Center	Director	Social welfare	44	Male	5.4
	Yes	Yes	12	Research Institute	Director	Geography Education	47	Male	5.7
	Yes	Yes	13	Meteorological Institute	Director	Atmospheric science	46	Male	13.3
	Yes	Yes	14	Research Institute	Researcher	Urban planning and design	43	Female	5.5
	Yes	No	15	Research Institute	Researcher	Public administration	63	Male	25.0
	Yes	No	16	University	Professor	Mechanical engineering	44	Male	4.7
			Mean				49.00	0.71 ¹	9.00
			S.D.				7.21	0.47 ¹	6.89

4 Table S2. Clusters and Statements Defining the Concept of a Smart Healthy City

Cluster (Number of Stmt)	Statements			
	No.	Content	Mean	S.D
Healthy Environment Cities (7)	3	A smart healthy city is a city that encompasses the concepts of a smart city and a healthy city.	4.14	0.86
	5	A smart healthy city is a city that is well equipped with basic infrastructure.	3.86	0.77
	10	A smart healthy city is a city with easy access to healthcare.	4.21	0.58
	23	A smart healthy city is a city that is highly efficient in improving the health of individuals and the city as a whole.	4.15	0.90
	42	A smart healthy city is a city that aims to promote physical activity using smart mobility.	4.00	0.88
	53	A smart healthy city is a city that improves human psychology.	3.71	0.91
	55	A smart healthy city is a city with urban environment elements for health.	4.29	0.83
Smart Networking Cities (13)	20	A smart healthy city is a city where data is shared between organizations.	3.79	1.05
	21	A smart healthy city is a city that enables inter-agency communication.	3.93	0.83
	22	A smart healthy city is a city where inter-agency data can be used collaboratively.	3.93	0.92
	25	A smart healthy city is a city that enables residents to communicate with each other.	3.86	0.95
	31	A smart healthy city is a city where there are no barriers to utilizing smart technologies.	4.14	0.86
	32	A smart health city is a city that uses digital technology to reorient healthcare.	4.21	1.12
	33	A smart health city is a city where the application of bio and industrial technologies is felt by its citizens.	4.07	0.92
	35	A smart health city is a city that smartens the needs of its citizens.	3.93	1.07
	43	A smart health city is a city that engages its citizens in community activities through digital connectivity.	3.79	1.05
	44	A smart health city is a city that engages citizens in services through digital connectivity.	3.79	0.89
	46	A smart healthy city is a city that promotes opportunities for participation through networking.	3.79	0.89
	47	A smart healthy city is a city with a circular structure where networking enhances capabilities.	3.86	0.95
	56	Smart health cities are cities that go beyond the traditional healthcare system through smart technologies.	4.50	1.09
Socially Sustainable Cities (17)	4	A smart healthy city is a city that supports the lives of its citizens and communities in a social environment.	3.71	0.91
	6	A Smart Healthy City is socially sustainable.	3.86	0.77
	7	A smart healthy city is financially sustainable.	3.86	1.03
	8	A smart healthy city is a city that promotes inclusive policies.	4.00	0.55
	13	A smart healthy city is a city that adapts unhealthy parts of the city to the needs of its citizens.	3.07	0.92
	16	A smart healthy city is a city that sets standards for marginalized groups.	3.86	0.53
	17	A smart healthy city is a city where the spatial environment is built for the socially vulnerable.	4.00	0.55
	27	A smart healthy city is a city that allows universal dignity to be maintained.	3.79	0.70
	34	A smart healthy city is a city that targets the health of the entire community.	4.50	0.65
	39	A smart healthy city is a city that offers solutions to the problem of an aging population.	4.00	0.68
	40	A smart healthy city is a city that offers solutions to address issues of inequality	3.93	0.83

Cluster (Number of Stmts)	Statements			
	No.	Content	Mean	S.D
48	A smart healthy city is a city that focuses on problem-solving methods.	3.64	0.84	
49	A smart healthy city is a city that sets incremental goals to achieve an ideal system	3.43	0.85	
50	A smart healthy city is a city that can address social challenges.	3.64	1.01	
51	A smart healthy city is a city that can enhance the quality of life for people with disabilities.	4.07	0.73	
52	A smart healthy city is a city that can improve the quality of life for the elderly.	4.07	0.73	
57	A smart healthy city is a city where people all generations can live together harmoniously in their daily lives.	4.00	0.88	
Health Empowering Cities (20)	1	In a smart health city, health is defined as the restoration of capabilities.	3.71	0.83
	2	A smart healthy city is a city that provides personalized and customized services.	4.07	1.07
	9	A smart healthy city is a city with a clear definition of health.	3.43	1.09
	11	A smart healthy city is a city where the psychology of health is embedded in everyday life.	3.57	0.85
	12	A smart healthy city is a city where healthy behaviors are part of everyday life.	3.50	1.02
	14	A smart healthy city is a city that enlightens the thinking system of citizens through education.	3.00	0.55
	15	A smart healthy city is a city that promotes basic health.	3.79	0.80
	18	A smart healthy city is a social model that scales healthy living behaviors.	4.14	0.86
	19	A smart healthy city is a model for disease prevention.	4.29	0.73
	24	A smart healthy city is a city that values mental health.	3.79	0.97
	26	A smart healthy city is a city where personal quality of life is maintained.	4.07	0.73
	28	A smart healthy city is a city that enables people to form healthy habits in their daily lives.	3.93	0.83
	29	A smart healthy city is a city that promotes everyday convenience.	3.79	0.80
	30	A smart healthy city is a city without health literacy challenges.	3.64	0.93
	36	A smart healthy city is a public health city that is safe from infectious diseases.	4.29	0.73
	37	A smart healthy city is a city that provides solutions to the carbon problem.	3.29	0.91
	38	A smart healthy city is a city that provides solutions to energy problems.	3.43	0.85
	41	A smart healthy city is a city that promotes human security in everyday life.	3.43	0.94
	45	A smart healthy city is a city that aims to strengthen capabilities.	3.64	0.84
	54	A smart healthy city is a city that improves people's behavior	3.79	0.80

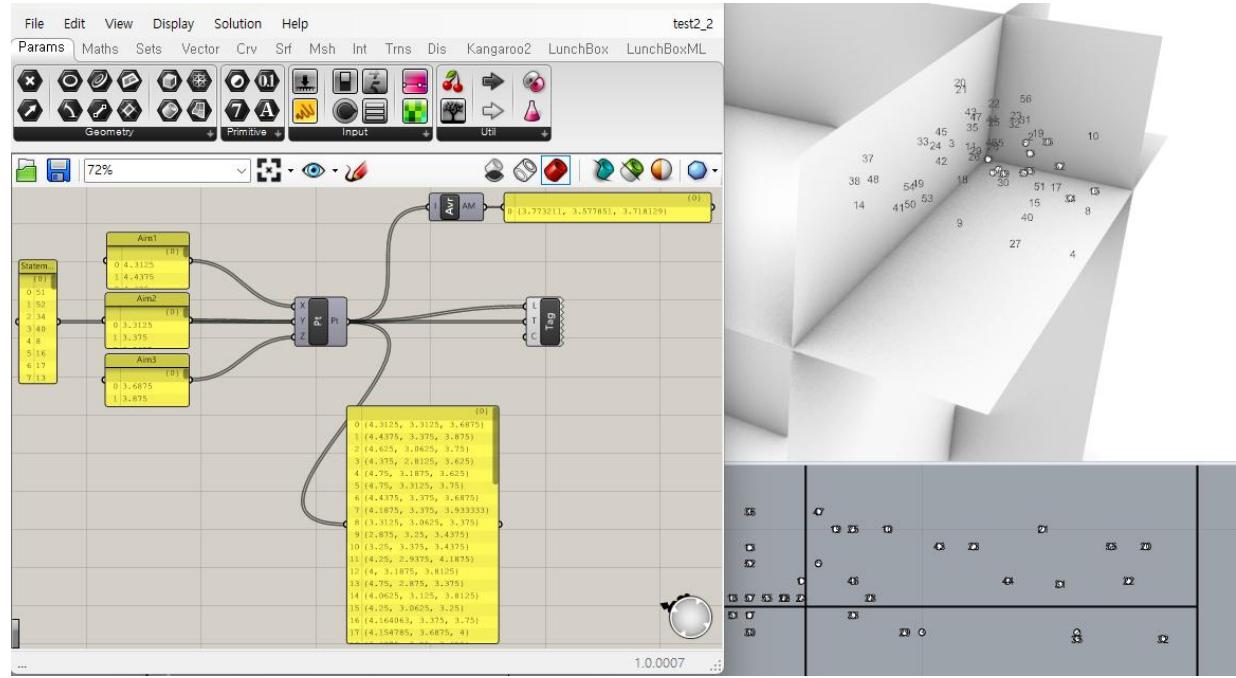


Figure S1. Results Verified Using Rhino7-Grasshopper 1.0.0007 (bottom)