

原 著

Relationships between Cognitive Appraisals of Elderly Welfare Policy, Program, and Project for the Elderly at Home

在宅高齢者の高齢者福祉政策・施策・事業に対する認知的評価間の関係

Ryosuke DEI¹⁾²⁾, Masafumi KIRINO³⁾, Kazuo NAKAJIMA⁴⁾, Takashi MURAKOSO³⁾

出井涼介¹⁾²⁾、桐野匡史³⁾、中嶋和夫⁴⁾、村社卓³⁾

1) Graduate School of Health and Welfare Science, Okayama Prefectural University

2) Research Institute of Community Care Management

3) Faculty of Health and Welfare Science, Okayama Prefectural University

4) Professor Emeritus, Okayama Prefectural University

1) 岡山県立大学大学院保健福祉学研究科

2) 地域ケア経営マネジメント研究所

3) 岡山県立大学保健福祉学部

4) 岡山県立大学名誉教授

Abstract

The purpose of this study was to reveal the relationships between cognitive appraisals of elderly welfare policy, program, and project for the elderly at home. We conducted a self-administrated questionnaire survey of 600 elderly subjects at home in Y-city, X-prefecture. The survey items contained basic attributes and cognitive appraisals of elderly welfare policies, programs, and projects. We analyzed the causal model using structural equation modeling with data from 244 elderly subjects. Consequently, the causal model fits the data (CFI = 0.983, RMSEA = 0.067), and there was a statistically significant relevance between the components of the causal model. The results suggest that a policy evaluation based on the logic model can reflect the evaluation of the policy by citizens.

抄録

本研究は、在宅高齢者の高齢者福祉政策・施策・事業に対する認知的評価間の関係を明らかにすることを目的とした。調査は、A県B市の在宅高齢者600人を対象に質問紙調査を実施した。調査内容は対象者の基本属性（性別・年齢）、高齢者福祉政策・施策・事業に対する認知的評価で構成した。統計解析には欠損値を有さない244人分のデータを使用し、構造方程式モデリングを用いて因果関係モデルを検討した。その結果、因果関係モデルはデータに適合し（CFI = 0.983、RMSEA = 0.067）、因果関係の要素間に統計学的に有意な関連性が認められた。以上の結果は、ロジックモデルに基づく政策評価に対し、市民の政策に対する評価を反映させられる可能性を示唆している。

Keywords: policy evaluation, logic model, structural equation modeling

キーワード：政策評価, ロジックモデル, 構造方程式モデリング

I . Introduction

The outcomes of elderly welfare policies, such as the allocation of appropriate resources and services, and the improvement of the quality-of-life for the elderly are necessary for welfare issues occurring in super-aged-society. An appropriate evaluation is essential to measure the policy outcomes. In 2001, the Japanese government enacted the “Government Policy Evaluation Act” aimed at promoting effective, efficient operations and ensuring accountability to the people by objective policy evaluations. Following this, the Cabinet approved the “Basic Guidelines for Implementing Policy Evaluation”¹⁾ and formulated “Guidelines for Implementation of Policy Evaluation”²⁾ in 2005. These documents emphasize policy management based on the plan-do-check-act cycle and the quantitative grasp of policy effects. However, they do not show concrete and scientific evaluation methods. In Japan, various institutions conduct policy evaluation; however, their analytical method is not consistent and their scientific basis is insufficient.

In summarizing studies on policy evaluation, researchers emphasize “program evaluation,”³⁾ which systematically evaluates policy effects and the causes of problems as a basis for policy evaluation.⁴⁻⁷⁾ Program evaluation includes a theory evaluation stage that examines the policy’s logical structure.³⁾ The aim of the theory evaluation is to develop a “logic model,”⁸⁾ which includes a chain of causal relationships that lead to the achievement of policy objectives based on the theory of program evaluation (program theory).⁹⁻¹¹⁾ The causal relationship hypothesized as a logic model requires appropriate evidence.³⁾ In previous studies, some reports develop a logic model along the framework and discuss how to develop it.¹²⁻¹⁶⁾ However, few studies empirically examine the developed logic model. Moreover, there are few studies in which the components of the logic model—in the broad sense of policy dimension, including (narrow sense) policy, program, and project—are faithfully scaled and the suitability of the assumed causal chain itself is examined by structural equation

modeling (SEM) (hereinafter, logic model evaluation). Furthermore, although the above guidelines show the importance of evaluation based on the viewpoints of citizens and users (hereinafter, citizens), few studies are found that use the citizen’s evaluation index (hereinafter, the citizen index) for policy, program, and project. We believe an examination of policy evaluation by index, with a scientific basis that sufficiently reflects citizens’ evaluations, is an urgent requirement.

This study aims to reveal the relationships between cognitive appraisals of elderly welfare policy, program, and project for the elderly at home, with the intention of obtaining basic required information that contributes to the systematization of policy evaluation.

II . Methods

1. Subjects

The subjects are 600 elderly people at home in Y-city, X-prefecture. We conducted a self-administrated questionnaire survey. First, we explained the purpose and ethical considerations of the study in writing and in an information session to the 20 chiefs of the social welfare council branch in Y-city and we received their consent for the survey. Second, we sent an explanation in writing to the elderly at home who were the subjects of the survey and distributed the questionnaire. We judged participation in the survey by whether there was a reply from the questionnaire. We conducted the survey for two months beginning in June 2015.

2. Survey Questionnaires

The questionnaire contained items on basic attributes (sex, age) and a cognitive appraisal of the elderly welfare policy.

In the survey, considering the policy structure, we measured the cognitive appraisal of the welfare policy on three scales: 1) policy, 2) program, and 3) project. For these scales, we prepared original questionnaire items with the aim of scale development that can be used as a citizen index in policy evaluations of municipalities nationwide. Regarding the design of

items, we compiled the matters described in the “Act on Social Welfare for the Elderly,” “Long-Term Care Insurance Act” and the municipal action plan of the whole country and used it as a reference. Furthermore, we also referred to previous studies.¹⁷⁻¹⁹⁾ Regarding the structure of scales, we designed the survey so each scale has a conceptual unidimensionality. We compiled the elements of the policy’s basic philosophy listed in abstract sentences in the municipal action plan. Based on that, we constructed the cognitive appraisal scale for policy with four items measuring the achievement level of policy’s basic philosophy in the citizens’ view. We set a four-point scale for the answers (0: not at all, 1: not very much, 2: a little, and 3: very much). This means that the higher the score, the more the citizen feels that the policy’s basic philosophy has been achieved. We prepared five items measuring the progress of program in the citizens’ view from the viewpoint of whether the enhancement of basic programs listed in the nationwide action plan supports the elderly at home and constructed the cognitive appraisal scale for program with these items. We set a four-point scale for the answers (0: not at all, 1: a little, 2: quite, and 3: sufficient). This means that the higher the score, the more the citizen feels that the program is progressing. We prepared 28 items measuring satisfaction of needs by project in the citizens’ view from the viewpoint of whether the output of each program placed under the project described above functions effectively to solve the citizen’s needs and constructed the cognitive appraisal scale for project with these items. We assumed the structure of this scale to be five factors. Distribution of factors and items were as follows: three items for health promotion support, four items for social participation support, 11 items for regional life support, three items for preventive long-term care service, and seven items for enhancement of long-term care service. We set a four-point scale for the answers (0: not at all, 1: a little, 2: quite, and 3: sufficient). This means that the higher the score, the more the citizen feels that the

project is satisfying their needs.

3. Statistical analysis

We constructed the causal model reflecting the policy structure of elderly welfare policy in the impact theory of logic model based on program theory and conducted a statistical analysis. Impact theory, which refers to a part of the logic model, shows a causal relationship that outcome (effect of the improvement to beneficiaries) is caused by policy output.⁹⁾ As an analysis model, we constructed the indirect effect model in which the long-term outcome (dependent variable) was the achievement level of the policy’s basic philosophy, the medium-term outcome (primary factor) was the progress of program, and the short-term outcome (secondary factor) was the satisfaction of needs by project. We adopted structural equation modeling as a statistical analysis method and examined the suitability of the analysis model for the data and the relevance between variables. When analyzing the causal model, we introduced sex and age as control variables for the purpose of separating the effects of other variables from the relationship between each outcome.

Prior to the analysis described above, we examined the construct validity of the scales in the study by confirmatory factor analysis. We assumed that the cognitive appraisal scale for policy is a one-factor model, the cognitive appraisal scale for program is a one-factor model, and the cognitive appraisal scale for project is a second-order factor model.

In the above analysis, we used weighted least squares with mean and variance adjustment (WLSMV).²⁰⁾ As for model suitability, we assessed the fit of the factor structure model and the causal model above to the data with comparative fit index (CFI)²¹⁾ and root mean square error of approximation (RMSEA).²²⁾ In general, there are no crucial problems caused by the adoption of the model, on the condition that CFI is over 0.90 and RMSEA is under 0.10. We utilized Mplus 7.3 for statistical analysis.

In the study, we received responses from 340 out

of 600 elderly subjects (response rate: 56.7%). For statistical analysis, of the 340 responses, we utilized 244 questionnaires that did not have missing values.

III . Results

1. Distribution of Basic Attributes

The distribution of the sex of the participants was 104 male (42.6%) and 140 female (57.4%), and the distribution of age was 73.0 mean (SD: 6.08) with a range of 65–96.

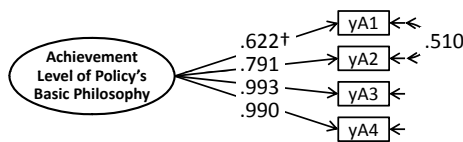
2. Answer Distribution and Validity of Scale

Table 1 shows the answer distributions of achievement level of the policy’s basic philosophy in the citizens’ view. The suitability to the data of the one-factor model related to the cognitive appraisal scale for policy was CFI > 0.999, RMSEA < 0.001 (Figure 1). We assumed correlation between yA1 and yA2’s error variables.

Table 1 Distribution of Answers to Items Related to Achievement Level of Policy’s Basic Philosophy

Items	Categories			
	not at all	not very much	a little	very much
xA1 I am proud that the elderly will spend the old age in Y-city.	10 (4.1%)	89 (36.5%)	113 (46.3%)	32 (13.1%)
xA2 Y-city is comfortable environment to the elderly. The elderly in Y-city live	17 (7.0%)	102 (41.8%)	116 (47.5%)	9 (3.7%)
xA3 healthily both psychologically and	9 (3.7%)	94 (38.5%)	134 (54.9%)	7 (2.9%)
xA4 The elderly in Y-city has a fun and fulfilling life.	6 (2.5%)	113 (46.3%)	118 (48.4%)	7 (2.9%)

unit: people (%)



n = 244
 $\chi^2 = 0.120$
 df = 1
 CFI > 0.999
 RMSEA < 0.001
 Estimator: WLSMV

*The path coefficient in the figure is a standardized estimate.
 *† shows the constrained path for model identification.
 *In order to avoid complexity error variables were not shown.

Figure 1 Factor Structure of Cognitive Appraisal Scale for Policy

Table 2 shows the answer distributions of the progress of program in the citizens’ view.

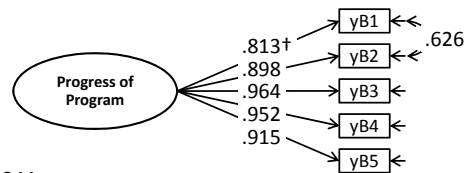
The suitability to the data from the one-factor model related to the cognitive appraisal scale for program was CFI > 0.999, RMSEA < 0.001 (Figure 2). We assumed correlation between yB1 and yB2’s error variables.

Table 3 shows the answer distributions of satisfaction of needs by project in the citizens’ view.

Table 2 Distribution of Answers to Items Related to the Progress of Program

Items	Categories			
	not at all	a little	quite	sufficient
xB1 The elderly in Y-city live healthily and lively by enhancing the health promotion support of Y-city.	37 (15.2%)	137 (56.1%)	64 (26.2%)	6 (2.5%)
xB2 The elderly in Y-city live brightly and happily by enhancing the social participation support of Y-city.	44 (18.0%)	135 (55.3%)	60 (24.6%)	5 (2.0%)
xB3 The elderly in Y-city are sending a reassuring old age even if care is need by enhancing the regional life support of Y-city.	58 (23.8%)	125 (51.2%)	53 (21.7%)	8 (3.3%)
xB4 The elderly in Y-city are lively and independent living by enhancing the preventive long-term care service of Y-city.	54 (22.1%)	130 (53.3%)	54 (22.1%)	6 (2.5%)
xB5 Y-city has become an environment that facilitates care at home by enhancing the long-term care service of Y-city.	71 (29.1%)	119 (48.8%)	50 (20.5%)	4 (1.6%)

unit: people (%)



n = 244
 $\chi^2 = 2.395$
 df = 4
 CFI > 0.999
 RMSEA < 0.001
 Estimator: WLSMV

*The path coefficient in the figure is a standardized estimate.
 *† shows the constrained path for model identification.
 *In order to avoid complexity error variables were not shown.

Figure 2 Factor Structure of Cognitive Appraisal Scale for Program

Table 3 Distribution of Answers to Items Related to Satisfaction of Needs by Project

Items	Categories			
	not at all	a little	quite	sufficient
Health Promotion Support				
xC1	The service on "promotion of self help group and community organization activities for health promotion" in Y-city satisfies the needs of citizens.			
	23 (9.4%)	155 (63.5%)	59 (24.2%)	7 (2.9%)
xC2	The service on "enhancement of prevention of lifestyle-related diseases" in Y-city satisfies the needs of citizens.			
	32 (13.1%)	148 (60.7%)	60 (24.6%)	4 (1.6%)
xC3	The service on "measures against infectious diseases of the elderly" in Y-city satisfies the needs of citizens.			
	42 (17.2%)	150 (61.5%)	49 (20.1%)	3 (1.2%)
Social Participation Support				
xD1	The service on "making living through community" in Y-city satisfies the needs of citizens.			
	37 (15.2%)	162 (66.4%)	42 (17.2%)	3 (1.2%)
xD2	The service on "support for activities of elderly clubs" in Y-city satisfies the needs of citizens.			
	34 (13.9%)	149 (61.1%)	58 (23.8%)	3 (1.2%)
xD3	The service on "promoting support each other in the region" in Y-city satisfies the needs of citizens.			
	32 (13.1%)	143 (58.6%)	64 (26.2%)	5 (2.0%)
xD4	The service on "expansion of employment opportunities for the elderly" in Y-city satisfies the needs of citizens.			
	60 (24.6%)	155 (63.5%)	27 (11.1%)	2 (0.8%)
Regional Life Support				
xE1	The service on "promotion of elderly welfare project" in Y-city satisfies the needs of citizens.			
	30 (12.3%)	159 (65.2%)	51 (20.9%)	4 (1.6%)
xE2	The service on "promotion of arbitrary project" in Y-city satisfies the needs of citizens.			
	42 (17.2%)	169 (69.3%)	33 (13.5%)	0 (0.0%)
xE3	The service on "promotion of health and welfare project" in Y-city satisfies the needs of citizens.			
	26 (10.7%)	152 (62.3%)	63 (25.8%)	3 (1.2%)
xE4	The service on "enhancement of community general support center" in Y-city satisfies the needs of citizens.			
	19 (7.8%)	138 (56.6%)	81 (33.2%)	6 (2.5%)
xE5	The service on "strengthen cooperation with local residents" in Y-city satisfies the needs of citizens.			
	37 (15.2%)	157 (64.3%)	49 (20.1%)	1 (0.4%)
xE6	The service on "strengthen cooperation with related organizations in the district" in Y-city satisfies the needs of citizens.			
	40 (16.4%)	155 (63.5%)	46 (18.9%)	3 (1.2%)
xE7	The service on "encourage dissemination of support for the elderly with dementia" in Y-city satisfies the needs of citizens.			
	35 (14.3%)	151 (61.9%)	54 (22.1%)	4 (1.6%)
xE8	The service on "construction of support system for the elderly with dementia" in Y-city satisfies the needs of citizens.			
	37 (15.2%)	154 (63.1%)	50 (20.5%)	3 (1.2%)
xE9	The service on "early detection and prevention of dementia" in Y-city satisfies the needs of citizens.			
	47 (19.3%)	150 (61.5%)	45 (18.4%)	2 (0.8%)
xE10	The service on "expansion and support of care and welfare services" in Y-city satisfies the needs of citizens.			
	35 (14.3%)	154 (63.1%)	51 (20.9%)	4 (1.6%)
xE11	The service on "construction of a safe system" in Y-city satisfies the needs of citizens.			
	48 (19.7%)	154 (63.1%)	41 (16.8%)	1 (0.4%)
Preventive Long-Term Care Service				
xF1	The service on "promotion of primary prevention target programs" in Y-city satisfies the needs of citizens.			
	35 (14.3%)	162 (66.4%)	43 (17.6%)	4 (1.6%)
xF2	The service on "promotion of secondary prevention target programs" in Y-city satisfies the needs of citizens.			
	39 (16.0%)	158 (64.8%)	42 (17.2%)	5 (2.0%)
xF3	The service on "support and enhancement of preventive long-term care management" in Y-city satisfies the needs of citizens.			
	32 (13.1%)	155 (63.5%)	54 (22.1%)	3 (1.2%)
Enhancement of Long-Term Care Service				
xG1	The service on "enhancement of in-home services centering on community-based services" in Y-city satisfies the needs of citizens.			
	33 (13.5%)	152 (62.3%)	55 (22.5%)	4 (1.6%)
xG2	The service on "improvement of facility services such as long-term care insurance facilities" in Y-city satisfies the needs of citizens.			
	36 (14.8%)	149 (61.1%)	57 (23.4%)	2 (0.8%)
xG3	The service on "promotion and enhancement of long-term care insurance benefit cost optimization project" in Y-city satisfies the needs of citizens.			
	38 (15.6%)	158 (64.8%)	47 (19.3%)	1 (0.4%)
xG4	The service on "improve and secure the quality of long-term care services" in Y-city satisfies the needs of citizens.			
	35 (14.3%)	154 (63.1%)	53 (21.7%)	2 (0.8%)
xG5	The service on "fair management of survey and judging of certification of long-term care" in Y-city satisfies the needs of citizens.			
	31 (12.7%)	146 (59.8%)	63 (25.8%)	4 (1.6%)
xG6	The service on "strengthen guidance and supervision to community-based service offices and guidance to long-term care service offices" in Y-city satisfies the needs of citizens.			
	34 (13.9%)	155 (63.5%)	52 (21.3%)	3 (1.2%)
xG7	The service on "secure receipt of nursing care insurance charges and proper execution of insurance benefits" in Y-city satisfies the needs of citizens.			
	39 (16.0%)	154 (63.1%)	50 (20.5%)	1 (0.4%)

unit: people (%)

The suitability to the data of the second-order factor model related to the cognitive appraisal scale for project was CFI = 0.984, RMSEA = 0.088 (Figure 3).

3. Relationships between Cognitive Appraisals of Elderly Welfare Policy, Program, and Project for the Elderly at Home.

We assumed an analysis model in which the achievement level of policy's basic philosophy is a dependent variable, the progress of program is a

primary factor, and the satisfaction of needs by project is a secondary factor. Its suitability to the data was CFI = 0.983, RMSEA = 0.067 (Figure 4). In addition, we confirmed a statistically significant positive relevance between the dependent variable and primary factor (path coefficient: 0.862) and between the primary factor and secondary factor (path coefficient: 0.739).

The contribution ratio toward the achievement level of policy's basic philosophy in the model was 70.5%.

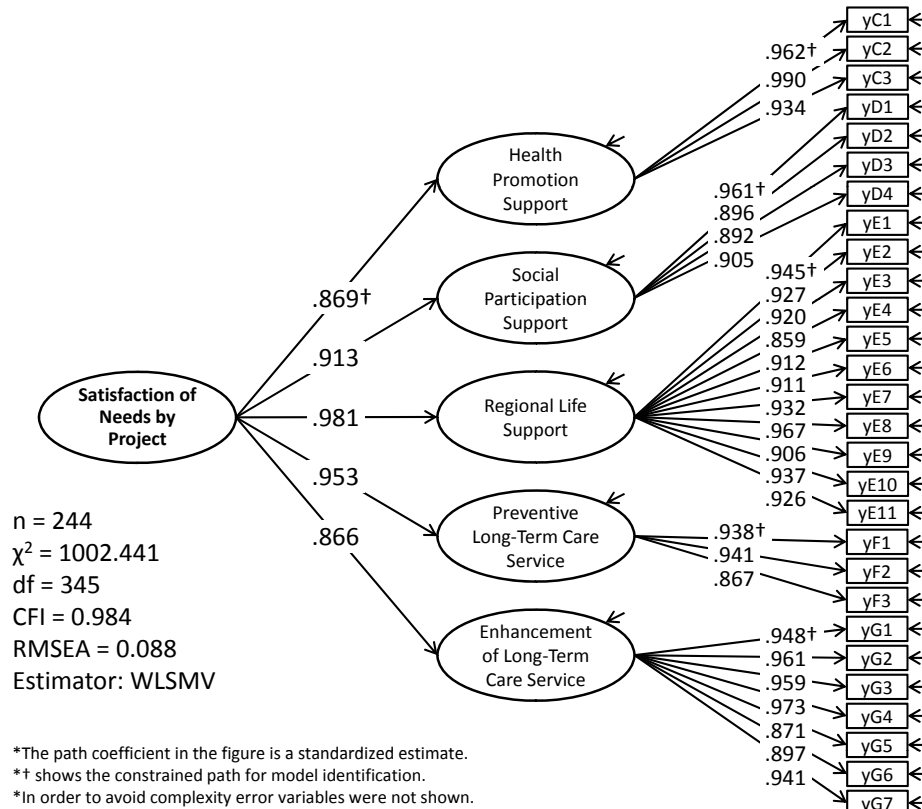


Figure 3 Factor Structure of Cognitive Appraisal Scale for Project

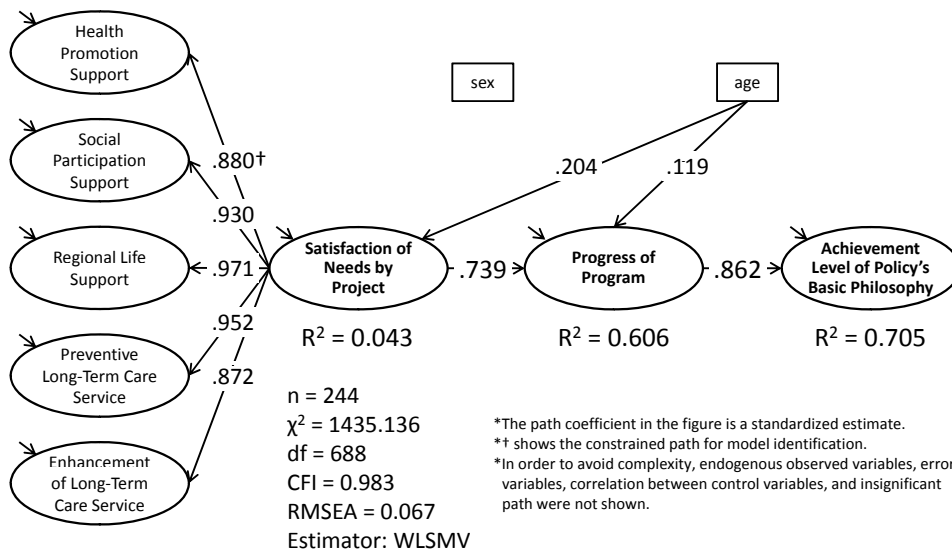


Figure 4 Relationships between Cognitive Appraisals of Elderly Welfare Policy, Program, and Project for the Elderly at Home

IV . Discussion

We conducted a study that aims to reveal the relationships between cognitive appraisals of elderly welfare policy, program, and project for the elderly at home, with the intention of obtaining basic required information that contributes to the systematization of policy evaluation. Concretely, we assumed a causal model that positions cognitive appraisals of elderly welfare policy, program, and project by the elderly at home as outcome indices of the logic model and conducted a logic model evaluation to be examined in SEM. Conventional policy evaluation studies point out the weak points of statistical tests based on the experimental or quasi-experimental design⁹⁾ as a quantitative grasping method of policy effects and raise the introduction of SEM.³⁾²³⁾²⁴⁾ Furthermore, we adopted WLSMV for the estimator since the observation variables of the scale for the analysis are the ordinal scale. WLSMV corrects the standard error according to the distribution of data and outputs a stable estimate regardless of the sample size, the number of observation variables, and the normality of latent variables.²⁵⁾ We believe it was appropriate to adopt SEM by WLSMV for the statistical analysis of this study.

In the study, we first revealed that the following are in the statistical tolerance regions: the construct validity from the structural aspect²⁶⁾²⁷⁾ of the cognitive appraisal scale for policy consisting of four items, the cognitive appraisal scale for program consisting of five items, and the cognitive appraisal scale for project consisting of 28 items. In recent years, an examination of the validity of indices used for policy evaluation in Japan has been required because conventional policy evaluations have conducted many performance measurements that rely on indices whose validity has not been sufficiently examined or whose outcomes cannot be compared.⁷⁾ The results of the study indicate that a certain statistical affirmation was obtained for the validity of the scales used in the study, and each scale has conceptual unidimensionality. This is the evidence for scoring policy outcomes at the unit of factors and for using the score for comparison. We believe the three scales

in the study can be used for not only logic model evaluation but also performance measurement as the outcome index to measure the policy improvement effect. In addition, as in the study, disclosing the validity of the indices used for policy evaluation becomes necessary and important information for considering the policy evaluation method.

Second, we revealed that the causal model assuming the logic model outcome according to the elderly welfare policy structure is statistically supported. In the model, the cognitive appraisal of projects in the citizens' view affects the cognitive appraisals of policy through the cognitive appraisals of programs. Furthermore, we revealed that each policy, program, and project evaluation has a statistically significant positive relevance. We think the result that empirically revealed the appropriateness of the impact theory of elderly welfare policy and the contribution to the achievement of the policy's basic philosophy in the view of citizen by the elderly welfare policy structure. In addition, we interpret the result as implying that there is no program and project that does not affect the policy's basic philosophy because the contribution ratio and the pass coefficient for the cognitive appraisal for policy obtained in the study were not low. In Japan, guidelines state that policies are to be evaluated from the basic three perspectives (necessity, efficiency, and efficacy).²⁸⁾ Depending on the nature of the policy, two further perspectives are added (fairness and priority).²⁸⁾ We believe the logic model evaluation satisfies the above five perspectives and that a certain knowledge is obtained as a result. For example, the necessity can be examined by the presence or absence of statistically significant relevance between the components of the logic model; the efficiency can be examined by the contribution ratio to the outcome and impact per resource when comparing the input of the policy with the path coefficients of the considered logic model; the efficacy can be examined by the suitability to the data of the developed logic model; the fairness can be examined by classifying the beneficiaries of policy by attributes and conducting multi-group analysis etc.; and the priority can be examined by comparing the suitability

to the data of the logic model having common policy beneficiaries and input, the presence or absence and strength of relevance between variables, and the contribution ratio to outcome and impact. From the above, we believe the method of evaluating the logic model using the SEM proposed in the study is aligned with the perspective of conventional policy evaluation. Furthermore, we believe the method of evaluating the logic model using the SEM proposed in the study satisfies the five perspectives of policy evaluation as well, and detailed information can be obtained compared with conventional policy evaluation focusing on the performance measurement.

Therefore, in the study, we proposed the logic model evaluation method using citizen index with validity, which was not seen in the conventional survey, and examined it empirically. In addition, we revealed the possibility and importance of the proposed method as well as the knowledge that contributes to the achievement of the policy's basic philosophy. In the future, further study of the policy evaluation method is desirable. Concurrently, it is necessary to try to cross-validate the proposed logic model, evaluate the whole logic model not limited to the impact theory, introduce administrative indices, and consider external factors and regional differences and their application to the evaluation of policies, such as community care and community development.²⁹⁾ However, we believe the findings obtained in the study will have significant implications for the systematization of policy evaluations and project evaluations,³⁰⁾ penetration of the concept of performance measurement,³¹⁾ and the future direction of social welfare policies.

References

- 1) Basic Guidelines for Implementing Policy Evaluation. [online] 23 Dec 2001, Ministry of Internal Affairs and Communications. [retrieved on 1 Apr 2017]. Retrieved from the Internet: <URL: http://www.soumu.go.jp/main_sosiki/hyouka/hyoka_hosinhonbun.html> (in Japanese)
- 2) Guidelines for Implementation of Policy Evaluation. [online] 16 Dec 2005, Ministry of Internal Affairs and Communications. [retrieved on 1 Apr 2017]. Retrieved from the Internet: <URL: https://www.env.go.jp/guide/seisaku/commi/pdf/24_1_5.pdf> (in Japanese)
- 3) Rossi PH., Lipsey MW., Freeman HE. Evaluation: A Systematic Approach, Seventh Edition. Sage Publications, 2003.
- 4) Final Report on the Policy Evaluation System. [online] Dec 2000, Study Group on Policy Evaluation Method. [retrieved on 1 Apr 2017]. Retrieved from the Internet: <URL: http://www.soumu.go.jp/main_sosiki/hyouka/s_saihou.htm> (in Japanese)
- 5) Institute of Administrative Management. Detailed Policy Evaluation Guidebook: comprehensive commentary on laws, basic policies and guidelines. Gyosei, 2008. (in Japanese)
- 6) Yamaya K. Policy Evaluation. Minerva-Shobo, 2011. (in Japanese)
- 7) Ono T. Performance Measurement in the Evaluation Practices of Japanese Government: Exploring the Quality of Measurement. Japanese Journal of Evaluation Studies. 2013; 13(2): 21-36.
- 8) Logic model Development Guide. [online] 2 Feb 2006, W.K. Kellogg Foundation. [retrieved on 1 Apr 2017]. Retrieved from the Internet: <URL: <https://www.wkkf.org/resource-directory/resource/2006/02/wk-kellogg-foundation-logic-model-development-guide>>
- 9) Ryu Y, Sasaki R. Theory and Technique of "Policy Evaluation" : Revised Edition. Taiga-Shuppan, 2004. (in Japanese)
- 10) Lee Y. The Use of Program Theory Evaluation in Welfare: Information That Will Contribute to the Improvement of the Program. Social science review. 2016; (118): 1-12.
- 11) Nishide J. A New Current of Evaluation for Management in Local Government Reform: A Shift from Performance-focused to Theory-focused Evaluation Perspective. Japanese Journal of Evaluation Studies 2005; 5(1): 15-25.
- 12) Sato T. Studies on regional policies: A proposal of the method to use the logic models on setting the indicators to evaluate the policies and

- programs at local government: through a case study on Toyonaka Municipal Government. The Japanese journal of regional policy studies. 2003; (1): 147-153.
- 13) Sato T. About the method evaluating the activity of council of social welfare: the logic model's application in program evaluation. Kansai University of Social Welfare. 2010; 14(1): 45-52.
 - 14) Sato T. About Project Evaluation of Municipal Social Welfare Council: Utilization of Logic Model by Program evaluation. Social Worker 2012; (19): 8-17. (in Japanese)
 - 15) Minamoto Y. Practice of Theory Evaluation in Japanese Policy Evaluation Setting: Applicability of Practitioners Co-evaluation and Reflection Model. Governance Studies. 2013; (9): 17-30.
 - 16) Yonehara A. Utilization of Social Survey in Theory Evaluation: A Case Study of "Co-productive Social Survey". Governance Studies. 2015; (11): 173-188.
 - 17) Bradshaw J. A taxonomy of social need, McLachlan, G. ed. Problems and Progress in Medical Care: essays on current research, seventh series. Oxford University Press, 1972.
 - 18) Lazarus RS., Folkman S. Stress, Appraisal, and Coping. Springer Publishing Company, 1984.
 - 19) Miura F. Social Welfare Policy Research: Welfare policy and Welfare reform, Revised Edition. National Social Welfare Council, 1997. (in Japanese)
 - 20) Muthen LK., Muthen BO. Mplus User's Guide: Seventh Edition. Los Angeles, 2012.
 - 21) Bentler PM. Comparative Fit Indexes in Structural Models. Psychological Bulletin. 1990; 107: 238-246.
 - 22) Steiger HH., Lind JM. Statistically Based Tests for the Number of Common Factor. annual meeting of the Psychometric Society, Iowa City, 1980.
 - 23) Weiss C H. Evaluation: Methods for Studying Programs and Policies, Second Edition. Prentice Hall, 1997.
 - 24) Yasuda T, Watanabe N. Method of Program Evaluation Study. Shinyo-Shya, 2008. (in Japanese)
 - 25) Kosugi K, Shimizu Y. Introduction to Structural Equation Modeling with Mplus and R. Kitaohji-Shobo, 2014. (in Japanese)
 - 26) Messick S. Foundations of Validity: meaning and consequences in psychological assessment. EST Research Report. 1993; 2: 1-18.
 - 27) Shimatani H. Granting Course Credit for Performance on English Proficiency Tests: Validity and Washback Effects. Kumamoto University Repository System. 2013; 62: 91-90.
 - 28) Standard Guidelines on Policy Evaluation. [online] 15 Jan 2001, Ministry of Internal Affairs and Communications. [retrieved on 1 Apr 2017]. Retrieved from the Internet: <http://www.soumu.go.jp/main_sosiki/hyouka/gaido-gaidorain1.htm> (in Japanese)
 - 29) Dei R, Mihara T, Mikane S, et al. Relationship between the Status and the Satisfaction Level for Local Quality-of-Life for the Elderly Living at Home. Japanese Journal of Social Welfare. 2015; 56(2): 75-87.
 - 30) Oshima I. Present situation and its social conditions that inhibit evidenced-based practices and their formative approaches from established in the Japanese society: Implications for improvement. Japanese Journal of Evaluation Studies. 2014; 14(2): 17-28.
 - 31) Tanabe S. The Role of Program Evaluation as Complement to Performance Measurement: The Case of GPRAMA in the United States. Japanese Journal of Evaluation Studies. 2014; 14(2): 1-16.

