2021 Doctoral Dissertation (Abs	stract)
Research on subjective learning and elucidation of related factors	needs and practices in the elderly: development of metrics
	Sun Jie Ph.D.in Gerontology Graduate School of Gerontology J. F. Oberlin University

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1. Research background

It has been pointed out that learning in old age has the following points of significance for the elderly and society. (1) One can play an active role as a leader in solving problems in the community through learning, (2) One can have a connection with society through learning and prevent isolation from society, and (3) One can enrich his or her second life by creating a purpose of life through learning. ④ One can protect his or her health through learning and improve his or her quality of life. In order to disseminate such meaningful learning among the elderly, countries and regions such as Europe, the United States, China and Taiwan are promoting education and learning for the elderly. In Japan, a poll on lifelong learning (conducted in 2018) revealed that about 70% of the elderly are motivated to learn, but only about 50% have engaged in learning. Therefore, in order to promote learning for the elderly, it is necessary to elucidate the factors related to learning. It has been clarified that although elderly people are motivated to learn, only about 50% of them have learned. Therefore, it is not enough to merely examine the factors related to learning. It is necessary to properly grasp the learning needs of the elderly, search for factors that stimulate desire to learn, and further search for the factors that lead to active engagement in learning. In order to study such related factors, it is necessary to prepare an index that can accurately grasp the current state of learning needs and practices among the elderly.

2. Purpose of this research

The first purpose is to create evaluation indices for subjective learning needs and learning experience in the elderly for each learning area. The second purpose is to clarify the size of the gap between the subjective learning needs of the elderly and the practice by learning area by using the created evaluation index. The third purpose is to clarify the factors related to the emergence of learning needs in the elderly and the transition to their practice using the created evaluation indices.

3. Research composition

Study 1 Subjective learning needs and learning experience index creation for the elderly

For the residents of the Kita-Chiba area, we evaluated the subjective learning needs of the elderly from the aspects of "need" and "interest" using common items, and also created an evaluation index of learning experience corresponding to them. The evaluation indices were four-dimensional, "general studies," "problems in daily life for the elderly," "information technology," and "review of life."

Study 2 Gap between the current situation of subjective learning needs of the elderly, subjective learning needs, and practice

First, we targeted 516 people randomly selected from residents aged 60 and over living in Machida City, Tokyo. The survey was conducted by mail using an anonymous self-administered questionnaire. The questionnaire was distributed from January to February 2020. The number of questionnaires collected was 273.

Regarding the gap between subjective learning needs and practice in the elderly, the needs of the "daily life challenges in old age" dimension were significantly higher than the average of subjective learning needs. The dimensions of "information technology," "academic topics," and "review of life" were all significantly lower than the overall average of subjective learning needs.

Looking at the gap ratio by dimension by age group, there was no significant difference in the gap ratio between the early-stage elderly and the late-stage elderly in all dimensions.

In this research, among the four dimensions of "academic topics," "issues of daily life in old age," "information technology," and "review of life," learning needs for the dimension of "issues of daily life in old age" are the most important. The value was significantly higher than the overall average. Fujioka's research and opinion polls on lifelong learning in Japan also show that elderly people living in the area have a lot of hopes for learning about "medical care / welfare" and "problems of practical life". On the other hand, studies in Europe, the United States, China, and Taiwan also reveal that the subjective learning needs of the elderly are the highest in terms of "problems

in daily life in old age." In Japan, as in Europe, the United States, China, and Taiwan, it is suggested that the learning needs of the elderly, both out of necessity and out of interest, are more in the acquisition of practical knowledge closely related to daily life issues than in hobbies and culture.

Study 3 Factors related to the emergence of subjective learning needs in the elderly and the transition to their practice

We will clarify the factors related to the emergence of learning needs in the elderly and the transition to their practices by using the evaluation indices of the subjective learning needs and practices of the elderly. The emergence of learning needs in the elderly and their transition to practice are similar to the transformation of health behavior. In this study, we build an analytical model based on behavior modification theory, which is widely used when analyzing factors related to the transition from "indifference" to "practice" for healthy behavior.

According to the analysis results of factors related to awareness of learning needs in the elderly, the appearance of subjective learning needs is significant in the elderly who are making efforts to prepare for old age and the elderly who are highly aware of the learning effect.

Analysis of factors related to the transition from the emergence of needs to practice showed that family and friends were supportive of learning for the elderly, which had a significant effect.

In this study, the hypothesis was supported because the rate of occurrence of subjective learning needs was significantly higher in those who were preparing for old age and those who were highly aware of the effects of learning. However, there was no significant effect on subjective aging experience, positive attitudes and support for family and friends' learning, and cognition of learning environment enrichment. Regarding these factors, the hypothesis was not supported.

In this study, as shown above, the psychological attitude of proactively learning, such as preparing for old age, had a great influence on the emergence of learning needs. From the above results, it was suggested that it is important to first arouse interest in learning problems, such as working on the design of old age, and that just improving the learning environment is not enough to arouse learning needs.

In this study, the supportiveness of family and friends had a significant

impact on the transformation of desire to learn into practice, and the hypothesis was supported. It is suggested that, similarly as documented in China and Taiwan, familiar family members and friends around the elderly would encourage the learning activities of the elderly in Japan, which will contribute to activating the learning practices of the elderly. Based on the results of this study, in order to encourage the learning practice of the elderly, learning support from family and friends is important so that the person can make the transition from learning desire to practice.

4. Comprehensive consideration

Utilization of subjective learning needs and practice evaluation indices

First, from the perspective of setting up a conventional learning program, in this study, we will develop an evaluation index for the learning needs of the elderly, even for the elderly who have not been involved in learning activities. We will also develop a paired learning practice. An evaluation index was also developed. By using the index developed in this study, it is possible to clearly grasp the gap between subjective learning needs and practice in the elderly, which is thought to help promote learning in the elderly.

Providing educational content that meets the subjective learning needs of the elderly

Regarding the subjective learning needs of the elderly, the dimension of "daily life issues in old age" has the largest learning needs, and the dimension with a large gap with practice is also the dimension of "daily life issues in old age". Regarding the task of looking back on life, although the learning needs were not high compared to other dimensions, there was a large gap with practice. Even in the comparison between the early-stage elderly and the late-stage elderly, there was no significant difference in the amount of learning needs and the gap between the practice and the amount of learning needs by area, except for the dimension of "information technology". In the future, the learning program for the elderly will include "issues of daily life in the elderly" and "review of life" that meet the learning needs of the elderly, in addition to the conventional "education" system.

Measures to promote learning in the elderly

In the research area related to learning for the elderly, there are few studies that point out that the way of intervention is different for each stage, while keeping in mind while keeping sight of the factors behind changing learning needs to practice. As a result of the analysis, the emergence of learning needs from the state where there is no learning need subjectively is related to the effort to prepare for old age, the recognition of the learning effect. We clarify the importance of the support of family and friends in the learning of the elderly. In other words, there are two stages, from the state where there is no learning need subjectively, to the emergence of needs, and from the emergence of needs to practice, but it is necessary to use different intervention methods during each stage.

To transform from a state where there is no learning need often includes an opportunity to plan for retirement life; that is, to think about possible old age problems and what is needed to solve them. Taiwan encourages middle-aged and older people to plan their life in old age. It was suggested that in Japan as well as in Taiwan, encouraging people to make a life plan for old age may lead to arousing subjective learning needs. At the same time, the results of this study suggest that providing elderly people with an opportunity to gain a better understanding of the effects of learning activities is also effective in developing needs. In China and Taiwan, it is advocated to proactively convey information on the merits of learning not only to the person himself but also to his family and friends in order to encourage the learning activities of the elderly. It was suggested that such measures are important in Japan as well.