A Competency Model of Elderly Caregivers for Elderly Care Business in Upper North Region, Area 1

แบบจำลองสมรรถนะผู้ดูแลผู้สูงอายุสำหรับธุรกิจบริการผู้สูงอายุในพื้นที่ภาคเหนือตอนบนเขต 1

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Abstract

The objectives of this research were 1) To study the competency of elderly caregivers for the elderly care business according to the needs of the elderly-to-be in the upper northern region, area 1, 2) To study the rational relationship according to the structural equation model of the elderly caregivers' competency in the upper northern region, area 1, and 3) To develop a model of elderly caregivers' competency for the elderly care business in the upper northern region, area 1. This study employed the mixed-method research involving exploratory sequential design, which were devided into 2 phrases; phase 1 was through a qualitative research method applied by in-depth interviews with 12 people aged between 50-59 years old in the upper northern region, area 1, whereas phase 2 was though quantitative research using structural equation analysis of AMOS program, collected from questionnaires of 320 elderly caregivers in the upper northern region, area 1. The research findings were 1) The competency of the elderly caregivers according to the needs of the elderly, comprised of the competencies of holistic health care, humanized care, communication and the use of technology, and ethics, 2) The rational relationship based on the structural equation model of the elderly caregivers' competency for the elderly care business in the upper northern region, area 1 at the statistical agreement as Chi-square=75.088, df=59, CMIN/DF=1.273, P-value=0.077, CFI=0.991, GFI=0.955, NFI=0.960, RMSEA=0.037, SRMR=0.008 with significant statistic at level of .05, and 3) Model of the competency of the elderly caregivers for the elderly care business that the business entrepreneurs can implement for planning, developing and promoting elderly caregivers to meet the needs of the elderly respectively.

Keywords: Competency, Elderly caregivers, Elderly care business

บทคัดย่อ

การวิจัยนี้มีวัตถุประสงค์ 1) เพื่อศึกษาสมรรถนะผู้ดูแลผู้สูงอายุสำหรับธุรกิจบริการผู้สูงอายุตามมุมองความต้องการของผู้ที่จะเป็นผู้สูงอายุในพื้นที่ภาคเหนือตอนบนเขต 1 2) เพื่อศึกษาความสัมพันธ์เชิงเหตุผลตามตัวแบบสมการโครงสร้างของสมรรถนะผู้ดูแลผู้สูงอายุในพื้นที่ภาคเหนือตอนบนเขต 1 และ 3) เพื่อสร้างแบบจำลองสมรรถนะผู้ดูแลผู้สูงอายุสำหรับธุรกิจบริการผู้สูงอายุในพื้นที่ภาคเหนือตอนบนเขต 1 โดยใช้วิธีการวิจัยแบบผสานวิธี (Mixed Methods) แบบสำรวจตามลำดับ (Exploratory Sequential Design) แบ่งเป็นระยะที่ 1 ใช้วิธีการวิจัยเชิงคุณภาพด้วยการสัมภาษณ์เชิงลึกผู้ที่มีอายุระหว่าง 50-59 ปี ในพื้นที่ภาคเหนือตอนบนเขต 1 จำนวน 12 คน และระยะที่ 2 ใช้วิธีการวิจัยเชิงปริมาณด้วยการวิเคราะห์สมการโครงสร้าง โปรแกรม AMOS เก็บรวบรวมข้อมูลจากแบบสอบถามผู้ดูแลผู้สูงอายุในพื้นที่ภาคเหนือตอนบนเขต 1 จำนวน 320 คน ผลการวิจัยพบว่า 1) สมรรถนะผู้ดูแลผู้สูงอายุตามความต้องการของผู้ที่จะเป็นผู้สูงอายุ ประกอบด้วยสมรรถนะด้านการดูแลสุขภาพแบบองค์รวม จิตบริการด้วยหัวใจความเป็นมนุษย์ การสื่อสารและการใช้เทคโนโลยี และจริยธรรม 2) ความสัมพันธ์เชิงเหตุผลตามตัวแบบสมการโครงสร้างของสมรรถนะผู้ดูแลผู้สูงอายุสำหรับธุรกิจบริการผู้สูงอายุใน

พื้นที่ภาคเหนือตอนบนเขต 1 มีความกลมกลืนกับข้อมูลเชิงประจักษ์ มีค่าสถิติตามข้อตกลงคือ Chi-square=75.088, df=59, CMIN/DF=1.273, P-value=0.077, CFI=0.991, GFI=0.955, NFI=0.960, RMSEA=0.037, SRMR=0.008 อย่างมีนัยสำคัญทางสถิติที่ระดับ .05 3) แบบจำลองสมรรถนะผู้ดูแลผู้สูงอายุสำหรับธุรกิจบริการผู้สูงอายุที่ผู้ประกอบการสามารถนำไปประยุกต์ใช้ในการวางแผน พัฒนา และส่งเสริมผู้ดูแลผู้สูงอายุให้มีสมรรถนะเป็นไปตามความต้องการของผู้ที่จะเป็นผู้สูงอายุ

คำสำคัญ : สมรรถนะ ผู้ดูแลผู้สูงอายุ ธุรกิจบริการผู้สูงอายุ

Introduction

The change in the global population structure has resulted in many countries entering the aging society, including Thailand with an elderly population of 16 percent, making it the second largest in ASEAN countries following Singapore with an elderly population of 18 percent. By 2020, Thailand has 13 million elderly people which were 20 percent of the country's population and by 2021, almost a quarter of the country's population will be elderly and resulting Thailand to become a completely aging society. Eventually by year 2031, Thailand will become the high level of aged society which will have as many as 2 8 percent of the elderly population. Specifically, there was a higher number of the elderly in the provinces in the northern region compared to other regions, in which year 2020 found that there were 2,389,870 elders or 19.87 percent, increasing from year 2019 from 2,287,470 elders, representing 18.87 percent of the total population (Department of Older Persons, 2019, Online).

Based on the announcement of the Provincial administrative policy council and the integrated provincial administration, there was an establishment of provincial groups in the northern region. This establishment aimed to promote integrated management by adhering to the administration principles in accordance with the provincial group development plan. This plan allowed to create opportunities and fosters participation among public sectors, local government organization, private sectors, and civil society in the provinces. This also included strengthening competitiveness and solving problems together for sustainable development, consisting of 4 provincial groups: group of provinces in the upper north area 1, group of provinces of the upper north area 2, group of provinces of the lower north area 1, and group of provinces in the lower north area 2 (Announcement of the Provincial Administration Policy Committee and the Integrated Provincial groups, 2017, Online).

Upper north region, area 1 consists of Chiang Mai, Mae Hong Son, Lampang and Lamphun provinces. The survey of the elderly in year 2019 indicated that Lampang was the second highest number of elderly in country; that was 170,029 people or 23.03 percent. Lamphun was the third highest number of elderly people in the country, with 92,945 elderly people (22.95%), Chiang Mai owned the number of the elderly as 333,692 people or 18.87 percent, and Mae Hong Son province with 33,067 elderly people, or 11.64 percent. In year 2020, Lampang was found to have the highest number of elderly in the country with 177,846 elderly with 24.40 percent, Lamphun province still had the third highest number of elderly people in the country, with the number of elderly 96,783 people or 24.07 percent, while Chiang Mai had 349,755 elderly people or 19.60 percent, and Mae Hong Son province, there were 34,404 elderly people or 12.09 percent (Department of Older Persons, 2019, Online).

Currently, there are more than 62 entrepreneurs in the elderly care business in northern region, area 1, categorized as 43 juristic entrepreneurs and 19 personal owners, consisting of residential homes, assisted living, nursing home, long-term care hospitals, and hospice care. However, the current problem occurred in elderly care businesses in Thailand is insufficient number of caregivers. This is due to caring the elderly requires specialists in nursing or nursing assistants who were trained in elderly care courses. In addition, it is also a service that requires patience and understanding, and the repetitive nature

of the tasks that might result in changing to other jobs. As a result, the elderly caregivers become shortage compared to the needs and are inconsistent with the increasing number of elderly people. (Department of Business Development, 2020 Online)

From the above factors, the researcher was interested in studying the competency of elderly caregivers to meet the needs of those who would be elderly people, and a model from research that elderly service entrepreneurs can apply in planning, developing and promoting elderly caregivers to meet their needs on the basis of occupational standards in the health care professional field and eventually improve the quality of lives of the elderly respectively.

Research Objectives

1. To study the competency of elderly caregivers according to the needs of the elderly-to-be in the upper northern region, area 1.

2. To study the rational relationship according to the structural equation model of the elderly caregivers' competency in the upper northern region, area 1.

3. To develop a model of elderly caregivers' competency for the elderly care business in the upper northern region, area 1.

Research Methodology

Research Design

This research used mixed methods with both quantitative and qualitative research through the exploratory sequential design, focused on the qualitative collection and analysis of phase 1, and validation of the results with quantitative data in Phase 2. The quantitative data was used to interpret the findings of the qualitative data (Creswell, 2003, p.75) by conducting two phases of research:

Phase 1 : Qualitative research aimed to study the competency of elderly caregivers according to the needs of those who would be elderly, in order to define the elements, operational definition, ildentifiers of each element, and to develop a structural equation model of the elderly caregivers

Phase 2: Quantitative research according to research objective 2, which aimed to study the rational relationship based on the structural equation model of elderly caregivers' competency in the upper northern region, area 1. This phase was a survey and descriptive research to verify the consistency of the model with the empirical data for the direct influence, indirect influence, total influence and crutial component, can be summarized as in Figure 1

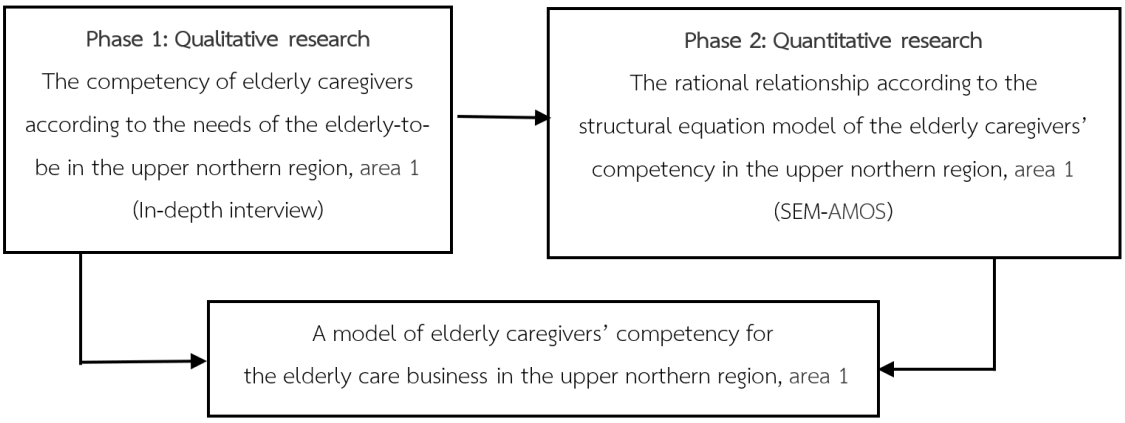

Figure 1 Research Framework

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Research Samples

Qualitative research: The key informants were 12 informants whose age between 50-59 years old in Lampang, Lamphun, Chiang Mai and Mae Hong Son who needed cares for the elderly in the future (Stake, 2006, p. 22) by using a specific randomization method.

Quantitative research: The samples used in the research were 320 representatives of elderly caregivers in the upper northern area 1 who have been trained by government or private agencies in the elderly care course with 18 hours of training or more. The structure should determine a sample approximately 10-20 times that of the observable variables (Hair *et al*, 2006, p. 112). This study contained a total of 16 observable variables, 20 times the sampling variable by using snowball sampling.

Research Intrusment

Qualitative research: The research instrument was a semi-structured interview which was an open-ended questionnaire with a content validity by experts, and data triangulation from the primary source and secondary source of data.

Quantitative research: The research tool was questionnaires that had been validated by 5 experts. The value of Index of Item Objective Congruence (IOC) of each question was between 0.6-1.0, which was greater than 0.5 according to the Rovinelli & Hambleton (1970, pp. 49-60). The reliability of the questionnaires after using the tool for tryout on a sample of 30 non-real samples, the value of Alpha-reliability Coefficient was 0.925, which was greater than 0.70 according to the Cortina criterion (1993, pp. 98-104). For the value of Corrected Item-Total Correlation, it was between 0.639-0.818, which was ranged from 0.3 or more according to Field (2005, pp. 133-145). It was concluded that the questionnaire used as a tool in this research, there was a quality of both the validity and realiability at the appropriate level, therefore, and the tools for this research were at high quality that can be used for data collection respectively.

Data Collection

Qualitative research: The researcher herself conducted the in-depth interviews by using semi-structured interviews with a group of 12 respondents during the implementation period in August 2020.

Quantitative research: The researcher collected the data using questionnaires of 320 elderly caregivers. Part of the research, the researcher collected the data by herself, and the other part was collected by research assistant who had been trained to acknowledge the conditions of the research. The period of operation was from October to November 2020.

Data Analysis

Qualitative research: Data analysis was a summary of the data obtained from in-depth interviews. The data management process consisted of data reduction, data display, and conclusion drawing (Miles & Huberman, 1994, pp. 10-11). After the process, the comparison of the data summary and theoretical concepts was analyzed and synthesized to determine the elements, operational definition, and indicators of competency elements, including studying past research on factors related to the elements of competency to develop a rational relationship based on the structural equation model of the elderly caregivers' competency.

Quantitative research: The validation of the preliminary agreement for the analysis of model of structural equations and analysis of path coefficients, the statistical values of the consistency of empirical data to the model prior to interpretation of the structural model, the results obtained will be subjected to statistical agreement as follows: 1) The Chi-square value must not be statistically significant at the .05 or P> .05 level. 2) The Chi-square value divided by the degree of freedom (df) must not exceeded than 2. 3) The square root of the residual square mean (SRMR) must be less than 0.1. 4) The value of the Root Mean Square Error of Approximation (RMSEA) must be less than 0.08. 5) The statistical value of the Degree

of Fit (GFI) must be greater than 0.90. 6) Statistical values for comparative fit index (CFI) must be greater than 0.95. and 7) The normed fit index (NFI) must be greater than 0.90. The researcher had model modification to make the CFI within acceptable criteria by adjusting the residual error of some observation variables to correlate for model fit with the theoretical model, and confirmatory factor analysis in determining element weight 0.4 and above as key components (Tabacnick & Fidell, 2007, pp. 124-128).

The findings derived from both research phases were to create a model of the competency of the elderly caregivers for the elderly care business in the upper north region, area 1 respectively.

Research Hypothesis

1. The confirmatory factors of the selected factors based on the structural equation model of the elderly caregivers' competency in the upper northern region, area 1, is an important component to be used in the study appropriately.

2. All factors of the study have direct and indirect influences on the competency of elderly caregivers in the upper northern region, area 1, consisting of:

Competency factor has direct influence by lifelong learning factors.

Competency factor has direct influence by quality of work life factors.

Competency factor has direct influence by happiness at work factor.

Competency factor has indirect influence by lifelong learning factor through quality of work life factors

Competency factor has indirect influence by the quality of work life factor through the happiness at work factor.

Competency factor has indirect influence by lifelong learning factors through the happiness at work factor.

Right Protection of the Sample Group

This research was certified on human research ethics number EC63/024 from the Center of Excellence in Innovation, Public Health and Community Environment, Faculty of Science and Technology Chiang Mai Rajabhat University.

Result

The results of data analysis for phase 1: Qualitative research according to the research objective 1, to study the competency of elderly caregivers for the elderly service business according to the needs of the elderly in the upper northern region, area 1 indicated that:

The results found that the main informants were 6 males and 6 females, aged between 50-59 years old with 6 single status and 6 married statuses, currently living in Chiang Mai, Lamphun, Lampang and Mae Hong Son provinces, with 4 samples from each province. They were 6 government/state enterprise employees, 3 private company employees, and 3 private business owners. There were 3 of them had bachelor's degree as the highest education, 6 with postgraduate degree and 3 had doctorate degree. They had average salary at 32,000-80,000 Baht. In addition, 7 of them had some experience of receiving service from caregivers by giving positive feedbacks on the caregivers including the assurance that the elderly were well taken care, and the absence of children is an important reason for wanting to use the care of the elderly in the future.

The researcher used the conclusions from in-depth interviews to compare theoretical concepts for analysis and synthetic to determine the element, operational definition, and indicators of each element, the results found that end-result variables were the competency of the elderly caregivers according to needs, consisting of 4 components, 24 indicators as follows:

1. Holistic health care with 6 indicators; physical health care such as body care, health improvement in various ways (exercise, physical activities), medical check, knowledge on disease, medicine of the elderly, common health problems, first aid, and creativity in food management, the psychological care such as

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psychology of care, improvement of mental health, psychosocial support, and have an opportunity to share feelings, social care such as promoting the interaction of social networks and building relationships with the elderly with those around them, environmental care such as cleanliness, safety, and sanitation, spiritual care such as promoting and encouraging the elderly to practice according to their beliefs and religious faith.

2. Humanized care with 6 indcators such as having a good attitude, understanding and accepting opinion and actions by the elderly, having serviced minds, volunteering, caring the elderly as if they are own relatives with love.

3. Communication and the use of technology with 6 indicators, included verbal communication, body language that encourages hopes, happiness in each day, being a mediator to communicate with family members and public health personnel (doctors, nurses, pharmacists, physical therapists, etc.), being able to use technology for data collection of the elderly's health data in a database that allows the elderly can search by themselves, being able to search for up-to-date information about health to support elderly for a better health, and being able to advice the elderly appropriate technology to fit with their lives.

4. Ethical aspect with 6 indicators, included honesty and trust, being able to solve problems and make decisions based on professional ethics, good minds, and being able to distinguish from right and wrong.

Based on the past research studies, factors which were correlated with the 4 components of the competency of the elderly caregivers according to the need in developing a rational relationship based on the structural equation model of the elderly caregivers' competency, found that there were 4 latent variables, 16 observation variables, and 80 indicators, consisting of:

Exogenous latent variable included lifelong learning variable which was comprised of 4 components: belief and motivation for professional learning, setting learning goals, self-assessment and self-development for learning, and seeking learning opportunities and including 18 indicators.

For endogenous latent variable, there were 2 variables:

1. The latent variable of the quality of work life consisted of 4 components: fair and adequate allowance, safe and healthy working environment, security and career growth, and other aspects of work and lifetime balance and including 18 indicators.

2. The latent variables of happiness at work consisted of 4 components: life satisfaction, career satisfaction, positive mood, negative mood, and 20 indicators.

The results of data analysis for phase 2, quantitative research according to research objective 2, was the study of the rational relationship according to the structural equation model of the competency of the elderly caregivers in the upper northern region, area 1, can be summarized in table 1 and the figure 2.

Table 1 Path Coefficients of direct effect (DE), indirect effect (IE) and total (TT) between the rational relationships according to the structural equations model after overidentified model of competency of caregivers for the elderly in the upper northern region, area 1.

Dep.V.	Indep.V	Estimate	S.E.	C.R.	P	R-square	Path Coefficients		
							DE	IE	TT
QuaLife	Liflearn	0.719	0.097	7.493	**	52.0	0.719	0.000	0.719
HapWork	Liflearn	0.460	0.083	4.783	**	56.0	0.460	0.404	0.865
	QuaLife	0.563	0.085	5.695	**		0.563	0.000	0.563
Compet	Liflearn	0.290	0.140	2.202	.021*	69.0	0.290	0.556	0.846
	QuaLife	0.754	0.199	3.333	**		0.754	0.098	0.852
	HapWork	0.243	2.86	2.512	.019*		0.243	0.000	0.243

* P < .05, ** P < .01

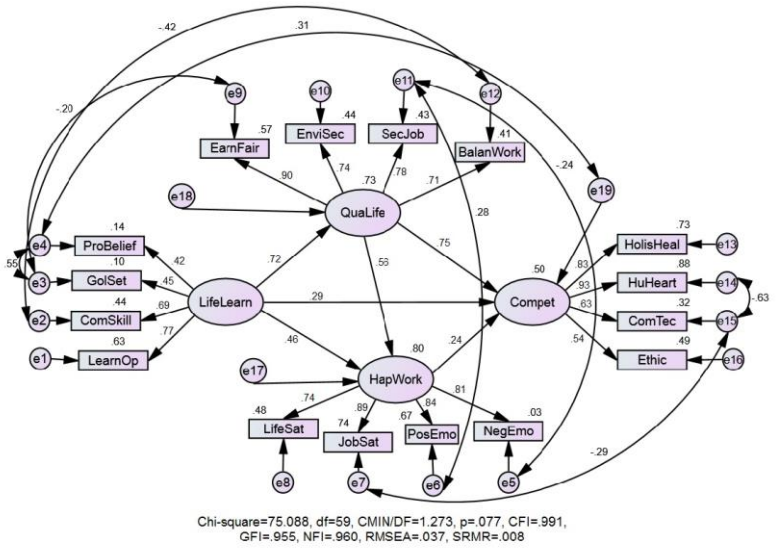

Figure 2 Overidentified Model, Rational Relationship based on structural equation model of the competency of elderly caregivers in the upper north region, zone 1 (n = 320)

From table 1 and figure 2, the analysis results of overidentified model, statistical values were: Chi-square = 75.088, df 59, CMIN / DF = 1.273, P-value = 0.077, CFI = 0.991, GFI = 0.955, NFI = 0.960, RMSEA = 0.037, and SRMR = 0.008. It can be concluded that the empirical data used for the analysis were statistically consistent with the researcher-developed conceptual framework at the level .05. This can be seen that the competency factor was directly influenced by lifelong learning factor at low level (Direct Effect = 0.290), quality of work life factor was at moderate level (Direct Effect = 0.754), and the happiness at work at low level (Direct Effect = 0.243), compared to criteria set by Devore & Peck (2001 as cited in Srisai, 2008, p. 219) at significantly level of .05. Meanwhile, it was indirectly influenced by lifelong learning factor through moderate levels of quality of work life and happiness of work factor (Indirect Effect = 0.654). In addition, it was found that lifelong learning factor, quality of work life factor, and the happiness at work factor can explain the variance or predict the dependent variable, namely the competency factor was significantly 69.0% at the .05 level based on the research hypothesis set.

The analysis of affirmative component of the assertion factor based on the structural equation model of the elderly caregivers in the upper northern region, zone 1, from the determination of element weight according to the criteria set at 0.40 or above, was found as a critical component.

1 . Lifelong learning: the components used in the study were beliefs and motivations for professional learning, setting learning goals, self-assessment and self-improvement for learning, and seeking opportunities to learn. All these 4 elements were confirmatory component with the element value of 0.42, 0.45, 0.69 and 0.77 respectively in accordance with the hypotheses of the research set.

2. Quality of work life: the components used in the study were fair and adequate earning, safe and healthy working environment, work growth and security, and the work-life balance. All 4 elements were confirmatory components with the element weight values of 0.90, 0.74, 0.78 and 0.71 respectively in accordance with the hypotheses of the research set.

3. Happiness of work: the components used in the study were life satisfaction, job satisfaction, positive emotion and negative emotion. All 4 elements were important confirmatory elements with the element weight values of 0.74, 0.89, 0.84 and 0.81 respectively in accordance with the hypotheses of the research set.

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4 . Competency: the components used in the study were holistic healthcare, humanized care, communication and the use of technology, and ethics. The 4 elements were confirmatory components with the element weight values of 0.83, 0.93, 0.63 and 0.54 respectively in accordance with the research hypothesis.

Part 3: As research's objective 3**,** model of the competency of elderly caregivers for the elderly care business in the upper northern region, area 1, as shown in Figure 3.

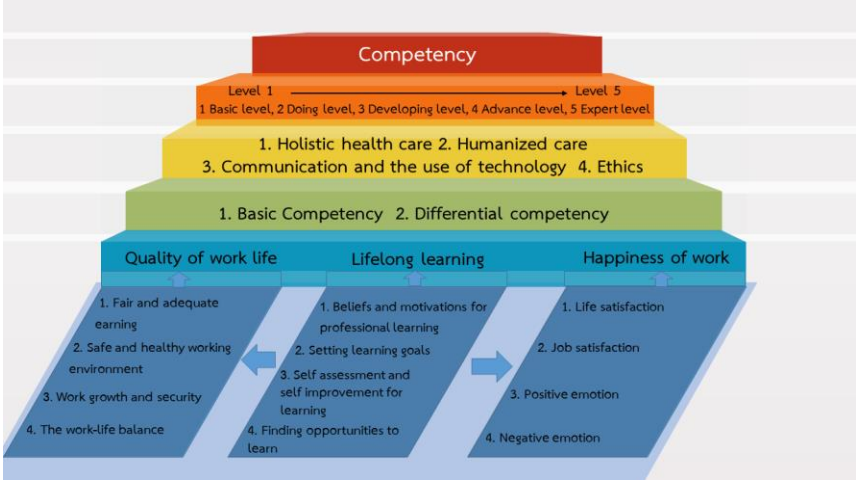

Figure 3 Model of the competency of the elderly caregivers for the elderly care business in the upper northern region, area 1

From Figure 3, the researcher had created a model of the competency of the elderly caregivers for elderly care business in the upper northern region, area 1, the results from research in phase 1 on the basic competencies of the elderly caregivers according to the needs at level 1, comprised of 1). Holistic care, 2). Humanized care, 3). Communication and the use of technology, and 4). Ethics. The elderly caregivers should be supported by the elderly care business operators in 3 areas: lifelong learning, quality of work life, and the happiness in work.

For the results in phase 2, competencies of the elderly caregivers which were different from others based on the needs in level 2- level 5, the elderly caregivers should be supported by the care business operators as same with level 1. Besides, the elderly service business owners should provide a special promotion of lifelong learning in the 4 indicators of learning opportunities for elderly caregivers such as regularly support of time in terms of reading academic articles, attending an academic lecture, and including the exchange of professional knowledge with peers in the same profession. This also included that the elderly care business owners should pay attention on the quality of work life on fair and adequate allowance with 4 indicators; suitable allowance compared with the amount of responsible work, adequate amount for the expenses according to the economic conditions, being fair when compared to other similar jobs, and able to have savings for the future.

Discussion

The research objective 1, the research results found that the competency of elderly caregivers for the elderly care business according to the needs of the elderly-to-be in the upper northern region, area 1, consisted of competencies of holistic health care, humanized care, communication and use of technology, and ethics. The findings were consistent with the Spencer & Spencer (1993, p. 11) who mentioned that the competency was an important characteristic of the individual (underlying

characteristic) that was rationally correlated with the effectiveness of the criterion reference and/or the performance of superior performance by Iceberg Model. This Iceberg model described a person's characteristics into two parts: 1st part is the visible part consisting of knowledge and skills that can be developed easily by studying and learning for knowledge and practice to develop skills, while the other part is hidden as inner part that is hard to be noticed, this includes attitudes, values, opinions about one's self-image, individual characteristics, and motivation, all these are difficult to be developed. The research results were also consistent with the research of Sonthichai *et al*. (2020, pp. 37-48), where their research found that the important competencies of the elderly caregivers were ability to take care of the elderly with ethics, ability of problem solving, and caring for the elderly in everyday life and in emergency situations. Moreover, it was consistent with the research of Wuttikorn (2016, pp. 107-165), where the research results showed that the competency of elderly caregivers consisted of having serviced minds, adherence to ethics and morals, having academic knowledge on health, having determined intention with achievement of work with fairness, communication, team work, creativity, having a positive attitude towards the elderly, emotional and personality regulation, health and safety promotion, ability to maintain some tools, job responsibilities, ability to manage blood or secretions, problem solving and decision making skills, leadership and management competency. Moreover, the results of the research according to the objective 1, it was found that there were issues which were different from the previous research were: holistic health care with physical health care needs, there were also needs for psychological, emotional, social care, and the spiritual aspect of the elderly.

For the research objective 2, the research results found that the rational relationship according to the structural equation model of the competency of elderly caregivers in the upper northern region, area 1, was as follows:

For lifelong learning factor, the findings were consistent with the concept of Hojat et al. (2006 as cited in Kuanchom, 2013, p. 21) mentioned on lifelong learning that human beings can be developed it with constant support and allow individuals to have access to knowledge, values, skills and understanding forever, and it can be used with confidence, creativity and pleasure in regulations, timelines and environment. The research results also found that lifelong learning factor was positively correlated with competency factor which was in line with the research of Phongsathornwiboon (2016, pp. 1-9), where the results showed that lifelong learning was a correlated attribution with qualifications and competencies of nursing professionals, this was because nursing professionals have to always learn and develop themselves to keep up with the rapidly changing public health challenges. Moreover, the research results found an additional important component beside the findings of previous studies on lifelong learning factor that were positively correlated with competency factors, it was seeking learning opportunities which consisted of 4 indicators related to when and how to increase knowledge.

Quality of work life factor, the findings were consistent with the Cummings & Worley (1997, pp. 301-303)'s concept where they mentioned that the quality of work life of employees was based on adequate and fair compensation and other benefits, safe and healthy work conditions, appropriate working environment that does not affect both physical and mental health, including no risk for their lives, work growth and security were also allowed the opportunity in their own career, and they would not be deployed without reasonable cause or unfairness by employer, including the work-life balance. In addition, the research results also showed that the quality of work life factor was positively correlated with the competency factor, consistent with the research of Silong (2017, pp. 65-91), where the research results showed that the quality of work life had an effect on efficiency both in performance and

competence. Moreover, the results also indicated more detailed of important component from past studies of the quality of work-life factor were positively correlated with the competency factor; that was the quality of work life resulting from fair and adequate allowance elements consists of 4 indicators related to the appropriate determination of compensation, sufficiency and fairness.

For happiness of work factor, the findings were consistent with Diener's concept (2003, pp. 542-575), saying that happiness at work was the perception of an emotion, appreciation, satisfaction in work, which were consisting of life satisfaction, satisfaction of work, positive emotions, and negative emotions. The research results also indicated that the happiness of work factor was positively correlated with the competency factor, consistent with the research of Lawansiri & Arsuwatanakul (2012, pp. 1-13) where the research indicated that the happiness in work of the personnel was significantly positively related to their work competency, and the study also found that the quality of work life of the personnel was positively related to the work happiness factor. In addition, from the research results, more detailed component which were different from past studies of the quality of work-life factor were positively correlated with the competency factor; that was the quality of work life resulting from career satisfaction, comprising of 5 indicators such as unpaid allowance in some occations, being able to work with desired occupation, achievement in work, working environment and career that benefits to society.

The quality of work life factor was positively related to the happiness factor at work. The research results were consistent with the research of Srichan (2016, pp. 80-87) indicating that income factor, fair and adequate benefits, safe and hygienic of working conditions, opportunity and development of caregivers, potential opportunities and security, democracy, social benefits, social integration and work collaboration, and work-life balance, all these were significantly related to the happiness in work of employees.

The research objective 3, model of the competency of the elderly caregivers for the elderly service business in the upper northern region, area 1, was derived from research results of phase 1 and phase 2 to develop the competency model according to elements of holistic health care, humanized care, communication and the use of technology, and ethics. The competency level was categorized according to the proficiency level as follows; level 1 is basic level, level 2 is doing level, level 3 is developing level, level 4 is advance level, and level 5 is expert level. This was consistent with the assessment using the behaviorally anchored rating scale (BAR) of Phuwitthayaphan (2004, pp. 33-34) showing the proficiency level, indicating the behavior that was expected or desired to be occurred, with guidelines for dividing the proficiency level as follows: level1 (basic level) was a start-up practice which can be performed within a specific framework or approach or in a simple situation, level 2 (doing level) was a step in which self-defined behavior or able to assist team members to fulfill their assignments, level 3 (developing) was the stage where there is the ability to lead a team members including designing and initiating new things for the benefits of the team, level 4 (advanced level) is the stage where new things are analyzed and applied to strengthen the performance of the organization including to have the ability to teach others to be able to demonstrate that behavior as directed, and level 5 (expert level) was the stage where there is a focus on strategies and plans at the organizational level, this includes the ability to give advice to others on guidelines or procedures.

Conclusion

Research hypothesis testing: The affirmative component of the selection factors based on the structural equation model of the elderly caregivers' competency in the upper northern region, area 1, was an important component for the study appropriately and significantly based on the hypothesis set at the level of .05. and all aspects of the study factors directly and/or indirectly affected the elderly caregivers' competency in the upper northern region, area 1, in accordance with the hypothesis set significantly at .05 level.

Suggestions

1. The research results found that competency factor was the most commonly influenced by quality of life factors. Therefore, entrepreneurs of the elderly care business should pay attention to the four affirmative components, which are 1) Fair and adequate earning 2) Safe and healthy environment in the workplace 3) Job growth and security, and 4) Work and life balance. In particular, the issue which has the highest confirmatory factor value; that is fair and adequate earning, this should be accordance with the workload. The entrepreneurs of the elderly service business should provide suitable allowance based on the 4 indicators obtained from the research results, namely; suitability with the workload of responsibility, sufficiency for expenses according to economic conditions, fairness when compared to other similar jobs, and ability to have savings including the comparison of compensation from competency levels according to the 5 proficiency.

2. According to the research results, it was found that competency factor was directly and indirectly influenced by lifelong learning factors with the highest value of the confirmatory factor was seeking opportunities to learn, thus, the owners of elderly care should support the employees' timing and find appropriate approaches of individuals to increase their knowledge on a regular basis.

Suggestions for further research

1. According to the research results, it was found that competency factor was directly influenced by happiness at work at low level. Thus, next study should study the causal factors that affect the happiness of work in the elderly caregivers.

2. According to the research results, it was found that the quality of working life of the elderly caregivers found the highest confirmatory factor value, that was fair and adequate earning. Thus, next study should study the opinions and capacity of the elderly on their willingness to pay for elderly caregivers, this will enable the elder care business owners to determine allowance according to the 5 levels of proficiency.

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