The analysis of work characteristic factors pertaining to the improvement and development of the quality of life of the elderly

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Abstract: This research aimed to 1) evaluate the demographic characteristics, economic, social, and environmental conditions, and characteristics of the senior people in Ranong province, 2) discover the most relevant work characteristic factors for the older persons, and 3) propose appropriate work characteristics model for older people to improve quality of life. This mixed-methods research, for the quantitative part, utilizes the techniques of MRA & CFA with a sample size of 378 individuals, and for the qualitative part, utilizes a documentary study, in-depth interviews with 19 key informants, and a focus group of 17 individuals. The quantitative data were analyzed using a statistical package for the social sciences (SPSS), and content and categorization analysis with a triangulation verification were used for qualitative data. The results showed that: 1) Ranong province is blessed with rich resources, having minerals that can generate income for the province, life-long learning is given priority in senior school to enhance knowledge and necessary life skills, 2) from the regression analysis, the six predicted work characteristic factors; physical, emotional, autonomous, resistant, low-technology and safety were found relevant with statistically significant at 0.05, and the CFA consistency indices also withstood with the six dimensions above, 3) the appropriate work characteristics is articulated in the form of PEARLS model where physical, emotional, autonomous, resistant, low-technology and safety dimensions are the key.

Keywords: work characteristics; quality of life development; the elderly

1. Introduction

The world is experiencing a sea change in its population age structure. People live longer lives, and the share of older people in the total population is expanding rapidly. Between 2005 and 2050, the proportion of the population aged 60 and older will increase in every country (Bloom and Luca, 2016). The older people represent an alarmingly large proportion of the workforce (Cavanage et al., 2020). Various neighboring countries of Thailand have already faced such an incident, for example, Singapore, where the proportion of older people is very close to the number belongs to Thailand, South Korea has entered the aging society, and Japan has been identified as a super-aged society since it has been experienced with the highest proportion of senile people in the world (Muramatsu and Akiyama, 2011). This is true for Thailand, which is also heading toward an aging society. Currently, 20 percent of the Thai population is 60 and over, representing about 13 million people (Foundation of Thai Gerontology Research and Development Institute, 2022). There is an estimation that the proportion of older people will increase by 20–30 percent a year starting from B.E. 2564. Based on this estimation, it would be plausible to argue that in every 100 people, there will be at least 30 older people (Department of Mental Health, 2020). Of course, the number will be followed by dramatic health-related problems and various chronic

diseases (Sriyasak et al., 2021). However, most people think that the way to handle these problems is mainly concerned with health management and welfare provision in terms of old age allowance and various welfare arrangements. These solutions have no relationship with the preparation before and after the exact retirement period concerning the income generation of older people. Thailand is experiencing a significant increase in its aging population, transitioning from an aging society to an elderly society for approximately twenty years. In Thailand, the retirement age is set at 60, although individuals can retire earlier than this age. The mean age of Thai males is 74.92 years, but the mean age of Thai ladies is 81.05 years (Anantanasuwong, 2021; Kraiwanit et al., 2020; BOI, 2023). The workforce participation rate for older persons is roughly 39.4 percent. This situation has called for genuine consideration of the aging society in Thailand and its tremendous impact on the social and economic perspectives of the country (Department of Older Persons, 2021).

Undoubtedly, the new phenomenon of the 21st century in Thailand is moving into an aged society (Anantanasuwong, 2021). According to the available statistics, there is a strong likelihood that in the next 20 years, Thailand will enter into a super-aged society (Kasikorn Research Center, 2023). For these older people to live graciously and independently or survive in society with dignity, they must bring home the bacon. To analyze the appropriate types of work for older people in Thailand, the analysis may consider three critical factors influencing the most suitable work for seniors. Based on Maslow's hierarchy of needs (Maslow, 1943), these considerations consider physical, mental, and social work characteristics. The suitable type of work for the elderly must be the ones that require not much muscle, intensive sensory organs, and memory skills. There should be an avoidance of work that creates lots of stress or high pressure. The real emphasis should be placed on work or activities that are accepted by society and surrounding people, especially those jobs that have something to do with providing advice and suggestions or recommendations, work that requires experience or a life-long accumulated relationship of a person such as a lecturer, teacher, and broker (Patcharapong et al., 2018). Regarding the guidelines to develop the quality of life of older people to provide a decent quality of life for the elderly and to develop the country with a better-quality population, older people are considered the most valuable resources since they are a source of knowledge and experiences in various dimensions (Parker, 2016; Roe et al., 2022). These resources are believed to push forward and strengthen the country with abundant quality in the future. Planning to develop the quality of life of the elderly seems necessary for national development (Mondal, 2021; Netuveli and Blane, 2008). Nowadays, there is no specific legislation concerning promoting the quality of life of the elderly. However, the Constitution of the Kingdom of Thailand B.E. 2540 has indicated in sections 50 and 54 the missions or practices towards older people. There is a plan formulation for the elderly and legislation concerning the arrangement of social welfare. In this regard, the government has identified policies on social, public health, education, cultural, and economic issues concerning older people. The stipulation has covered the following issues regarding the protection, promotion, and support towards rights and benefits of the elderly with efficiency, including other essential items such as policy arrangement and other related welfare. Nevertheless, many areas still have been neglected, for instance, the provision of welfare and the promotion of a better

quality of life-based on the principle regarding respect for the rights of the elderly (Lawan et al., 2017). It is, therefore, necessary to develop or find ways to improve the quality of life of older people much more efficiently (Stefanacci, 2022). The goal is for older people to enjoy a happy life, a better quality of life, and life satisfaction. The elderly should be able to live life appropriately with dignity in society, to help themselves based on their ability, not to become a burden to anybody or society, and to be able to withhold self-worthiness in terms of economic, social, and environmental perspectives in the long run (Worapach, 2021).

The fact that Thailand is heading towards a super-aged society, the government is trying to find measures to cope with older persons. With the hope that older people would have a better quality of life in terms of physical and mental perspectives, one of the exciting measures of coping with this situation is the employment of older people. The government firmly intends that the older people who have reached their retirement period will re-enter the workforce. This is to help them earn a sufficient income to live a better and dignified life after retirement and to alleviate the public budget for old age welfare in the long term. Hiring an older person can help solve a workforce shortage in some professions (Department of Older Persons, 2021a).

Regarding the work characteristics of the elderly, it is crucial to incorporate features that promote physical comfort, emotional assistance, independence, adaptability to economic and technological shifts, simplicity in technology usage, and safety (Caring for Care, 2021). Occupations that reduce physical exertion, provide emotional satisfaction, offer flexible and independent working arrangements, guarantee stability in the face of market fluctuations, demand minimal technological expertise, and ensure a secure and respectful atmosphere can significantly improve the quality of life for elderly employees. This approach acknowledges and accepts their limits and utilizes their extensive expertise, positively impacting their mental and physical well-being (Soósová, 2016; Steiber, 2013).

A longer life brings opportunities not only for older people and their families but also for society. Additionally, years provide the chance to pursue new activities such as further education, a new career, or a long-neglected passion. Older people also contribute to their families and communities in many ways (WHO, 2022). From the above significant background, the researcher is interested in studying the analysis of work characteristic factors pertaining to improving and developing the quality of life of the elderly. This particular research aims to come up with and present the appropriate types of work suitable for older people to develop the quality of life of those senile people concerning policy and strategy concerning aging society and Thai society in the 21st century.

Research objectives

The study on the analysis of work characteristic factors pertaining to the improvement and development of the quality of life of the elderly in Ranong province has the following objectives:

1) To analyze the demographic characteristics and economic, social, and environmental conditions of the elderly in Ranong province.
2) To determine the most relevant work characteristic factors for the elderly.
3) To propose an appropriate work characteristics model for older persons to improve their quality of life.

2. Research methodology

The research on the analysis of work characteristics factors pertaining to the improvement and development of the quality of life of the elderly was mixed methods research. George (2023) argued that mixed methods research is often used in the behavioral, health, and social sciences, especially in multidisciplinary settings and complex situational or societal research. Using the quantitative research method, the researchers studied the elderly who participated in the workforce in Ranong province, Thailand. The G*power software calculated the sample size with an effect size of 0.3, α err prob. 0.05, power 0.95, and df 29. (the degree of freedom was calculated from 24 observed and three latent variables). From the number of older populations of 21,901 people, the sample size was determined to be 378 individuals. The stratified sample techniques were used to determine the number of questionnaires distributed among five districts of the province, namely, Mueang Ranong district, 157 people; La-Oun district, 34 people; Kapor district, 49 people; Kraburi district, 123 people and Suksamran district, 15 people. With 75 questionnaire items from 30 observed variables, SPSS license version 21 was used to analyze the data.

For the qualitative part, besides the documentary study, the in-depth interviews were conducted with 19 key informants who were local executives in Ranong province, number 3 persons, three community leaders, three public health officers, and another ten older people. The focus group discussion was also organized with another group of 17 individuals consisting of 3 local administrators in Ranong province, three community leaders, three public health officers, and eight older people. The data obtained were analyzed through content analysis and categorized into sections based on the study's objectives. A qualitative methodology was developed starting from the conceptual scheme that refers to general determinants of work characteristics suitable for the elderly to improve the quality of life of dependent older adults in Ranong province. Nassaji (2020) argued that qualitative research can be broadly defined as a naturalistic inquiry that deals with non-numerical data. It seeks to understand and explore rather than to explain and manipulate variables. Qualitative content analysis is a research method used to analyze and interpret the content of textual data, such as written documents, interview transcripts, or other forms of communication (Delve & Limpaecher, 2023). Maxwell and Miller (2008) suggested that coding is the most widely used categorizing strategy in qualitative data analysis. The data verification was undertaken using a triangulation method in which multiple datasets, methods, theories, and investigators were used to address a research question. It is a research strategy that can help the researcher enhance the validity and credibility of his/her findings and mitigate any research biases in his/her work (Bhandari, 2023).

3. Conceptual framework

Based on the rigorous literature review, the conceptual framework for the study of the analysis of work characteristic factors pertaining to the improvement and development of the quality of life of the elderly can be articulated as follows:
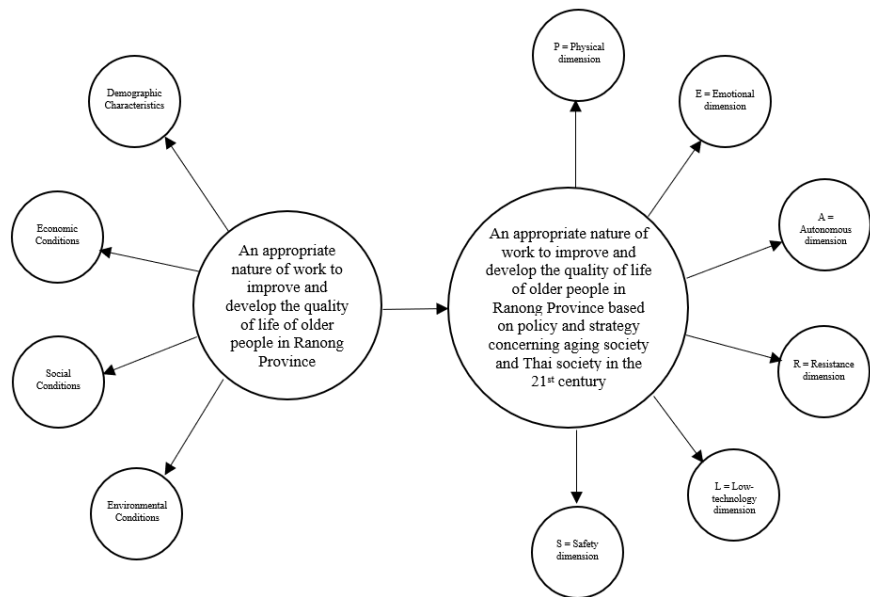
Figure 1. Conceptual framework.

4. Research results

1) The research on the analysis of work characteristics factors pertaining to improvement and development of the quality of life of the elderly in Ranong province with its first objective to understand the demographic characteristics, economic, social, and environmental conditions, the results showed that the population of Ranong province is about 191,869 people, out of this number, there are 96,957 men and 94,912 women. The proportion of people aged 60 years old and a higher number of older adults in the Mueang district is 9535, with 7990 persons classified as socially bound, 1476 persons as home-bound, and 69 persons as a bed-bound group. In the La-Oun district, it was found that there are 1793 elders, of whom 1721 persons are social-bound, 62 persons are home-bound, and ten persons are bed-bound. For the Kapor district, there are 2670 elders, to whom 2384 persons are social-bound, 262 are social-bound, and 24 are bed-bound. In the Kra Buri district, the number of elderly is 6967 persons; 6167 persons are social-bound, 715 persons are home-bound, and 85 persons are bedridden. Finally, in Suk Samran district, there are 939 elders, of whom 709 persons are social-bound, 229 persons are home-bound, and seven are listed in a bed-bound category (Ministry of Public Health, 2023). It is interesting to point out here that the number of elderly in Ranong province represents the lowest number of senior people in Thailand. Most of the people in Ranong province were engaged in agricultural businesses, such as rambutan orchard, coconut, champeta, rubber, oil palm, cashew nut, Hongkong, coffee, durian, mangos teen, pakora, and betel nut. For the livestock, cattle, goats, pigs, and poultry were raised. From an economic dimension, Ranong is blessed with ample natural resources. Some minerals, such as tin and wolfram, can make much money annually for the province, to name just a few. Ranong is also covered with rich forest with necessary wood such as rubber wood, Siamese rosewood, inthanin wood, takian wood, and tiger's eyes wood. The weather conditions favor producing agricultural products, especially oil palm and sea fishing products, with a promising future. On top of that, the government still set a priority in

the development of the local agricultural sector continuously in terms of water management, promotion of production technology, improvement of product quality, aggregation of mega-farms, marketing principle in production, and using BCG model in driving the economy at the provincial level. Since the COVID-19 pandemic has unraveled in many countries worldwide, the export of critical agricultural products, such as rubber, oil palm, tropical fruit, livestock products, and cultured shrimp, has a chance to grow. In Thai culture, family is held to a very high standard. Often, the family takes precedence over many things, and unlike many Western cultures, it has a greater significance on the extended family (IVCA Thailand, 2019). Families generally live close to one another, and family ties remain quite strong if one does move away for work or study. The younger family members pay respect to the older ones. However, in the Mueang district or the inner city, the people who live in the municipality area or sanitary district will live as city people. Status is crucial in Thai culture. Age, family connections, job types, education, and income levels contribute to a person's perceived social status (Williams, 2023). The environmental conditions, or generous environment including buildings and transportation, shelters, social activities, economic stability, and service and health system (TGRI, 2021) facing the older people in Ranong province emphasize the importance of life-long learning and the promotion of capability in the form of a senior school. The aim is to enhance the knowledge and necessary life skills of the elderly in order to live their life. These efforts, considered integrated activities among municipalities, organizations, and related networks via a community participation process, include four dimensions: health, social, economic, and environmental issues.

2) To determine the most relevant work characteristic factors for the elderly, The research result revealed that 378 respondents are 255 females (67.4%), 137 are between the ages of 71 and 75 (36.2%), and 205 have completed secondary or higher education (54.3%). Out of these respondents, 200 individuals, 52.9% have retired. Among 378 respondents, 345 persons (91.3%) are married or in a relationship, while 342 respondents (90.6%) are in good health.

Based on the conceptual framework, this study investigated the impact of the eight hypothesized factors associated with the work characteristics of older people (see **Figure 1**). These eight relevant variables, namely, physical, emotional, autonomous, resistant, low-technology, safety, cognitive and mental health, and nutritional dimensions, were derived from the review of the literature (Chang et al., 2021; Converso et al., 2018; Husic et al., 2020; Ha and Kim, 2019; Lette et al., 2020; Marvell and Cox, 2017; NIOSH, 2023; Senee et al., 2022; Sharit and Czaja, 2017; Skuciene and Moskvina, 2016; Wozniak et al., 2022; Yeh et al., 2019; Zhang, 2023).

The result of multiple regression analysis is as follows:

Table 1. The model summary of multiple regression analysis.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics				Durbin-Watson
						F Change	df1	df2	df3	
1	0.967	0.935	0.934	0.097	0.935	663.948	8	369	0.000	2.219

Table 2. Coefficients analysis.

Model	Unstandardized Coefficients		Unstandardized Coefficients Beta	t	Sig.	Collinearity Statistics	
	B	Std.Error				Tolerance	VIF
(Constant)	0.432	0.142		3.041	0.003*		
Physical dimension	0.332	0.033	0.313	9.857	0.000**	0.375	3.175
Emotional dimension	0.609	0.074	0.509	8.225	0.000**	0.246	2.722
Autonomous dimension	0.179	0.036	0.228	5.020	0.000**	0.185	1.737
Resistance dimension	0.249	0.062	0.269	3.985	0.000**	0.338	3.645
Low-technology dimension	0.464	0.036	0.527	12.794	0.000**	0.404	3.645
Safety dimension	0.155	0.029	0.175	5.036	0.000**	0.266	1.027
Cognitive dimension	0.020	0.048	0.019	0.415	0.678	0.182	1.176
Nutritional dimension	0.051	0.049	0.050	1.052	0.194	0.577	1.006

From **Tables 1** and **2**, it was found that the physical dimension with a *t*-value of 9.875 and a significant value of 0.000, emotional dimension with a *t*-value of 8.225 and a significant value of 0.000, autonomous dimension with a *t*-value of 5.020 and a significant value at 0.000, resistance dimension with the *t*-value 0f 3.985 and a significant value at 0.000, low-technology dimension with the *t*-value of 12.794 and a significant value at 0.000 and finally, the safety dimension with the *t*-value of 5.368 and a significant value at 0.000 are all significant predictors of the dependent variable. From the analysis, it can be plausible to argue that there is a positive correlation between the elderly's opinion on appropriate work characteristics and physical, emotional, autonomous, resistance, technology, and safety dimensions.

For the confirmatory factor analysis (CFA), this study investigated the impact of 6 obtained relevant factors: physical, emotional, autonomous, resistance, low-technology, and safety. The researcher conducted an empirical examination by testing these six variables derived from the results of multiple regression aforementioned together with the existing research (Alcazar et al., 2022; Amorim et al., 2014; Berglund et al., 2017; Chantakeeree et al., 2022; Ige et al., 2019; Irving et al., 2022; Lapsomboondee, 2022; Paweenawat and Liao, 2021; Soderbacka et al., 2020; Sutoro, 2020; Reynolds and Farrow, 2012). The results of the second-order confirmatory factor analysis are as follows.

Table 3 shows the results of the second-order confirmatory analysis of appropriate work characteristics for the elderly in Ranong province. The consistency index is derived using the AMOS program.

The indices followed the established criteria: relative, χ^2 was less than 2, RMSEA and RMR were less than 0.05, and GFI, AGFI, NFI, and TLI were more significant than 0.95.

Table 3. Result of second-order confirmatory factors analysis.

Observed variables	Physical dimension			Emotional dimension			Autonomous dimension			Resistance dimension			Low-technology dimension			Safety dimension			r^2
Latent variables	β_i	b_i	S.E.	β_i	b_i	S.E.	β_i	b_i	S.E.	β_i	b_i	S.E.	β_i	b_i	S.E.	β_i	b_i	S.E.	
P1	0.831	1.000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.766
P2	0.769	0.790	0.044	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.576
P3	0.751	0.788	0.013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.603
P4	0.638	0.699	0.037	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.408
P5	0.590	0.638	0.044	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.548
E1	-	-	-	0.925	0.847	0.018	-	-	-	-	-	-	-	-	-	-	-	-	0.855
E2	-	-	-	0.621	0.640	0.032	-	-	-	-	-	-	-	-	-	-	-	-	0.640
E3	-	-	-	0.705	0.730	0.016	-	-	-	-	-	-	-	-	-	-	-	-	0.539
E4	-	-	-	0.973	0.981	0.019	-	-	-	-	-	-	-	-	-	-	-	-	0.962
E5	-	-	-	0.956	1.000	-	-	-	-	-	-	-	-	-	-	-	-	-	0.915
A1	-	-	-	-	-	-	0.876	0.998	0.009	-	-	-	-	-	-	-	-	-	0.977
A2	-	-	-	-	-	-	0.808	1.000	-	-	-	-	-	-	-	-	-	-	0.762
A3	-	-	-	-	-	-	0.711	0.732	0.017	-	-	-	-	-	-	-	-	-	0.000
A4	-	-	-	-	-	-	0.506	0.683	0.043	-	-	-	-	-	-	-	-	-	0.467
R1	-	-	-	-	-	-	-	-	-	0.973	0.997	0.064	-	-	-	-	-	-	0.946
R2	-	-	-	-	-	-	-	-	-	0.833	1.000	-	-	-	-	-	-	-	0.694
R3	-	-	-	-	-	-	-	-	-	0.588	0.798	0.062	-	-	-	-	-	-	0.645
L1	-	-	-	-	-	-	-	-	-	-	-	-	0.742	0.759	0.019	-	-	-	0.602
L2	-	-	-	-	-	-	-	-	-	-	-	-	0.912	1.000	-	-	-	-	0.831
L3	-	-	-	-	-	-	-	-	-	-	-	-	0.736	0.803	0.043	-	-	-	0.542
L4	-	-	-	-	-	-	-	-	-	-	-	-	0.410	0.547	0.056	-	-	-	0.744
S1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.687	0.703	0.059	0.807
S2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.832	1.000	-	0.693
S3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.567	0.856	0.313	0.607

	Elderly								
	β_i	b_i	S.E.	r^2					
Physical dimension	0.963	0.758	0.028	0.927					
Emotional dimension	0.702	0.658	0.039	0.544					
Autonomous dimension	0.831	1.000	-	0.691					
Resistance dimension	0.767	0.702	0.024	0.428					
Low-technology dimension	0.865	0.799	0.030	0.438					
Safety dimension	0.786	0.616	0.030	0.535					

$\chi^2 = 38.456$, df = 21, Relative/$\chi^2 = 1.831$, $p = 0.065$, RMSEA = 0.037, RMR = 0.025, GFI = 0.976, AGFI = 0.954, NFI = 0.986, TLI = 0.978

So, it can be concluded that these six work characteristics, including physical, emotional, autonomous, resistance, low-technology, and safety dimensions, are appropriate for the elderly in Ranong province. The components of the physical

dimension are measured from 5 observable variables which are *P*1, *P*2, *P*3, *P*4, and *P*5; the emotional dimension is measured from 5 observable variables which are *E*1, *E*2, *E*3, *E*4, and *E*5; the autonomous dimension is measured from 4 observable variables which are *A*1, *A*2, *A*3, and *A*4; the resistance dimension is measured from 3 observable variables which are *R*1, *R*2, and *R*3; the low-technology dimension is measured from 4 observable variables which are *L*1, *L*2, *L*3, and *L*4; and lastly the safety dimension is measured from 3 observable variables which are *S*1, *S*2, and *S*3 (**Figure 2**). The model structure is portrayed as follows:
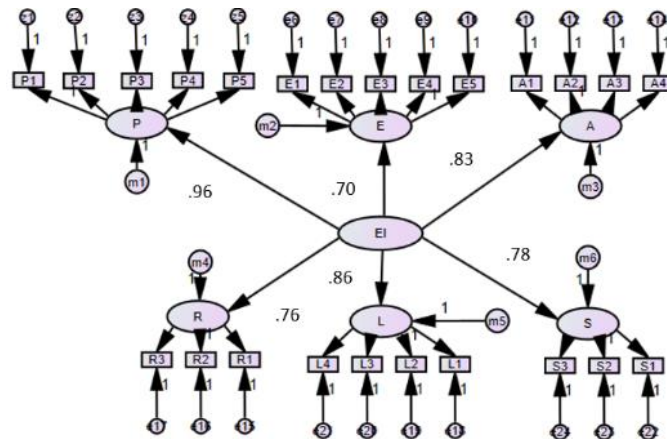
Figure 2. The model of second-order confirmatory factors analysis.

3) The appropriate work model to improve and develop the quality of life of the elderly in Ranong province

From the multiple regression analysis, confirmatory factor analysis, and a focus group discussion, it was found that the PEARLS model, in which each of the abbreviations stands for *P* = Physical dimension, *E* = Emotional dimension, *A* = Autonomous dimension, *R* = Resistant dimension, and *L* = Low-tech dimension, and *S* = Safety dimension can be ideally used to serve the mentioned research purposes. Physical dimension means the most suitable job recommended for the elderly must always be the one that needs no memory skills. The jobs are not complicated in their nature of practice or those that do not contain highly comprehensive details. The type of work that is perfect for the elderly must also have nothing to do with any level of stress or pressure. The emotional dimension refers to work that creates self-esteem for the elders or the jobs that do them proud. These types of work would allow the senile people to draw out their fullest potential and capability to create benefits for society. These job characteristics would help the senior people to become agile, enthusiastic, and flexible in their movement. Moreover, the said jobs must be well accepted by the society and people around them. This job also provides an opportunity for the elderly to practice both their thinking and learning processes. The autonomous dimension is seen in a form of highly independence. The elderly enjoy flexible work; for example, the work can be taken and finished at home. The resistant dimension denotes a kind of endurance and patience. Several types of research indicate that the elders could handle or stand for the tediousness far better than any other workforce group. The low-tech dimension is meant to be a work requiring no sophisticated, up-to-date technology. In performing their work, the elders use their accumulated experience to create

inspiration for their work. This stage of the art kind of work does not rely on high technology. Last but not least, the safety dimension reminds those who are involved in the arrangement of working conditions for the elderly that the avoidance of excessive body movements and getting down or bending over type of work must be a priority.

5. Research discussion

The research on the analysis of work characteristic factors pertaining to the improvement and development of the quality of life of the elderly with its first objective found that

1) The population of Ranong province is about 191,869 people; out of this number, there are 96,957 men and 94,912 women. The number of older adults in the Mueang district is 49,582, with 7971 persons classified as socially bound, 1475 persons as home-bound, and 70 persons as a bed-bound group. In the La-Oun district, it was found that there are 9210 elders, of whom 1724 persons are social-bound, 66 persons are home-bound, and 11 persons are bed-bound. For the Kapor district, there are 14,217 elders, of whom 2382 persons are socially bound, 265 are home-bound, and 24 are bedridden. In Kra Buri district, the number of the elderly is 33,176 persons; out of this, 6152 persons are social-bound, 711 persons are home-bound, and 85 persons are bed-ridden. Moreover, finally, in Suk Samran district, there are 7641 elders, of whom 709 persons are social-bound, 229 persons are home-bound, and seven persons are listed in a bed-ridden category. Most people were engaged in agricultural businesses, such as rambutan orchard, coconut, champeta, rubber, oil palm, cashew nut, Hongkong, coffee, durian, mangosteen, pakora, and betel nut. There were cattle, goats, pigs, and poultry raising for the livestock. From an economic dimension, Ranong is blessed with ample natural resources. Some minerals, such as tin and wolfram, can make much money annually for the province, to name just a few. Ranong is also covered with rich forests with important woods such as rubber wood, Siamese rosewood, inthanin wood, takian wood, and tiger's eyes wood. The weather conditions favor producing agricultural products, especially oil palm and sea fishing products, with a promising future. On top of that, tshe government still set a priority in the development of the local agricultural sector continuously in terms of water management, promotion of production technology, improvement of product quality, aggregation of mega-farms, marketing principle in production, and using BCG model in driving the economy at the provincial level. Since the COVID-19 pandemic has unraveled in many countries, exporting essential agricultural products, such as rubber, oil palm, tropical fruit, livestock products, and cultured shrimp, has a chance to grow. For the social structure, it is an extended family based on the general characteristics of rural society. The younger family members pay respect to the older ones. However, in the Mueang district or the inner city, the people who live in the municipality area or sanitary district will live as city people. Although most people live in prominent families, each has a different career type. The environmental conditions facing the older people in Ranong province emphasize the importance of life-long learning and the promotion of capability in the form of a senior school. The aim is to enhance the knowledge and necessary life skills of the elderly in order to live their life. These

efforts, considered integrated activities among municipalities, organizations, and related networks via a community participation process, include four dimensions: health, social, economic, and environmental issues. These findings are in line with the information on "Social situation in ranong province report" provided by the Office of Social Development and Human Security, Ranong province (2022) and "Labor situation in Ranong province, 4th quarter report" provided by Labor Office (2022). The predominant social circumstances in Ranong province encompass various target groups. These include children and youth, women and families, the elderly, people with disabilities, individuals in need, beggars, ethnic minorities, and those facing social issues. From an economic perspective, Ranong province has revived significantly due to economic factors such as the decreasing supply side and the expanding agricultural production for rubber products, oil palm, and Pacific white shrimp. The private investment continuously expanded. This information also points in the same direction of work undertaken by Husic et al. (2020) in "Aging at work: A review of recent trends and future directions," claiming that the demographic data indicates a trend toward a rapid increase in working age among various workforces. The concept of elders' work emerges due to an urgent need to help elderly workers in the contemporary industry maintain production efficiency and achieve work goals and work-life balance simultaneously.

2) From the multiple regression and confirmatory factor analysis, the six work characteristics towards developing the quality of life of the elderly in Ranong province are physical, emotional, autonomous, resistant, low-technology, and safety issues. These work characteristics evolve around the interrelationship among physical, emotional, and social perspectives. Suitable jobs for older persons should require no brawn (the brain is better than brawn), avoid using sensory organs, and have heavy memory skills. The work should not add much of a stress or pressure on the elders. At the same time, society and peers should accept the said work well. These types of jobs may be in the form of an advisory, provision of suggestion or recommendation, work that needs experience, and personal relations accumulated throughout a lifetime before retirement, such as lecturer, teacher, and broker. The results are congruent with the research of Boonwas and Parinya (2020) on "The maintenance of the body and mind of the elderly, Bang Kae district, Bangkok Metropolitan," concluding that the elderly neither give importance to nutritious food nor practicing the regular exercise. Senior people typically take supplementary food to restore health and have regular meals based on the doctor's recommendation. Older people have a particular way of getting rid of anxiety by concentrating and looking for possible solutions. The elderly seldom seeks an annual physical check-up. Older people learn to adjust themselves by trying to accept and understand the specific condition. Most senior people can communicate with other people in order to build a relationship. This is to stay away from depression. The elderly can eliminate stress by understanding their problems and using intelligence to deal with problems so they will not affect their state of mind. Finally, older people still receive information regarding healthcare activities from various sources such as social media, family, friends, and public health offices. Moreover, the findings are also similar to the work of Pawadee et al. (2023) on "The relationship between self-esteem and quality of life in the elderly with non-communicable diseases," which suggests that the overall value of quality of life of the elderly is at a

high level. The quality of life of older people is at a high level. Self-esteem has a moderate positive relationship with quality of life. However, it also discovered that self-esteem has a negative relationship with quality of life regarding the confrontation of death, and it has no relationship with quality of life in terms of physical issues. The findings are also in the same vein of work by Suppanaree and Jongrak (2018) entitled "Factors affecting life happiness of the elderly people: An empirical study in Amphoe Muang, Khon Kaen province" and found that self-esteem affects the happiness in the life of the elderly at the highest level in all of 4 dimensions, namely, physical, economic, family, and social happiness. Self-esteem is a learning process that takes time and happens during the interaction among individuals, the environment, and the surrounding society. Therefore, the organization should strengthen the personnel's value of self-esteem before retirement as a way of preparing before entering into older adulthood.

3) For the appropriate work characteristics model to promote the quality of life of the elderly in Ranong province, a PEARLS model, *P* = Physical, *E* = Emotional, *A* = Autonomous, *R* = Resistant, *L* = Low-technology, and *S* = Safety dimensions are suitable for the older people's physical conditions. Sewdas et al. (2017) suggested in their research, "Why older workers work beyond the retirement age: A qualitative study," that good physical and health conditions of the elderly, including flexible work characteristics, are key to motivation to work. All of these are relevant to a scope of health issues, the nature of work, skills and knowledge, social factors, and monetary factors. This research also pointed out that life goals are important in the desire to work for older people. The conclusion is similar to the work of Jinnicha and Piyathida (2015) titled "Problems and health needs of the elderly in the area of responsibility of the Muang Baeng tampon health promotion hospital, Nong Ya Phung Sub-district, Wang Sa Phung District, Loei province" in which it claimed that the perception of older people regarding health and physical conditions is at the high level. The perception of health requirements in terms of emotional issues is moderate. Besides, age and gender are relevant factors in the perception of health problems of the elderly with statistical significance. The *E*, or emotional dimension, refers to the work that makes older people proud of themselves. This is supported by the work of Chia and Hartanto (2021) on "Older adult employment status and well-being: A longitudinal bidirectional analysis," which concluded that, in the end, there is no relationship between work status and well-being but a better living style, especially in term of social perspective and self-esteem have a lot to do with the elderly who work. The research by Kittiporn and Marisa (2019) on "Problem condition and health-care requirements of the elderly under the responsibility of local administrative organization in the lower south" suggested that the elderly have the following problems: 1) chronic diseases, 2) deteriorating feeling of self-worth, loneliness, dismalness, depression, and psychological problems, and 3) poverty, illness, and abandonment. The autonomous dimension concerns the freedom and independence the elderly can enjoy over their work. The research on "Age-related changes on the effects of job characteristics on job satisfaction: A longitudinal analysis" by Cavanagh et al. (2020) proposed that older adults constitute an increasingly large workforce share. Through deep knowledge and long-standing client relationships, older workers often contribute positively to organizational outcomes. Thus, it is important to

understand how to maintain or increase older workers' job satisfaction, a variable linked to positive work outcomes. In supporting socioeconomic selectivity theory, this research showed that autonomy became increasingly important to job satisfaction as workers age. Contrary to the theory, annual income also became increasingly important to job satisfaction. McCarty et al. (2017) researched "Job characteristics and mental health for older workers" and indicated that work characteristics are a strong and direct predictor of depression symptoms and anxiety in the elderly. This research also suggested that various work regulations hurt the mental health of the elderly. By contrast, reducing work requirements and promoting the developmental role of older people is beneficial to the mental health of the elderly. The resistant dimension involves the feeling of tolerance and repressiveness that have been mentioned in the work of Tikhamporn et al. (2018) on "Maintaining the self-reliant occupation on the embroidery of Pantomine and Thai Dance-Drama Costumes of the Elderly of Khian Niwat community enterprise, Trok Kai Chae, Phranakorn District, Bangkok" that the older workers had been employed continuously since the embroidery work is just suitable for the elderly. This type of work requires precise details. The embroiderer must be very patient and skillful in her work. The low-technology dimension discusses work that needs no up-to-date technology. This is relevant to the work of Sarat and Pitak (2020) on "The problem and process of learning to use the smartphone technology of the elderly people in the surrounding area of Phra Pinklao, Bangkok Noi district in Bangkok" with the conclusion that the older people who switch to use the technology in the smartphone want to find ways to facilitate their daily routine and be able to cope with various desires in terms of communication, perception, seeking out for information, and any others that suit their interest. The problems occurred in the form of the function of work and the ability to understand how to properly use the smartphone due to the complicated system of the new technology, which became a major obstacle in using the smartphone among senior people. The report "Your key to European statistics" published by Eurostat (2018) also wrote that older people face a decreasing level of responsiveness due to the declines in physical and mental capacity due to rapidly changing technology, for instance, in case of various available platforms, 9 percent of those who are over 75 years old living in the EU has a visibility problem while 18 percent has a severe hearing problem. For the safety dimension, the work of Patcharapong et al. (2018) on "Job styles for older workers" suggested that there should be encouragement for older people to have an opportunity to work in society to stay away from feeling depressed. However, the particular type of work for the elderly should concentrate on safety, where less body movement is appreciated to prevent possible work accidents.

6. Research suggestions

In B.E. 2566, the demographer proclaims that this is the 2nd year that Thailand has completely moved into the aged society, having around 14 million older people (The Standard Team, 2021). This figure represents 20 percent or one-fifth of the whole population. In Thai society, the senile people are respected as ancestors who are the origin of the following generation. They have done many good deeds and benefits for their offspring, society, and the country as a whole. They have gained much

experience. However, at the same time, old age leads to health, social, and economic problems. The research findings showed that the increasing employment of older people is a rightful direction in solving depression and suicide rates among older people. From a social perspective, the elderly who work will feel that they are still valuable to the workplace, community, and society. The outgrowth of income from work helps senior people live a better quality of life and feel proud that they are not a social burden. In order to develop the nature of work that is appropriate for older workers and to improve the quality of life respectively, the related units should:

1) Formulate the policy, strategic plan, tactical plan, and annual operational plan to promote and support older people to have a chance to participate in various activities with the emphasis and focus on the development of skills that are necessary for pursuing the career, health-care, exercise, learning and self-reliant, including the provision of the market to sell the products and services of the older people. Open up opportunities in which the senior people can participate in various recreational activities in the hope that they would have better mental health, become cheerful, and be happy on a stable and continuous basis.

2) Formulate a regulation in the promotion and development of older people in a comprehensive manner that includes physical, emotional, social, and economic considerations that are essential factors affecting the quality of life of older adults.

3) Promote and strengthen family with the old age people to look after the senior members with respect and treat them according to their way of life to expect a sustainable development towards the quality of life of older people.

7. New body of knowledge

Many believe that once a person retires, employment opportunities disappear, and there is no chance of re-entering the job market. However, that could not be further from the truth. According to Reuters, by 2024, one in four workers will be older than 55. Many employers are looking to hire seniors because of the maturity and strong ethics they can bring to a workplace—qualities that younger people sometimes lack. PEARLS model suggested in this research, which discusses work characteristics, including physical, emotional, autonomous, resistant, low-technological, and safety dimensions, suitable for older workers would help both the older people or employees and employers to fulfill the present trend in the contemporary job market. So, senior people who want to work to earn extra money, stay active, meet people, or explore a new career path have many job options. For many people, working with older adults can feel very rewarding. By working with older people, one can help them to become more physically and mentally healthy, which can improve their quality of life.

8. Suggestions for future research

This research was undertaken in Ranong province, which is one of 77 provinces in Thailand. Therefore, it is contextually bounded. There should be research, whether it would be quantitative, qualitative, or mixed methods research style, to discover the most appropriate work characteristics, including ways or methods to develop the quality of life of older people in various provinces in the south in order to compare the nature and characteristics of work and ways to promote the quality of life of older

people. This effort hopes to find an appropriate standardized model that can be applied in various contexts.

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