

Subjective Well-Being Inequality Among Thai Older Adults: Evidence From the Health, Aging, and Retirement in Thailand (HART) Survey

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Abstract

This study examines subjective well-being inequality among older adults in Thailand using the 2022 wave of the Health, Aging, and Retirement in Thailand (HART) survey, comprising 3,607 observations. Subjective well-being is measured using respondents' self-reported quality-of-life satisfaction scores. The study applies the mean log deviation (MLD), a decomposable inequality measure, and subgroup decomposition to assess how inequality is distributed within and between groups across the dimensions of demographics, socioeconomic status, health, family structure and support, and social participation. Results show that overall subjective well-being inequality is relatively low and is dominated by within-group variation, indicating substantial heterogeneity among older adults with similar observable characteristics. However, between-group inequality varies across dimensions. Health status, measured by self-rated health, has the largest between-group component, followed by geographic disparities, particularly provincial differences. Social participation explains a moderate share of inequality, whereas socioeconomic and family-related factors contribute only small shares. These findings suggest that subjective well-being inequality among older adults in Thailand is structured more by health status, geographic context, and social engagement than by conventional socioeconomic factors. The results support a multidimensional approach to later-life well-being policy, while noting that the analysis identifies patterns of inequality rather than causal effects.

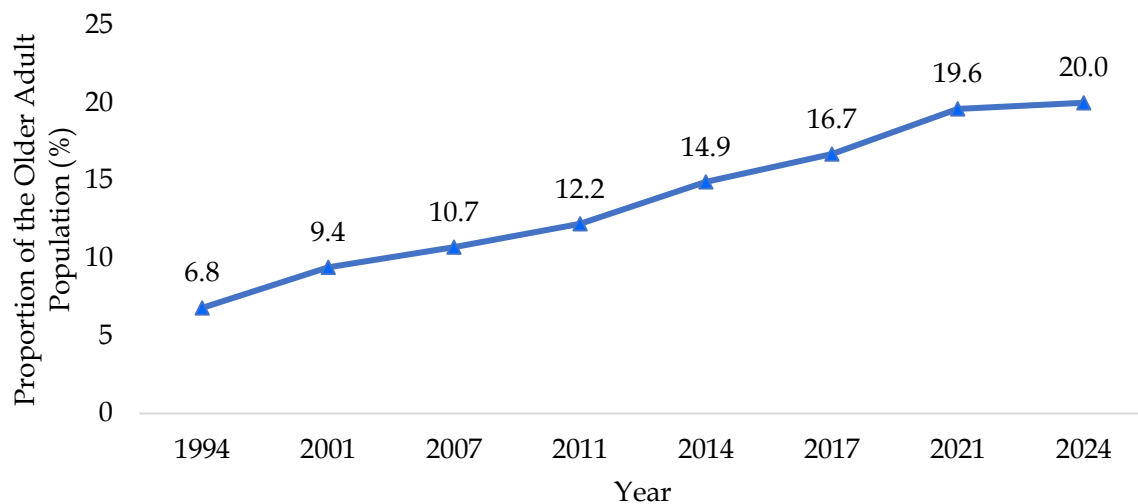
Keywords

Aging; HART; health inequality; older adults; subjective well-being; Thailand; well-being inequality

Introduction

Thailand has been experiencing ongoing shifts in its population structure, characterized by an aging population and a shrinking workforce. According to the National Statistical Office (2024), Thailand has officially entered a fully aged society, in which the proportion of people aged 60 or older exceeds 20% of the total Thai population, as illustrated in Figure 1. This situation has led to growing policy and research concerns, especially regarding the well-being of the aged population.

Figure 1: Proportion of the Older Adult Population in Thailand, 1994–2024



Note: National Statistical Office (2024)

Most empirical studies on older persons in Thailand have focused on objective dimensions of well-being, such as income, wealth, and educational attainment (Anantanasuwong, 2019; Khongboon et al., 2016; Sakunphanit, 2021). However, less attention has been paid to how subjective well-being is distributed across the older adult population and whether substantial inequality exists in how older adults perceive their quality of life and happiness. Objective well-being focuses on measurable societal indicators but overlooks individual perceptions. Subjective well-being, however, is an individual's internal evaluation of their life, integrating cognitive judgments of satisfaction with emotional experiences. This framework suggests that a person's well-being is defined by the frequency of positive versus negative moods, as well as their overall sense of life fulfillment (Diener, 1984; Morales Almeida & Alemán Ramos, 2025). Unlike traditional social indicators, subjective well-being is a uniquely effective measure because it captures the cumulative effect of various life events on a person's overall quality of life.

This perspective has gained increasing international recognition. Burger et al. (2026) argued that subjective well-being should serve as a headline indicator of human progress alongside traditional economic and social indicators, as it captures how people experience their lives and complements objective measures of societal development. Consequently, subjective well-being is increasingly viewed not merely as an individual outcome but as a valuable policy indicator for monitoring population well-being and evaluating public policy. Additionally, subjective well-

being inequality has generally been found to have a stronger negative effect on personal happiness than objective inequality dimensions (Grimes et al., 2023).

Enhancing the well-being and happiness of the Thai people is the ultimate goal of the National Strategy (2018–2037), the nation's first constitutionally mandated long-term plan (National Strategy Secretariat Office, 2018). To achieve the goal, relying solely on economic policy is insufficient to promote older adults' well-being. Subjective well-being in later life increasingly depends on non-financial dimensions such as social connectedness and emotionally meaningful relationships (Barrington-Leigh & Galbraith, 2019). This perspective is consistent with Carstensen et al.'s (1999) Socioemotional Selectivity Theory, which proposed that social factors, specifically emotionally close relationships, are important because the limited temporal horizon of later life makes the immediate emotional profit of a close friend or family member more valuable than the future-oriented profit of acquiring new information or expansive resources. Moreover, the Successful Aging model emphasized three components: the avoidance of disease and disability, the maintenance of high physical and cognitive function, and the active engagement with life (Crowther et al., 2002).

Additionally, the WHO Active Ageing framework defines active aging as the process of optimizing opportunities for health, participation, and security to enhance quality of life as people age (World Health Organization [WHO], 2002). Altogether, health and social factors may become more salient than economic factors in later-life well-being and should be prioritized by policymakers to promote overall well-being. In line with the policy direction, evidence from the 2024 national survey suggests that many older Thais report relatively high levels of happiness, with 57.1% describing themselves as quite happy and 14.3% as the happiest (Department of Older Persons [DOP], 2025). However, this figure presents only an overall picture of reported happiness and does not indicate whether subjective well-being is evenly distributed among older adults.

Although the promotion of older adults' well-being has increasingly gained policy attention, empirical evidence regarding inequality in subjective well-being remains limited. In particular, little is known about the extent of disparities in the older population and the contributions of economic, social, and health factors to these inequalities. Solely focusing on the average level of well-being may therefore be inadequate for capturing the actual situation.

This study aims to examine subjective well-being inequality among older adults in Thailand using data from the Health, Aging, and Retirement in Thailand (HART) survey. With the mean log deviation (MLD) and subgroup decomposition techniques, the study assesses the contribution of demographic, socioeconomic, health, family structure and support, and social participation to overall well-being inequality. The contribution of this study is threefold. First, it provides insight into the degree of subjective well-being inequality among older adults in Thailand. Second, it clarifies how much of this total inequality is explained by differences between groups versus within groups. Third, it identifies which dimensions account for the largest between-group component of subjective well-being inequality. Insights relevant to Thailand's aging population would assist policymakers in designing appropriate interventions to enhance well-being in the near future.

Literature review

The definition of subjective well-being

According to the OECD (2025), subjective well-being is described as good mental states, including the various evaluations, positive and negative, that people make of their lives and the affective reactions to their experiences. However, the conceptualization of subjective well-being is not new. Its theoretical foundations can be traced back to earlier work in the 1980s, when scholars defined subjective well-being as individuals' self-evaluation of their own lives (Diener, 1984). In the 1990s, the concept of subjective well-being was refined into two distinct definitions: hedonic and eudaimonic well-being. The hedonic framework defines well-being through the lens of life satisfaction and a favorable balance of positive over negative emotions (Joshani, 2016), whereas the eudaimonic perspective emphasizes meaning, purpose, and personal growth (Kim & Lee, 2026).

The concepts of subjective well-being, happiness, life satisfaction, and quality of life are somehow closely related but are not identical. Subjective well-being is a broad concept composed of both cognitive judgment and affective evaluation. Life satisfaction, the cognitive component of subjective well-being, refers to an individual's evaluative judgment of life, based on salient information and cultural values or on the gap between aspiration and achievement. Happiness, by contrast, is more closely associated with emotional reactions to events and is also used to refer to both momentary assessments of affect and overall life evaluations (Campbell et al., 1976; Diener, 1984; Stone & Mackie, 2013). As happiness is more susceptible to short-term mood fluctuations, researchers often prefer using life satisfaction for long-term assessment (Lucas et al., 2018; Perron et al., 2021). Additionally, quality of life is conceptually broader than subjective well-being because it integrates both objective environmental conditions, such as access to particular resources, and the subjective appraisal of those conditions (Costanza et al., 2007; Eurofound, 2004; Liu et al., 2023).

The identified terms are occasionally used interchangeably in broader literature. However, subjective well-being is particularly suitable for the present study because it encompasses both the cognitive dimension of life satisfaction and the affective dimension of happiness, thereby providing a more comprehensive assessment of individuals' evaluations of their lives. The European Social Survey ERIC (2015), for example, defines subjective well-being as the average of happiness and life satisfaction when conducting the survey. Furthermore, in empirical research, subjective well-being is often measured using self-reported evaluations of overall life satisfaction or happiness. That is, the assessment of subjective well-being is inherently subjective, as it relies on individuals' reports of happiness and fulfillment, which are shaped by their unique perspectives.

Rather than following a universal checklist of life circumstances, people evaluate their quality of life according to the specific values and standards that matter most to them (Tov et al., 2022). While subjective well-being is significantly correlated with objective metrics such as health and employment status, it also provides critical insights into personal life evaluations. According to the OECD (2025), these subjective assessments are vital, as they often deviate from traditional

indicators of progress in substantively important ways. Furthermore, subjective well-being can serve as a critical indicator of successful aging within a specific country or region (Wang et al., 2023). Based on the foregoing discussion, this study uses subjective well-being as the primary concept throughout the paper. It employs the survey item “Overall quality of life satisfaction (feeling happy)” as a proxy for respondents' overall subjective well-being.

In an aging society, older individuals often experience significant life transitions, including retirement, declining health, and changes in family structure. In this regard, the monitoring of subjective well-being is important for at least two reasons. First, it strengthens the monitoring of significant social developments that objective measures of economic performance may not fully capture. Second, contemporary subjective well-being outcomes, including life satisfaction, positive affect, hope, and meaning and purpose in life, are strongly correlated with later objective outcomes. As such, these measures offer valuable insight into the potential risks and opportunities affecting the future health and financial well-being of the population (OECD, 2025).

Determinants of subjective well-being among older adults

Subjective well-being is increasingly conceptualized as a multidimensional construct. Influenced by Aristotelian thought, key philosophers such as Rawls (1971) and Sen (1985) emphasized that well-being should be assessed across multiple dimensions rather than relying on income as the sole metric. Likewise, Sen (1999) discussed substantive freedoms as multidimensional and interconnected capabilities that expand people's real opportunities to live lives they have reason to value. This multidimensional concept is consistent with the WHO Active Aging framework, which defines active aging as the process of optimizing opportunities for health, participation, and security to enhance quality of life as people age (WHO, 2002). Although the WHO Active Aging framework addresses quality of life in later life, its emphasis on health, participation, and security provides a useful conceptual basis for understanding determinants of subjective well-being among older adults.

A large body of literature has examined the determinants of subjective well-being, broadly classifying them into macro- and micro-level determinants (Sîrbu & Asandului, 2021). The macro-level determinants include variables such as GDP, unemployment, and inflation, which are used to estimate their association with subjective well-being (Marton & Mojsejová, 2022; Stevenson & Wolfers, 2008). Nevertheless, the micro-level determinants of subjective well-being include several individual-level factors, such as socioeconomic status, health, and social relationships (Çiçek & Arlı, 2024; Zhang, 2022). These dimensions are closely aligned with the WHO Active Ageing framework. Accordingly, this study focuses on the micro-level determinants of subjective well-being, as they should help capture the individual and household conditions that directly shape how people experience and evaluate their lives.

Traditionally, research on subjective well-being has focused on demographic factors such as age and gender because they represent fundamental individual characteristics (Wen et al., 2025). While certain research suggested that demographic factors are not associated with subjective well-being, some studies suggested otherwise. Biemann et al. (2022), for instance, found that subjective well-being in Germany follows a wave-like life-course pattern rather than a simple U-shaped relationship. The area of residence is also related to subjective well-being. Panori et al.

(2025) proposed that regional conditions, particularly economic decline, deindustrialization, poor accessibility, and high poverty, are associated with individuals' subjective well-being, particularly life satisfaction, after accounting for both individual and regional factors using multilevel analysis.

Socioeconomic status is a key determinant of subjective well-being. Previous studies typically focus on income, wealth, education, and occupation as their main dimensions. Fors Connolly and Lindh (2025) found that higher household income and occupational status were positively associated with subjective well-being. Likewise, Sirbu and Asandului (2021) examined the main determinants of subjective well-being of Romanian older adults and found that higher education and income were associated with greater life satisfaction. These findings provide further empirical support for the theories by Easterlin (2005) and Ng and Diener (2014) regarding the impact of absolute and relative income on personal fulfillment.

Health also matters for subjective well-being in old age. Good health fosters independence and self-reliance, while maintaining the ability to handle daily tasks and remain mobile allows older adults to feel less anxious about becoming a perceived burden to their family members or caregivers (Huaisai et al., 2025). Thus, older individuals with better health can be expected to have higher levels of subjective well-being than those with deteriorating health.

Next is family support, which serves as a primary source of emotional, social, and economic security, buffering against stress and being a critical factor affecting subjective well-being. Patterson and Margolis (2023) showed that family ties in later life should be understood not only in structural terms, such as having a partner or children, but also in terms of proximity and social connectedness to kin. They found that kinless and disconnected older adults reported poorer mental health and lower social activity than those who were closely connected to family, whereas geographic distance alone was not consistently associated with disadvantage.

These findings suggest that the association between family structure and well-being depends importantly on the strength and quality of family connections. In addition, Katz (2009) supports the importance of family support in the same direction, suggesting that intergenerational family relations are associated with subjective well-being, particularly its emotional dimensions. Positive relational aspects, such as affectual and consensual solidarity and the provision of support, were positively linked to life satisfaction and positive affect, whereas conflict was associated with negative affect. However, structural-behavioral aspects such as proximity, association, and help received showed inconsistent or non-significant effects.

Finally, the study concerning the impact of social participation and engagement on the subjective well-being among older adults can be traced back to the work of Okun et al. (1984), who examined the relationship between social activities and subjective well-being and determined that the quality and quantity of social activity participation are important factors for enhancing the psychological function of the older adults after retirement. Following Okun et al., subsequent studies have increasingly highlighted the essential role of social interaction in the subjective well-being of older adults. Zhang and Zhang (2015), for instance, found that older adults who participated more frequently in social activities, particularly those who took on active roles or engaged with their former employers through festival celebrations, meetings, and recreational

events, reported higher subjective well-being. This correlation remained significant even after controlling for physical health, income, and other sociodemographic variables.

Inequality in subjective well-being and its measurement

While a significant volume of scholarly literature has centered on income-based inequality, only limited attention has been paid to studying inequality in subjective well-being (Ingram, 2021). Focusing only on average levels of subjective well-being can obscure important disparities among older adults. Although two groups of older adults might have the same mean level of subjective well-being, the distributions within each group may differ. While life satisfaction scores in one group exhibit high variability, ranging from very high to very low, another group may show a more homogeneous distribution. Despite these differences in distribution, the mean level of life satisfaction remains identical across both groups. Therefore, analyzing the distribution and inequality of subjective well-being is essential for a more comprehensive understanding of societal well-being.

Empirical studies across various countries have documented inequality in subjective well-being. For example, Goff et al. (2018) found that dispersion of subjective well-being, typically measured as the standard deviation of life satisfaction scores, constituted a more comprehensive indicator of inequality. Using large cross-country datasets, the researchers showed that inequality in subjective well-being was strongly and negatively associated with average life satisfaction and was more closely related to social trust than conventional income inequality measures. Importantly, when both measures were included simultaneously, the explanatory power of income inequality diminished, suggesting that subjective well-being dispersion captured broader aspects of welfare inequality that income-based metrics overlooked.

To analyze inequality in subjective well-being, researchers commonly use summary measures such as the Gini coefficient or variance-based indicators (Goff et al., 2018; Quick & Devlin, 2018). While these measures provide useful information about the overall level of inequality, they do not reveal how inequality is structured across different population groups.

To address this limitation, the Generalized Entropy (GE) class of inequality measures, including the MLD, offers a useful framework. The MLD is particularly advantageous because of its fully decomposable property, which allows total inequality to be expressed as the sum of between-group and within-group components (Bonacini et al., 2026; Shorrocks, 1984). This property makes MLD particularly well-suited to examining how different dimensions, such as income, health status, and family structure, contribute to overall inequality. By grouping individuals according to these dimensions, it is possible to quantify how much of total inequality is attributable to differences between groups and how much remains within groups.

However, applying conventional inequality measures, such as MLD, to subjective well-being raises a methodological concern. Specifically, it questions whether self-reported well-being scores should be treated as ordinal or cardinal data. Although ordinal scales do not strictly satisfy cardinal assumptions, much empirical research suggests that treating subjective well-being data as either cardinal or ordinal yields similar results when estimating its determinants, particularly when data are collected via numeric rating scores (Ferrer-i-Carbonell & Frijters, 2004; Frey &

Stutzer, 2000; Giusta et al., 2011; Stevenson & Wolfers, 2008). Therefore, many studies continue to use such inequality measures and decomposition techniques that require cardinal representations of subjective well-being data.

Research gap

While existing literature has extensively explored the drivers of subjective well-being, the specific distribution of well-being among older adults and the structural factors underpinning this inequality remain under-investigated. In the Thai context, there is a notable gap in empirical research on well-being disparities, particularly studies that use nationally representative datasets. Furthermore, current literature rarely employs the decomposable inequality technique to examine the relative contribution of different dimensions, such as economic status, health, family structure, and location. Hence, this study aims to bridge these gaps by examining subjective well-being inequality among Thai older adults using MLD and a multidimensional subgroup decomposition framework.

Methodology

This study uses a quantitative cross-sectional design to examine inequality in subjective well-being among older adults in Thailand. Unlike the conventional approach that focuses on average well-being, this study emphasizes the distributional dimension, with particular attention to the extent and structure of inequality among individuals.

The empirical strategy consists of two main components. First, the study measures the degree of inequality in subjective well-being using MLD. Second, it applies a multidimensional subgroup decomposition approach to identify how total inequality is distributed between and within groups defined by key characteristics to understand which factors are important in shaping inequality in subjective well-being.

Conceptual framework

To investigate the degree of inequality in the subjective well-being of older adults in Thailand, the MLD is used as the primary measure, as defined by Kapera and Kobus (2024).

$$MLD(y) = \sum_{i=1}^N \frac{1}{N} \ln \frac{\bar{y}}{y_i} \quad (1)$$

where y_i denotes the subjective well-being of an individual i , $\bar{y}$ is the sample mean of the subjective well-being, and N represents the total number of observations.

The MLD is appropriate for this study for a number of reasons. First, it is most sensitive to the lower-tail variables of the distribution, making it well-suited to studying inequality. Next, it is additively separable and can be used to decompose total inequality into inequality within and between subgroups (Ferreira & Litchfield, 1998; Parker, 1999; Wędrowska & Muszyńska, 2022;

Weigert & Klemm, 2015). Within-group inequality captures the variation in subjective well-being among individuals within the same groups, whereas between-group inequality captures the variation in subjective well-being across groups. Both are represented by the following equations, respectively.

$$MLD(y) = MLD_W(y) + MLD_B(y) \quad (2)$$

$$MLD_W(y) = \sum_{j=1}^J p_j MLD_j \quad (3)$$

$$MLD_B(y) = \sum_{j=1}^J p_j \ln \frac{\bar{y}}{y_j} \quad (4)$$

where j represents each subgroup, p_j is the proportion of the population in each subgroup j , MLD_j denotes the inequality within group j , $\bar{y}_j$ is the sample mean of the subjective well-being in subgroup j . Furthermore, to assess the relative importance of different dimensions, the study compares the share of between-group inequality across subgroup variables.

$$Share_B = \frac{MLD_B(y)}{MLD(y)} \times 100 \quad (5)$$

Data

The secondary data for this study are drawn from the 2022 wave of the Health, Aging, and Retirement in Thailand (HART) survey, which includes a nationally representative sample of individuals aged 45 years and above. The HART data is sponsored by the Fundamental Fund, Thailand Science Research and Innovation (TSRI), and is conducted by the National Institute of Development Administration (NIDA) (2015). The HART provides detailed information on demographic characteristics, socioeconomic conditions, health status, family structure, and social activities, making it well-suited for analyzing older adults' well-being. Despite the longitudinal nature of the data source, this study utilizes a single wave to examine the cross-sectional structure of subjective well-being inequality in the most recent period rather than changes over time.

To evaluate inequality in subjective well-being among older adults in Thailand, this study was restricted to respondents aged 60 years and above. The dependent variable in this study is subjective well-being, as proxied by the survey item "Overall quality of life satisfaction (feeling happy)." The variable is measured on an ordinal scale from 0 to 10, where 0 indicates the lowest level of overall life satisfaction, and 10 indicates the highest. Following previous studies, the measure is treated as approximately cardinal for measuring and decomposing inequality. Nevertheless, the results should be interpreted with caution, given the ordinal nature of the underlying scale.

For the factors that contribute to subjective well-being inequality, based on the availability of data, the demographic characteristics, socioeconomic status, health status, family structure and support, and social participation are used for the decomposition analysis. While these categories do not directly replicate the WHO classification, they conceptually reflect the three pillars of the WHO Active Ageing framework and the multidimensional nature of subjective well-being. The demographic characteristics used in this study include age group, gender, province, and region. Following the definition by the National Statistical Office (2024), age groups are categorized into three groups: young old (60–69 years), old (70–79 years), and very old (80 years or above). Gender

is classified as male or female. The province in this survey comprises thirteen jurisdictions, including Bangkok, Samut Prakan, Nonthaburi, Pathum Thani, Sing Buri, Chanthaburi, Surin, Khon Kaen, Chiang Mai, Uttaradit, Phetchabun, Krabi, and Songkhla. These are distributed among six regions: Bangkok and its vicinity, Central, East, Northeast, North, and South.

Regarding socioeconomic status, net wealth, annual personal income, and educational level are selected to capture distinct aspects of economic and social status in later life. Net wealth is the monetary value of the assets owned by an individual after subtracting the total value of his liabilities. Annual personal income is calculated from all personal revenue streams, including employment earnings, government benefits, investment returns, rental income, and one-time receipts like inheritances or gifts. For this study, net wealth and annual personal income will be categorized into quartiles for the decomposition. Likewise, educational level is categorized into four levels: basic education, secondary or vocational education, diploma, and higher education.

The health status variable consists of respondents' self-assessment scores on a continuous scale from 1 to 10, divided into separate physical and mental health assessments. Furthermore, family structure and support are defined by two main components: household composition and financial assistance from children. Family structure is categorized into living alone, single-family, extended family, or living with non-relatives. Financial support is classified based on whether the respondent received assistance, did not receive assistance, or remains undecided.

Lastly, social participation comprises two main components. The first is social activity membership, indicating whether the respondent belongs to at least one social organization. The second is the frequency of social activity, which is categorized on a scale from daily to never. The summary of the variables used for the decomposition analysis is shown in Table 1.

Table 1: Decomposition Variables and Conceptual Linkage to Active Aging Dimension

Dimension	Variable	Conceptual Linkage
Demographic characteristic	Age, Gender, Province, Region	Individual characteristics commonly associated with ageing outcomes
Socioeconomic status	Net wealth, Income, Education	Security
Health status	Physical Health Score, Mental Health Score	Health
Family structure and support	Family structure, Financial support from children	Participation-related social support
Social participation	Social activity membership, Social activity frequency	Participation

Note: The categories are empirically defined for the decomposition analysis and are conceptually linked, rather than directly equivalent, to the dimensions emphasized in the WHO Active Ageing framework.

Results

Summary of descriptive statistics

The descriptive statistics of the aforementioned variables are displayed in Table 2. The observations include 3,607 older adults with a very high average subjective well-being score of 8.08. The average age of the observations was 72.47 years, and more than half of these were female. The observations were distributed across thirteen provinces, with the largest provincial shares being Chiang Mai (11.95%), Phetchabun (11.51%), Khon Kaen (10.56%), and Songkhla (10.56%). By region, the distribution was relatively balanced with the highest representation from the North (19.55%), followed by Central (19.21%), Bangkok and its vicinities (18.57%), South (17.74%), Northeast (17.19%), and East (7.73%).

Among respondents with available financial data, the average net wealth was 2.20 million THB, with a wide range from -17.96 million to 102.40 million THB. Mean income was 66,791.69 THB, ranging from 0 to 20.09 million THB. Furthermore, most observations had completed diploma-level education (45.24%), followed by higher education (34.74%), secondary or vocational education (19.78%), and basic education (0.24%). The average self-rated health scores were very high, with physical health at 7.18 and mental health at 7.80.

Regarding family structure, most respondents lived in single-family households (56.78%), followed by extended-family households (28.89%), living alone (12.42%), and living with non-relatives (1.91%). Also, most reported receiving financial support from children (84.34%). However, social participation appeared limited: only 40.06% were members of at least one organization, while 59.94% were not. Additionally, more than half reported no participation in social activities for over a year (54.66%), and another 23.85% had never participated.

Table 2: Descriptive Statistics of the Variables Used in the Studies ($N = 3,607$)

Variable	Value
Subjective Well-being Score, mean	8.08
Demographic	
Age, mean	72.47
Female, n (%)	2,227 (61.74%)
Province ($N = 3,670$), n (%)	
- Bangkok	351 (9.73%)
- Samut Prakan	109 (3.02%)
- Nonthaburi	136 (3.77%)
- Pathum Thani	74 (2.05%)
- Sing Buri	278 (7.71%)
- Chanthaburi	279 (7.73%)
- Surin	239 (6.63%)
- Khon Kaen	381 (10.56%)
- Chiang Mai	431 (11.95%)
- Uttaradit	274 (7.6%)
- Phetchabun	415 (11.51%)
- Krabi	259 (7.18%)
- Songkhla	381 (10.56%)
Region ($N = 3,670$), n (%)	

Variable	Value
- Bangkok and Its Vicinities	670 (18.57%)
- Central	693 (19.21%)
- East	279 (7.73%)
- Northeast	620 (17.19%)
- North	705 (19.55%)
- South	640 (17.74%)
Socioeconomic Status	
Net wealth ($n = 1,569$), mean, min-max	2,198,468.18, -17,960,000.00–102,400,000.00
Income ($n = 3,607$), mean, min-max	66,791.69, 0–20,088,800.00
Education ($N = 1,658$), n (%)	
- Basic Education	4 (0.24%)
- Secondary Education or Vocational	328 (19.78%)
- Diploma	750 (45.24%)
- Higher Education	576 (34.74%)
Health Status	
Physical Health Score, mean	7.18
Mental Health Score, mean	7.80
Family Structure and Support	
Family Structure ($N = 3,607$), n (%)	
- Living Alone	448 (12.42%)
- Single Family	2,048 (56.78%)
- Extended Family	1,042 (28.89%)
- Living with Non-relatives	69 (1.91%)
Financial Support from Children ($N = 3,237$), n (%)	
- Received assistance	2,730 (84.34%)
- Did not receive assistance	296 (9.14%)
- Undecided / Have not thought about it	211 (6.52%)
Social Participation	
Social Activity Membership ($N = 2,524$), n (%)	
- Member of at least one Organization	1,011 (40.06%)
- Not a member	1,513 (59.94%)
Social Activity Frequency ($N = 2,717$), n (%)	
- Daily	95 (3.5%)
- 2-3 times a week	43 (1.58%)
- Once a week	63 (2.32%)
- 1-2 times a month	184 (6.77%)
- Every 2 months	30 (1.1%)
- Every 3-4 months	23 (0.85%)
- 1-2 times a year	146 (5.37%)
- No participation for over a year	1,485 (54.66%)
- Never Participated	648 (23.85%)

Note: 33.4 THB $\approx$ 1 USD

Nevertheless, it should be noticed that some variables, particularly those related to net wealth and education, contain a substantial proportion of missing or blank responses. As a result, the effective sample size varies across dimensions. Observations with insufficient information were excluded from the corresponding subgroup decomposition, reducing the analytical sample for these dimensions, most notably net wealth and education. Therefore, the decomposition results based on these variables should be interpreted with caution as they are calculated from substantially smaller samples than those used for other subgroup dimensions, which may make them less representative and more sensitive to sample fluctuations.

Subjective well-being inequality

The overall level of subjective well-being inequality among older adults in Thailand is relatively low, as indicated by an MLD of 0.0199 (Table 3). This number reflects the limited disparity in subjective well-being among older adults, consistent with previous findings suggesting that countries with high mean subjective well-being scores typically exhibit a substantially lower disparity in subjective well-being (Goff et al., 2018).

Table 3: Overall Inequality in Subjective Well-being and Its Decomposition Across Various Dimensions

Grouping Variable	N	Total MLD	Within-Group (% Share)	Between-Group (% Share)	95% Bootstrap CI for Between-Group Shares
Overall	3,607	0.0199	-	-	-
Demographic Characteristic					
Age Group	3,607	0.0199	0.0198 (99.63%)	0.0001 (0.37%)	0.12–0.83%
Gender	3,607	0.0199	0.0198 (99.87%)	0.0000 (0.13%)	0.00–0.42%
Province	3,607	0.0199	0.0182 (91.62%)	0.0017 (8.38%)	6.89–10.63%
Region	3,607	0.0199	0.0192 (96.5%)	0.0007 (3.5%)	2.63–4.67%
Socioeconomic Status					
Net Wealth Quartile	1,569	0.0177	0.0172 (97.03%)	0.0005 (2.97%)	1.79–4.85%
Income Quartile	3,607	0.0199	0.0197 (99.25%)	0.0001 (0.75%)	0.37–1.42%
Education	1,658	0.0158	0.0155 (98.3%)	0.0003 (1.7%)	0.25–5.49%
Health Status					
Physical health score	3,607	0.0199	0.0161 (81.27%)	0.0037 18.73%	16.34–22.43%
Mental health score	3,607	0.0199	0.0152 (76.53%)	0.0047 23.47%	20.57–27.65%
Family Structure and Support					
Family Structure	3,607	0.0199	0.0197 (99.07%)	0.0002 (0.93%)	0.84–1.03%
Financial Support from Children	3,237	0.0193	0.0192 (99.67%)	0.0001 (0.33%)	0.07–0.94%
Social Participation					
Social Activity Membership	2,524	0.0202	0.0195 (96.45%)	0.0007 (3.55%)	2.33–5.00%
Social Activity Frequency	2,717	0.0211	0.0204 (96.56%)	0.0007 (3.44%)	2.58–4.88%

Note: Bootstrap confidence intervals are reported for between-group shares, which constitute the primary focus of the decomposition analysis.

The decomposition results demonstrate robustness, as indicated by the bootstrap confidence intervals. Although the magnitude of the between-group shares varies across variables, the estimated contributions remain statistically reliable, as evidenced by the bounded confidence intervals and their moderate width. At the variable level, the results indicate that demographic factors, such as age and gender, account for less than 1% of total inequality, whereas geographic factors account for a larger share of between-group inequality in subjective well-being. Provincial differences account for approximately 8.38% of total inequality, compared to a smaller but meaningful 3.5% attributable to regional variation, indicating that residential location is a significant contributor to well-being inequality, consistent with the literature (Lambiri et al., 2007; Zhang & Li, 2022).

One possible explanation is that the place of living may capture both micro-level place qualities, such as public spaces, community interaction, and sense of place, and macro-level regional disadvantages, such as economic decline, limited accessibility, and poverty (Ng et al., 2022; Panori et al., 2025). In the Thai context, therefore, a high share of between-group inequality associated with place of residence can be interpreted as reflecting unequal geographic exposure to environmental, social, infrastructural, and economic conditions that shape subjective well-being. As for the socioeconomic dimension, most variables, namely income and education, show small between-group inequality, with contributions not exceeding 2%. Among them, net wealth accounts for the largest share in this dimension, although its contribution remains modest at nearly 3%.

By contrast, a different pattern emerges for the health dimension. For both physical and mental health scores, the between-group inequality accounts for a substantial share of total inequality, ranging from 18.73% to 23.47%, the highest among all variables examined in this study. The substantial contribution of health status to subjective well-being inequality might be explained by the view that health is among the most important goals in life. From a hedonic perspective, poor health is often associated with physical discomfort, pain, anxiety, fatigue, and functional limitations, whereas good health is associated with positive affect, autonomy, mobility, and the ability to enjoy daily life. Therefore, improvements in health are associated with higher subjective well-being because they reduce pain and increase pleasurable experiences (Mathentamo et al., 2024), and health differences across groups translate strongly into differences in subjective well-being.

When considering family structure and support dimension, the share of between-group inequality shows a pattern similar to that observed for other variables across dimensions, with a share of less than 1%. Turning to the final dimension, membership in social activities and the frequency of social activity contribute approximately 3.5% to total inequality. Monteiro et al. (2025) suggested that individuals with greater participation in social activities tend to experience more positive psychological outcomes, which may reflect less deterioration in well-being in later life. Meaningful social involvement provides the companionship necessary for a fulfilling life. By feeling connected and valued within a group, individuals can better accept themselves.

Additionally, these social ties reinforce one's identity and provide a sense of control and meaning (Adams et al., 2011; Berkman et al., 2000; Thoits, 2011). In sum, subgroup decomposition across multiple dimensions reveals a consistent pattern. While most inequality in subjective well-being

is concentrated within groups, it is structured more by health status, geographical factors, and social participation than by other factors.

Discussion

The dominance of within-group inequality suggests that even individuals with similar socioeconomic status, educational backgrounds, or living arrangements may experience different degrees of subjective well-being, highlighting the multifaceted nature of later life. Among the dimensions examined separately, health status, area of residence, and social participation exhibited the largest between-group shares, with health status showing the highest contribution, with mental health exhibiting a larger between-group share than physical health. This may be because self-rated health reflects not only physical or mental conditions but also functional ability, mobility, and overall perception of individuals' health status.

Furthermore, achieving good health in old age is a key global goal set by the WHO and a central priority for most nations (Plácido et al., 2022). Thus, maintaining regular exercise and physical activity is essential for older adults, as it supports both physical and mental well-being. However, it should be noted that there may be a bidirectional relationship between subjective well-being and health, which is beyond the scope of this study. Better perceived health status is associated with higher subjective well-being, while higher subjective well-being is also associated with better health outcomes (Mathentamo et al., 2024). The area where individuals live is also linked to their subjective well-being, making it a notable contributor to overall inequality. This finding is consistent with existing research in Thailand, which shows significant geographic variation in active aging and geographic clustering of health vulnerability, particularly in socioeconomically disadvantaged regions (Keanjoom et al., 2024; Treesak & Saita, 2026). In addition, Padeiro et al. (2022) suggested that differences in physical environment, such as walkable streets, accessible amenities, and stronger social networks, across residential areas may help explain disparities in well-being. Thus, residential location may capture important contextual differences that are associated with well-being in later life. Another important dimension is social participation. Qing et al. (2024) demonstrated that higher levels of social participation are associated with reduced anxiety and greater subjective well-being. According to social identity theory, participation in social groups may be associated with a stronger sense of group identity. Such identity is commonly linked to mental health, health-related behaviors, and access to social support networks, which in turn are associated with older adults' subjective well-being.

Another noteworthy finding is that socioeconomic factors, which consist of net wealth, income, and education, contribute relatively little to the between-group share of overall inequality, suggesting that disparities in well-being may be driven more by non-economic factors than by socioeconomic characteristics alone. The relatively small between-group shares associated with income, education, and asset-based wealth suggest that conventional socioeconomic categories do not fully account for inequality in subjective well-being among older adults. Based on Socioemotional Selectivity Theory, older adults increasingly prioritize emotional motivation as their primary life goal over intellectual motivation due to the finite nature of their remaining lives. Consequently, differences in income and other socioeconomic resources may play a less prominent role in shaping subjective well-being. Feng et al. (2024) found that the onset of

pandemic infectious diseases makes older adults more concerned about their own health and less about income, weakening the relationship between income and subjective well-being. Nevertheless, it should be noted that observations on net wealth and education are drastically reduced due to missing data; the contributions of the examined variables to inequality may be underestimated. Although selection bias cannot be completely ruled out and the decomposition results may not be fully generalizable to the broader older adult population, the bootstrap procedure produced reasonable 95% confidence intervals, indicating satisfactory statistical stability of the estimates.

The above findings are consistent with previous studies. For instance, Clark et al. (2018) underscored that human well-being in the United Kingdom, the United States, Germany, and Australia is primarily dictated by internal factors, such as mental health, and external social connections, rather than income, which only accounts for 1% of the variance in personal well-being once basic needs are met. Compared with the broader Asian context, where countries as a whole are experiencing population aging despite variation in the timing and pace of demographic change across countries (Lee & Park, 2024), the findings of this study are consistent with previous research in China, South Korea, and Japan. That is, health indicators, place of residence, and social interaction are commonly identified as important determinants of older adults' well-being. At the same time, evidence regarding socioeconomic factors, family structure, and intergenerational support remains mixed (Chu et al., 2023; İmrohoroglu & Yu, 2024; Wu et al., 2024).

Altogether, the results provide a more nuanced understanding of subjective well-being inequality in later life in the Thai context and suggest that policies aimed at improving older adults' well-being should move beyond income-based support alone. Greater attention from policymakers should be directed toward health-related vulnerability, local contextual differences, and opportunities for social engagement among older adults. This aligns with Clark et al. (2018), who suggested, from an international perspective, that policy frameworks should shift their focus from purely economic indicators, such as income status and employment rates, toward systemic health interventions, with particular emphasis on mental health. However, the findings should be interpreted with caution. While the decomposition identifies the dimensions most strongly associated with subjective well-being inequality, it does not reveal the mechanisms through which these disparities arise. The results should therefore be interpreted as relative contribution patterns of inequality structure rather than evidence of specific causal pathways.

Policy implications

To translate the aforementioned findings and discussion into policy implications, the focus should shift from a narrow economic perspective toward a broader, multidimensional approach to well-being policy in an aging society. In the Thai context, Thailand's Phase 3 Action Plan for Older Persons (2023–2037) already covers several policy elements that are consistent with the findings of this study, including health promotion, preventive care, long-term care, community-based support, age-friendly communities, local implementation, and social participation. The plan emphasizes health literacy, annual health check-ups, chronic disease screening, integrated health services, and care systems for dependent older adults, while also recognizing the importance of local context and community participation (DOP, 2023). However, these policy

components are not explicitly framed or measured in terms of reducing subjective well-being inequality among older adults. Therefore, future policy development should more clearly link existing health, care, geographic, and social participation measures to measurable well-being outcomes.

First, policies aimed at reducing subjective well-being inequality should prioritize reducing disparities in health and functional ability, rather than focusing exclusively on monetary support. Although Thailand's plan already incorporates health and care dimensions, including health literacy, disease screening, seamless healthcare services, and support for dependent older adults, its indicators remain largely focused on service access and care coverage rather than inequalities in functional ability or subjective well-being. This could be strengthened by integrating routine measures of functional capacity, mental well-being, loneliness, and life satisfaction into older adult care monitoring systems. This recommendation is consistent with the WHO Integrated Care for Older People framework, which emphasizes maintaining intrinsic capacity and functional ability as central goals of healthy aging rather than focusing only on disease treatment (WHO, 2024).

Second, the importance of geographic variation highlights the need for a more explicit place-based policy approach. Thailand's plan already states that proactive health systems should respond to the needs of different groups of older adults and be appropriate to local contexts. However, future implementation could go further by using area-level evidence on subjective well-being, health limitations, functional decline, service availability, and social participation to identify high-risk localities and tailor interventions accordingly. In this sense, place-based policy should not only mean decentralizing implementation, but also using local data to target resources where subjective well-being inequality is greatest.

Third, the role of social participation suggests that policy should continue to promote community engagement and social inclusion among older adults. Thailand's plan already recognizes participation, community support, and social environments as part of its aging policy, including the roles of family, community, local government, and other sectors in supporting older persons. Nevertheless, these components could be more explicitly linked to subjective well-being outcomes. For example, the United Kingdom's social prescribing model connects individuals to community activities, groups, and non-clinical services to address practical, social, and emotional needs affecting health and well-being (NHS England, 2020).

Similarly, Singapore's Action Plan for Successful Ageing adopts a whole-of-nation approach that integrates health, social participation, community initiatives, infrastructure, and technology to support aging well (Ministry of Health, 2023). These examples suggest that Thailand's existing community-based and social participation measures could be strengthened by explicitly positioning social inclusion as a mechanism for reducing subjective well-being inequality.

Overall, the findings from this study highlight the need to shift from a narrow economic perspective toward a broader, multidimensional approach to well-being policy in an aging society. The policy implication is not that Thailand lacks the policy direction, but that it should be made more explicit, measurable, and outcome-oriented. Future aging policy should therefore move from a broad quality-of-life framework toward a clearer inequality-reduction framework

that connects health disparities, functional ability, geographic variation, and social participation with subjective well-being outcomes among older adults.

Limitations and future research

Three primary limitations in this study should be acknowledged. First and foremost, cross-sectional survey data yield findings that reflect descriptive associations rather than causal relationships. Furthermore, subjective well-being is measured using an ordinal self-reported scale, although the analysis treats the measure as approximately cardinal for decomposition purposes.

Finally, some socioeconomic variables, particularly asset- and education- related measures, contain substantial missing or blank responses, resulting in reduced sample sizes for certain subgroup decompositions. Consequently, selection bias cannot be entirely ruled out, and the corresponding decomposition results may not fully represent the broader population of older adults. Although the bootstrap analysis shows reasonably 95% confidence intervals, the contributions of these variables to inequality might remain underestimated due to the aforementioned selection issues.

To understand the evolution of subjective well-being inequality among Thai older adults over time, future research may apply longitudinal analysis using the multiple waves of the HART survey. In addition, further studies may also explore the underlying causal mechanisms shaping well-being among older adults.

Conclusion

This study examines the structure of subjective well-being inequality among older adults in Thailand using MLD decomposition across multiple dimensions. The findings indicate that overall inequality in subjective well-being is relatively low, consistent with the bounded nature of subjective well-being measures. Most inequality is concentrated within rather than between groups, suggesting substantial heterogeneity among older adults and reflecting the multidimensional nature of subjective well-being in later life. Furthermore, health status, geographic context, and social participation play more prominent roles in the observed inequality than socioeconomic factors. Consequently, policies aimed at reducing well-being inequality should complement population-wide interventions with more targeted interventions that connect health disparities, geographic variation, and social participation to subjective well-being outcomes among older adults.

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