

ปัจจัยที่มีความสัมพันธ์กับความสุขและการเตรียมความพร้อมเข้าสู่วัยสูงอายุ
ของบุคคลที่มีความหลากหลายทางเพศในชุมชนชนบท
Factors Associated with Happiness and Aging Preparation
among LGBTQ+ Individuals in Rural Communities

เดชภณ ทองเดิม¹ และ จีรนันท์ แก้วมา^{2*}

Tachapon Tongterm¹ and Jeeranan Kaewma^{2*}

¹คณะศิลปศาสตร์และวิทยาศาสตร์ มหาวิทยาลัยราชภัฏศรีสะเกษ จังหวัดศรีสะเกษ

²คณะพลศึกษา มหาวิทยาลัยศรีนครินทรวิโรฒ จังหวัดนครนายก

¹Faculty of Liberal Arts and Science, Sisaket Rajabhat University, Sisaket Province

²Faculty of Physical Education, Sports and Health, Srinakharinwirot University, Nakhon nayok Province

*Corresponding Author: jeerananka@g.swu.ac.th

Received: April 9, 2026

Revised: May 29, 2026

Accepted: June 11, 2026

บทคัดย่อ

การเข้าสู่สังคมสูงวัยของกลุ่มบุคคลที่มีความหลากหลายทางเพศ (LGBTQ+) ในชุมชนชนบทเป็นประเด็นที่ได้รับความสนใจเพิ่มขึ้น แต่หลักฐานเชิงประจักษ์เกี่ยวกับปัจจัยที่เกี่ยวข้องกับความสุขและการเตรียมความพร้อมเข้าสู่วัยสูงอายุยังมีอยู่อย่างจำกัด การวิจัยเชิงวิเคราะห์แบบภาคตัดขวางนี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่มีความสัมพันธ์กับความสุขและการเตรียมความพร้อมเข้าสู่วัยสูงอายุของบุคคลที่มีความหลากหลายทางเพศในชุมชนชนบท กลุ่มตัวอย่างคือบุคคลที่มีความหลากหลายทางเพศอายุ 40 ปีขึ้นไปที่อาศัยอยู่ในพื้นที่ชนบทของจังหวัดศรีสะเกษ จำนวน 220 คน ซึ่งได้มาจากการเลือกกลุ่มตัวอย่างแบบลูกโซ่ผ่านเครือข่ายสังคมบนฐานของความไว้วางใจ เก็บรวบรวมข้อมูลด้วยแบบสอบถามชนิดตอบด้วยตนเองที่ผ่านการตรวจสอบคุณภาพด้านความตรงเชิงเนื้อหา (IOC = 0.88) และความเชื่อมั่น (Cronbach's alpha = 0.87) วิเคราะห์ข้อมูลด้วยสถิติเชิงพรรณนา สัมประสิทธิ์สหสัมพันธ์ของเพียร์สัน และการวิเคราะห์การถดถอยพหุคูณแบบขั้นตอนย้อนกลับ ผลการศึกษาพบว่า การสนับสนุนจากครอบครัวเป็นปัจจัยเดียวที่มีความสัมพันธ์กับความสุขอย่างมีนัยสำคัญทางสถิติ ($\beta = 0.376, p < 0.001$) โดยอธิบายความแปรปรวนได้ร้อยละ 14.2 ($R^2 = 0.142$) ขณะที่ความสัมพันธ์ทางสังคมเป็นปัจจัยเดียวที่สัมพันธ์กับการเตรียมความพร้อมเข้าสู่วัยสูงอายุอย่างมีนัยสำคัญทางสถิติ ($\beta = 0.168, p = 0.012$) โดยอธิบายความแปรปรวนได้ร้อยละ 2.8 ($R^2 = 0.028$) ข้อค้นพบสะท้อนให้เห็นว่า ภายใตบริบทชนบทที่มีข้อจำกัดด้านระบบสวัสดิการและการสนับสนุนเชิงโครงสร้าง การยอมรับจากครอบครัวและความสัมพันธ์ทางสังคมอาจทำหน้าที่เป็นทรัพยากรทางจิตสังคมที่สำคัญต่อความมั่นคงทางอารมณ์และความพร้อมในชีวิตช่วงสูงวัยของกลุ่ม LGBTQ+ อีกทั้งผลการศึกษานี้สามารถใช้เป็นข้อมูลเชิงประจักษ์สำหรับการพัฒนากระบวนการสุศึกษา การส่งเสริมสุขภาพชุมชน และการออกแบบสภาพแวดล้อมทางสังคมที่เอื้อต่อการสูงวัยอย่างมีคุณภาพในชุมชนชนบทของไทยในอนาคตได้

คำสำคัญ: ความสุข, การเตรียมความพร้อมเข้าสู่วัยสูงอายุ, ความหลากหลายทางเพศ, สุขภาวะทางจิตสังคม, การส่งเสริมสุขภาพชุมชน

Abstract

The transition toward an aging society among LGBTQ+ individuals in rural communities has received increasing attention; however, empirical evidence regarding psychosocial factors related to happiness and later-life readiness remains limited. This cross-sectional analytical study aimed to investigate factors associated with happiness and aging preparation among LGBTQ+ individuals in rural communities. The participants comprised 220 LGBTQ+ individuals aged 40 years and older residing in rural communities of Sisaket Province, Thailand. Participants were recruited via snowball sampling through trust-based social

networks. Data were collected using a self-administered questionnaire that demonstrated acceptable content validity (IOC = 0.88) and reliability (Cronbach's alpha = 0.87). Data were analyzed using descriptive statistics, Pearson's product-moment correlation coefficient, and backward stepwise multiple regression analysis. The findings revealed that family support was the only factor significantly associated with happiness ($\beta = 0.376$, $p < 0.001$), accounting for 14.2% of the variance ($R^2 = 0.142$). By contrast, social relationships were the only factor significantly associated with aging preparation ($\beta = 0.168$, $p = 0.012$), explaining 2.8% of the variance ($R^2 = 0.028$). The findings suggest that within rural contexts characterized by limited welfare systems and structural support, family acceptance and social relationships may function as important psychosocial resources supporting emotional security and later-life readiness among LGBTQ+ individuals. Furthermore, the findings may provide empirical evidence for the development of health education processes, community health promotion, and socially supportive environments that facilitate quality aging among LGBTQ+ populations in rural Thai communities.

Keywords: Happiness, Aging preparation, LGBTQ+, Psychosocial well-being, Community health promotion

1. Introduction

Over the past decade, gender diversity and the human rights of sexual and gender minority populations have become increasingly visible within legal, policy, and public discourse. However, the development and implementation of inclusive legal and social policies remain uneven across countries, reflecting both advances in rights recognition and continuing sociopolitical contestation (Langarita et al., 2025; Queiroz et al., 2026). Nevertheless, LGBTQ+ individuals, particularly those entering later life, continue to experience persistent health disparities and psychosocial vulnerabilities rooted in long-standing structural inequalities and cumulative minority stress across the life course (Fredriksen-Goldsen et al., 2017; Frost & Meyer, 2023). In the fields of health education and sport science, healthy aging is increasingly understood not merely as the absence of disease but as the capacity to sustain active living, psychosocial stability, meaningful social participation, and long-term engagement in movement and recreational activities. Emerging evidence suggests that prolonged exposure to discrimination, identity concealment, and chronic vigilance may progressively undermine psychological well-being, social participation, and movement engagement among LGBTQ+ older adults (Pistella et al., 2024). Such experiences may also contribute to broader biopsychosocial deterioration across the life course, including elevated psychological distress, social withdrawal, and accelerated health vulnerability (Christian et al., 2021; Christian et al., 2025). In many physical activity and recreational settings structured around rigid gender binaries, LGBTQ+ individuals may experience discomfort, exclusion, or psychological distress that further suppresses participation and long-term movement engagement (Pistella et al., 2024; Antonucci et al., 2026). Furthermore, concerns regarding discrimination and inadequate understanding among healthcare providers may discourage LGBTQ+ older adults from accessing health services and health promotion resources, thereby increasing vulnerability to chronic illness, depression, and social isolation compared with the general older adult population (Fredriksen-Goldsen et al., 2013; Westwood, 2020).

In Thailand, despite progressive policy developments such as the enactment of the Marriage Equality Act in 2024, disparities in social acceptance and health support systems remain evident, particularly within rural communities where traditional gender norms and heteronormative expectations continue to shape everyday life. Recent Thai studies have reported ongoing experiences of interpersonal and environmental microaggressions, stigma, discrimination, and depressive symptoms among LGBTQ+

populations despite increasing public visibility and legal progress (Yodlorchai et al., 2024; Iamko & Boonnun, 2021). This situation reflects a form of policy lag in which legal advancement has progressed more rapidly than the adaptation of local health promotion systems, recreational environments, and community-based support structures. In many rural areas, LGBTQ+ individuals continue to experience pressure to conceal their identities to avoid stigmatization and social judgment, which may function as a chronic proximal stressor throughout the life course (Whitehead et al., 2016; Pachankis et al., 2020). Limited access to inclusive recreational spaces, social support networks, and health promotion resources may further reduce opportunities for psychosocial participation and active aging in later life. Moreover, many rural communities in Thailand continue to rely heavily on informal caregiving systems centered on family obligation and kinship relationships, potentially creating additional emotional strain for LGBTQ+ adults who experience fragile family relationships or social exclusion. These conditions are particularly significant within the context of Thailand's rapidly aging society, where successful aging increasingly depends not only on formal welfare systems but also on the quality of local social support and opportunities for meaningful community participation.

Consequently, Sisaket Province was purposively selected as the study setting because it reflects several structural characteristics commonly found in rural areas of Northeast Thailand. The province remains strongly connected to extended family traditions, local cultural expectations, and community-based social relationships that position children and family members as primary caregivers in old age. Such expectations may create additional challenges for LGBTQ+ individuals who do not have biological children or who experience strained family relationships, resulting in heightened concerns regarding long-term support and caregiving in later life. In parallel, the migration of working-age populations toward urban centers has contributed to increasing self-reliance among older adults remaining in rural communities. Sisaket Province also represents a predominantly agricultural society characterized by relatively limited access to specialized healthcare services, formal welfare infrastructure, and inclusive recreational resources compared with major urban areas. These contextual conditions may heighten vulnerability among LGBTQ+ adults transitioning into older age, particularly those with limited economic resources or restricted access to supportive social environments. From health education and sport science perspectives, such conditions are not merely social circumstances but ecological factors capable of influencing health behaviors, psychosocial adaptation, participation opportunities, and readiness for active aging in later life. Within these contexts, supportive social relationships, inclusive recreation, and community participation may function as important psychosocial support mechanisms that help preserve emotional stability, reinforce social belonging, and sustain meaningful engagement with community life among LGBTQ+ older adults (Fredriksen-Goldsen et al., 2019; Hurd & Li, 2023; Tongterm et al., 2026).

A review of previous literature reveals several important research gaps. Existing studies concerning LGBTQ+ aging have predominantly focused on urban populations and Western societies, particularly within North America and Europe, where healthcare systems, welfare structures, and LGBTQ+ support services differ considerably from those found in many Asian rural communities (Fredriksen-Goldsen et al., 2017; Westwood, 2020; Hurd & Li, 2023; Fredriksen-Goldsen et al., 2019). Although scholarly attention toward LGBTQ+ aging has expanded substantially in recent years, empirical evidence from rural Southeast Asian contexts remains limited, especially regarding the interaction between psychosocial conditions, health behaviors, recreational participation, and aging preparation within community-based environments (United Nations Development Programme: UNDP, 2014; Pistella et al., 2024). Furthermore, previous studies have often examined happiness, psychosocial well-being, and aging preparation as separate dimensions, despite growing evidence suggesting that these domains are closely interconnected within the broader context of

active aging and health behavior processes (Fredriksen-Goldsen et al., 2015; World Health Organization: WHO, 2002). According to Minority Stress Theory, chronic exposure to stigma, discrimination, and identity concealment may adversely affect psychological well-being and reduce motivation for long-term health maintenance and future planning (Meyer, 2003; Frost & Meyer, 2023). At the same time, health education perspectives emphasize that social support, environmental conditions, and opportunities for community participation serve as important enabling factors for sustaining health-promoting behaviors across the lifespan (Cohen & Wills, 1985). Therefore, this study had two primary objectives: 1) to examine factors associated with happiness among LGBTQ+ individuals in rural Thailand, and 2) to investigate factors associated with aging preparation among LGBTQ+ individuals in rural Thailand. The findings are expected to provide empirical evidence for the development of community-based health education processes, inclusive recreational environments, and health promotion strategies that support sustainable active aging and psychosocial well-being among LGBTQ+ populations in rural communities.

2. Materials and methods

This section presents the research design, participants, recruitment procedures, research instruments, data collection procedures, statistical analyses, and ethical considerations employed to examine factors associated with happiness and aging preparation among LGBTQ+ individuals, as detailed below.

2.1 Research design

This study employed a quantitative research design utilizing a cross-sectional analytical approach. The primary objective was to investigate factors associated with happiness and aging preparation among LGBTQ+ individuals residing in rural communities of Sisaket Province, Thailand.

2.2 Population and sample

The target population consisted of LGBTQ+ individuals aged 40 years and older residing in rural areas of Sisaket Province, Thailand. The required sample size was determined using the G*Power software, yielding a minimum sample of 220 participants (Faul et al., 2007). Due to the socially sensitive nature of the target population, particularly among individuals who may not openly disclose their sexual or gender identities within rural community settings, a snowball sampling technique was employed to facilitate participant recruitment through trust-based social networks.

The inclusion criteria were as follows: 1) residing in a rural area of Sisaket Province, 2) self-identifying and accepting their LGBTQ+ identity, 3) aged 40 years or older, and 4) capable of communicating in Thai and willing to participate in the study. The exclusion criteria included individuals unwilling to participate or those with severe psychiatric, neurological, or hearing impairments that could interfere with effective communication.

2.3 Research instruments

The data collection instrument was a self-administered questionnaire developed by researchers. The questionnaire was developed in accordance with the study's conceptual framework by integrating concepts related to subjective well-being (Diener, 2012), minority stress (Meyer, 2003), social support (House, 1981), successful aging (Fredriksen-Goldsen et al., 2015), and active aging (WHO, 2002). These concepts were applied to operationalize psychosocial and aging-related constructs relevant to LGBTQ+ individuals living in rural communities. The questionnaire consisted of four major sections covering demographic information, selected psychosocial factors, happiness, and multidimensional aging preparation.

To ensure instrument quality, content validity was evaluated by a panel of five experts, yielding an Index of Item-Objective Congruence (IOC) of 0.88. A pilot test subsequently demonstrated a reliability coefficient (Cronbach's alpha) of 0.87, indicating satisfactory internal consistency.

2.4 Data collection

Quantitative data collection was conducted through face-to-face and online surveys. This dual approach was implemented to facilitate participation and broaden access for participants dispersed across rural communities, thereby supporting adequate sample recruitment in accordance with the predetermined sample size.

2.5 Data analysis

The collected data were processed and analyzed using a statistical software package. Data analysis was divided into two parts:

2.5.1 Descriptive statistics

General demographic information and variable levels were analyzed using frequency, percentage, mean, and standard deviation. To interpret the levels of selected factors, happiness, and aging preparation, the researchers employed a 5-point rating scale. The interpretation criteria for mean scores were determined using class interval calculations (Best, 1981) and categorized into five levels as follows:

- Mean 4.21 to 5.00 = highest level
- Mean 3.41 to 4.20 = high level
- Mean 2.61 to 3.40 = moderate level
- Mean 1.81 to 2.60 = low level
- Mean 1.00 to 1.80 = lowest level

2.5.2 Inferential statistics

Hypothesis testing was conducted using Pearson's Product - Moment Correlation Coefficient to examine relationships among selected factors, happiness, and aging preparation. Multiple regression analysis was subsequently employed to investigate factors associated with happiness and aging preparation among LGBTQ+ individuals in rural communities. The level of statistical significance was set at 0.05. To identify the most parsimonious subset of predictors, Backward Stepwise Multiple Regression was employed. This approach enabled the systematic removal of non-significant variables while retaining predictors demonstrating meaningful statistical contribution within the final regression model (Field, 2024). Prior to regression analysis, assumptions regarding multicollinearity and normality of residuals were examined and deemed acceptable.

2.6 Ethical considerations

This research was conducted in accordance with established ethical principles for human research. Prior to data collection, all participants received clear and detailed information regarding the objectives and procedures of the study. Informed consent was obtained from all participants, emphasizing voluntary participation and the right to refuse or withdraw from the study at any stage without consequence. All personal information was kept strictly confidential, and participant anonymity was fully protected throughout the research process. The findings are presented only in aggregate form for academic purposes. This study was reviewed and approved by the Human Research Ethics Committee of Sisaket Rajabhat University, - Approval No. HE681010.

3. Result

3.1 General information of the sample

The results indicated that the majority of the sample identified their sexual identity as "Others" (Kathoeay and Tom) (32.73%) and gay (32.72%). Most participants were aged between 40–49 years (66.36%) and were single (80.00%). Regarding educational attainment, the highest proportion had completed high school or an equivalent (26.82%), followed by primary education (25.91%). In terms of economic status, the majority reported an average monthly income between 5,001–10,000 THB (32.27%) and 10,001–20,000 THB (30.91%). Furthermore, concerning environment and health, most participants resided outside municipal areas (78.18%) and reported being in good health without underlying or chronic diseases (91.36%).

3.2 Analysis of Factor Levels

The analysis regarding the levels of selected factors affecting happiness and aging preparation (as presented in Table 1) revealed that, overall, the factors affecting the happiness of the sample were at a high level ($M = 4.00$, $SD = 0.94$). When examining each dimension, it was found that the respondents primarily emphasized social capital and psychological factors. Community acceptance exhibited the highest level ($M = 4.20$, $SD = 0.88$), followed by family support ($M = 4.17$, $SD = 0.86$) and mental health ($M = 4.05$, $SD = 1.00$), respectively. Conversely, income and economic status had the lowest mean score ($M = 3.59$, $SD = 0.93$). This overall interpretation clearly reflects that for LGBTQ+ individuals in rural areas, happiness and psychological well-being are anchored more profoundly in social acceptance and having a recognized place in society than in material or economic stability.

Regarding the factors affecting aging preparation, the overall score was also at a high level ($M = 3.87$, $SD = 1.01$). The sample demonstrated the highest level in social relationships ($M = 4.02$, $SD = 0.92$), followed by mental health ($M = 3.97$, $SD = 0.96$), and technology and innovation ($M = 3.85$, $SD = 1.08$). In contrast, housing and environment ($M = 3.77$, $SD = 1.11$) and physical health ($M = 3.80$, $SD = 0.99$) yielded the lowest mean scores. This overarching picture indicates that although the target population is proactive in establishing social support networks to prepare for retirement (which aligns with social health promotion mechanisms), the dimensions of physical infrastructure and physical health remain vulnerable points. These vulnerabilities reflect the inherent limitations of rural settings, underscoring the pressing need for additional policy support.

Table 1. Mean, standard deviation, and levels of selected factors affecting happiness and aging preparation

No.	Factors	M	SD	Level
Factors affecting happiness				
1	Income and economic status	3.59	0.93	high level
2	Physical health	3.99	0.88	high level
3	Mental health	4.05	1.00	high level
4	Family support	4.17	0.86	high level
5	Community acceptance	4.20	0.88	high level
Mean		4.00	0.94	high level

Table 1. Mean, standard deviation, and levels of selected factors affecting happiness and aging preparation (Cont.)

No.	Factors	M	SD	Level
Factors affecting aging preparation				
1	Physical health	3.80	0.99	high level
2	Mental health	3.97	0.96	high level
3	Economic stability	3.84	0.97	high level
4	Social relationships	4.02	0.92	high level
5	Housing and environment	3.77	1.11	high level
6	Technology and innovation	3.85	1.08	high level
Mean		3.87	1.01	high level

3.3 Correlation between selected factors, happiness, and aging preparation

Hypothesis testing to examine the relationship between selected factors and the happiness level of rural LGBTQ+ individuals revealed that all five selected factors were positively correlated with happiness at a statistical significance level of $p < 0.05$ and $p < 0.001$. Family support demonstrated a moderate positive correlation with happiness, yielding the highest correlation coefficient ($r = 0.376$, $p < 0.001$). This was followed by community acceptance ($r = 0.285$, $p < 0.001$) and mental health ($r = 0.283$, $p < 0.001$). Meanwhile, physical health and income and economic status showed a low level of positive correlation, as shown in Table 2.

Table 2. Pearson's correlation coefficients between selected factors and happiness

Factors		Income and economic status	Physical health	Mental health	Family support	Community acceptance	Happiness
1. Income and economic status	Pearson's r	—					
	p-value	—					
2. Physical health	Pearson's r	0.517***	—				
	p-value	< 0.001	—				
3. Mental health	Pearson's r	0.384***	0.639***	—			
	p-value	< 0.001	< 0.001	—			
4. Family support	Pearson's r	0.325***	0.465***	0.531***	—		
	p-value	< 0.001	< 0.001	< 0.001	—		
5. Community acceptance	Pearson's r	0.217**	0.419***	0.428***	0.543***	—	
	p-value	0.001	< 0.001	< 0.001	< 0.001	—	
6. Happiness	Pearson's r	0.172*	0.230***	0.283***	0.376***	0.285***	—
	p-value	0.011	< 0.001	< 0.001	< 0.001	< 0.001	—

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Regarding the relationship between selected factors and overall aging preparation, it is noteworthy that only three factors exhibited a statistically significant positive correlation at the 0.05 level. These were social relationships ($r = 0.168$, $p = 0.012$), followed by physical health ($r = 0.165$, $p = 0.014$), and housing and environment ($r = 0.137$, $p = 0.043$). In contrast, mental health, economic stability, and technology and innovation did not show a statistically significant correlation with overall aging preparation, as shown in Table 3.

Table 3. Pearson's correlation coefficients between selected factors and aging preparation

Factors		Physical health	Mental health	Economic stability	Social relationships	Housing and environment	Technology and innovation	Aging preparation
1. Physical health	Pearson's r	—						
	p-value	—						
2. Mental health	Pearson's r	0.707***	—					
	p-value	< 0.001	—					
3. Economic stability	Pearson's r	0.637***	0.640***	—				
	p-value	< 0.001	< 0.001	—				
4. Social relationships	Pearson's r	0.650***	0.658***	0.570***	—			
	p-value	< 0.001	< 0.001	< 0.001	—			
5. Housing and environment	Pearson's r	0.679***	0.662***	0.572***	0.556***	—		
	p-value	< 0.001	< 0.001	< 0.001	< 0.001	—		
6. Technology and innovation	Pearson's r	0.580***	0.585***	0.663***	0.500***	0.566***	—	
	p-value	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	—	
7. Aging preparation	Pearson's r	0.165*	0.060	0.101	0.168*	0.137*	0.047	—
	p-value	0.014	0.378	0.136	0.012	0.043	0.486	—

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.4 Factors predicting happiness and aging preparation

To isolate the most impactful predictors from the five candidate factors, a multiple regression analysis using the backward stepwise method was conducted. The results revealed that family support was the sole significant predictor of happiness ($\beta = 0.376$, $t = 5.998$, $p < 0.001$), accounting for 14.2% of the variance ($R^2 = 0.142$, $F = 35.976$, $p < 0.001$). Consequently, factors including income and economic status, physical health, mental health, and community acceptance were systematically excluded from the final model, as detailed in Table 4. The predictive equation in raw score form can be formulated as follows:

$$\hat{Y}_{\text{Happiness}} = 2.177 + 0.304 (\text{Family Support}) \quad (1)$$

The equation demonstrates that for every one-unit increase in family support, the level of happiness increases by 0.304 units.

Table 4. Multiple regression analysis of factors predicting happiness

Predictors	B	SEB	β	t	p
Constant	2.177	0.216	-	10.087	< 0.001***
Family Support	0.304	0.051	0.376	5.998	< 0.001***
Variables Excluded: Income and economic status, physical health, mental health, community acceptance	-	-	-	-	-
Model Statistics: R = 0.376; R ² = 0.142; Adjusted R ² = 0.138 F (1, 218) = 35.976; p-value < 0.001					

***p < 0.001

Regarding the prediction of overall aging preparation, the analysis revealed that social relationships were the sole factor capable of significantly predicting aging preparation at the 0.05 level (t = 2.521, p = 0.012), with a standardized regression coefficient (β) of 0.168. This factor explained 2.8% of the variance in aging preparation (R² = 0.028, F = 6.353, p = 0.012). Physical health, mental health, economic stability, housing and environment, and technology and innovation were excluded from the model, as shown in Table 5.

The predictive equation in raw score form can be formulated as follows:

$$\hat{Y}_{\text{Aging Preparation}} = 2.242 + 0.113 (\text{Social Relationships}) \quad (2)$$

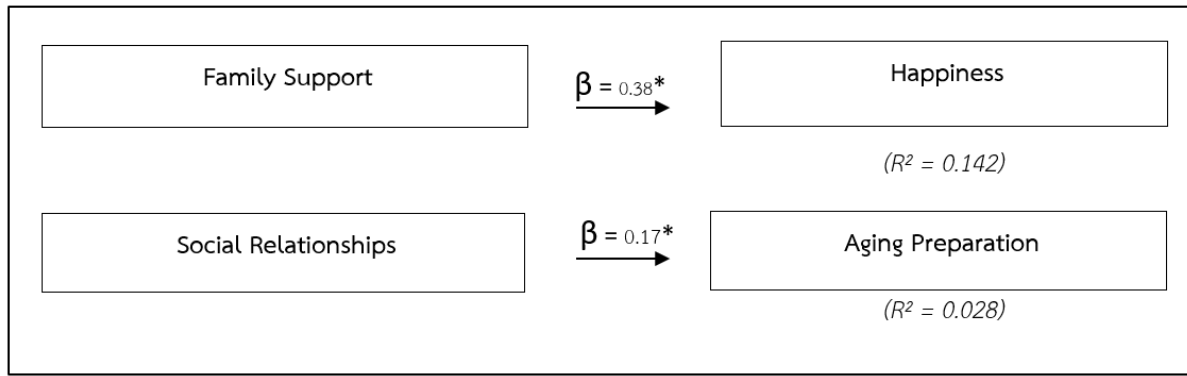
The equation illustrates that for every one-unit increase in social relationships, the level of aging preparation increases by 0.113 units.

Table 5. Multiple regression analysis of factors predicting aging preparation

Predictors	B	SEB	β	t	p
Constant	2.242	0.185	-	12.138	< 0.001***
Social Relationships	0.113	0.045	0.168	2.521	0.012*
Variables Excluded: Physical health, Mental health, Economic stability, Housing and environment, Technology and innovation	-	-	-	-	-
Model Statistics: R = 0.168; R ² = 0.028; Adjusted R ² = 0.024 F (1, 218) = 6.353; p-value = 0.012					

*p < 0.05, ***p < 0.001

Based on the aforementioned predictive analysis results, to provide a clearer visualization of the relationships and the influences of independent variables on the happiness and aging preparation of the target population, the researchers summarized the findings in a path diagram, as illustrated in Figure 1.



* $p < 0.05$

Figure 1 Path diagram of factors predicting happiness and aging preparation among rural LGBTQ+ individuals.

4. Discussion

Based on the hypothesis testing that examining factors associated with happiness and aging preparation among LGBTQ+ individuals in rural Thailand, the findings may be interpreted through contemporary perspectives on minority stress, social safety, active aging, and community-based health promotion within the context of rural Thai society.

4.1 Factors Associated with Happiness

The findings demonstrated that family support was the sole statistically significant predictor of happiness among rural LGBTQ+ individuals, accounting for 14.2 percent of the variance ($R^2 = 0.142$). This outcome is consistent with contemporary extensions of Minority Stress Theory, which suggest that long-term exposure to stigma, discrimination, and identity concealment may adversely affect psychological well-being across the life course (Frost & Meyer, 2023; Meyer, 2003). Recent studies further indicate that cumulative minority stress may contribute not only to emotional distress but also to social withdrawal and reduced perceptions of social safety among marginalized populations (Pistella et al., 2024). Within this context, supportive family relationships may function as an important psychosocial buffer that helps reduce emotional strain and supports emotional stability in later life.

This finding aligns with recent LGBTQ+ aging literature emphasizing the importance of social connectedness in later-life adaptation, although the present findings appear to place greater emphasis on interpersonal relational security within rural family structures than has commonly been reported in urban Western settings. In rural Northeast Thailand, specifically in agrarian contexts such as Sisaket Province, kinship structures and interpersonal interdependence remain strongly embedded in everyday community life. Older adults in these areas often rely heavily on close family relationships due to labor migration, limited formal welfare systems, and restricted access to specialized psychosocial services (Knodel et al., 2015; Teerawichitchainan et al., 2015). For LGBTQ+ individuals who may not have biological children or stable long-term caregiving structures, emotional support from family members may therefore contribute substantially to subjective well-being and psychological stability. Rather than functioning solely as interpersonal affection, family support may represent a broader form of relational safety that enables LGBTQ+ older adults to navigate aging-related uncertainty within socially conservative environments. These dynamics may be particularly visible in socially close rural communities where interpersonal familiarity and long-term social visibility simultaneously facilitate community connectedness and reinforce pressures toward identity conformity (Westwood, 2020; Whitehead et al., 2016).

Interestingly, community acceptance did not remain statistically significant in the final regression model despite demonstrating positive correlations at the bivariate level. This finding may suggest that generalized social coexistence alone may not provide the same degree of emotional reassurance as trusted family-based relationships. Recent literature has increasingly discussed the possible role of inclusive social environments, noting that LGBTQ+ older adults frequently continue to experience subtle forms of heteronormative expectation and invisible social boundary maintenance even within relatively tolerant communities (Antoniucci et al., 2026; Baiocco et al., 2024). Consequently, individual well-being may depend more strongly on trusted interpersonal relationships than on broader symbolic acceptance within the community. From health education and community health promotion perspectives, these findings suggest that interventions aimed at strengthening family understanding, emotional communication, and supportive relational contexts may help promote psychosocial well-being among LGBTQ+ older adults in rural settings.

4.2 Factors Associated with Aging Preparation

The findings revealed that social relationships were the sole statistically significant predictor of aging preparation, although the explanatory power of the model remained relatively modest ($R^2 = 0.028$). This finding aligns with contemporary LGBTQ+ aging literature emphasizing that social connectedness and meaningful interpersonal participation within everyday community life play important roles in promoting active aging and psychosocial adaptation among sexual minority older adults (Fredriksen-Goldsen et al., 2015; Hurd & Li, 2023). Recent perspectives further suggest that aging well among LGBTQ+ populations may involve maintaining meaningful social participation and sustaining social belonging within everyday community life rather than relying solely on biomedical indicators of successful aging (Fredriksen-Goldsen et al., 2019; Hurd & Li, 2023).

Within the rural Thai context, these findings may reflect the importance of socially embedded relationships in sustaining emotional continuity and later-life readiness. Rural communities are often characterized by close interpersonal familiarity, informal reciprocity, and community interdependence (Knodel et al., 2015; Teerawichitchainan et al., 2015). Supportive social relationships may therefore facilitate emotional reassurance, practical support, and opportunities for continued engagement in community life. Recent literature has discussed the possible role of meaningful social participation, suggesting that inclusive social environments and participation opportunities may contribute to social confidence and perceptions of future aging readiness among LGBTQ+ adults (Pistella et al., 2024; Tongterm et al., 2026). Although the present study did not directly assess physical activity participation, these findings may indirectly reflect the importance of maintaining socially connected and supportive environments that encourage continued participation in community life (Pistella et al., 2024; WHO, 2002).

The non-significant effects of economic stability, housing and environment, technology and innovation, and mental health may indicate that aging preparation among rural LGBTQ+ individuals is shaped by complex psychosocial conditions extending beyond material resources alone. Recent literature has increasingly emphasized that LGBTQ+ older adults often negotiate aging within environments influenced by accumulated minority stress, social exclusion, and uncertainty regarding future care systems (Westwood, 2020). Consequently, interpersonal support systems may carry greater perceived value than structural resources in contexts where formal institutional support remains limited. Rather than suggesting that environmental or economic conditions are unimportant, the findings may indicate that relational support functions as an essential enabling condition for psychological adaptation and future-oriented planning among marginalized populations in rural communities (Cohen & Wills, 1985).

Although the predictive power of the regression model for aging preparation was relatively low, small effect sizes are anticipated and considered typical within behavioral and health education sciences when examining complex, multidimensional psychosocial phenomena involving marginalized populations (WHO, 2002). The modest explanatory power observed in this study may indicate the presence of additional contextual variables not included in the current model, such as individual resilience, identity affirmation, or culturally embedded coping mechanisms. Recent LGBTQ+ aging literature increasingly suggests that experiences of aging, participation, and well-being emerge through dynamic interactions between minority stress, community participation, and supportive environments across the life course (Frost & Meyer, 2023; Fredriksen-Goldsen et al., 2019; Pistella et al., 2024). Therefore, the findings should be interpreted cautiously as reflecting associative patterns within a specific sociocultural context rather than definitive causal pathways (WHO, 2002).

4.3 Limitations of the Study

Several limitations should be acknowledged. First, although snowball sampling was appropriate for accessing potentially hidden and socially vulnerable populations, the use of non-probability sampling may limit representativeness and reduce generalizability to LGBTQ+ populations in other sociocultural settings (Whitehead et al., 2016). Second, the study relied exclusively on self-reported questionnaire data collected from a single source, which may increase susceptibility to common method bias and social desirability effects, particularly when assessing emotionally sensitive constructs such as happiness, family support, and aging preparation. Third, the cross-sectional design limits interpretation regarding temporal or causal relationships among variables. Additionally, the findings emerged from a specific rural sociocultural context in Northeast Thailand, where kinship systems, community familiarity, and local cultural expectations may shape LGBTQ+ aging experiences differently from urban or international settings. These contextual characteristics should be carefully considered when interpreting the transferability of the findings to other LGBTQ+ populations (Westwood, 2020).

5. Conclusion and suggestions

This study provides empirical evidence regarding factors associated with happiness and aging preparation among LGBTQ+ individuals in rural Thailand, indicating that family support was the strongest predictor of happiness, whereas social relationships emerged as the only statistically significant factor associated with aging preparation. The findings suggest that within rural environments characterized by limited formal welfare systems and strong kinship-oriented social structures, supportive interpersonal relationships function as important psychosocial resources contributing to emotional well-being and later-life readiness. Furthermore, the relatively modest explanatory power of the predictive models reflects the context-dependent nature of psychosocial adaptation and aging processes among sexual and gender minority populations living in rural communities. Within these socially close environments, emotional reassurance and family acceptance contribute substantially to emotional security, facilitating continued social participation and emotional connectedness within community life among LGBTQ+ older adults during later-life transitions.

From health education and community health promotion perspectives, these outcomes underscore the necessity of strengthening supportive social environments, enhancing mutual understanding within families, and promoting socially inclusive participation opportunities for LGBTQ+ individuals transitioning into later life. Local public health organizations, community networks, and rural healthcare systems may therefore consider utilizing family-centered educational processes, peer-support mechanisms,

and existing community social structures as channels for communicating health information, promoting psychosocial support, and strengthening health literacy within rural settings. Such approaches may facilitate healthier, more socially supported, and dignified aging processes among LGBTQ+ populations living within rapidly transforming rural communities. Future health education and sport science research may further expand these findings through mixed-methods approaches, participatory community-based inquiry, and longitudinal comparative studies capable of providing deeper contextual understanding of social support processes, interpersonal adaptation, and aging experiences across different sociocultural environments. Comparative investigations between rural and urban settings may also help clarify whether psychosocial, environmental, and economic conditions influence aging preparation differently across geographical and community contexts, though these characteristics should be carefully acknowledged when interpreting the transferability of the present findings to other LGBTQ+ populations and sociocultural settings.

6. Acknowledgements

This research was supported by Thailand Science Research and Innovation (TSRI) through the Science, Research and Innovation (SRI) Fund (Fiscal Year 2025), with grant administration and oversight provided by Sisaket Rajabhat University. The researchers extend their profound gratitude to the peer reviewers for their invaluable feedback and to the LGBTQ+ participants in rural Sisaket Province whose willingness to share their experiences made this study both possible and academically rigorous.

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