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Validation of the Thai version of the Savoring Beliefs Inventory of elderly cancer patients and their family caregivers in Thailand

Kullanist Damrongsakul, Rewadee Watakakosol*, Arunya Tuicomepee

Faculty of Psychology, Chulalongkorn University, Bangkok 10330, Thailand

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Abstract

Savoring refers to an individual's perceived capability to intend, be mindful, and absorb positive events through their lifespan to generate, expand, and maintain their happiness and positive affect. However, few earlier research studies have involved savoring in Thai people, in particular those in a healthcare setting. This study aims to examine the psychometric properties of a Thai version of the Savoring Beliefs Inventory (SBI) (Bryant, 2003). Participants were 120 older adult cancer patients and 120 family caregivers. Instruments were the Thai version of the Savoring Beliefs Inventory, Life Satisfaction Scale, and Positive Affect Scale. Data analysis included an assessment of internal consistency, confirmatory factor analysis, and correlational analysis. Findings revealed that the SBI-Thai version showed acceptable internal consistency with a Cronbach's Alpha coefficient of .91 (for the patients) and .81 (for the caregivers). Using Confirmatory Factor Analysis (CFA), the three-factor model of the SBI-Thai version demonstrated a good fit for both older adult cancer patients and their family caregivers (χ^2 = 1.03, *df* = 1, *p* = .309, RMSEA = 0.017, χ^2/df = 1.03, TLI = 0.998, CFI = 0.999, GFI = 0.994 and χ^2 = 1.12, *df* = 1, *p* = .289, RMSEA = 0.032, χ^2/df = 1.12, TLI = 0.993, CFI = 0.998, GFI = 0.993, respectively). In addition, the SBI-Thai version was moderately associated with life satisfaction and positive affect constructs. Implications are discussed for using the SBI-Thai version in Thai people, especially those who are in a healthcare setting.

* Corresponding author.
E-mail address: Rewadee.W@chula.ac.th (R. Watakakosol).

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Introduction

Savoring is a concept of positive psychology, focusing on the opportunity to build resources and capacities as additional strategies for wellness enhancement. Initially, savoring is presented as a construct people use to gain perceived control of their environments. Ongoing savoring literature has mentioned savoring as a means to improve well-being through positive experiences (Bryant, 1989; 2003; Bryant et al., 2011; Bryant & Veroff, 2012). As a measurable construct, Bryant (2003) and Bryant and Veroff (2012) proposed two concepts to describe savoring: beliefs and responses or strategies, with the construct of savoring beliefs as a more usable approach. Savoring beliefs refers to individuals' subjective perception of their personal ability and capacity to enjoy positive experiences (Bryant & Veroff, 2012).

Savoring beliefs requires an individual's capability and intention to focus with mindfulness on positive feelings generated from experiences, being present in the moment, thinking of the past (referred to as reminiscing), or focusing on the future (referred to as anticipation) (Bryant & Veroff, 2012). Previous research showed a positive effect of savoring on well–being (Bryant & Veroff, 2012) in vulnerable groups, such as the older adults and those suffering from chronic diseases (Geiger et al., 2017; Smith & Bryant, 2016; Smith & Hanni, 2019; Smith & Hollinger-Smith, 2015; Wilson & Saklofske, 2018), and cancer patients and their family caregivers (Hou et al., 2017; Hou et al., 2016; Hou et al., 2018). In addition, it was found that cancer patients' savoring and their family caregivers' savoring affected the well-being of both groups in a dyadic aspect, indicating that patients' savoring affected their family caregivers' well-being and vice versa (Hou et al., 2019). The association between savoring in these two groups is extremely critical since cancer and the treatment process cause traumatic stress, burden, and burnout for both patients and their family caregivers (Danaci & Zeliha, 2018; Garlo et al., 2010; Goldzweig et al., 2013; Hsu et al., 2014; Johansen et al., 2018; Maguire et al., 2018); thus, negatively affecting their well-being (Kim et al., 2011; Kuscu et al., 2009; Paek et al., 2018; Wang et al., 2017; Wang et al., 2019).

Care of older adults, especially for patients with cancer, causes more burden and burnout to their caregivers than caring for older adults without cancer. Patients who suffer from cancer may require aggressive treatment and are subject to deterioration of their bodies due to age (Haley, 2003; Hsu et al., 2019; Weitzner et al., 2000). They may be unable to help themselves and must rely on relatives or caregivers to take care of them all the time (Jayani & Hurria, 2012). Furthermore, the acceleration of population aging in many countries, including Thailand, (Ministry of Social Development and Human Security, 2009; United Nations, Department of Economic and Social Affairs, 2017a; 2017b), also affects home care for older adults with chronic diseases, such as cancer, because the lower birth rate results in a lower ratio of family caregivers compared to the number of older patients (Ministry of Public Health, 2017). In the meantime, more stress is certainly heaped on caregivers who care for cancer patients with advanced age, especially most Thai older adults who depend on their family caregivers and suffer decreased well-being (Foundation of Thai Gerontology Research and Development Institute, 2017; Hsu et al., 2014; Kehoe et al., 2019). For all the reasons mentioned above, it is vital to enhance savoring to promote well-being. This is because savoring contributes to life satisfaction and positive emotions, the main components of well-being. However, there has been no research on the effect of savoring on the well-being of older cancer patients and their family caregivers in Thailand or other countries. Moreover, there is no well-established research or measurement of savoring in Thailand, since the Savoring Beliefs Inventory has not been translated into Thai language, and the psychometric property has not been previously tested in Thai people. As a result, study conducted to develop savoring intervention programs to improve well-being of elderly cancer patient and their family caregiver is sacred. This study aims to validate the Thai version of the Savoring Beliefs Inventory (the SBI-Thai version) viz; (1) the convergent validity, (2) the construct validity, and (3) the internal consistency, developed from the original of Bryant (2003). Even though the original version of SBI has been used in many studies to measure personals' perceived capability of savoring in older adults, cancer patients, and their caregivers (Bryant, 2003; Geiger et al., 2017; Hou et al., 2017; Hou et al., 2016; Hou et al., 2019; Wilson & Saklofske, 2018), the inventory has not yet been validated in older Thai cancer patients and their family caregivers. Results from this study could lead to future research to develop a suitable savoring intervention program for Thai people, starting from vulnerable groups such as elderly cancer patients, and their family caregivers, then gradually expanding to other populations in the future.

Methodology

A correlational study was conducted to evaluate the reliability, construct validity, and convergent validity in a sample of older adult patients and their caregivers. This study was approved by the Human Research Ethics Committee, Chulabhorn Research Institute, Bangkok, Thailand (COA 207/2564).

Participants

Participants included 120 older adult Thai cancer patients and 120 family caregivers from both the outpatient and inpatient departments of Chulabhorn Hospital, Bangkok, Thailand, from February 2022 to March 2022. Sixty-seven patients were female. Their mean age was 70.66 (*SD* = 7.24, between 60–89 years old). The patients were diagnosed with malignant diseases, such as gynecological cancer (23.3%), colorectal cancer (20.8%), breast cancer (17.5%), lung cancer (9.1%), liver cancer (7.5%), lymphoma (6.6%), prostate cancer, head and neck cancer (each of 3.3%), stomach cancer (2.5%), cholangiocarcinoma (3.3%), thyroid cancer, bladder cancer, leukemia, esophagus cancer, and bone cancer (each of 0.83%). The stages of cancer (of patients/patients taken care of) were first stage (19.2%), second stage (17.5%), third stage (25%), fourth stage (18.3%), metastatic stage (16.7%), and advanced stage (3.3%). The majority of caregivers were identified by patients as unpaid daily home caregivers. Seventy caregivers were female (70%). Their mean age was 48.57 (*SD* = 12.95, between 20–75 years old). They were in the job system (30%) and had an income (81.7%). Participants were conveniently recruited and voluntarily participated in this study.

To determine the sample size for this study, the researcher applied a dyadic nonindependence and distinguishable members model (Kenny et al., 2006) with 100 pairs of sample size. The actor effects power was 0.931, $p < .05$, $r = 0.3$ and the partner effects power was 0.526, $p < .05$, $r = 0.23$ (Ackerman, 2016). Nevertheless, the Chi-square test required a minimum of 100 samples (Hair et al., 2010). The researcher then calculated the sample size and increased it to 120 pairs. The actor effects power was 0.999, $p < .05$, $r = 0.29$ and the partner effects power was 0.891, $p < .05$, $r = 0.225$ (Ackerman, 2016).

Instruments

A set of self-report questionnaires consisted of demographic questions, the SBI-Thai version, the Life Satisfaction Scale, and the Positive Affect Scale as follows:

1. The demographic questions included age, gender, career or employment status, monthly income, type and stage of cancer, etc.

2. The Thai version of the Savoring Beliefs Inventory (SBI-Thai version) comprised 24 items and three subscales, namely, savoring the past (for example, "I like to look back on happy times in the past"), savoring the present (for example, "I can make myself happy whenever I want"), and savoring the future (for example. "Just knowing good things are going to happen, I'm happy"). Each subscale contained 4 positively worded items and 4 negatively worded items. The sample groups were required to rate their perception of a positive experience on how much they agreed with each measurement. The inventory was a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree), similar to the Savoring Beliefs Inventory in the original English version. The scores ranged from 1 to 7, with 1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = neutral, 5 = somewhat agree, 6 = agree, 7 = strongly agree. There were three steps for calculating scores: Step (1) Calculate the sum of 12 positive measures; Step (2) Calculate the sum of 12 negative measures; Step (3) Calculate the total in Step 1 minus the total in Step 2. Therefore, the score ranged from -72 points to 72 points. If the participants rated 1 point for all positive items and 7 points for all negative items, the calculation would be 12 points from positive items minus 84 points from negative items, which resulted in the lowest overall score, -72 points. Conversely, if the participants rated 7 points for all positive items and 1 point for all negative items, it would result in the highest overall score as 84 - 12 = 72 points. For the interpretation of the score, the higher score showed a higher perception of positive experience (Bryant, 2003; Bryant & Veroff, 2012).

For the process of translation, after the researcher receiving permission from the owner of the Savoring Beliefs Inventory original version (Bryant, 2003), the measurement was translated into Thai by a cross-cultural translation process, including forward translation, backward translation (Brislin, 1970), and think-aloud interview (Willis, 2004; 2006). Three independent bilingual translators were professionals in both Thai and English at Chulabhorn Royal Academy, and three others were experts in psychology at Chulalongkorn

University. The researchers discussed the results to develop a suitable version and conducted a pilot examination. Fourteen pairs of older cancer patients and their family caregivers were invited to a think-aloud interview for comments and completion of the process, followed by four pairs for the pre-final version and ten pairs for the final version. Eventually, the final modification was adjusted accordingly.

3. The Life Satisfaction Scales -Thai version was developed by Isaranon (2008) from the original version of Diener et al. (1985) to measure the overall life satisfaction scale as a self-report scale with five items. The samples were required to rate their overall life satisfaction on how much they agree. An example of such a measurement was "There are only good things in my life." This rating scale consisted of a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The scores ranged from 1 to 5, with 1 = strongly disagree, 2 = somewhat disagree, 3 = neutral, 4 = somewhat agree, 5 = strongly agree. The score calculation process was to make a backward score of the last measurement (for example, "I'm tired of my life") making it a positive score first. Then, calculate the sum of all 5 answers. The higher score showed higher satisfaction in life. The Life Satisfaction Scales -Thai version demonstrated a good reliability with Cronbach's alpha 0.92 (Isaranon, 2008).

4. The Positive Affect Scale -Thai version was developed by Isaranon (2008) from the original version of the Positive Affect Negative Affect Scale (PANAS) (Watson et al., 1988). The Positive Affect Scale is a self-report scale with 10 items. The participants were required to rate their own feelings while responding with the measurement of how much they felt. Short, easy-to-understand vocabulary words were used for the participants to express their current feelings (for example, "Fresh," "Happy," "Grateful," etc.). This rating scale is a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The scores ranged from 1 to 5 with 1 = strongly disagree, 2 = somewhat disagree, 3 = neutral, 4 = somewhat agree, 5 = strongly agree. The score was calculated by the sum of all 10 answers. The higher score showed higher satisfaction in life. The Positive Affect Scale -Thai version demonstrated good reliability with Cronbach's alpha of .84 (Isaranon, 2008).

Data Collection

For data collection, convenience sampling method according to overall daily appointments was used to screen for cancer patients at Chulabhorn Hospital. Patients and their family caregivers who were interested in participating in the research were scheduled for data collection. Patients and caregivers were informed about the study details and gave their consent before the researcher started collecting the data. Patient qualifications were that they must be a cancer patient aged 60 years and over, able to communicate and understand the Thai language and not diagnosed with a mental illness. The relatives' qualifications were that they must be blood relatives of the cancer patients who participated in the study, aged 20 years or older, able to understand the Thai language, not diagnosed with a mental illness, and confirmed by the patients as primary caregivers. Data were collected between March 2022 and April 2022 from 120 pairs of samples (120 older adult cancer patients and 120 family caregivers).

Data Analysis

Descriptive statistics were applied for the analysis of demographic data. Cronbach alpha coefficient and Pearson's product-moment correlation were used to analyze the reliability and convergent validity of The Savoring Beliefs Inventory (Thai Version), respectively. The internal consistency and reliability values must be greater than 0.7 to be considered valid (Gliem & Gliem, 2003; Ratner, 2009; Tavakol & Dennick, 2011). A significant level was set at $p < .05$. Confirmatory factors analysis (CFA) was used to analyze the construct validity of the Savoring Beliefs Inventory (Thai Version). The determination of fit indexes included: the Confirmatory fit index (CFI) of > 0.95, the normed fit index (NFI) > 0.95, and the root mean square of error approximation (RMSEA) < 0.08. The chi-square value must not be statistically significant ($p > .05$), and $\chi^2/df < 2$.

Results

The scores of the SBI-Thai examined in the older cancer patients indicated no difference between age, gender, employment status, income, or type of cancer and stage of cancer ($F = 1.957$, $p > .05$; $t = 0.551$, $p > .05$; $t = 0.241$, $p > .05$; $F = 0.415$, $p > .05$; $F = 1.332$, $p > .05$; $F = 0.638$, $p > .05$, respectively). The results of the examination were similar for the family caregivers ($F = 1.245$, $p > .05$; $t = 0.474$, $p > .05$; $t = 1.107$, $p > .05$; $F = 1.516$, $p > .05$; $F = 0.667$, $p > .05$; $F = 2.487$, $p > .05$, respectively), except for the sleep quality of the family caregivers. There were significant differences

between the family caregivers who slept more than 7 hours per night and had higher average savoring than the family caregivers who slept less than 7 hours per night (M = 5.326, SD = 0.71; M = 5.05, SD = 0.554; t = 2.364, $p < .05$, respectively).

The reliability was shown as the internal consistency of Cronbach's alpha coefficient. For all participants, the internal consistency of the Thai version of the Savoring Beliefs Inventory (SBI-Thai version) was good in every item, with a Cronbach's alpha of 0.88, while the subscales were 0.73, 0.73, and 0.7 for savoring the past, savoring the present, and savoring the future, respectively. For the older cancer patients, the internal consistency of measurement in all items was excellent, with a Cronbach's Alpha of 0.91, while the subscales were 0.78, 0.76, and 0.78 for savoring the past, savoring the present, and savoring the future, respectively. For the family caregivers, the internal consistency of measurement in all items was good, with a Cronbach's alpha of 0.81, while the subscales were 0.66, 0.68, and 0.54 for savoring the past, savoring the present, and savoring the future, respectively (Table 1).

The SBI-Thai version was moderately associated with the life satisfaction scale and positive affect scale across samples (all participants, patients, and caregivers) (Table 2). This demonstrated that the SBI-Thai version theoretically is related to both the life satisfaction and positive affect constructs.

Confirmatory factor analysis (CFA) was used to test the construct validity of the SBI-Thai version. Results demonstrated that that the three factors of the SBI-Thai version were a good fit with the data (χ^2 = 1.23, df = 1, p = .267, RMSEA = 0.031, χ^2/df = 1.23, TLI = 0.997, CFI = 0.999, GFI = 0.996) for all participants, and the test results of the patients and the caregivers were a good fit (χ^2 = 1.03, df = 1, p = .309, RMSEA = 0.017, χ^2/df = 1.03, TLI = 0.998, CFI = 0.999, GFI = 0.994) and good fit (χ^2 = 1.12, df = 1, p = .289, RMSEA = 0.032, χ^2/df = 1.12, TLI = 0.993, CFI = 0.998, GFI = 0.993), respectively (Table 3). Moreover, the factor loading of the SBI-Thai version ranged from 0.70 to 0.90 ($p < .01$) as shown in Figure 1.

Table 1 Mean, standard deviation, and Cronbach's Alpha coefficient of the samples

Subscale	All participants (n = 240)			Older cancer patients (n = 120)			Family caregivers (n = 120)		
	M	*SD*	Alpha	*M*	*SD*	Alpha	*M*	*SD*	Alpha
Savoring Scale	5.13	0.74	0.88	5.34	0.93	0.91	5.19	0.65	0.81
Savoring the past	5.20	0.96	0.73	5.30	1.08	0.78	5.11	0.83	0.66
Savoring the present	5.34	0.89	0.73	5.42	0.95	0.76	5.26	0.82	0.68
Savoring the future	4.83	0.79	0.70	5.30	1.02	0.68	5.19	0.71	0.54

Note: M: mean; *SD*: standard deviation

Table 2 Correlation Coefficient of the SBI-Thai version, life satisfaction scale, and positive affect scale of the samples

Scale/Subscales	Older cancer patients (n = 120)		Family caregivers (n = 120)	
	Life Satisfaction Scale	Positive Affect Scale	Life Satisfaction Scale	Positive Affect Scale
Savoring Scale	.556**	.506**	.324**	.411**
Savoring the past	.504**	.418**	.135	.386*
Savoring the present	.551**	.548**	.487**	.387**
Savoring the future	.477**	.434**	.166	.225*

Note: *$p < .05$, **$p < .01$.

Table 3 Comparison of the fit indices' models for the older cancer patients and the family caregivers

Models	χ^2	*df*	*p*	RMSEA	χ^2/df	TLI	CFI	GFI
All participants	1.23	1	.267	0.031	1.23	0.997	0.999	0.996
Older cancer patients	1.03	1	.309	0.017	1.03	0.998	0.999	0.994
Family caregivers	1.12	1	.289	0.032	1.12	0.993	0.998	0.993

Note: χ^2: chi-square, *df*: degree of freedom, *p*: *p* value, RMSEA: root mean square error of approximation, TLI: Tucker - Lewis index, CFI: comparative fit index, GFI: goodness of fit index

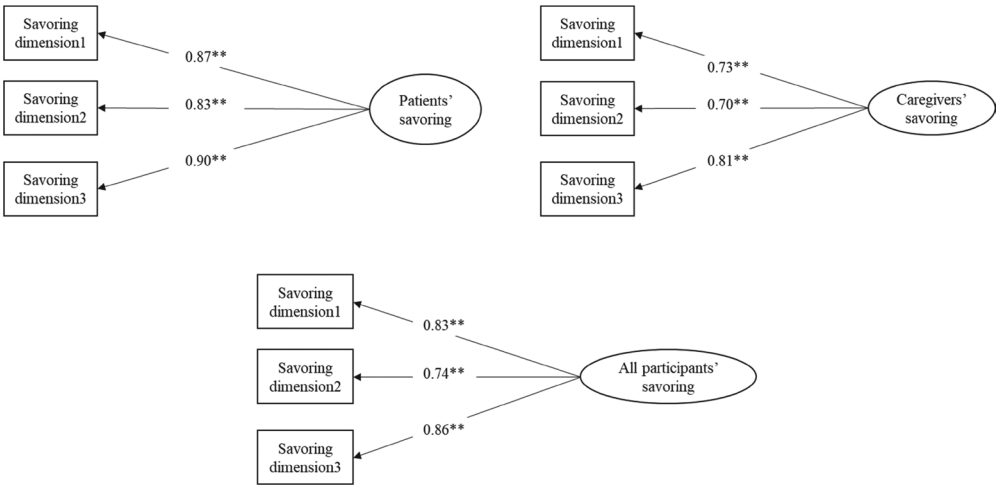

Figure 1 Comparison of the factor loading the older cancer patients and the family caregivers
Note: $^{**}p < .01$.

Discussion

The objective of this current study was to examine the reliability and validity of the SBI-Thai version in older adult cancer patients and their family caregivers in Thailand. The measurement was appropriately applied for Thai older adult cancer patients and their family caregivers because the result showed proper reliability and validity of the measurement, as in as the original version (Bryant, 2003). The reliability of the SBI-Thai version revealed that of all items in all participants, only results from patients and caregivers were compatible with previous studies from Taiwan (Hou et al., 2017; Hou et al., 2016; Hsu et al., 2019), and many studies in the United States. The original English version was tested in adolescents (Chiu et al., 2020), adults (Bryant, 1989; 2003; Eisner et al., 2009), and older adults (Bryant, 2003). Other versions, i.e., the French version (Golay et al., 2018), the Japanese version (Kawakubo et al., 2019), the Turkish version (Metin-Orta, 2018), and the Hungarian version (Nagy et al., 2022), were also tested in adults with suitable reliability.

For the reliability test result, the convergent validity between the SBI-Thai version and the Psychological well-being test of all items for all participants, patients, and caregivers were suitable and consistent with other versions and previous studies that tested the validity of the Savoring Beliefs Inventory of their cultural version with a happiness measurement (Bryant, 2003; Kawakubo et al., 2019), life satisfaction measurement (Aghaie et al., 2017; Bryant, 2003; Kawakubo et al., 2019; Metin-Orta, 2018; Nagy et al., 2022), and positive affect measurement (Bryant, 2003; Kawakubo et al., 2019; Metin-Orta, 2018; Nagy et al., 2022). However, the test of reliability and convergent validity for subscales had a low level when tested on the caregivers, similar to studies 2 (67 cases), 3 (111 cases), and 5 (70–80 cases) of the original version that was tested in a small group of adult participants (Bryant, 2003) because attending happy events may undermine one's present happiness by raising one's 'hedonic baseline', if one's attention is in an emotionally uninvolving way (Bryant, 2003), such as judging current happiness from one's happier events in the past (Strack et al., 1985). In addition, the effect of the small sample size increased the length of the confidence interval (CI). So the Cronbach's alpha coefficient and Pearson's correlation coefficient were decreased (Johanson & Brooks, 2010). Moreover, cultural differences may result in family caregivers having low scores for savoring the past and savoring the future. This is consistent with the results of the study by Lindberg (2004), which found that Asian undergraduate students had lower levels of savoring than European and American undergraduate students. The reason was the Asians believe in Buddhism, which teaches them to focus on the present rather than the past or the future (Feldman, 2009; Hagen, 2011; Taylor, 2003). Hence, promoting savoring to the family caregivers should focus on the present. Counseling or intervention should be designed to allow these populations to concentrate, be mindful, and absorb positive experiences at the moment. Awakening their current state in the concept "here and now" (Hayes, 2012; Norrish & Vella-Brodrick, 2009; Schneider, 2011) will help them absorb and increase their happiness.

Confirmatory factor analysis (CFA) was used to calculate the construct validity of the SBI-Thai version. The results revealed that the three-factor measurement was applicable to evaluate the savoring of Thai older adult cancer patients and their caregivers, identical to other foreign language versions in many countries (Aghaie et al., 2017; Bryant, 2003; Hou et al., 2017; Hou et al., 2019; Kawakubo et al., 2019; Metin-Orta, 2018; Nagy et al., 2022). Other results, such as the demographic characteristics, were not significantly related to savoring, except for the sleep quality of caregivers. This study found that the caregivers who slept more than 7 hours per night had higher average savoring than the relatives who slept less than 7 hours per night, similar to the study by Paek et al. (2018), which found that cancer patients' family caregivers who slept continuously more than 7 hours per night always had a high level of well-being, significantly different from the caregivers who did not. Consequently, sleep quality can affect the positive feeling of savoring similar to the positive affect of well-being (Bryant, 2003; Bryant & Veroff, 2012; Feeney & Collins, 2015; Wilson et al., 2020). This approach could be used as one of the savoring activity variables to improve well-being in older adult cancer patients and their caregivers. Various studies found differences in savoring across age and gender. The female group had significantly higher scores than the male group (Bryant, 2003; Gentzler et al., 2016; Kawakubo et al., 2019; Metin-Orta, 2018; Nagy et al., 2022). The participants who were 19–25 years old had significantly lower savoring than those aged 51–65 years old (Nagy et al., 2022). In contrast, the current study found that the savoring scores of ages and gender were not different. The present research examined the Savoring Beliefs Inventory for Thai older adults who had cancer and their family caregivers in the same way as the previous study by Hou et al. (2019), which examined the Savoring Beliefs Inventory in cancer patients and their family caregivers in Taiwan. Those researchers found that the savoring was uncorrelated with age, gender, career & employment status, monthly income, cancer type, and cancer stage. Thus, the results of the current research and the research of Hou et al. (2019), as mentioned above, suggest that the Savoring Beliefs Inventory (Thai version) is applicable to assess savoring in Thai older adult cancer patients and their family caregivers in the future. It probably could be generalized to other populations who were older adults with other chronic diseases and their family caregivers by considering the age range. However, the use of the SBI-Thai in other populations should further test psychometric properties.

Conclusion and Recommendation

In this study, the SBI-Thai version is appropriate for the assessment of personal perceived capability in positive events or savoring for Thai older adult cancer patients and their caregivers because of the strong construct validity with good fit indices. In addition, the convergent validity and reliability are between acceptable and good levels. Consequently, this measurement could be used to evaluate savoring as information before creating innovative treatments for better well-being among those populations in the future.

There were two limitations of the current study. Firstly, the data collection took a long time because a telemedical device was used instead of an on-site hospital appointment for all patients as a consequence of the Coronavirus disease pandemic (COVID-19) in Thailand. Thus, there were very few patients coming to the hospital during the period of data collection. Secondly, the authors followed the suggestions that the 240 pairs of participants were adequate (Ackerman, 2016; Anderson & Gerbing, 1984; Baron & Kenny, 1986; Boomsma & Hoogland, 2001; Ding et al., 1995; Frazier et al., 2004), but a larger sample size could always decrease the length of confidence intervals of the reliability coefficient and Pearson correlations and may increase the correlation coefficient (Johanson & Brooks, 2010). For future research, it is recommended to increase the number of participants and use a simple random sampling method to represent the majority population. Finally, the current study validated the SBI-Thai version only among elderly cancer patients and their family caregivers. Application in other populations, such as emerging adulthood, patients with other chronic diseases and their family caregivers, or any vulnerable group also needs to be carefully adjusted. The psychometric properties should be examined before being used in actual research.

Conflict of Interest

The authors declare that there is no conflict of interest.

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