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Development and validation of the Scale for Staff–Family Partnership in Long-term Care (SSFPLC)

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Abstract

Background: A partnership between staff and families is crucial to maintain nursing home residents' health and promote quality of care, and currently, there is a need for a measurement tool to assess the partnership.

Objectives: This study aimed to develop a tool for assessing the partnership between staff and the families of older adult nursing home residents from the perspective of staff members and to verify its reliability and validity.

Methods: The instrument was developed in the following four stages: (1) generation of an item pool via literature review and focus group interview, (2) experts' content validity analysis of 32 items, (3) a preliminary survey on 30 staff members and (4) validity and reliability tests of the instrument on 346 staff members in nursing homes between July and October 2018.

Results: The final instrument consists of 17-items in four categories (family's trust and support, collaborative relationship and communication, encouragement to participate in care and professional care). Each item was rated on a 4-point Likert scale, and the higher scores indicating better partnership between staff and families of nursing home residents. The reliability of the instrument was 0.90, and the test–retest intraclass correlation coefficient was 0.96.

Conclusion: The Scale for Staff–Family Partnership in Long-term Care (SSFPLC) showed acceptable reliability and validity as an instrument to assess the partnership between nursing home staff and families.

Implications for practice: This tool can be used for evaluating staff and family partnerships within nursing homes.

KEYWORDS
family, instrument development, nursing homes, partnership, staff

1 | INTRODUCTION

With rapid aging of the worldwide population, the older people in need of long-term care are also increasing due to chronic diseases such as dementia and stroke. Although the demand for both service providers and service users has increased owing to the quantitative increase in long-term care facilities, there are difficulties in providing these services to meet the needs of older adult families and to improve the health and quality of life of older adults living in the facilities (McGilton et al., 2016).

Most of the older adult nursing home residents are highly dependent, and as a result, the staff experience excessive physical and mental burnout, lowering their job satisfaction and increasing job turnover (Rajamohan et al., 2019). A previous study identified work overload, inadequate staffing and interpersonal conflicts as the causes of burnout among facility staff (White et al., 2020). Particularly, caregiving is a type of human service involving frequent emotional interactions; thus, emotional work plays a critical part (Yeatts et al., 2018). One of the major interactions required for nursing home staff is that with the families of nursing home residents. Even after admission, families frequently contact nursing home staff and play the role of an advocate and watcher for the admitted older adults (Shippee et al., 2017), during which they may face conflicts with the staff. However, families of nursing home residents may provide important information about the resident's life, habits, preferences and care needs (Reid & Chappell, 2017); thus, family member's participation in care is essential for the residents' well-being (Puurveen et al., 2018). Families of older adults living in the facility serve as a customer and a resource, and they care for the resident. As such, there is a complex interaction among the resident, the older adult's family, and the staff in partnerships for caring the older adult in the facility (Bauer & Nay, 2003).

Since the World Health Organization declared promoting the health of everyone in 1978 as a major goal (World Health Organization, 1978), the concept of partnership has been used as a collaborative relationship between healthcare professionals and clients with a greater focus on the patient's health status and enhancement of health management skills (Gregory et al., 2018). In nursing studies, partnership-related research has been conducted in various aspects, including for meaning and concept analysis of partnerships (Lee, 2007), the development of a partnership model (Coyne & Cowley, 2007; Wiggins, 2008), and the application of parent and family participation programs such as interventions for family involvement care (Mackie et al., 2018).

Despite the increased awareness of and emphasis on the need and importance of partnership, the development of a standardised instrument to assess partnership is at an inchoate stage, and existing tools have some limitations. Measurement scales for partnership developed so far only assess limited concepts, such as treatment alliance (Kim et al., 2001), trust (Jones and Barry, 2011) and relationship (Kiriake & Moriyama, 2016), and studies encompassing the core property of partnership are rare. Jones and Barry (2011) stated that trust is one of the most important factors in the effective

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What does this research add to existing knowledge in gerontology?

- The Scale for Staff–Family Partnership in Long-term Care (SSFPLC) is a valid and reliable scale to measure partnership in care between staff and family from the staff's perspective.
- Four factors contribute to partnership in care from the staff's perspective: encouragement to participate in care, family's trust and support, collaborative relationship and communication, and professional care.

What are the implications of this new knowledge for nursing care with older people?

- Staff members not only create a trustworthy relationship with the family but also play a professional role in caring for older people and having continuous interactions with families, thereby building partnership.
- Differences in the perspective regarding partnership between nursing home staff and residents' family should be assessed and considered on an individual basis.

How could the findings be used to influence policy or practice or research or education?

- Periodic assessment of partnership enables a nursing home manager to develop tailored intervention programs and guidelines for promoting partnership and high-quality care.

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functioning of partnerships and developed the trust measurement tool that only measures the trust and mistrust dimension in a partnership. Alliance is often used synonymously with partnerships. The Kim Alliance Scale tool measures the quality of therapeutic alliance in the dimensions of collaboration, integration, empowerment and communication (Kim et al., 2001). However, the evaluation of the tool was performed with a small number of participants; therefore, acceptable validity and reliability could not be shown.

As reported in previous studies, partnership formation leads to family satisfaction with the facilities and a decrease in conflicts with employees (Bidmead & Cowley, 2005; Gallant et al., 2002; Hook, 2006). Effects on employees include increased job satisfaction, reduced conflict and stress and improved quality of care (Bidmead & Cowley, 2005). Moreover, the effects on the older adult living in facilities include maintenance of well-being and health and improvement of quality of life (Dupuis et al., 2016). As such, the partnership between facility staff and their families pursues the common goal of improving the health and quality of life of the older adult, but it is formed through different influences in different contexts (Jang, 2020). In addition, there was a difference in the partnership attributes of facility staff and their families as reported in a previous

study (Jang, 2020), and even in one attribute, they had different perspectives on partnership, indicating that the indicators were different. Therefore, to accurately measure the partnership between facility staff and their families, it is necessary to develop a tool that reflects each viewpoint.

The Partnership Care Delivery Model (Wiggins, 2006, 2008) emphasises partnership for patient-centred care and explains that partnership among the patient, family and health care provider has a positive effect on patient safety, quality of care, satisfaction, outcome and job performance. Therefore, in this study, we intended to develop a tool for measuring the partnership between the nursing home staff and families of nursing home residents targeting nursing home staff and verify its reliability and validity.

2 | METHODS

2.1 | Study design

This is a methodological study aimed to develop and psychometrically test an instrument applicable to nursing home staff to assess their partnership with residents' families.

2.2 | Developing the scale

The development and validation of the instrument were performed according to the guidelines proposed by DeVellis (2016) and comprises the following four stages: (1) generation of an item pool, (2) estimation of content validity, (3) a preliminary survey and (4) testing of validity and reliability.

2.2.1 | Generation of an item pool

The components of partnership were identified in the author's previous study (Jang, 2020), which analysed the concept of partnership between facility staff and family. The study conducted by Jang (2020) used the hybrid model reported by Schwartz-Barcott and Kim (2000). By integrating theoretical analysis through a systematic literature review with an empirical process that reflects the situation in the field through focus group interview (FGI), the dimension and attributes of the concept were identified.

Based on the two dimensions (interpersonal and environmental dimensions) and seven attributes (relationship, information sharing, shared decision-making, professional competence, negotiation, involvement in care and shared responsibility) as reported in a previous study (Jang, 2020), the components of the item were confirmed, and two of our researchers developed the initial items based on literature and FGI data (Appendix S1).

We developed 32 self-reported preliminary items in Korean. Each item has a 4-point rating scale with responses ranging from

1 (strongly disagree) to 4 (strongly agree). Higher scores indicate a higher level of partnership. To prevent fixed response patterns, reverse coding items were included, and items were rearranged non-consecutively.

2.2.2 | Estimation of content validity

Content validity was tested to verify whether each item is appropriate per the operational definition. A panel of experts was invited and it included five nursing professors, three nursing home directors, and two nurses with at least 3 years of employment at a nursing home. The preliminary items were tested for the Item-level Content Validity Index (I-CVI). A ratings of 4 (very relevant) and 3 (relevant) were scored as 1 and the rest were scored as 0. All the preliminary items had I-CVIs exceeding the cut-off of value of 0.78 (Polit et al., 2007).

2.2.3 | Preliminary survey

A preliminary survey was performed with 10 staff members each at the facility with ≤29 beds, the one with 30–99 beds, and the one with ≥100 beds, a total of 30 participants were participated. The participants were 2 men and 28 women, the average age was 53.1 years, and average working period was 63.4 months. Eleven were college graduates or had a higher education level.

Participants were asked to respond to the readability, comprehensibility and clarity of the items. It took between 8 and 10 min for them to complete the preliminary survey. There were no problems with readability, comprehensibility, clarity, time required to complete and appropriateness of length. Therefore, the main survey was carried out with 32 items.

2.3 | Samples and setting

The participants were nursing home staff. The inclusion criteria were as follows: (1) direct care providers who were involved in the care of older adult nursing home residents, (2) those who consented to participate in this survey. Based on an appropriate sample size of 150–200 for exploratory factor analysis (EFA) (Hinkin, 1998) and a sample size of 150 or more for confirmatory factor analysis (CFA) (Anderson & Gerbing, 1988), the sample size was set at 350. Data were collected from 365 staff working at nursing homes in Seoul, Gyeonggi, Chungnam, Gangwon and Gyeongbuk provinces in Korea. 19 questionnaires were excluded due to missing data; thus, a total of 346 questionnaires were analysed. Samples were randomised to the EFA (*n* = 173) and CFA (*n* = 173) using the IBM SPSS/WIN 23.0 (IBM Corp) program feature for random case sampling, as Hinkin (1998) suggested to use different sample sets for EFA and CFA.

2.4 | Data collection

Data were collected from June to October 2018. In order to obtain approval and cooperation for data collection, researchers visited the nursing homes and explained the purpose of the study and the method of data collection to the head staff of nursing homes. A self-filled questionnaire was distributed after written informed consent was obtained from staff that were willing to participate in the study. The completed questionnaire was sent to researchers by mail. For the test–retest, an additional survey was conducted two weeks after the initial survey.

2.5 | Instrument

2.5.1 | Sociodemographic characteristics

Sociodemographic characteristics included age, gender, educational level, perceived economic status, perceived health status, perceived stress status, size of facilities, work position, working experience and satisfaction at current workplace.

2.5.2 | Attitude toward family checklist

Criterion validity was tested using the attitudes toward family checklist based on the evidence that staff shows positive attitudes toward families when they have a good collaborative relationship with families (Maas et al., 2004; Park, 2010). This tool measures staff attitudes toward families using three subscales (disruption, family as partners and family relevance). The Cronbach's α was 0.70 in the previous study (Park, 2010) and 0.73 in this study.

2.6 | Statistical analysis

Data were analysed using the IBM SPSS/WIN 22.0 and AMOS/WIN 22.0 software. Participants' general characteristics were analysed with descriptive statistics, and differences in the characteristics between the CFA and EFA groups were analysed using χ^2 tests and independent two-sample t-tests. Items were analysed for each item score, skewness and kurtosis, and item-total correlation coefficients of ≥0.3 (Field, 2013) were selected. For the EFA, factors were extracted using principal component analysis with Oblimin rotation. The fit indices used for model fitness for the CFA were χ^2 (p) ($p < .05$), normed χ^2 (χ^2/df) ≤ 3, goodness of fit index (GFI) ≥ 0.80, adjusted GFI (AGFI) ≥ 0.80, normed fit index (NFI) ≥ 0.90, comparative fit index (CFI) ≥ 0.90, root mean square residual (RMR) ≤ 0.05 and root mean squared error of approximation (RMSEA) ≤ 0.10 (Hair et al., 2010). The criteria for convergent validity were as follows: factor loading (FL) ≥ 0.50, critical ration (C.R) ≥ ±1.97 ($p < .05$), average variance extracted (AVE) ≥ 0.50 and composite construct reliability (CCR) ≥ 0.70. The

discriminant validity was tested with AVE > Φ^2. (Yu, 2016) For criterion validity, concurrent validity was tested with Pearson's correlation analysis with attitudes toward families. Reliability was tested with item-total correlation (ITC) and Cronbach's α. Test–retest reliability was tested with intra-class correlation co-efficient (ICC).

2.7 | Ethical consideration

This study was approved by the institutional review board (IRB No. 17–085–1). After informing the participants about the purpose and procedure of the study, a written consent was obtained. The researcher explained about the anonymity of participation, voluntary participation, ability to withdraw and confidentiality during data processing and analysis.

3 | RESULTS

3.1 | General characteristics of the participants

The mean age was 54.46 ± 9.80 years, and 310 (89.6%) were women. Although 206 (59.6%) perceived themselves to be in good health, 257 (74.3%) perceived themselves to have low level of stress. Regarding the size of workplace, 173 (50.0%) worked in a 30–99 bed facility. The mean length of work experience in the current position was 5.00 ± 5.26 years, and the workplace satisfaction score was 6.51 ± 1.94. There were no significant differences in the general characteristics between two groups (Table 1).

3.2 | Item analysis

Item analysis was performed for 32 preliminary items. Each item was included in the calculation of the mean score, standard deviation, Z-score, skewness and kurtosis value in order to test the appropriateness of the collected data. The skewness (−0.46–0.87) and kurtosis (−0.64–2.27) of each item satisfied the assumption of normality (Yu, 2016). The Z-score was <±3.0 for all items (Yu, 2016). The mean scores for individual items ranged from 2.74 to 3.39 out of a score of 1–4, with a standard deviation of 0.44 to 0.75. In order to examine the contribution rate of the items, item-total correlation coefficients were calculated. After deleting 10 items with an ITC value of below $r = |.30|$ (Field, 2013), 22 items were left in the tool.

3.3 | Construct validity

To verify the construct validity, EFA and CFA were performed and convergent validity and discriminant validity were tested.

TABLE 1 General characteristics of participants (N = 346)

Characteristics	Categories	Total	Group A for EFA (n = 173)	Group B for CFA (n = 173)	t or χ^2	p
		n (%) or M ± SD				
Age (years)		54.46 ± 9.80	54.50 ± 9.21	54.40 ± 10.38	0.09	.930
Gender	Female	310 (89.6)	160 (92.5)	150 (86.7)	3.10	.056
	Male	36 (10.4)	13 (7.5)	23 (13.3)		
Educational level	≤Middle school	44 (12.7)	18 (10.4)	26 (15.0)	2.01	.367
	High school	153 (44.2)	76 (43.9)	77 (44.5)		
	≥College	149 (43.1)	79 (45.7)	70 (40.5)		
Perceived economic status	Good	16 (4.6)	9 (5.2)	7 (4.0)	0.26	.876
	Moderate	282 (81.5)	140 (80.9)	142 (82.1)		
	Poor	48 (13.9)	24 (13.9)	24 (13.9)		
Perceived health status	Good	206 (59.6)	96 (55.4)	110 (63.6)	3.53	.171
	Moderate	134 (38.7)	75 (43.4)	59 (34.1)		
	Poor	6 (1.7)	2 (1.2)	4 (2.3)		
Perceived stress status	Low	257 (74.3)	132 (76.3)	125 (72.3)	0.74	.389
	High	89 (25.7)	41 (23.7)	48 (27.7)		
Size of facilities	≤29 beds	77 (22.3)	37 (21.4)	40 (23.1)	2.86	.240
	30–99 beds	173 (50.0)	81 (46.8)	92 (53.2)		
	≥100 beds	96 (27.7)	55 (31.8)	41 (23.7)		
Position	Nurse & assistant nurse	66 (19.1)	35 (20.2)	31 (17.9)	3.68	.159
	Healthcare worker	193 (55.8)	88 (50.9)	105 (60.7)		
	Social worker	87 (25.1)	50 (28.9)	37 (21.4)		
Working experience in current position (year)		5.00 ± 5.26	5.08 ± 5.01	4.93 ± 5.51	0.25	.801
Satisfaction of current workplace (range: 0–10)		6.51 ± 1.94	6.69 ± 1.95	6.33 ± 1.93	1.73	.084

Abbreviations: CFA, confirmatory factor analysis; EFA, exploratory factor analysis.

3.3.1 | Exploratory factor analysis

Prior to the EFA, we performed the Kaiser–Meyer–Olkin (KMO) and Bartlett's test of sphericity. The value of KMO was 0.91 and Bartlett's sphericity test value was $\chi^2 = 2759.27$ ($p < .001$), indicating that the sample was appropriate for factor analysis.

Principal component analysis and factor rotation were performed to extract factors. As a result, two items with a commonality ≤0.40 (#3, 5), and one item with an FL value <0.40 in the structure and pattern matrix (#30) (Hair et al., 2010) were deleted. The remaining 19 items were analysed with EFA, and the FL of all items was ≥0.60. The number of factors was set up as four by the scree graph, eigenvalue, explanatory power of factors, and explained cumulative variance. Four factors showed eigenvalues of ≥1.0. There were four significant factors shown as elbow points on the scree graph (Appendix S2). Furthermore, the explanatory power of the factors ranged from 21.3% to 24.6%, and the explained cumulative variance of factors was 91.7% (Table 2).

3.4 | Confirmatory factor analysis

Confirmatory factor analysis was conducted to test the construct validity for the 19 items under four factors identified through EFA. The factors were named encouragement to participate in care (factor 1), family's trust and support (factor 2), collaborative relationship and communication (factor 3), and professional care (factor 4). We checked whether the items have a standardised FL of ≥0.50 and significance (C.R.) of ≥±1.97 ($p < .05$), and items 9 and 32 did not meet the criteria and were deleted. The model fit for 17–items were $\chi^2 = 186.25$ ($p < .001$), χ^2/df = 1.65, GFI = 0.89, AGFI = 0.85, CFI = 0.94, RMR = 0.02 and RMSEA = 0.06; it satisfied the recommended level with the exception of χ^2 (p).

The convergent validity and discriminant validity were tested to examine the construct validity. First, convergent validity was tested and the items satisfied the cut-off for standardised FL (=0.50) and significance C.R. (=1.97). The cut-off for AVE (=0.50) and CCR (=0.70) was also met. Second, the discriminant validity (AVE > Φ^2)

TABLE 2 Item analysis and factor analysis of SSFPLC (N = 346)

Factor/Item contents	M ± SD	Factor loadings 1	2	3	4	Communality	Explained Variance (%)	ITC[a]	Cronbach's α if item deleted[a]	Cronbach's α[a]	ICC (95%CI) (n = 30)[a]
Factor 1 – Encouragement to participate in care											
27. I encourage the families to visit the facility.	3.05 ± 0.63	0.79	0.04	−0.03	0.01	0.68	24.6	0.59	0.76	0.82	0.85 (0.68–0.93)
28. I positively support family involvement in providing care (e.g. conversation, taking a walk, meal assistance, etc.).	3.23 ± 0.55	0.75	0.13	0.07	0.11	0.68		0.62	0.76		
26. I inform the families about the condition or changes in the condition of the older adults residing in the facility.	3.16 ± 0.59	0.63	−0.07	−0.26	0.09	0.62		0.62	0.80		
29. I welcome the families when they visit the facility.	3.27 ± 0.60	0.59	0.26	0.04	0.16	0.60		0.64	0.79		
9. I think families and facility staff are responsible for the care of the elderly residing in the facility.	3.23 ± 0.59	0.53	−0.05	0.01	.19	0.39					
Factor 2 – Family's trust and support											
2. Families abide by the rules and the policies of the facility well.	2.88 ± 0.57	−0.06	0.84	−0.01	−0.03	0.67	21.3	0.44	0.74	0.79	0.52 (0.01–0.77)
1. Families are reassured about the life of the older adults residing in the facility.	3.14 ± 0.51	0.09	0.72	0.18	0.13	.55		0.46	0.77		
4. Families are grateful for my care for the older adults residing in the facility.	3.11 ± 0.55	−.13	.66	−.18	.06	.54		0.47	0.76		
7. Families trust the information provided by the facility staff for their decision-making.	3.07 ± 0.54	0.21	0.64	−0.10	−0.08	0.57		0.56	0.75		
6. Families actively participate when I (the facility staff) ask for cooperation regarding the older adults residing in the facility.	3.04 ± 0.61	0.09	0.62	−0.22	−0.13	0.53		0.49	0.76		

TABLE 2 (Continued)

Factor/Item contents	M ± SD	Factor loadings				Communality	Explained Variance (%)	ITC[a]	Cronbach's α if item deleted[a]	Cronbach's α[a]	ICC (95%CI) (n = 30)[a]
		1	2	3	4						
Factor 3 – Collaborative relationship and communication											
17. Families and I cooperate with each other in caring for the older adults residing in the facility.	3.02 ± 0.52	0.02	0.09	−0.73	0.11	0.67	23.1	0.63	0.76	0.82	0.69 (0.34–0.85)
16. Families and I communicate smoothly regarding caring for the older adults.	2.92 ± 0.58	0.12	0.08	−0.70	0.03	0.64		0.61	0.78		
18. Families and I share a common goal in caring for the older adults residing in the facility.	2.98 ± 0.54	−0.10	0.10	−0.68	0.22	0.61		0.58	0.78		
21. Families and I respect each other's knowledge and experience with regard to caring for the older adults residing in the facility.	2.99 ± 0.54	−0.03	0.19	−0.63	.15	0.60		0.62	0.79		
32. I involve the families when planning care for the older adults residing in the facility.	2.68 ± 0.62	0.36	−0.07	−0.48	−0.14	0.40					
Factor 4 – Professional care											
13. I provide appropriate care on the condition of the older adults residing in the facility.	3.20 ± 0.44	0.12	0.02	0.01	0.78	0.71	22.7	0.58	0.75	0.82	0.70 (.38-.86)
31. I am sensitive to changes in the state of the older adults residing in the facility.	3.16 ± 0.59	0.10	0.02	0.08	0.75	0.61		0.48	0.82		
23. I encourage the older adults residing in the facility to eat or exercise by themselves regularly as much as possible.	3.27 ± 0.48	0.04	−0.08	−0.23	0.73	0.69		0.59	0.79		
25. I provide care while maintaining the dignity of the older adults residing in the facility.	3.25 ± 0.45	0.04	0.03	−.018	0.71	0.65		0.61	0.78		
Total	3.09 ± 0.55						91.7			.90	.96 (.91-.98)

KMO = 0.91, Bartlett's test: χ^2 = 2759.27 (p < .001)

Abbreviations: ICC, intra-class correlation coefficient; ITC, item-total correlation.

[a]Results excluding items 9 and 32.

was tested to determine the independence of the factors. The AVE (0.71–0.84) was higher than the square (=0.65) of the highest correlational coefficient value between the latent variables (=0.81); therefore, both discriminant and convergent validity were established (Table 3).

The final 17–item version of the Scale for Staff–Family Partnership in Long-term Care (SSFPLC) can be found in Appendix S3.

3.4.1 | Criterion validity

For criterion validity, concurrent validity was tested by performing the Pearson correlation analysis with the staffs' attitudes toward families. The correlation coefficient (r) was .43 ($p < .001$; Table 4).

3.5 | Reliability

3.5.1 | Internal reliability

To examine the homogeneity of the SSFPLC for reliability, ITC and internal consistency Cronbach's α were assessed. The ITC ranged from 0.44 to 0.64, satisfying the criterion of ≥|0.30|, and there was

a positive correlation with all items (Field, 2013). The Cronbach's α was.90 for the all 17–items, and no items had an increase in the Cronbach's α value when the items were removed, and 0.79–0.82 for factors, which were all above the cut-off of 0.70 (DeVellis, 2016; Table 2).

3.6 | Stability reliability

To examine the stability of the SSFPLC for reliability, the test–retest reliability was assessed. After administering the questionnaire on 30 nursing home staff members, the same questionnaire was administered again on the same 30 staff members two weeks later. The test–retest ICC was 0.96 (95% CI: 0.91–0.98; Table 2).

4 | DISCUSSION

Partnership between the staff and families of nursing home residents is difficult to measure due to a complex interaction among the residents, care providers and families. In this study, we systematically developed an instrument to assess the partnership between families and staff in nursing home based on the scale development guideline by DeVellis (2016) and confirmed that the scale has acceptable reliability and validity.

TABLE 3 Confirmatory factor analysis of SSFPLC (N = 173)

Factor	Item	Standardised estimates	SE	C.R.	p	AVE	CCR
Factor 1	27	0.77				0.77	0.88
	28	0.75	0.09	9.66	<.001		
	26	0.67	0.10	8.56	<.001		
	29	0.76	0.09	9.77	<.001		
Factor 2	2	0.72				0.71	0.84
	1	0.59	0.11	6.78	<.001		
	4	0.64	0.11	7.27	<.001		
	7	0.62	0.10	7.10	<.001		
	6	0.69	0.13	7.79	<.001		
Factor 3	17	0.74				0.78	0.88
	16	0.71	0.14	8.48	<.001		
	18	0.68	0.13	8.11	<.001		
	21	0.73	0.12	8.65	<.001		
Factor 4	13	0.78				0.84	0.92
	31	0.66	0.14	8.46	<.001		
	23	0.79	0.11	10.38	<.001		
	25	0.77	0.10	10.07	<.001		
Model fit		χ^2 (p) = 186.25 (<0.001), df = 113, χ^2/df = 1.65, GFI = 0.89, AGFI = 0.85, NFI = 0.86, CFI = 0.94, RMR = 0.02, RMSEA = 0.06						

Abbreviations: AGFI, adjusted goodness of fit index; AVE, Average variation extracted; CCR, composite construct reliability; CFI, comparative fit index; CR, Critical ratio; χ^2/df, chi-square/degree of freedom; GFI, goodness of fit index; NFI, normed fit index; RMR, root mean square residual; RMSEA, root mean square error of approximation; SE, standard error.

TABLE 4 Criterion-related validity of SSFPLC (*N* = 346)

Measurement	SSFPLC *r (p)*	Factor 1	Factor 2	Factor 3	Factor 4
Attitudes toward family	0.43 (<0.001)	0.30 (<0.001)	0.43 (<0.001)	0.39 (<0.001)	0.20 (<0.001)

The SSFPLC was structured as a 17–item instrument under four factors. Each factor consists of items that reflect the role each of the parties of partnership and the interaction between the two parties. That is, there is one factor about the roles of families for partnership formation (factor 2), one factor about the interaction between staff and families (factor 3), and two factors about the roles of the staff (factors 1 and 4). Unlike previously developed measurement scales, which measure only partial aspects of partnerships, and were mainly focused on trusting relationships (Jones and Barry, 2011; Kiriake & Moriyama, 2016), the SSFPLC encompasses elements presented in Partnership Care Delivery Model comprehensively (Wiggins, 2006, 2008).

Encouragement to participate in care (factor 1) and professional care (factor 4) reflect the staff's roles as it is important to involve family in a decision-making process (Wiggins, 2008). The encouragement to participate in care factor consists of items pertaining to welcoming, encouraging and supporting families to visit the facility to function as partners. The professional care reflects the staff's professional competence and caregiving. This factor consists of items pertaining to being attentive to changes in the residents' states and providing appropriate care, maintaining dignity and encouraging the nursing home residents to participate in activities.

The family's trust and support factor (factor 2) refers to the roles expected of families of nursing home residents to build a partnership and included the following items: a feeling of reassurance about the life in the facility, gratitude for care given, trust in the information and adherence to the regulations and policies. This also connotes mutual respect and parity between the two parties as the basic assumptions.

The collaborative relationship and communication (factor 3) reflect the interaction between the staff and families. This shows consistency with previous research as relationship and cooperative communication was commonly discussed attributes of partnership (Dennis et al., 2017; Wiggins, 2008). This factor can also be found in the measurement tool for families' perspective partnership with staff within long-term care facilities. This finding indicates that collaborative relationship and communication are important components for partnership, and they can be evaluated from both staff and families' perspectives (Jang & Song, 2020).

Item analysis confirmed that none of the items of the SSFPLC were biased and their ITC values were evenly distributed (0.44–0.64), suggesting that each item evenly contributes to the entire scale with no unnecessary items. The fact that the scale only has 17–items and the phrasing of the items is easy to understand makes it easy to apply the instrument in practice in a short period of time.

The significance of this study is that it developed an instrument to assess the partnership between nursing home staff and families of nursing home residents. This scale can be used to assess factors requiring improvement in terms of forming a partnership with newly admitted residents, which may contribute to providing individualised care and support. Family involvement is an important factor for enhancing the quality of care, but as the length of residence increases, family's involvement declines (Puurveen et al., 2018). The SSFPLC includes items 'I encourage the families to visit the facility' and 'I welcome the families when they visit the facility', which enable periodic evaluation of the partnership with nursing home residents' families.

Another significance is that we developed an instrument that defines and measures the partnership, including the professional care domain, through empirical verification using FGI (Jang, 2020) and extensive literature reviews. Most previous studies included factors pertinent to relationship formation and roles, such as positive attitude, relationship formation and sharing of responsibility, as the properties of partnership (Kiriake & Moriyama, 2016). In the present study, FGI participants emphasised that professional caregiving is essential to ensure the safety of the older adults residing in nursing homes and provide quality care as well as to build partnership with families (Jang, 2020). As relevant studies have reported that staff competence and practice of nursing activities are related to coherent caregiving and establishment of role boundaries (Gregory et al., 2018; Mikkelsen & Frederiksen, 2011), professional care is crucial in the formation of partnership. From a nursing management perspective, the formation of an effective partnership between staff and families is associated with enhanced job satisfaction among the staff, enhanced satisfaction with the facility among families, reduced role conflicts among the staff, and ultimately, with elevated quality of life among the older adult residents (Puurveen et al., 2018). Thus, nursing managers could utilise this instrument to periodically assess the partnership to identify and resolve problems, thereby promoting the quality of care provided to residents. The relationships among partnership, job satisfaction and role conflicts can be examined as well.

4.1 | Limitations

This tool was initially developed in Korean, and the English version was developed through translation, reverse-translation and equivalence comparison (Brislin, 1970; DeVellis, 2016) to secure the validity of the translated tool before submission to the journal. However, because the English version of the tool was not validated, it will be validated in the future.

5 | CONCLUSION AND IMPLICATION

The SSFPLC can be utilised to assess the partnership among staff members of nursing home of various sizes. The four components of partnership proposed in this study can be utilised as a theoretical framework for developing interventions to improve the partnership between facility staff and families and to assess the educational needs and effects of intervention. Further validation testing is required in various nursing home environments, and efforts to translate and culturally adapt it in other languages and cultures are necessary.

CONFLICT OF INTERESTS

The authors declared no conflicts of interest to disclose.

AUTHOR CONTRIBUTIONS

Concept and design: JHY, Acquisition of data: JHY & SEO, Data analysis: JHY & SEO, Interpretation of data: JHY & AJW, Manuscript preparation: JHY & AJW.

ETHICAL APPROVAL

This study was approved by the institutional review board (HYI-17–085–1) at Hanyang University.

DATA AVAILABILITY STATEMENT

The data presented in this study are available on request from the corresponding author and with permission of the Institutional Review Board of Hanyang University.

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