RESEARCH ARTICLE

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# The effects of reminiscence therapy on psychological well-being, depression, and loneliness among the institutionalized aged

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**Objectives:** To examine the effects of reminiscence therapy on psychological well-being, depression, and loneliness among institutionalized elderly people.

**Methods:** In an experimental study design, 92 institutionalized elderly people aged 65 years and over were recruited and randomly assigned to two groups. Those participants in the experimental group received reminiscence therapy eight times during 2 months to examine the effects of this therapy on their psychological well-being.

**Results:** After providing the reminiscence therapy to the elderly in the experimental group, a significant positive short-term effect (3 months follow-up) on depression, psychological well-being, and loneliness, as compared to those in the comparison group was found.

**Conclusions:** Reminiscence therapy in this study sample improved socialization, induced feelings of accomplishment in participants, and assisted to ameliorate depression. Copyright © 2009 John Wiley & Sons, Ltd.

**Key words:** reminiscence therapy; elderly; depression; psychological well-being; loneliness
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## Introduction

With advances in medical technology, the life expectancy of people globally is increasing. This trend has contributed to an aging population worldwide. For example, in 2005 the global elderly population over 65 years of age was 7.4%; this percentile is projected to increase to 16.1% by the year 2050 (United Nations Population Division, 2009). In the United States, there were approximately 38.7 million people aged 65 years and over in 2008; this number is projected to more than double to 88.5 million in 2050 (U.S. Census Bureau, 2008). In Taiwan currently 10.43% (2 402 220) of the population is over the age of 65, and this ratio is predicted to increase to 14.4% by the year 2020 (Taiwan Council for Economic Planning and Development, 2008).

As people age and move toward retirement they can experience a loss of physiological, psychological, and social function and involvement. Indeed, such losses are variable and not all aged people need care or support, nor are they necessarily dependent; however, in some cases such loss of function and capability can leave the person emotionally and physically vulnerable. For some aged persons, depression, for example, exacerbates the issues surrounding social deprivation,

loneliness, and a diminished social role. Depression can also involve suicidal ideation and intent.

A 2006 survey reported that 35–84% of the community elders aged over 65 years in America experienced loneliness (Lauder *et al*., 2006). In a 2005 report from the Department of Statistics, Taiwan Ministry of Interior, it was highlighted that 21.8% of Taiwanese community elders were also lonely. Wang *et al*. (2001) suggests, from a rural perspective, that approximately 60.2% of the community elders surveyed experienced severe loneliness. Issues of depression, self-identity, loneliness, and challenges associated with coping with change due to aging are especially important issues for institutionalized elders in eastern culture. Validation therapy, reminiscence therapy, and cognitive behavioral therapy have been addressed in the literature as three of the major treatment approaches used in the emotional care of the elderly person.

Recently, the use of the reminiscence therapy in Taiwan has become common and the effectiveness of this therapy has been beneficial in the care and support of the elderly person who is institutionalized in care. Furthermore, reminiscence therapy is successful in improving one's comprehension skills and in boosting self-esteem, to ease the feeling of depression and hopelessness, and to enhance self-integration. Many studies point out the positive effects of reminiscence therapy and highlight its effectiveness in the easing of depressed feelings (Bohlmeijer *et al*., 2003; Hsieh and Wang, 2003; Husaini *et al*., 2004; Wang, 2005; Pinquart *et al*., 2007), it is also known to be beneficial to an aged persons psychological well-being (Tatchell and Jordan, 2004; McKee *et al*., 2005; Zauszniewski *et al*., 2006), it assists to ease feelings of loneliness (Liu *et al*., 2007), and can ameliorate negative emotions and anxiety (Chou *et al*., 2008). Reminiscence therapy does have a role in the maintenance of self-esteem (Lin *et al*., 2003; Chao *et al*., 2006; Nomura and Hashimoto, 2006), self-value (Baker, 1985), better coping skills (Nugent, 1995), increased satisfaction with life (Cook, 1998; Lin *et al*., 2003), enhanced self-integration (Stinson and Kirk, 2006; Zauszniewski *et al*., 2006), enhancement of functional activities (Kovach and Henschel, 1996; Woods *et al*., 2005; Zauszniewski *et al*., 2006), improved social functions and activities (King, 1982; Cook, 1991), prevention of behavioral problems (Kovach and Henschel, 1996), and in the effective care of the aged person (Shellman, 2007).

Nevertheless, despite its reputation as an effective approach in the care of the aged person with dementia and in the context of those persons retired and in care, a randomized clinical trial for measuring the outcome of reminiscence therapy is lacked. Research in the areas of reminiscence therapy is limited in Taiwan and it is not clear if such interventions are helpful in the eastern culture. Therefore, this study aimed to observe the effect of reminiscence therapy on improving the psychological well-being of institutionalized elderly persons in Taiwan.

## Evidence-based studies of reminiscence therapy on depression treatment

Reminiscence therapy has been proven to be beneficial to the elderly because it reduces depression and negative feelings. It also enhances self-integration. According to the literature, reminiscence therapy is usually provided to the elderly person with depression about 6–12 times, 1–2 times weekly, and in a 40–60 min session (Ashida, 2000; Jones, 2003; Wang, 2005, 2007; Beth, 2006). The evaluation of reminiscence therapy was done using the following tools: Geriatric Depression Scale short form (GDS-SF); Cornell Scale for Depression in Dementia (CSDD), and Hamilton Rating Scale of Depression (HRSD). Results from previous studies have shown that reminiscence therapy improves depressive symptoms, with the average GDS-SF score falling from 13.7–6.36 points to 12.3–4.29 points, and the average CSDD score decreasing from 7.37 to 6.23 points (Ashida, 2000; Jones, 2003; Wang, 2005, 2007; Beth, 2006). The positive effects persisted when measured at 1 and 3 years post-therapy ($p < .05$) (Haight *et al*., 2000). These results support the contention that reminiscence behavior is adaptive and that it can produce a positive effect on depressed mood states in the elderly.

## Evidence-based studies of reminiscence therapy on psychological well-being

Reminiscence is highly associated with pleasure, security, health, and a feeling of belonging to a place. The positive ability (to recall good things, be prepared for death, and be able to solve problems) and negative ability (to reminisce about sad and profound events) are both significantly associated with psychological well-being among the elderly (Cappeliez and O'Rourke, 2006). From evidence-based studies of reminiscence used to improve psychological well-being, using the Affect Balance Scale (ABS), Short Form 36 General Health Survey (SF-36), and the General Questionnaire (GHQ) it was found that reminiscence helped people to improve psychological

well-being, with the average ABS score increasing from 1.5–10.9 to 3.2–14.9 ($p < .05$) (Fielden, 1990; Haight and Dias, 1992; Haight *et al*., 1998; Haight *et al*., 2000; Tatchell and Jordan, 2004). Moreover, the positive effect on mood lasted for 1 year ($p < .05$) (Haight *et al*., 2000). These studies presented evidence to suggest that reminiscence therapy is helpful in improving overall psychological well-being and to prevent further psychological deterioration.

### Evidence-based studies of reminiscence therapy on treating loneliness

When an elderly person was moved from their private home to a nursing home, or to a long-term care facility from home, the person's feelings of loneliness increased, compared to those people who remained at home living in the community (Bondevik and Skogstad, 1996). Research on the association between reminiscence and loneliness remains limited, however, some studies have demonstrated a decrease in the feeling of loneliness when reminiscence therapy was provided 1–3 times per week for at least 1 h, occurring between 10 and 13 sessions. The UCLA Loneliness Scale was commonly used in these type of studies (McDougall *et al*., 1997; Wei, 2004; Liu and Guo, 2007). According to these study results, reminiscence eased the feeling of loneliness among the elderly, with the average score of the UCLA Loneliness Scale dropping from 44.9–54.2 to 35.5–40.4 ($p < .05$) (McDougall *et al*., 1997; Wei, 2004; Liu and Guo, 2007). The findings in data-based studies have been inconclusive on the therapeutic role of reminiscence therapy in alleviating loneliness in the elderly persons.

## Ethical consideration

The study protocol was approved by Institutional Review Board of the University for the protection of human subjects and the consenting nursing home institution. Before the study began researchers informed the participants about the topic of the research, the research objectives, the time needed to perform the study, and the instruments being used to collect data. Each participant signed a consent form that they had been informed about the study and that they were free to withdraw at any time and their data would be destroyed. All the participants' personal information was held confidential.

## Methods

The research team has conducted a series of life review intervention studies in the elderly population in Taiwan and has published these findings internationally (Chiang *et al*., 2008). This study further builds on these findings. In this study, we used an experimental design to assign the participants to either the experimental group (reminiscence group) or the other waiting list control groups.

## Study subjects

We recruited our study samples from a nursing home institution in the Taipei area. The inclusion criteria were: (1) conscious and able to speak Mandarin or Taiwanese, (2) aged 65 years or over, and (3) the MMSE score was greater than 20. Participants were excluded from this study if they showed evidence of significant cognitive impairment.

## Measurement tools

We used the following tools to examine the effects of reminiscence therapy on mood and to determine the potential confounding variables in the study.

### Center for epidemiological studies depression scale (CES-D)

The CES-D is self-response questionnaire consisting of 20 questions to measure a person's emotional performance in the past week. The symptoms asked about in the CES-D include depression, feelings of guilt, worthlessness, helplessness, hopelessness, mentally induced activity, regression, poor appetite, and sleep disturbance. The total score ranges from 0 to 60 points, and the level of depression is positively associated with the score. A score of 16 is the common cutoff point used, with 0–15 points indicating no depression, 16–20 points as mild depression, 21–30 points as moderate depression, and over 30 points as severe depression. Roberts *et al*. (1991) performed a depression screening among high school students using the CES-D, and the authors found the sensitivity, specificity, and positive predictive value of the CES-D was 38%, 76%, and 10%, respectively. The internal consistency reliability of the screening was 0.77–0.99, and the 4-week test–retest reliability was 0.67. The

 

relation coefficient for the BDI was 0.81, and it was 0.90 for SDS.

### Symptoms checklist-90-R (SCL-90-R)

This checklist was designed by Derogatis as a self-evaluation checklist, and it was further translated into Chinese by Yeh. Zheng (1987) recruited a group of intellectually disabled mothers to test the reliability and validity of this checklist, and the author further edited the checklist into one with 35 questions based on the Chinese version. The score of that checklist ranged from 0 to 140, with a higher score indicating more serious psychological well-being problems. The results from Cheng *et al*. study indicated that the Cronbach $\alpha$-value of the checklist was 0.89–0.92.

### Revised University of California Los Angeles loneliness scale (RULS-V3)

The RULS-V3 measures emotional and social loneliness, and it has undergone a three-time modification based on the ''Loneliness Scale'' developed by the University of California, Los Angeles in 1980. The questionnaire contains 20 questions. The total score ranges from 20 to 80, with a high score indicating more severe feelings of loneliness. Regarding its cutoff points, a score between 20 and 40 indicates mild loneliness, a score between 41 and 60 indicates moderate loneliness, and a score between 61 and 80 indicates severe loneliness. This questionnaire can be applied to young adults, adults, and elders, and the Cronbach $\alpha$-value of this questionnaire was tested to 0.89–0.94 (Russell, 1996). Wang *et al*. (2001) translated the RULS-V3 into a Chinese version and tested it among elders in a rural community in Southern Taiwan, obtaining a Cronbach $\alpha$-value of the Chinese version of the questionnaire at 0.82 with a test–retest reliability of 0.73.

### Mini-mental state examination (MMSE)

The MMSE is the most wildly used cognitive screening instrument for older persons and includes orientation, registration, attention and calculation, recall and language (Folstein *et al*., 1975). The total score for the MMSE ranges from 0 to 30; scores $>24$ indicate basically no cognitive impairment; scores 20–23 indicate mild cognitive impairment; scores 10–19 indicate moderate Alzheimer's disease; scores 0–9 indicate severe Alzheimer's disease. The reliability was adequate with a Cronbach's $\alpha$ of 0.75. External construct validity was supported by expected associations (Lin *et al*., 2008).

### Demographics

The demographic characteristics of participants included, age, marital status, education level, health status, economic status, and any other chronic medical diagnosis (See Table 1).

## Study procedure

The data were collected during a one to one interview. Researchers informed each participant of the study's objectives and about reminiscence therapy. Then, those who consented to participate were randomly assigned to either the experimental or comparison (waiting list control) group by permuted block randomization. Three waves of data collection were conducted: pre-test, post-test, and 3-month follow-up tests were performed to examine the effects of the reminiscence therapy on each of the participants in the experimental group. We provided reminiscence therapy to the participants in the experimental group for 8 weeks. The sessions were structured and concentrated on a different topic each week. The therapy topics included (1) sharing memories and greeting each other; (2) increasing participant awareness of their feelings and helping them to express their feelings; (3) identifying positive relationships from their past and how to apply positive aspects of past relationships to present relationships; (4) recalling family history and life stories; (5) transition in life issues; (6) gaining awareness of personal accomplishments and identifying personal goals; (7) identifying positive strengths and goals; and (8) an overall review of the eight sessions and then a farewell. Therapy was held in the recreation room of the facility once a week in a 90-min session. A master's prepared student in mental health nursing with practicum, internship, and clinical experience with elderly persons and group reminiscing led all the groups. This enabled a constant control over leadership variability. A co-leader was present for each session. The co-leader served as a reliability check for the measure that was completed on each participant during the group session. Both group leaders had extensive experience and training in group counseling and reminiscence therapy. The primary investigator provided the training and protocols. The

Table 1 Characteristics of the study participants

| Variable (categorized) | Experimental group ($n = 45$) | | Comparison group ($n = 47$) | | Pre-test comparison | |
|---|---|---|---|---|---|---|
| | Number (average) | % (SD) | Number (average) | % (SD) | Test/value | *p*-Value* |
| Education level | | | | | Fisher's exact test/3.99 | 0.44 |
| Illiterate | 25 | 55.56 | 26 | 55.32 | | |
| Elementary school | 13 | 28.89 | 13 | 27.66 | | |
| Junior high school | 6 | 13.33 | 3 | 6.38 | | |
| High school | 1 | 2.22 | 2 | 4.26 | | |
| College | 0 | 0 | 3 | 6.38 | | |
| Marital status | | | | | Fisher's exact test/1.53 | 0.71 |
| Married | 8 | 17.78 | 6 | 12.77 | | |
| Widowed | 5 | 11.11 | 9 | 19.15 | | |
| Divorced/separation | 6 | 13.33 | 5 | 10.64 | | |
| Unmarried | 26 | 57.78 | 27 | 57.45 | | |
| Self-perceived health status | | | | | Fisher's exact test/2.24 | 0.55 |
| Very bad | 0 | 0 | 1 | 2.13 | | |
| Bad | 13 | 28.89 | 17 | 36.17 | | |
| Fair | 25 | 55.56 | 20 | 42.55 | | |
| Good | 7 | 15.56 | 9 | 19.15 | | |
| Economic status | | | | | Fisher's exact test/0.29 | 1.00 |
| Enough for daily expenses | 26 | 57.78 | 28 | 59.57 | | |
| Somewhat difficult | 18 | 40 | 18 | 38.30 | | |
| Very difficult | 1 | 2.22 | 1 | 2.13 | | |
| Age | 77.42 | 3.71 | 77.06 | 4.23 | Mann–Whitney *U*-test/−0.63 | 0.53 |
| MMSE score | 23.02 | 2.16 | 23.17 | 1.81 | Mann–Whitney *U*-test/–0.77 | 0.44 |
| The number of chronic medical illness | 2.42 | 0.84 | 2.51 | 0.80 | Mann–Whitney *U*-test/−0.66 | 0.51 |

*Note*: $^*p < 0.05$.

training consisted of 54 h of didactic training followed by the reminiscence group therapy manual. The waiting list control group met to complete the assessment instruments during the same weeks that the treatment groups were tested. Written instructions were followed by researchers to ensure uniform administration procedures for all groups. Following the completing of this investigation, subjects in the waiting list control group participated in other reminiscence therapy.

## Data analysis

SPSS 15.0 and SAS 8.0 statistical packages were used to construct our database and perform statistical analyses. Descriptive statistics were performed with percentages, means, and standard error applied. In addition to parametric data analysis, non-parametric tests were also utilized: *t*-test, Mann–Whitney *U*-test, and generalized estimating equation (GEE) were used for data analysis. GEE was used to explore the effects of the intervention on the elders' depression level, loneliness, and psychological well-being, respectively. GEEs have become an important strategy and are robust in the analysis of longitudinal data, in which subjects are measured at different points in time.

## Results

In this study, a participant who missed therapy four times was considered a dropout. Initially, each group had 65 participants. In the experimental group, 20 participants dropped out during the study, representing a dropout rate of 31%. In the comparison group, 18 participants dropped out, representing a dropout rate of 28%. The common reasons for leaving the study were being unable to comply with the therapy schedule, personal health problems, being hospitalized, and that the experience was not what the participant had expected it to be. After excluding the dropouts, 45 participants remained in the experimental group and 47 were left in the comparison group.

### Characteristics of the participants

All of the participants were males with an average age of 77.24 (SD = 3.97) years (Table 1). Of the participants, 58% ($n = 53$) were unmarried, and 55%

 

Table 2 Descriptive statistics data of experimental and comparison groups of depression, psychological well-being, and loneliness

| Variable | Experimental group ($n = 45$) | Comparison group ($n = 47$) | $t$-value | $p$-Value* |
|---|---|---|---|---|
| | Mean/SD | Mean/SD | | |
| Depression | | | | |
| Pre-test | 19.11/2.12 | 18.91/2.98 | 0.37 | 0.72 |
| Post-test | 16.18/2.07 | 18.74/2.70 | | |
| Follow-up test | 15.49/1.99 | 19.43/2.22 | | |
| Psychological well-being | | | | |
| Pre-test | 27.09/1.76 | 26.91/2.61 | 0.38 | 0.71 |
| Post-test | 24.13/2.40 | 27.68/2.30 | | |
| Follow-up test | 23.91/2.10 | 27.89/2.22 | | |
| Loneliness | | | | |
| Pre-test | 42.24/7.37 | 42.00/8.04 | 0.15 | 0.88 |
| Post-test | 34.82/7.05 | 42.11/7.82 | | |
| Follow-up test | 35.00/7.16 | 42.09/7.93 | | |

*Note*: *$p < 0.05$.

($n = 51$) of them were illiterate. About half of the participants ($n = 45$) perceived their health status as fair, and 59% ($n = 54$) of them reported that they had no economic pressures. The average MMSE score was $23.10 \pm 1.98$ points. Utilizing the measurement tools, we examined the participants' symptoms of depression, psychological well-being, and feelings of loneliness. We then compared the experimental and comparison groups to examine the effects of the reminiscence therapy. We also studied how long the effects of the therapy lasted. From the pre-test, the symptoms of depression ($p = 0.72$), psychological well-being ($p = 0.71$), and feeling of loneliness ($p = 0.88$) did not differ between groups (Table 2). The comparisons of the confounding demographic variables between the baseline data in the experimental group and the control group, and the result showed that there was no significant difference in educational level ($p = 0.44$), marital status ($p = 0.71$), self-perceived health status ($p = 0.55$), economic status ($p = 1.00$), and the number of chronic medical illnesses ($p = 0.51$) (Table 1).

## Evaluation of the outcome of the therapy

After the intervention of the reminiscence therapy, the average depression score in the experimental group decreased from 19.11 points in the pre-test to 16.18 and 15.49 points after intervention and 3 months follow-up, respectively. The difference of the depression status in the post-test and follow-up tests differed significantly between groups ($z = -7.09$, $p < 0.0001$; $z = -7.82$, $p < 0.0001$) (Table 3). The average psychological well-being score fell from 27.09 points to 24.13 and 23.91 points in the experimental group right after reminiscence therapy and 3 months follow-up, and psychological well-being in the follow-up tests was significantly different between groups ($z = -10.25$, $p < 0.0001$; $z = -10.63$, $p < 0.0001$) (Figure 1). The average loneliness score declined from 42.24 points to 34.82 and 35 points in the experimental group right after reminiscence therapy and 3 months follow-up, indicating that the feeling of loneliness improved from moderate to mild. And likewise, the difference in the feeling of loneliness in the follow-up tests was significant between the groups ($z = -27.26$, $p < 0.0001$; $z = -22.75$, $p < 0.0001$) (Figure 2).

Table 3 Generalized estimating equation (GEE) analysis of longitudinal outcome of the depression ($n = 92$)

| Variable | Estimate | SE | $z$-value | $p$-Value |
|---|---|---|---|---|
| Intercept | 18.91 | 0.43 | 43.92 | <0.0001 |
| Group (exp.)[a] | 0.20 | 0.47 | 0.42 | 0.6776 |
| Time (2nd)[b] | −0.17 | 0.14 | −1.23 | 0.2205 |
| Time (3rd)[b] | 0.51 | 0.29 | 1.75 | 0.0798 |
| Group (exp.) *X* time (2nd)[c] | −2.76 | 0.39 | −7.09 | <0.0001 |
| Group (exp.) *X* time (3rd)[c] | −4.13 | 0.53 | −7.82 | <0.0001 |

*Note*: model: depression = 18.91 + 0.20 (group) − 0.17 (time (2nd)) + 0.51 (time (3rd)) − 2.76 (group (exp.) *X* time (2nd)) − 4.13 (group (exp.) *X* time (3rd)).

[a]Reference group: comparison group.

[b]Reference group: time (1st).

[c]Reference group: group (comparison) *X* time (1st).

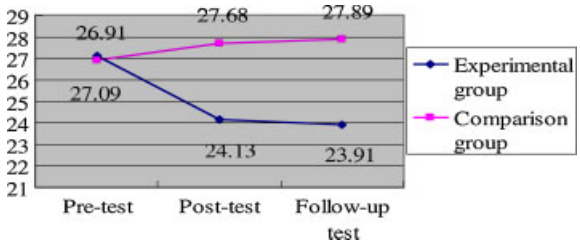


Figure 1 Generalized estimating equation (GEE) analysis of longitudinal outcome of the psychological well-being ($n = 92$). *Note*: model: psychological well-being = 26.91 + 0.18 (group) + 0.77 (time (2nd)) + 0.98 (time (3rd)) − 3.72 (group (exp.) *X* time (2nd)) − 4.15 (group (exp.) *X* time (3rd)).

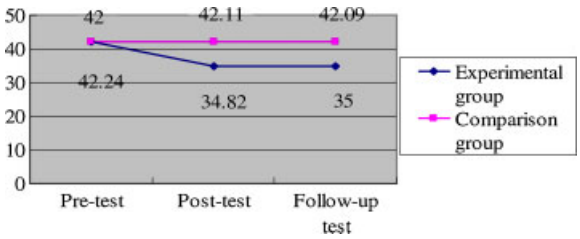


Figure 2 GEE analysis of longitudinal outcome of loneliness ($n = 92$). *Note*: model: loneliness = 42 + 0.4 (group) + 0.11 (time (2nd)) + 0.09 (time (3rd)) −7.48 (group (exp.) *X* time (2nd)) −7.22 (group (exp.) *X* time (3rd)).

## Discussion

All of the participants in this study were males and most were illiterate. Half of the study participants were unmarried, suggesting that they would receive less support from their Taiwanese families. Additionally, prior to the study commencing there were few interactions occurring among the study participants in this nursing facility. Therefore, most of the participants felt depressed, hopeless, lonely, and thought that no one understood or truly cared about them. Accompanied by the reality of aging, their mental, and physical status worsened.

### Changing of the depressed mood

The study results demonstrate that the reminiscence therapy successfully improved the participants depressive symptoms. This finding was consistent with the results in several previous studies (Ashida, 2000; Haight *et al.*, 2000; Jones, 2003; Wang, 2005, 2007; Beth, 2006).

During reminiscence therapy, at first the participants passively shared their life experiences with others. As the internal cohesion gradually developed, the participants actively began to share their personal reminiscences and found this activity meaningful. Participants were reminded that their memories of the past were very important to the success or otherwise of the research. This encouragement was aimed at showing participants that their sharing of life experiences and memories was valuable. Through reminiscence, participants recalled their own talents and values and remembered happy times and stories from their lives. They shared with others their accomplished life missions and how they had solved personal problems during each life stage. Such sharing of experiences was very well received from the other participants adding to its value. Through the sharing of activities, participants realized that every life was composed of happiness, anger, sadness, and joyfulness, and that everyone had a unique life journey which was irreplaceable. The group process of sharing and praising each other brought cohesion and friendship to these elderly residents, which significantly improved their depressive symptoms.

### Improvement in the psychological well-being

The study results showed that the reminiscence therapy helped to improve the elders' psychological well-being. This finding was consistent with results from other studies (Fielden, 1990; Haight and Dias 1992; Haight *et al.*, 1998; Haight *et al.*, 2000; Tatchell and Jordan, 2004).

Through reminiscence therapy, the participants had an opportunity to share their emotions, which further brought peace to them. The understanding that everyone had been living a meaningful life that was filled with happiness, sorrow, and contentment made the participants feel satisfied and proud of themselves. During reminiscence and interactive feedback, the participants were experiencing a self-improvement process, this improving their psychological well-being. This outcome supports the finding that reminiscence therapy may be a defense mechanism for elderly people, since it is ego strengthening and dissonance reducing. With the use of reminiscence therapy as a form of interaction within groups, elderly individuals may be able to improve their psychological well-being and that of others.

### Improvement in the feeling of loneliness

The study has shown that reminiscence therapy is helpful in improving the elderly participants' feelings

of loneliness. This finding also correlates with previous findings (McDougall *et al*., 1997; Wei, 2004; Liu and Guo, 2007).

The study gave the participants a chance to interact with people rather than remaining alone for the whole time. The sharing and positive feedback among participants' stimulated friendships and a greater personal understanding for each other, giving them a sense of belonging to a group and acceptance by the group. By learning about others' lives, the participants realized that every life was unique and interesting, even if there were some sad or frustrated stories. The group therapy built a strong sense of belonging and cohesion among participants that helped to ease feelings of loneliness. The results further indicate that reminiscence can help ease the pain of isolation and loneliness. Memory is used as a therapeutic intervention to help validate a sense of self.

## Conclusion

This study has demonstrated the positive short-term effect (3 months follow-up) of reminiscence therapy on depression, psychological well-being, and loneliness among institutionalized elderly male. The reminiscence therapy proved successful among these elders because it alleviated depression, improved their psychological well-being, and eased their feelings of loneliness. The limitations of this study include: (1) it was almost completely restricted to elderly from one institution; (2) subjects limited in their ability to comprehend the information about the study; (3) the control group was restricted to waiting list control; (4) there was approximately a 30% dropout rate. Therefore, there exist threats to validity and generalizing the results to a broad population. Results should be regarded tentatively but with positive interest. It is suggested that future research can apply this study to other elderly populations, include a rigorous control, and expand the enrollment to both males and females.

Nevertheless, in light of the study results, we suggest that healthcare workers provide appropriate reminiscent activities in long-term caring institutions based on the characteristics of their elderly residents because these activities could improve their psychological well-being. In addition, researchers could develop a measuring tool that suits the conditions in Taiwan to examine the overall psychological well-being among institutionalized elderly people. Future studies could examine the long-term effects of reminiscence therapy, as this study was limited to a 3-month follow-up examination.

Key points

- After providing the reminiscence therapy to the elderly in the experimental group, a significant positive short-term effect (3 months follow-up) on depression, psychological well-being, and loneliness, as compared to those in the comparison group was found. Reminiscence therapy in this study sample improved socialization, induced feelings of accomplishment in participants, and assisted to ameliorate depression.

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