The Journal of Psychology
Interdisciplinary and Applied

ISSN: 0022-3980 (Print) 1940-1019 (Online) Journal homepage: http://www.tandfonline.com/loi/vjrl20

A Follow-Up Study of a Reminiscence Intervention and Its Effects on Depressed Mood, Life Satisfaction, and Well-Being in the Elderly

Paz Viguer, Encarna Satorres, Flor B. Fortuna & Juan C. Meléndez

To cite this article: Paz Viguer, Encarna Satorres, Flor B. Fortuna & Juan C. Meléndez (2017) A Follow-Up Study of a Reminiscence Intervention and Its Effects on Depressed Mood, Life Satisfaction, and Well-Being in the Elderly, The Journal of Psychology, 151:8, 789-803, DOI: 10.1080/00223980.2017.1393379

To link to this article: https://doi.org/10.1080/00223980.2017.1393379

Published online: 22 Nov 2017.

THE JOURNAL OF PSYCHOLOGY
2017, VOL. 151, NO. 8, 789–803
https://doi.org/10.1080/00223980.2017.1393379

Routledge
Taylor & Francis Group

A Follow-Up Study of a Reminiscence Intervention and Its Effects on Depressed Mood, Life Satisfaction, and Well-Being in the Elderly

Paz Viguer[a], Encarna Satorres[a], Flor B. Fortuna[b], and Juan C. Meléndez[a]

[a]University of Valencia; [b]Autonomous University of Santo Domingo

ABSTRACT

The purpose of this study was to investigate the extent to which a reminiscence intervention reduces depressed mood and improves life satisfaction and psychological well-being. 160 healthy elderly people participated in a 10-session intervention. An experimental design with pretest and posttest evaluations was applied, comparing a control group to an intervention group to evaluate the effects of the program. Follow-up measures were also taken to find out whether the intervention's positive effects lasted over time. Mixed Model ANOVAs showed significant increases in the time-group interaction, life satisfaction, and psychological well-being measures, and decreases in depressed mood, after treatment. The effects remained after three months in the case of life satisfaction and some dimensions of psychological well-being, but they were lower on depressed mood. This study provides additional support for the effectiveness of a reminiscence program as a useful intervention to improve the quality of life of older adults.

ARTICLE HISTORY
Received 20 February 2017
Accepted 7 September 2017

KEYWORDS
Depressed mood; experimental study; life satisfaction; reminiscence; well-being

Reminiscence has been used as an intervention strategy to activate the person's autobiographical memory and favor a process of recognition and identification of familiar stimuli. This process connects the entire network of memories related to these stimuli. Reminiscence is designed to work on recall from the autobiographical memory, trying to maintain the development of the self throughout one's personal history, along with a sense of continuity. The phenomenon of reminiscence, understood as the act of recalling a past personal experience and constructing an autobiographical narrative, has been recognized as a critical and essential component of autobiographical memory. Reminiscence is a way of maintaining the individual's personal past and identity. It is a very complete technique because it uses stimulation, communication, socialization, and entertainment. The use of reminiscence in response to change and loss leads to thinking about the meaning of life and helps older people to maintain control and a sense of integrity. (O'Rourke, Cappeliez, & Claxton, 2011) consider reminiscence to be the most suitable non-pharmacological therapy to help elderly people adapt to stressful situations.

CONTACT Paz Viguer Paz.Viguer@uv.es Department of Developmental and Educational Psychology, Faculty of Psychology, University of Valencia, Av. Blasco Ibañez, 21, Valencia 46010, Spain.

During the past decade, some systematic reviews and meta-analyses have pointed out the positive effects of reminiscence as therapy (Bohlmeijer, Smit, & Cuijpers, 2003; Hsieh & Wang, 2003). Basically, these studies conclude that reminiscence provides different psychological benefits, such as reductions in depression and negative emotions, improvements in self-esteem and self-concept, the strengthening of coping skills, increases in life satisfaction, improvements in functional and social activities, acceptance of death, improvements in cognitive functioning, and reductions in boredom. Unfortunately, in most of the studies analyzed, the results were not monitored to verify the persistence of the intervention effects. More recently, Pinquart and Forstmeier (2012) performed a new meta-analysis of the effects of reminiscence interventions on psychosocial outcomes. As in Westerhof, Bohlmeijer, and Webster (2010), they distinguished between simple reminiscence, life-review, and life-review therapy. The main goal of simple reminiscence is to enhance positive feelings, and it is appropriate for older adults in good mental health who find sharing autobiographical memories to be a meaningful activity. The main activity is positive autobiographic storytelling, which activates the social functions of reminiscence. The main goal of Life-review therapy is to enhance aspects of mental health (self-acceptance, mastery), and it is especially appropriate for older people who are searching for meaning in life or have difficulties coping with adversity. The main activities are structured, focus on the entire lifespan, and promote the evaluation and integration of positive and negative memories. Life-review therapy's goals are to promote self-change and reduce the symptoms of mental illness. The focus is to reduce bitterness revival and boredom, and stimulate the positive functions of reminiscence. It is used in therapeutic contexts for older people with mental health problems. Counselors need specialist skills and knowledge about other therapies (psycho-analytic, cognitive behavioral, narrative, etc.).

This new meta-analysis by Pinquart and Forstmeier (2012) concluded that reminiscence interventions produced small to moderate improvements in depression and positive wellbeing, and that these results were maintained at follow-up. The effect sizes for depression and positive well-being varied depending on the form of reminiscence, with life-review therapy showing stronger effects on depression. Moreover, this study concluded that reminiscence therapy, designed to promote psychological well-being and quality of life, is useful for older adults, but the expectations have to be realistic. The findings from research on the adaptive benefits of reminiscence therapy and its therapeutic utility for treating depression are consistent with the idea that reminiscence can be used to discover meaning and continuity in life.

Therefore, the purpose of the present study was to improve the quality of life through a simple reminiscence intervention in an understudied population of healthy older adults from the Dominican Republic. Specifically, we intend to reduce depressed mood and to improve life satisfaction, and psychological well-being.

Moreover, considering that one of the main limitations of previous studies is that they do not follow up on the intervention effects, we evaluated the maintenance of the effects three months after the intervention. Based on previous findings, we hypothesized that the reminiscence intervention would produce a statistically significant reduction in depressed mood and an improvement in life satisfaction and psychological well-being, and we expected the effects to be maintained after three months.

Methods

Participants

Participants included 160 elderly adults living in the Dominican Republic. They were recruited through four healthcare centers visited by the researchers, informed of the study objectives, and invited to collaborate in the study. To evaluate the program's effects, the experimental design included pretest, posttest, and a follow-up evaluation after three months in a treatment group and a control group (Table 1).

Participants were initially contacted by phone, and a face-to-face appointment was scheduled to determine whether they met the inclusion criteria. Criteria for inclusion were as follows: participants had to be at least 65 years old, they could not be receiving institutional care, and they should show no evidence of cognitive impairment (determined by a score of 24 or more on the MEC (Lobo, Saz, & Marcos, 2002)) or clinical depression (determined by a score of 14 or less on the GDS Spanish version; Izal & Montorio, 1993). It would be noted that under a score of 14 were subjects that present in greater or lesser measure characteristics of a depressed mood but never with clinical depression. All the participants gave their informed consent to take part in the study. Initially, 180 older adults attended the first appointment to evaluate their eligibility for the study, and 12 were eliminated. Participants were randomly assigned to the treatment group (84) or the control group (84). Control group participants were informed that they will complete the same measures at the same time as the intervention group, but they will be not expose to the training and will remain on a waiting list for the same intervention some months later. All of them accept this procedure positively. During the intervention, 8 subjects dropped out, 4 in the treatment group and 4 in the control group. Finally, 160 participants, 80 in each group, were evaluated at posttest and at follow-up three months after finishing the intervention. To avoid selection bias and confirm that the groups were not different at the beginning of the study, homogeneity analysis was performed. Tests for homogeneity revealed no significant differences between groups at pretreatment: age (t (158) = 1.54, p = 0.125), gender ($\chi^2(1) = 0.90$, $p = 0.343$), marital status (U = 0.01, $p = 0.988$), and educational level (U = 1.51, $p = 0.131$).

Instruments

In addition to collecting sociodemographic data, various tests were administered to take preintervention, postintervention, and follow-up measures. The instrument used to evaluate

Table 1. Demographic Data.

		Total	Treatment	Control
Age		72.25 ($SD = 6.7$)	73.06 ($SD = 6.9$)	71.44 ($SD = 6.3$)
Gender	Man	46	43.8	48.8
	Women	54	56.3	51.2
Marital status	Married	24.4	21.3	27.5
	Single	15.6	16.3	15
	Widow	11.9	17.5	6.3
	Free Union	48.1	45	51.2
Educational level	Under primary	37.5	43.8	31.3
	Primary	48.8	43.8	53.8
	Secondary	7.5	7.5	7.5
	University	6.2	5	7.6

Note. SD = Standard deviation.

depressed mood was the Spanish version, by Izal and Montorio (1993), of the 30-item Geriatric Depression Scale (GDS-30; Yesavage et al., 1983). Examples of items were: *Do you feel happy most of the time?* or *Are you afraid that something bad is going to happen to you?* For the current study, α were 0.94, 0.9, and 0.89 for times 1 to 3, respectively.

Life satisfaction was assessed with the Life Satisfaction Index-A (LSI-A; Neugarten, Havighurst, & Tobin, 1961) using the Spanish version developed by Stock, Okun, and Gómez (1994). The instrument includes 20 items (i.e., I am just as happy as I was when I was younger or If I look back on my life, I haven't achieved most of the important things I wanted). For our study, α were .81, .78, and .74 for times 1 to 3.

To assess psychological well-being, we used the Spanish adaptation of the Psychological Well-Being Scales (PWBS; Ryff, 1989) (Diaz et al., 2006). This 29-item version is a well-validated self-report technique for measuring well-being that consists of six dimensions: self-acceptance (i.e., *When I look at the story of my life, I am pleased with how things have turned out* or *In general, I feel confident and positive about myself*); positive relations (i.e., *I feel like my friendships give me a lot of things* or *I know I can trust my friends, and they know they can trust me*); autonomy (i.e., *I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people* or *I have confidence in my opinions, even if they are contrary to the general consensus*); environmental mastery (*I have been able to build a home and a lifestyle for myself that is much to my liking* or *In general, I feel I am in charge of the situation in which I live*); purpose in life (*I enjoy making plans for the future and working to make them a reality* or *I am an active person when doing projects I have proposed for myself*); and personal growth (*In general, as time passes, I feel like I am still learning more about myself* or *I have the sense that I have developed a lot as a person over time*).

In the current sample, for the self-acceptance scale, α coefficients were .85, .82, and .83 for times 1 to 3, respectively; for the positive relations scale, α were .73, .72, and .77; for the autonomy scale, α were .77, .70 and .70; for the environmental mastery scale, α were .72, .70, and .73, for the purpose in life scale, α were .75, .71, and .80, and for the personal growth scale, α were .70, .69, and .73.

Procedure

We implemented a simple reminiscence program conducted by a trained psychologist. The procedure was standardized with guidelines that included exercises and structured input. The program, based on Meléndez, Charco, Mayordomo, and Sales (2013), is structured and consists of ten weekly group sessions lasting two hours each. All the sessions have the same structure: (1) startup: the specific goals of the session were described and the way the meeting would take place; (2) development: started with a relaxation exercise, and planned activities were implemented; and (3) evaluation: at the end of each session, a record and an assessment were carried out. The main aims of each session were: (1) to recall important life events throughout the life cycle; (2) to recall past events in order to encourage conversation and bring out positive feelings and emotions; (3) to promote active participation in the environment and the use of social and family support to interact positively with the group; (4) to identify specific and pleasant feelings and past events and how these feelings can improve their current lives; (5) to generate positive emotions and feelings and strengthen social ties through narrative traditions by sharing experiences and promoting personal and social identity; (6) to work on adaptation to social and technological changes; (7) to identify trades and

jobs performed in order to work on positive and negative aspects of the self; (8) to help to maintain and build self-confidence through the positive elements of memories and highlight the experience and wisdom accumulated; (9) to reminisce about typical objects of the era, promoting social links and semantic memory; and (10) to awaken positive feelings and experiences through music and images. To achieve these aims, the main evocative topics used to generate remembrance were: important life events throughout the life cycle; friendships, romantic relationships, and family relationships; important dates such as anniversaries, birthdays, and others; traditional celebrations; cinema and advertising; jobs performed; typical childhood games; grandmothers' objects and furniture; and music. For an overview of the session activities in the reminiscence program see Table 2.

Data Analysis

Randomization was evaluated by comparing the treatment and control groups on their pretreatment sociodemographic variables, using t-tests for independent samples, chi-square, and the Mann-Whitney test. To analyze the effects of the intervention, Mixed-Model ANOVAs

Table 2. Overview of Sessions Activities in the Reminiscence Program.

Session	Activities
1. Reminiscence introduction	– Explanation of what reminiscence is and how it works – In groups, participants answered some questions about their life stages (childhood, adolescence, adulthood, and old age).
2. Daily things	– Structured debates were created to discuss their towns and important places that produce pleasant memories. They also talked about their childhood family and their current family. – Sharing and collecting sayings that have been significant to the participants throughout their lives.
3. Interpersonal relationships	– Making a drawing of a special person and talking about it out loud, explaining why it is special. – Viewing videos about love relationships and friendships and later conversing about their own relationships and the importance of the way of behaving toward them.
4. Important dates	– Viewing photos about important celebrations (weddings, baptisms, anniversaries, birthdays) and later talking about them, while sharing and commenting on their own photos.
5. Popular holidays	– Conversation about representative holidays and later debate about how they celebrated these festivities throughout their lives (Easter, San Juan (summer solstice), All Saints Day, Christmas, etc.)
6. Cinema and advertising	– Viewing advertisements and fragments of films from their childhood and adolescence and later debate about what actors they remembered, what other films, what other ads. Listening to songs from old commercials and other songs evoked by the participants.
7. Work and tasks	– Talking in the group about the professions they had and the changes that occurred in them over time. – Debate about housework and its importance for the care of the family and later discussion about the tasks of housewives, specifically about cooking (what their specialties were, etc.)
8. Traditional games	– Each participant must mention a game s/he; remembers from childhood. – Games are named, and the participants have to explain what characteristics they recall. How did you play it? Did it have a song? What other names was it known by? – Manipulation of real objects they used to play with, such as ragdolls, marbles, etc.
9. Remembering their grandmother	– Observing slides of photos of grandmothers and later debate about stories or anecdotes about their own grandmothers. – Observing images of antique objects and later comments about what they were used for. The participants had to recall and describe furniture, clothes, or utensils that are no longer used.
10. Music therapy	– Listening to different sounds and songs and then commenting on the emotions that arise and the memories they evoke. – Explanation of the importance and relationship between music and emotions.

with Bonferroni adjustment were performed, studying the interaction (group × time), as well as the simple effects of time and group.

Results

The following are the results of the Mixed-Model ANOVAs for each variable. Table 3 shows the scores of the intervention group and control group for times 1 to 3.

For depressed mood, the main effects of time ($F2$, 145 = 5.50; p = .005; η^2 = .07) and group ($F1$, 146 = 4.08; p = .045; η^2 = .03) were significant. Moreover, the interaction effect (time × group) was also significant ($F2$, 145 = 18.79; p < .001; η^2 = .21). The study of simple effects comparing the groups in each period showed that there were no significant differences in pretreatment scores ($F1$, 146 = .53; p = .467; η^2 = .00) between groups. Significant differences were obtained at posttreatment ($F1$, 146 = 12.36; p = .001; η^2 = .08) and at follow-up ($F1$, 146 = 7.78; p = .006; η^2 = .05), with the treatment group obtaining lower scores than the control group in both cases (see Table 3). Studying the simple effects for each group over time, in the treatment group, a significant effect was observed ($F2$, 145 = 17.42; p < .001; η^2 = .19). Bonferroni post hoc comparisons showed that from the pretreatment to posttreatment measures, there was a significant decrease in their scores (mean difference = −2.70, SE = 0.54, p < .001, d = −0.42), whereas from posttreatment to follow-up, participants increased their scores (mean difference = 1.86, SE = 0.68, p = .022, d = 0.32), with similar measures to baseline; therefore, no differences were observed between pretreatment and follow-up. In the control group, a significant effect was observed ($F2$, 145 = 7.29; p < .001; η^2 = .91). Bonferroni post hoc comparisons showed a significant increase in depressed mood from pretreatment to posttreatment (mean difference = 2, SE = 0.56, p < .001, d = 0.25) and from pretreatment to follow-up (mean difference = 3.21, SE = 0.94, p = .003, d = 0.42), whereas from posttreatment to follow-up, no significant changes were observed (see Figure 1). All the effect sizes observed were small.

For life satisfaction, the main effects of time ($F2$, 134 = .006; p = .994; η^2 = .000) were not significant, whereas the main effect of group ($F1$, 135 = 4.953; p = .028; η^2 = .035) and the interaction effect (time × group) ($F2$, 134 = 10.250; p < .001; η^2 = .133) were significant. The study of simple effects, comparing the groups in each period, showed that there were no significant differences in pretreatment scores ($F1$, 135 = .26; p = .611; η^2 = .00). After the intervention, significant differences between groups were obtained at posttreatment

Table 3. Mean and SD of the DV Depending on Groups and Times.

	Treatment Group			Control Group		
	T1	T2	T3	T1	T2	T3
DEP	12.40(7.42)	9.70(5.13)	11.56(6.56)	11.48(7.98)	13.48(7.77)	14.69(7.10)
LS	21.99(8.33)	24.21(6.65)	24.47(6.43)	22.71(8.23)	20.41(8.67)	20.25(7.84)
AU	3.69(1.04)	3.96(.87)	3.90(.80)	3.94(1.09)	3.78(1.06)	3.75(.90)
EM	4.07(1.13)	4.39(.86)	4.36(.85)	4.39(1.11)	4.02(.91)	4.06(.88)
SA	4.48(1.26)	4.76(.96)	4.60(1.01)	4.72(1.12)	4.38(.98)	4.31(.96)
PR	4.06(.77)	4.28(.62)	4.11(.72)	4.07(.88)	4.10(.79)	3.84(.80)
PG	4.21(1.18)	4.62(.71)	4.42(.78)	4.48(1.12)	4.17(1.06)	4.14(.96)
PL	4.25(1.10)	4.41(.84)	4.37(.84)	4.48(1.03)	4.33(1.01)	4.22(.90)

Note. DEP = Depressed mood; LS = Life satisfaction; AU = Autonomy; EM = Environmental mastery; SA = Self-acceptance; PR = Positive relation with others; PG = Personal growth; PL = Purpose in life.

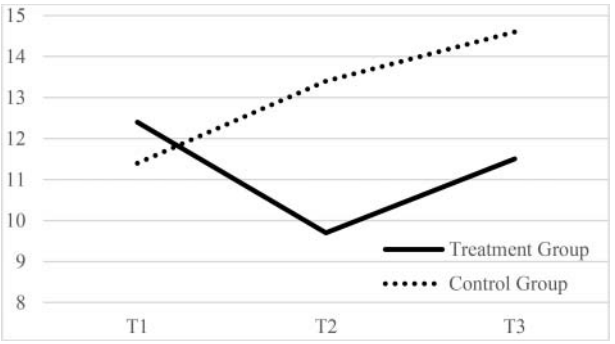

Figure 1. Effects of intervention on depressed mood across three times (T1 = pretreatment; T2 = posttreatment; T3 = follow-up).

($F1$, 135 = 8.34; $p = .005$; $\eta^2 = .06$) and at follow-up ($F1$, 135 = 11.98; $p = .001$; $\eta^2 = .08$), with the treatment group obtaining higher scores than the control group in both cases (see Table 3). Studying the simple effects in each group over time, significant changes were observed in the treatment group ($F2$, 134 = 5.02; $p = .006$; $\eta^2 = .07$). Bonferroni post hoc comparisons showed that from pretreatment to posttreatment, there was a significant increase in scores (mean difference = 2.22, $SE = 0.68$, $p = .004$, $d = 0.29$). In the control group, significant changes were observed ($F2$, 134 = 5.02; $p = .008$; $\eta^2 = .07$). Bonferroni post hoc comparisons showed that from pretreatment to posttreatment (mean difference = −2.29, $SE = .72$, $p = .006$, $d = -0.27$), there was a significant decrease in scores (see Figure 2). All the effect sizes observed were small.

In the autonomy dimension of well-being, the main effects of time ($F2$, 147 = 1.127; $p = .327$; $\eta^2 = .15$) and group ($F1$, 148 = .036; $p = .850$; $\eta^2 = .00$) were not significant, whereas the interaction effect (time × group) was significant ($F2$, 147 = 7.866; $p = .001$; $\eta^2 = .10$). The study of simple effects, comparing the groups in each period, showed that there were no significant differences in pretreatment scores ($F1$, 148 = 2.07; $p = .153$; $\eta^2 = .01$), posttreatment scores ($F1$, 148 = 1.23; $p = .268$; $\eta^2 = .01$), or follow-up scores ($F1$, 148 = 1.25; $p = .266$; $\eta^2 = .01$). Studying the simple effects of each group over time, significant changes were observed in the treatment group ($F2$, 147 = 4.974; $p = .008$; $\eta^2 = .06$), with a significant increase from pretreatment to posttreatment (mean difference = .27,

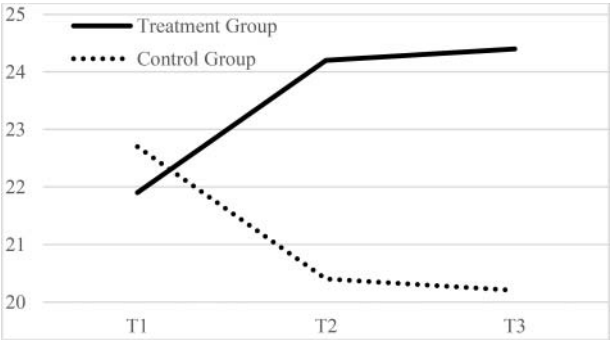

Figure 2. Effects of intervention on life satisfaction across three times (T1 = pretreatment; T2 = posttreatment; T3 = follow-up).

$SE = 0.07$, $p = .022$, $d = 0.28$). In the control group, significant changes were observed ($F2, 147 = 5.57$; $p = .005$; $\eta^2 = .07$), with a significant decrease from pretreatment to posttreatment (mean difference $= -.15$, $SE = 0.08$, $p = .005$, $d = -0.15$) and a significant decrease from pretreatment to follow-up (mean difference $= .10$, $SE = .10$, $p = .009$, $d = -0.19$) (see Figure 3). All the effect sizes observed were small.

In the environmental mastery dimension of well-being, the main effects of time ($F2, 147 = .200$; $p = .819$; $\eta^2 = .003$) and group ($F1, 148 = .629$; $p = .429$; $\eta^2 = .004$) were not significant, whereas the interaction effect (time × group) was significant ($F2, 147 = 12.568$; $p = .001$; $\eta^2 = .15$). The study of simple effects, comparing the groups in each period, showed that there were no significant differences in pretreatment scores ($F1, 148 = 3.02$; $p = .084$; $\eta 2 = .01$). After the intervention, significant differences between groups were obtained at posttreatment ($F1, 148 = 5.69$; $p = .018$; $\eta^2 = .06$) and at follow-up ($F1, 148 = 3.33$; $p = .037$; $\eta^2 = .03$), with the treatment group obtaining higher scores than the control group in both cases (see Table 3). Studying the simple effects in each group over time, significant changes were observed in the treatment group ($F2, 147 = 7.04$; $p = .008$; $\eta^2 = .06$), with a significant increase from pretreatment to posttreatment (mean difference $= .29$, $SE = 0.09$, $p = .005$, $d = 0.22$) and from pretreatment to follow-up (mean difference $= .28$, $SE = 0.12$, $p = .048$, $d = 0.29$). In the control group, significant changes were observed ($F2, 147 = 7.65$; $p = .001$; $\eta^2 = .09$), with a significant decrease from pretreatment to posttreatment (mean difference $= -.31$, $SE = .10$, $p = .001$, $d = -.36$) and from pretreatment to follow-up (mean difference $= -.33$, $SE = .12$, $p = .020$, $d = -0.33$) (see Figure 4). All the effect sizes observed were small.

In the self-acceptance dimension of well-being, the main effects of time ($F2, 147 = 1.79$; $p = .170$; $\eta^2 = .02$) and group ($F1, 148 = .98$; $p = .324$; $\eta^2 = .01$) were not significant, whereas the interaction effect (time × group) was significant ($F2, 147 = 8.77$; $p < .001$; $\eta^2 = .11$). The study of simple effects, comparing the groups in each period, showed that there were no significant differences in pretreatment scores ($F1, 148 = 1.42$; $p = .235$; $\eta^2 = .01$). After the intervention, significant differences between groups were obtained at posttreatment ($F1, 148 = 5.83$; $p = .017$; $\eta^2 = .38$), with the treatment group obtaining higher scores than the control group (see Table 3). There were no significant differences between groups at follow-up ($F1, 148 = 3.12$; $p = .079$; $\eta^2 = .02$). Studying the simple effects of each group over time, significant changes were observed in the treatment group

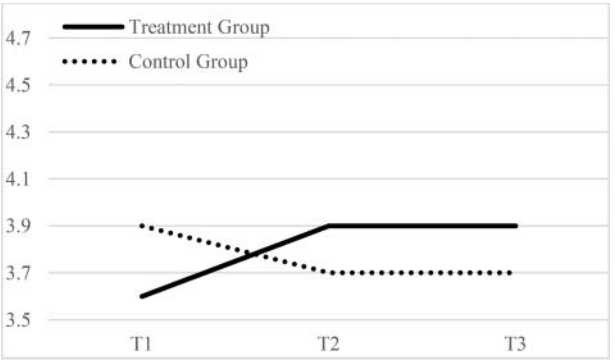

Figure 3. Effects of intervention on autonomy across three times (T1 = pretreatment; T2 = posttreatment; T3 = follow-up).

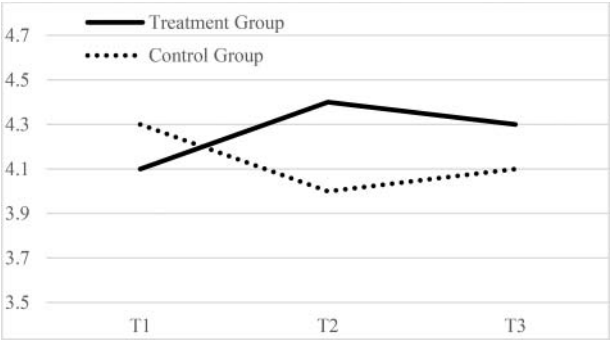

Figure 4. Effects of intervention on environmental mastery across three times (T1 = pretreatment; T2 = posttreatment; T3 = follow-up).

($F2$, 147 = 7.04; $p = .001$; $\eta^2 = .09$), with a significant increase from pretreatment to posttreatment (mean difference = .28, $SE = 0.10$, $p = .001$, $d = 0.25$) (see Figure 5). The effect size observed was small. In the control group, no significant changes were observed ($F2$, 147 = 2.08; $p = .128$; $\eta^2 = .03$).

In the positive relation with others dimension of well-being, the main effects of time ($F2$, 147 = 14. 197; $p < .001$; $\eta^2 = .16$) and group ($F1$, 148 = 1.89; $p = .172$; $\eta^2 = .01$) were not significant. The interaction (time × group) was not significant either ($F2$, 147 = 2.192; $p = .115$; $\eta^2 = .03$) (see Figure 6).

In the personal growth dimension of well-being, the main effects of time ($F2$, 147 = 1.764; $p = .175$; $\eta^2 = .023$) and group ($F1$, 148 = 1.316; $p = .253$; $\eta^2 = .009$) were not significant, whereas the interaction effect (time × group) was significant ($F2$, 147 = 12.85; $p < .001$; $\eta^2 = .15$). The study of simple effects, comparing the groups in each period, showed that there were no significant differences in pretreatment scores ($F1$, 148 = .3; $p = .156$; $\eta^2 = .01$). After the intervention, significant differences between groups were obtained at posttreatment ($F1$, 148 = 9.33; $p = .003$; $\eta^2 = .06$) and at follow-up ($F1$, 148 = 3.91; $p = .050$; $\eta^2 = .03$), with the treatment group obtaining higher scores than the control group in both cases (see Table 3). Studying the simple effects of each group over time, significant changes were observed in the treatment group (F2, 147 = 10.25; $p < .001$; $\eta^2 = .12$), with a

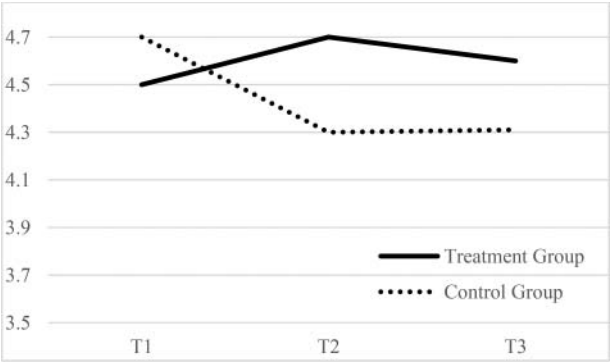

Figure 5. Effects of intervention on self-acceptance across three times (T1 = pretreatment; T2 = posttreatment; T3 = follow-up).

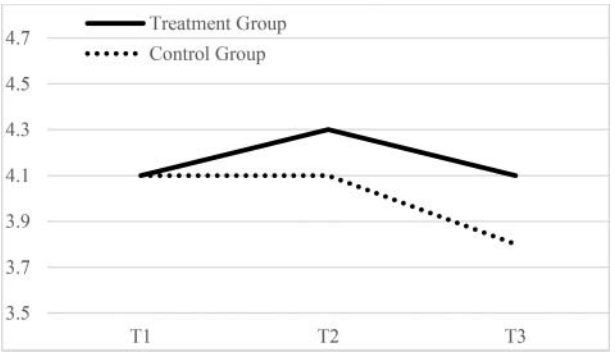

Figure 6. Effects of intervention on positive relation with others across three times (T1 = pretreatment; T2 = posttreatment; T3 = follow-up).

significant increase from pretreatment to posttreatment (mean difference = .41, $SE = 0.10$, $p = .001$, $d = 0.42$). In the control group, significant changes were observed ($F2, 147 = 4.52$; $p = .012$; $\eta^2 = .06$), with a significant decrease from pretreatment to posttreatment (mean difference = −.30, $SE = 0.10$, $p = .011$, $d = -0.28$) and from pretreatment to follow-up (mean difference = −0.33, $SE = 0.13$, $p = .036$, $d = -0.33$) (see Figure 7). All the effect sizes observed were small.

In the purpose in life dimension of well-being, the main effects of time ($F2, 147 = .767$; $p = .466$; $\eta^2 = .010$) and group ($F1, 148 = .001$; $p = .972$; $\eta^2 = .000$) were not significant, whereas the interaction effect (time × group) was significant ($F2, 147 = 3.41$; $p = .036$; $\eta^2 = .04$). The study of simple effects, comparing the groups in each period, showed that there were no significant differences in pretreatment scores ($F1, 148 = 1.62$; $p = .205$; $\eta^2 = .01$), posttreatment scores ($F1, 148 = .27$; $p = .603$; $\eta^2 = .00$), or follow-up scores ($F1, 148 = .93$; $p = .270$; $\eta^2 = .01$). Studying the simple effects for each group over time, no significant changes were observed in the treatment group ($F2, 147 = 1.694$; $p = .187$; $\eta^2 = .023$) or control group ($F2, 147 = 2.461$; $p = .089$; $\eta^2 = .032$) (see Figure 8).

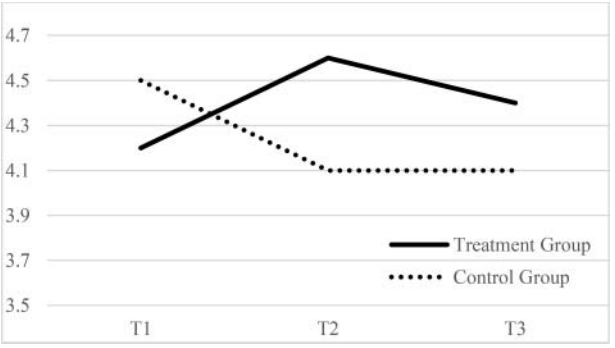

Figure 7. Effects of intervention on personal growth across three times (T1 = pretreatment; T2 = post-treatment; T3 = follow-up).

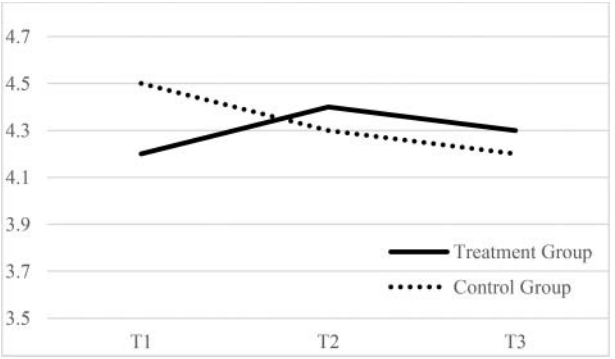

Figure 8. Effects of intervention on purpose in life across three times (T1 = pretreatment; T2 = posttreatment; T3 = follow-up).

Discussion

This study shows that, compared to the control group, individuals in the treatment group obtained a statistically significant reduction in depressed mood and a significant improvement in life satisfaction and psychological well-being after the intervention. Reminiscence helps people to discover more complete and detailed life stories and interpret them in a more balanced way, adopting a more realistic and objective view of their lives. It is especially important when people tend to ignore positive information and focus on memories that support their dysfunctional opinions. Furthermore, at the follow-up, the effects of the treatment were maintained except for depressed mood, as well as the differences between the treatment group and the control group on the depressed mood, life satisfaction, environmental mastery, and personal growth variables. It is interesting to note that in many cases the significant differences that were found between the control and intervention groups after the intervention program and in the follow-up were due both to the fact that the treatment group improved and that the control group declined on many of the dimensions measured. It is curious that this decline occurred on so many dimensions for the control group over the 10 week time span. Perhaps without intervention, the probability of applying adaptive coping strategies in response to the changes of aging is reduced, affecting psychological well-being, subjective well-being and general mood but the time period seems too short for changes associated with aging to suddenly become so salient. Another possibility to explain this decline is that the subjects in the control group experienced what has been called a demoralization effect. This kind of resentful demoralization is a threat to internal validity that can sometimes occur when control group members feel that they were excluded from a desired treatment experience.

Our results indicates that reminiscence leads to a reduction in depressed mood but when follow up measures are used, the effects of the intervention appear short lived and do not persevere over time. Several studies have proposed that it would be beneficial to adapt reminiscence intervention to treat depression in older adults (Hallford, & Mellor, 2016; Korte, Majo, Bohlmeijer, Westerhof, & Smit, 2015; Latorre et al., 2015; Pinquart & Forstmeier, 2012). In this regard, the results confirm the effects of the treatment only for depressed mood, and they point out the existence of differences between the groups at follow-up. Even though the treatment group presents similar scores to baseline at follow-up, these scores are

significantly lower than those of the control group. Furthermore, the control group's scores increase significantly between baseline and follow-up. However, future research is needed to examine the long-term effects on depressed mood as we consider a reduction in psychological distress could prevent depression in older adults.

Positive effects on life satisfaction have also been observed in this study. Our findings are consistent with previous studies showing that reminiscence increased life satisfaction (Meléndez, Fortuna, Sales, & Mayordomo, 2015; O'Rourke et al., 2011). Agreeing with previous findings (Cuijpers, Donker, Van Straten, Li, & Andersson, 2010; Gaggioli et al., 2014), this study shows an increase in life satisfaction in the treatment group that is maintained after three months and presents significant differences from the control group. It is important to highlight that the capacity to transform negative events into positive results is one of the characteristic facets of reminiscence and directly associated with life satisfaction. In addition, a program that can maintain this satisfaction over time is important, as this dimension can be viewed as a cognitive aspect of the perception of quality of life.

Finally, positive effects on psychological well-being are observed. All the dimensions of psychological well-being increased significantly after the intervention program, except the dimension of positive relations with others. This result is basically consistent with findings from meta-analyses that have provided evidence of the therapy's efficacy (Bohlmeijer et al., 2003; Bohlmeijer, Roemer, Cuijpers, & Smit, 2007; Hsieh & Wang, 2003).

The best results were found in the environmental mastery and personal growth dimensions. In the environmental mastery dimension, as in the meta-analysis by Pinquart and Forstmeier (2012), our study obtained a significant effect, revealed by the treatment group's scores after the intervention program and their maintenance three months later. Moreover, significant differences between the groups are maintained at follow-up. It should be kept in mind that an important topic for elderly people in the Dominican Republic is the difficulty of adapting to changes in their personal conditions, in addition to the limitations found in their context. The Dominican Republic lacks the necessary structural modifications (such as improvements in social, educational, and health welfare) for this population to be able to manage without limitations and without feeling dependent. Regarding the personal growth dimension, the proposed intervention was efficacious. The results after the intervention point to a significant reduction in the control group's scores, whereas in the treatment group, the scores increased. In addition, there were significant differences between the groups at follow-up. Thus, the intervention favored a feeling of development and improvement over time, a positive attitude toward themselves, and the creation of positive feelings about their life experiences.

Otherwise, our study pointed the effectiveness of the treatment after the intervention period but with effects that tend to disappear in the follow up. We have found these results in the self-acceptance dimension. Our results coincide with those obtained by various studies showing the effectiveness of reminiscence in older adults (González, Mayordomo, Torres, Sales, & Meléndez, 2015; Meléndez et al., 2015). However, this result must be interpreted with caution because the effects tend to disappear three months after ending the treatment. One's self-perception is a basic element in understanding the whole self. It controls and directs the individual's behavior and is an important source of mental and physical health. Therefore, it is easy to understand the importance of this reminiscence intervention in strengthening this dimension.

Finally, our intervention was not effective in autonomy, purpose in life and positive relations with others dimensions. In the autonomy dimension, we expected to obtain better results, as some studies find these results both immediately (Sok, 2015) and in the long term (Gaggioli et al., 2014). The autonomy to make decisions can improve the sense of efficacy and, therefore, reinforce successful behaviors in older adults. Also, in purpose in life dimension as Pinquart and Forstmeier (2012), we expected an increase after the intervention. Enhancing purpose in life could provide the participants with a sense of meaning in life and, therefore, greater self-knowledge, which leads to a positive aging experience. Regarding the dimension of positive relations with others, it was interesting to note that interpersonal relationships did not increase after spending 10 sessions socializing in a group context. This result shows that the intervention is not sufficient to change the tendency to decrease interpersonal relationships in older adulthood. Our findings are not consistent with Karimi, Dolatshahee, Momeni, Khodabakhshi, Rezaei, and Kamrani (2010) and Westerhof et al. (2010), who reported that the treatment produced improvements in this dimension.

In conclusion, this study has shown that reminiscence is useful for reducing the depressed mood, which increases without the intervention. In addition, it is important to highlight that life satisfaction showed a significant improvement that was maintained over time, thus increasing the participants' subjective level of well-being. Of the six dimensions of psychological well-being, positive effects were observed in all of them, except in the dimensions of positive relations with others, autonomy and purpose in life, highlighting the effects obtained on environmental mastery, personal growth, and self-acceptance. Therefore, we can point to the usefulness of this type of intervention in maintaining well-being.

This result, among other benefits, can truly affect quality of life and cognitive and emotional functioning, reducing the family and healthcare load and producing a reduction in the general use of medication and the number of hospital stays. According to Westerhof and Bohlmeijer (2014), reminiscence can effectively promote mental health and well-being in later life and help older people to create bonds, cope with important life events, and find meaning in life.

Some limitations of this intervention study should be noted. One drawback is that the control group is not exposed to any training, and the intervention effect could be influenced by the fact that subjects in the intervention group got together for two hours each week for a period of 10 weeks. Thus, in future research, we suggest carrying out a different training (not about reminiscence) with the control group in order to compare the effects. Another option could be adding a more basic "attention control" in which one group of participants simply met together for an allotted number of hours each week with no other agenda than simple socialization and talk. Inclusion of this type of group would allow researchers to assess whether participants improved over time simply because of their socialization opportunities and the fact that others paid some kind of attention to them rather than because of their exposure to a particular kind of therapy. Moreover, a second limitation of our study was the use of self-report instruments; in the future it would be advisable to use multiple scoring methods. In terms of other suggestions, we recommend analyzing this program's impact on an institutionalized elderly population. We also propose developing and studying this program as a strategy to be implemented in combination with other non-pharmacological interventions in participants with geriatric depression. In addition, a follow-up study could be carried out after six months to determine the long-term effectiveness of the program.

Author Notes

Paz Viguer, PhD, is a professor of psychology in the University of Valencia (Spain). Her research focuses on developmental psychology and aging. She has examined the psychological influences on well-being and how to promote successful aging.

Encarna Satorres, PhD, is a lab research technician at the Faculty of Psychology, University of Valencia (Spain), specializing in the evaluation of patients with mild cognitive impairment and dementia.

Flor B. Fortuna, PhD, is an assistant professor at the Autonomous University of Santo Domingo, and her research has been carried out mainly in the older adults.

Juan C. Meléndez, PhD, is an assistant professor at the Faculty of Psychology, University of Valencia (Spain), and his research has been carried out mainly in the older adults with and without pathology.

References

Bohlmeijer, E., Roemer, M., Cuijpers, P., & Smit, F. (2007). The effects of reminiscence on psychological well-being in older adults: A meta-analysis. *Aging and Mental Health*, *11*, 291–300.

Bohlmeijer, E., Smit, F., & Cuijpers, P. (2003). Effects of reminiscence and life review on late-life depression: A meta-analysis. *International Journal of Geriatric Psychiatry*, *18*, 1088–1094.

Cuijpers, P., Donker, T., Van Straten, A., Li, J., & Andersson, G. (2010). Is guided self-help as effective as face-to-face psychotherapy for depression and anxiety disorders? A systematic review and meta-analysis of comparative outcome studies. *Psychological Medicine*, *40*, 1943–1957.

Díaz, D., Rodriguez, R., Blanco, A., Gallardo, I., Valle, C., & Van Dierendonck, D. (2006). Adaptación española de las escalas de bienestar psicológico de Ryff [spanish adaptation of the psychological well-being scales]. *Psicothema*, *18*, 572–577.

Gaggioli, A., Morganti, L., Bonfiglio, S., Scaratti, C., Cipresso, P., Serino, S., … Riva, G. (2014). Intergenerational group reminiscence: A potentially effective intervention to enhance elderly psychosocial wellbeing and to improve children's perception of aging. *Educational Gerontology*, *40*, 486–498.

González, J., Mayordomo, T., Torres, M., Sales, A., & Meléndez, J. C. (2015). Reminiscence and dementia: A therapeutic intervention. *International Psychogeriatrics*, *27*, 1731–1737.

Hallford, D. H., & Mellor, D. (2016). Autobiographical memory and depression: Identity-continuity and problem-solving functions indirectly predict symptoms over time through psychological well-being. *Applied Cognitive Psychology*, *30*, 152–159.

Hsieh, H. F., & Wang, J. J. (2003). Effect of reminiscence therapy on depression in older adults: A systematic review. *International Journal of Nursing Studies*, *40*, 335–345.

Izal, M., & Montorio, I. (1993). Adaptation of the geriatric depression scale in Spain: A preliminary study. *Clinical Gerontologist*, *13*, 83–91.

Karimi, H., Dolatshahee, B., Momeni, K., Khodabakhshi, A., Rezaei, M., & Kamrani, A. A. (2010). Effectiveness of integrative and instrumental reminiscence therapies on depression symptoms reduction in institutionalized older adults: An empirical study. *Aging & Mental Health*, *14*, 881–887.

Korte, J., Majo, M. C., Bohlmeijer, I. E., Westerhof, G. J., & Smit, F. (2015). Cost-effectiveness of life-review for older adults with moderate depressive symptomatology: A pragmatic randomized controlled trial. *Journal of Aging Studies*, *34*, 146–154.

Latorre, J. M., Serrano, J. P., Ricarte, J., Bonete, B., Ros, L., & Sitges, E. (2015). Life Review based on remembering specific positive events in active aging. *Journal of Aging and Health*, *27*, 140–157.

Lobo, A., Saz, P., & Marcos, G. (2002). *Adaptación del Examen Cognoscitivo Mini-Mental*. Madrid, Spain: Tea Ediciones.

Meléndez, J. C., Charco, L., Mayordomo, T., & Sales, A. (2013). Effects of a reminiscence program among institutionalized elderly adults. *Psicothema*, *25*, 319–323.

Meléndez, J. C., Fortuna, F. B., Sales, A., & Mayordomo, T. (2015). Effect of integrative reminiscence therapy on depression, well-being, integrity, self-esteem, and life satisfaction in older adults. *The Journal of Positive Psychology*, *10*, 240–247.

Neugarten, B. L., Havighurst, R. J., & Tobin, S. S. (1961). The measurement of life satisfaction. *Journal of Gerontology*, *16*, 134–143.

O'Rourke, N., Cappeliez, P., & Claxton, A. (2011). Functions of reminiscence and the psychological well-being of young-old and older adults over time. *Aging & Mental Health*, *15*, 272–281.

Pinquart, M., & Forstmeier, S. (2012). Effects of reminiscence interventions on psychosocial outcomes: A meta-analysis. *Aging & Mental Health*, *16*, 541–558.

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality & Social Psychology*, *57*, 1069–1081.

Sok, S. R. (2015). Effects of individual reminiscence therapy for older women living alone. *International Nursing Review*, *62*, 517–524.

Stock, W. A., Okun, M. A., & Gómez, J. (1994). Subjective well-being measures: Reliability and validity among Spanish elders. *International Journal of Aging & Human Development*, *38*, 221–235.

Westerhof, G. J., & Bohlmeijer, E. T. (2014). Celebrating fifty years of research and applications in reminiscence and life review: State of the art and new directions. *Journal of Aging Studies*, *29*, 107–114.

Westerhof, G. J., Bohlmeijer, E., & Webster, J. D. (2010). Reminiscence and mental health: A review of recent progress in theory, research and interventions. *Ageing and Society*, *30*, 697–721.

Yesavage, J. A., Brink, T. L., Rose, T. L., Lum, O., Huang, V., Adey, M., … Leirer, V. O. (1983). Development and validation of a geriatric depression screening scale: A preliminary report. *Journal of Psychiatric Research*, *17*, 37–49.