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Efficacy of a Culturally Tailored Therapeutic Intervention Program for Community Dwelling Depressed Korean American Women: A Non-Randomized Quasi-Experimental Design Study

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Abstract

Background—Asian American women are more prone to suffer with depression compared to their non-Asian American counterparts and have lower rates of seeking mental healthcare services due to lack of available culturally appropriate therapies. Two prior studies of a culturally tailored therapeutic intervention called LogoAutobiography were helpful in treating depressed Korean American women. The LogoAutobiography program was revised to enhance its efficacy not only for depressive symptoms and purpose in life but also to increase coping strategies.

Objectives—To test the efficacy of the Enhanced LogoAutobiography program on depressive symptoms, purpose in life, and coping strategies of depressed community-dwelling Korean American women.

Design—Two-group, non-randomized quasi-experimental design.

Settings—Local Korean community areas located in New York City and eastern New Jersey of the United States.

Participants—A total of 54 depressed women with Korean heritage completed either experimental group ($n_1 = 25$) or control group ($n_2 = 29$). Sample inclusion criteria were adult women with Korean heritage, depressive symptoms as measured by a CES-D score 16 or higher, fluent Korean language, and able to participate independently. Sample exclusion criteria were those who presented active suicidal ideation and history of episodes of mania or psychosis screened by the psychosocial survey questionnaire.

Methods—The experimental group received Enhanced Logo-Autobiography program which was guided by a facilitator who used a manualized intervention for 90 minute sessions over 8 weeks; the control group attended routine weekly community activities. Data were collected during the first session (pretest), the end of 8 weeks (posttest), and the 3 months follow-up session. Time and group changes in depressive symptoms, purpose in life, and coping strategies were computed using Repeated Measures General Linear Model (RMGLM).

Results—Findings suggested that the experimental group showed greater improvement in depressive symptoms ($F = 6.94$ (2, 88), $p < 0.01$), active cognitive coping ($F = 5.07$ (2, 86), $p < 0.01$), and avoidance coping strategies ($F = 3.48$ (2, 86), $p < 0.05$) compared to the control group during the three time intervals. Purpose in life showed statistically significant Time and Group effects ($F = 5.18$ (2, 88), $p < 0.01$; $F = 9.44$ (2, 88), $p < 0.01$, respectively), but no significant interaction effect of Time and Group was detected.

Conclusion—These findings suggest that enhanced LogoAutobiography is effective for depressive symptoms and coping strategies and somewhat effective for improving purpose in life for depressed Korean American women.

Keywords

Coping; Depression; Purpose in life; Korean American Women; LogoAutobiography; Mental health intervention

1. Introduction

Depression is prevalent among Asian Americans who are coping with stressors originating from differences in social and cultural practices in their country of origin compared to norms of the dominant American culture (Kalibatseva & Leong, 2011). Since Asian Americans are often considered as a ‘model minority’, researchers have understudied these populations in their health-related research including studies of depression (Ghosh & Chandak, 2003). Bernstein, et al. (2011) found that community-living Korean immigrant adults demonstrated levels (13%) of depressive symptoms which were almost twice the rate as the general population rate (7%) (Rakesh, Bailey, & Maletic, 2008). Asian American women are more prone to suffer with depression compared to their non-Asian American counterparts but had low rates of seeking mental healthcare services (Appel et al., 2011). Cultural beliefs include that the ideal traditional Korean woman is expected to make the greatest sacrifices; not express her emotions outwardly nor make her needs a priority. These values influence Korean-Americans’ health-related behaviors and attitudes toward treatment (Bemak & Chung, 2000). These cultural practices, which are supported by Confucian ethics, persist both in modern Korean society and among Koreans in the United States (U.S.) (Pak, 2006). Consequently, ways of coping with their emotional turmoil are maintaining silence and enduring suffering as a way of life (Park & Bernstein, 2008).

1.1. Treating depression in community-living populations

There is considerable empirical support for effective psychotherapeutic interventions for depression such as cognitive behavioral therapy (CBT), interpersonal therapy, and psychodynamic therapy but ethnic minority groups were not included in the sample for these intervention studies (Chen et al., 2005). For example, Horrell’s (2008) literature review of the use of CBT with ethnic minorities reported that it was not possible to draw firm conclusions regarding its effectiveness for the treatment of depression in Asian Americans due to methodological deficits such as a small sample size and uncontrolled study sites. Wong and his colleagues (2004) claimed that Asian Americans historically responded poorly to traditional psychological services because inherent concepts of psychotherapy may conflict with their cultural expectations which are frequently overlooked. Other researchers

reported that conventional psychotherapy has been often viewed as ineffective, costly, intrusive, and time consuming by Asian Americans, including Korean immigrants, many of whom often prefer directive, structured, problem-solving approaches that focus on alleviating symptoms (Park & Bernstein, 2008). Lack of culturally appropriate therapeutic interventions was reported to be one of barriers keeping Korean Americans from seeking help from mental health services (Bernstein et al., 2013). Several confounding factors including socioeconomic status, immigration history, social status, level of education, access to health care, and degree of assimilation to majority culture influenced the effectiveness of psychotherapeutic interventions with ethnic minorities including Asian Americans (Alvidrez, Azocar, & Miranda, 1996; Sue & Sue, 2003). But all of these factors are interrelated which makes the task of identifying variables that affect treatment outcomes extremely complicated (Alvidrez et al., 1996). Well-designed culturally competent intervention studies are needed to aid in the understanding of how coping impacts on health-related outcomes (Garcia, 2010).

This current study evolved from two pilot projects using a culturally tailored intervention called Logo-Autobiography (LA) with depressed Korean immigrant women which found that the intervention was effective in reducing depressive symptoms (Cho et al., 2013; Bernstein et al., 2013). LA is designed to capture benefits of both logotherapy and autobiography to search one's meaning of life through guided writing to reflect one's own life story emphasizing individual cognitive changes that have taken place in one's life (Cho et al., 2013). The original LA program created by Cho (2008) is a manualized 6-week intervention influenced by Victor Frankl's (1963) fundamental concepts of finding meaning through searching experiential, attitudinal and creative values and Birren and Cochran's (2001) guided autobiography which focuses on improvement of self-awareness and enhancing meaning in life through the reconciliation of past life events. From the previous LA studies, the researchers identified that participants had experienced a number of traumatic life experiences related not only to immigration but also to domestic violence, marital discord, illness of family member and sudden financial loss. Those research participants shared how they benefitted from the LA by developing coping skills to deal with traumatic events in their lives, overcome depression, and transform their past life experiences through journaling their life stories. However, these thematic elements of coping and growth were not captured in the previous two LA studies.

Based on our prior work, the intervention was expanded from a 6-week LA to a 8-week enhanced LA (ELA) program with a greater emphasis on exploring coping skills and shifting the focus from migration from the country of origin to one's life in general. This project aims to test the efficacy of an ELA 8-week intervention designed to: 1) decrease depressive symptoms and use of avoidance coping strategies; 2) increase the levels of purpose in life; and 3) promote active cognitive and active behavioral coping strategies among community dwelling depressed Korean American women. We hypothesized that the experimental group would report lower depressive symptoms and avoidance coping strategies and greater purpose in life, active cognitive and behavioral coping strategies compared to the control group immediately after the intervention and at 3-months follow-up.

2. Methods

2.1. Study Design

This study adopted a quasi-experimental design with two groups (an experimental group and a control group). Korean American women who hoped to participate in the ELA program were assigned to the experimental group, while those who did not were assigned to the control group. The independent variable was group type and the dependent variables were changes in depressive symptoms, coping skills, and purpose in life. Data from the two nonequivalent groups were compared at three time periods: one week pre-intervention, immediately after intervention, and 3-months later.

For performing repeated measures General Linear Model (RMGLM), the required sample size for a priori effect size of 0.25 and power of 0.80 was about 22 per group (Faul et al., 2007). The proposed sample size for this study was adequate in terms of statistical power.

2.2. Recruitment and Sample

Sixty-two prospective participants were recruited through local Korean religious organizations, hospitals, and Korean community centers in the New York metropolitan areas and its surrounding borders such as Long Island and New Jersey. Additional recruitment was done by posting an advertisement on a Korean community website (www.heykorean.com).

Sample inclusion criteria were; 1) Korean American women with Korean heritage, 2) age 21 and older, 3) depressed as measured by a CES-D score of 16 or higher, 4) able to speak, read, and write fluent Korean, and 5) able to attend the designated site independently. Sample exclusion criteria were: 1) active suicidal ideation and 2) history of episodes of mania or psychosis.

Prospective participants were recruited and screened before being assigned to either an experimental or a control group based on their preference. A total of 28 potential participants who agreed to participate in the ELA program were assigned to an experimental group and 34 individuals, who agreed to continue their community activities over the duration of the intervention program and to participate in the study, were assigned to a control group. Figure 1 shows the flow chart of recruitment process and participant attrition. A total of 25 participants in the experimental groups successfully completed the ELA group, while three persons dropped out (10.7%). A total of 29 participants in the control group completed the posttest, while five persons dropped out (14.7%). All participants were contacted in various ways (e.g., in-person, group, telephone, or email) for 3 month follow-up. At 3 month follow-up, participant attrition for the experimental group was 32.1% and 20.6% for the control group.

2.3. Setting

Eight ELA groups were conducted in several designated locations convenient to the subjects in New York City and Teaneck, New Jersey. A total of 25 women participated in the experimental group either as a member of one of 5 groups consisting of 3 to 5 members

(n=22) or in an individual session (n=3). At each setting, the facilitator maintained the privacy of the participants during the intervention by holding the meeting in the private room with closed door with minimal noise level.

2.4. Training Group Facilitators

The principal investigator (PI) of this study, who had been trained in the implementation of LA by the developer (Cho, 2008), created the ELA training manual by modifying the original LA manual (Cho, 2008) and trained two other ELA facilitators. Including the PI, three bilingual Korean and English scholars with mental health care expertise provided the ELA intervention.

2.5. Intervention

2.5.1. Enhanced Logo-Autobiography (ELA) Program—This program used a manualized intervention for 90 minute sessions over 8 weeks to explore a specific theme for each session as guided by the ELA facilitator: (week 1) self-introduction, orientation and production of a chronology, (week 2) exploring meaningful relationships in one's life and own emotional reaction to each person, (week 3) exploring meaningful relationships and individuals who have made a positive impact in one's life, (week 4) exploring one's past crises and self-attitude including thoughts and behaviors toward crises at the time, (week 5) exploring one's present crises and self-attitude toward crises including thoughts and behaviors at the present time, (week 6) exploring one's positive and negative coping skills toward crises, (week 7) exploring one's psychological growth following crises, and (week 8) reading one's autobiography. Each session consisted of four stages: (1) warm-up for 5 minutes, (2) writing one's autobiography on the designated topic for 25 minutes, (3) presenting a written autobiography on the topic, and, for 30 minutes, discussing it with the ELA provider to find meanings, and (4) sharing one's feelings and summarizing the experiences of the LA for 30 minutes. At the end of the seventh session, handwritten autobiographies from the prior sessions were collected in order to transcribe and create a bound book of the narratives for each participant. In the last session, the ELA facilitator presented this bound autobiography book to each participant to read and share her feelings.

2.5.2. Self-reported weekly community activity—Each participant in the control group reported that she attended regular weekly activities such as prayer group at religious organization, social network group activities (i.e., hiking, writing, or knitting), and support or educational group in the local community center.

2.6. Instruments

2.6.1. Socio-demographic Inventory—The Socio-demographic inventory collected data about age, gender, education, household income, employment, health insurance, marital status, living arrangement, religion, length of residence in the U.S., and English proficiency.

2.6.2. Psychosocial questionnaire—This questionnaire consisted of 4 items of which the first two were used for initial screening to determine the sample exclusion criteria and the other 2 items assessed use of coping mechanisms and trauma history. Initial screening questions are, "Have you ever received mental health services for bipolar disorder (extreme

mood swing) or psychosis (hearing voices or seeing things)?” and “Do you wish to leave this world by taking your own life at present time?” using a ‘yes’ or ‘no’ answer in response to the each question. The coping with stress or psychological problems was, “When you are under stress or experiencing psychological problems, how do you cope with?” with the instruction to select all that apply from the following choices: 1) Tai Chi, Yoga, Meditation, Imagery, 2) Alternative medicine; oriental medicine, 3) vitamin, dietary supplement, herbs, 4) Fortune teller, palm reader, 5) Pray, spiritual counseling, 6) Exercise; walking, hiking, swimming, personal training, 7) Mental health counseling and treatment, and 8) Other, describe. The trauma history question was, “Have you ever been emotionally, physically or psychologically traumatized? Using a ‘yes’ or ‘no’ answer, followed by “If Yes, Describe the nature of the trauma (e.g., loss of the loved one, divorce, domestic violence, chronic illness, or financial loss, etc.)?”

2.6.3. Depressive symptoms—The Korean version of Center for Epidemiologic Studies Depression (CES-D-K) was translated and validated by Chon, Choi, & Yang (2001) from the original version of the CES-D which is one of the most widely used self-report instruments for depression screening in the general population (Radloff, 1977). The CES-D is a 20-item measure and each item is rated on a 4-point scale from 0 to 3. Total scores range from 0 (no depressive symptoms) to 60 (most severe depression). Higher scores indicate more depressive symptoms. High levels of reliability and validity have been reported in the general population (Radloff, 1977) and Asian Americans (Kalibatseva, Wu, & Leong, 2014). The alpha coefficients for the CED-K at the pretest, post-test, and follow-up were 0.87, 0.92, and 0.92, respectively in this study.

2.6.4. Purpose in Life (PIL)—The Korean version of Purpose in Life (Park & Lee, 2002) was used to measure respondents’ level of meaning and purpose in their lives. The original PIL (Crumbaugh & Maholick, 1964) was developed to measure Viktor Frankl’s concepts of meaning and purpose in life. The PIL is a 20-item measure with a 7-point Likert scale from 1 to 7. Total scores range from 20 to 140. Higher scores indicate higher purpose in life. The PIL scale has shown to have good reliability, with α coefficients ranging from .86 to .97 (Schulenberg, 2003). In this study, the alpha coefficients for the pretest, post-test, and follow-up were 0.92, 0.94, and 0.95, respectively.

2.6.5. Coping Strategies (CS)—The Korean version of Coping Strategy (CS) scale (You & Kwon, 1997) was used to measure coping skills translated and modified from the original CS scale (Holahan & Moos, 1987) which consists of 32 items in three subscales: 11 Active Cognitive (AC) strategy, 13 Active Behavioral (AB) strategy, and 8 Avoidance Strategies (AS). The modified Korean version of Coping Strategy (CS-K) scale includes a total of 29 items (8 AC, 11 AB, and 10 AS) with a 3-point scale from 0 to 3. Total scores range from 0 to 24 for the AC strategy, from 0 to 33 for the AB strategy, and from 0 to 30 for the AS strategy. The original CS scale had moderate levels of internal consistency in the general population (Holahan & Moos, 1987) and Koreans (You & Kwon 1997). In this study, the alpha coefficients for AC were 0.67, 0.79, and 0.85 at the pretest, post-test, and follow-up; the alpha coefficients for AB were 0.73, 0.80, and 0.77, respectively; and the alpha coefficients for AS were 0.5, 0.67, and 0.72, respectively.

2.7. Data collection

After approval by the university's institutional review board, data were collected at the 3 different times; pre-test, post-test, and 3-months follow-up for both experimental and control groups between October 2013 and February 2015. Control group participants were individually contacted at pre-test at the initial screening, post-test at 8 weeks from the initial screening, and then 3-month later either by in-person or via electronic report (i.e., email, fax, or phone text). All participants were given \$80 as a token of appreciation for their time at the end of the 8 weeks. A total of 54 participants, twenty five in the experimental group and 29 in the control group completed the data collection immediately after the intervention.

2.8. Data Analysis

Data from the pretest, posttest, and follow-up were prescreened for missing cases and scores. The missing values of major outcome measures were replaced with means, but if a case had all the missing values in any measure, listwise deletion approach was applied to such case. Chi-square and t-tests were used to measure group differences for socio-demographic characteristics and major outcome variables. To examine any changes in major outcomes over time, Repeated Measures General Linear Model (RMGLM) between the experimental and control groups were conducted at Time 1 (pretest), Time 2 (posttest), and Time 3 (3-month follow-up). Eta-squared (η^2) was used to measure effect sizes. Eta-squared is analogous to R^2 from multiple linear regressions and it can be interpreted as R^2 . According to Cohen (1988), the effect size magnitudes for eta-squared are as follows: 0.02 (small), 0.13 (medium), and 0.26 (large). To probe any within- and between-subjects effect in the RMGLM, independent t-test and paired t-test were conducted as post hoc tests.

3. Results

3.1. Socio-demographic characteristics of the sample

Table 1 presents the pretest comparison of the experimental and control groups. There were two group differences in socio-demographic characteristics. Employment status (either full-time or part-time) was higher for the experimental group than for the control group ($t = 7.21$, $p = 0.007$) while the control group had higher annual household income than the experimental group ($\chi^2 = 19.19$, $p = 0.001$) and reported lower trauma experience than their experimental counterpart ($t = 7.62$, $p = 0.006$). Other socio-demographic characteristics were comparable and no statistically significant differences were found between the two groups.

3.2. Pretest Comparisons on Major Outcomes

Table 2 shows the pretest comparison on major outcome variables by group. There were no group differences between the experimental group and the control group in outcome variables.

3.3. Repeated Measures GLMs on Major Outcomes

Table 3 presents Repeated Measures GLMs to evaluate the effects of the experimental and control groups on the major dependent variables (CES-D, PIL, AC, AB, and AS) at three

intervals: pretest, posttest, and 3-month follow-up. For depressive symptoms measured by the CES-D, a RM GLM was conducted to test the group effect on the CES-D at three time points. The interaction effect (Time $\times$ Group) was significant, $F = 6.94$ (2, 88), $p = 0.002$. A medium effect size of $\eta^2 = 0.10$ was found. As compared with the control group, the experimental group showed a greater improvement in depressive symptoms after receiving the ELA program. For the purpose in life, the main effects of Time and Group were statistically significant. However, the interaction effect of Time $\times$ Group for the PIL was not statistically significant, $F = 2.51$ (2, 88), $p = 0.087$, and a small effect size of $\eta^2 = 0.05$ was found. With regard to the Coping Strategies, the interaction effect of Time $\times$ Group for the AC strategies was statistically significant, $F = 5.07$ (2, 86), $p = 0.008$, and a medium effect size of $\eta^2 = 0.09$ was found. The results suggest that the experimental group had greater improvement in the AC scores than their control counterparts. For the AB strategies, the interaction effect of Time $\times$ Group was not statistically significant, $F = 1.14$ (2, 86), $p = 0.326$, and a small effect size of $\eta^2 = 0.02$ was found in this model. Finally, the interaction effect of Time $\times$ Group for the AS was statistically significant, $F = 3.48$ (2, 86), $p = 0.035$, and a medium effect size of $\eta^2 = 0.08$ was found. The findings suggest that participants in the experimental group demonstrated significant reduction in the AS scores compared to those in the control group.

3.4. Post Hoc tests Within- and Between-subject Effects

To detect any within- and between- subject effects, post hoc tests were conducted (Table 4). First, paired t tests were used to make multiple comparisons across three time periods within each group, separately. For the depressive symptoms, two time intervals were statistically significant in the experimental group: Time 1 (pretest) to Time 2 (posttest), $t = 3.84$, $p = 0.001$; and Time 1 (pretest) to Time 3 (3-month follow-up), $t = 4.29$, $p < 0.001$. In the control group, the time interval from Time 1 (pretest) to Time 3 (follow-up) was statistically significant, $t = 2.30$, $p = 0.030$. For the purpose in life, two time intervals were statistically significant in the experimental group: Time 1 (pretest) to Time 2 (posttest), $t = -3.02$, $p = 0.007$; and Time 1 (pretest) to Time 3 (3-month follow-up), $t = -2.51$, $p = 0.022$. There was no statistically significant difference across time in the control group. For the AC, two time intervals were statistically significant in the experimental group: Time 1 (pretest) to Time 2 (posttest), $t = -3.54$, $p = 0.002$; and Time 1 (pretest) to Time 3 (3-month follow-up), $t = -2.93$, $p = 0.009$. For the control group, there was no statistically significant difference across time. When it comes to the AB, there was only one statistically significant time difference in the experimental group: Time 1 (pretest) to Time 2 (posttest), $t = -3.12$, $p = 0.006$. For the control group, no statistically significant time difference was found. For the AS, two time intervals were statistically significant: Time 1 (pretest) to Time 2 (posttest), $t = 2.69$, $p = 0.015$; and Time 1 (pretest) to Time 3 (3-month follow-up), $t = 2.19$, $p = 0.042$. For the control group, no statistically significant difference was observed at three time intervals.

To examine the between-subject effects, independent t-tests were performed to compare any changes in the major outcome variables between the experimental and control groups across time. The experimental group reported statistically significantly lower depressive symptom scores than the control group at Time 2 and Time 3 ($t = -3.50$, $p = 0.001$; $t = -2.41$, $p = 0.021$, respectively). The purpose in life scores were also statistically higher for the

experimental group than for the control group at Time 2 and Time 3 ($t = 3.91, p < 0.001$; $t = 2.69, p = 0.010$, respectively). The AC and AB scores were also statistically higher for the experimental group than for the control group at Time 2 and Time 3 (AC: $t = 3.24, p = 0.002$; $t = 3.34, p = 0.002$, respectively; AB: $t = 2.68, p = 0.011$; $t = 2.98, p = 0.005$, respectively). Finally, the AS score was statistically lower for the experimental group than for the control group at Time 2 ($t = -2.32, p = 0.025$).

4. Discussion

We explored the efficacy of the 8-week manualized ELA program as a therapeutic modality for depressed Korean American women and found that the ELA reduced depressive symptoms and improved coping strategies which occurred immediately after the intervention and persisted three months later. Overall, the findings of this study are consistent with that of the original LA (Cho, 2008) study and two pilot studies (Bernstein et al., 2013; Cho et al., 2013), which found that LA was significantly effective in reducing depressive symptoms over time compared to the control group. The finding of the ELA intervention lowering depressive symptom scores was consistent with Cho et al. (2013) LA study with depressed Korean immigrant women ($N=40$) which reported that the experimental group reported significantly lower scores on depressive symptoms compared with the control group in both post- and the 4-week follow-up tests. Bernstein et al. (2013) study, which was a replication LA study of the Cho et al. study (2013) with the Korean immigrant women ($N=47$), also reported that the participants in the experimental group showed less depressive symptoms on both post- and 1 month-follow up tests.

Comparing depressive symptoms before intervention between the current sample and previous study sample (Bernstein et al., 2013), the participants in the ELA study reported greater depressive symptoms (CES-D for both experimental and control groups were = 32) compared to the previous LA study (CES-D for experimental group = 27 and control group = 25). This might be related to recruitment for the ELA study since those participants were not being treated while the LA participants were recruited from the mental health clinic and were being treated for depression. Interestingly, the posttest mean CES-D scores for the ELA groups were 18.6 which were similar to the previous LA study which was 16.43 but consistent with ongoing significant depressive symptoms which raises the need for longer interventions.

Consistent with the two previous LA studies, the ELA group also showed significantly higher purpose in life scores at the post-test and 3-month follow up when compared with scores at the pre-test. However, the outcomes of purpose in life in the ELA group over 3 months period was not significantly greater than the control group. This outcome difference between the ELA and the LA studies might be related to when data were collected: 3-months after ELA compared to one month after LA.

In addition to the differences in the ELA 8-week compared to the 6-week LA program, the participants in the control group of the ELA were reportedly active in the community compared to the previous LA participants in the control group who were getting usual treatment. Perhaps the control group in the ELA might cope with their depression with

healthier life style compared to the previous LA studies control groups; the ELA control group may find purpose in life and also reduce avoidance coping strategies by engaging in their weekly community activities.

The manualized 8-week ELA program that included content on coping skills and searching meaning in life was similar to the meaning-centered group psychotherapy (MCGP) developed by Greenstein and Breitbart (2000), which was designed to improve spiritual well-being and enhance meanings in life for patients with advanced cancer. Breitbart and colleagues (2015) conducted a randomized study using the MCGP compared with supportive group psychotherapy (SGP) and measured spiritual well-being, overall quality of life, and depression. They found that patients receiving MCGP showed significantly greater improvement in spiritual well-being and quality of life and significantly greater reductions in depressive symptoms compared to those receiving SGP. The key element in the intervention approach in both our study and Breitbart et al. studies (2015) was that the experimental group used a manualized intervention program compared to no manualized intervention for the control group. Manualized therapeutic intervention has been reportedly receiving the empirical support which clinicians need to justify practice (Levant, 2005), and therapeutic orientations that are less easily operationalized have received less empirical support (Vromans & Schweitzer, 2011).

In addition to significant improvement in depressive symptoms over time from the ELA intervention compared to the control group, other significant findings in this study were coping strategies, more specifically increases in AC and decreases in AS. Orzechowska et al. (2013) reported that patients with depression in stressful situations more often use strategies based on avoidance and denial, and have more difficulties in finding positive aspects of stressful events, compared to healthy people. Similar to cognitive coping, proactive coping which was defined as an active coping style based on individual initiation, optimism, and self-determination, was reported to be associated with lower depression (Greenglass, Fiksenbaum, & Eaton, 2006).

ELA works to increasing cognitive coping and decreasing avoidance coping strategies and should be considered as a treatment modality for treating depressed Korean American women. Braukhaus et al. (2003) reported that booster sessions could be effective in enhancing the long-term effectiveness of preventive interventions. Braukhaus et al. (2003) study measuring the efficacy of a cognitive-behavioral psychoeducational program for couples with marital issues reported that adding two booster sessions with each couple individually one and three months showed a significantly higher marital satisfaction than no booster session group. Given that there are scarce culturally sensitive therapeutic interventions for Asian American women suffering from depression, this study provides the support for the continued development of a well-tailored and manualized culturally sensitive ELA intervention program for other depressed Asian American women.

4.1. Limitations

This study has several limitations. First, this is a nonrandomized study which limits generalizability of the findings, and lack of monitoring mechanism of the self-reported control group's data regarding their community activities to measure its effect on the

outcomes. Second, the possibility of response bias may be present between group and individual participations during the ELA intervention. Compared with the individual participation in the ELA intervention, the group participation may induce some participants not to be honest and forthcoming with their past life experiences because of the presence of other group members, concerns about confidentiality, or discomfort with speaking in the group setting. Third, since the ELA is applicable only to literate subjects, the sample of this study might be skewed due to excluding the illiterate population. Despite these limitations, this research demonstrated the efficacy of a culturally tailored program to reduce depressive symptoms and increase the use of coping strategies in a vulnerable population. However, a more rigorous study design using a larger sample size with randomized designs is needed to further test the effectiveness of ELA's impact on depression, purpose in living, and coping.

5. Conclusions

Overall, through the ELA intervention, participants had an opportunity to express their emotions freely by using their own language (Korean) about the cultural, social, and historical period in which they lived, to reflect on their preferred coping strategy through writing their experiences, and to develop positive coping strategies to deal with depression. The study findings strengthen the effectiveness of the ELA as a culturally tailored therapeutic modality in treating Korean immigrant women who suffer from depression and finding their purpose in life. The ELA intervention can lead to develop healthy coping strategies and eventually overcome their depression. ELA may be considered as an additional mental health intervention in improving depressive symptoms and coping skills for depressed Korean American women.

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Figure 1.
Flow Chart of Recruitment and Participant Attrition

Figure 2.
Change in Depressive Symptoms (CES-D)

Figure 3.
Change in Purpose in Life (PIL)

Figure 4.
Change in Active-Cognitive (AC)

Figure 5.
Change in Active-Behavioral (AB)

Figure 6.
Change in Avoidance Strategies (AS)

Table 1

Pretest Comparison of Groups on Socio-demographic Characteristics (N=54)

	Experimental ($n_1=25$)	Control ($n_2=29$)	t/χ^2	p value
	Mean±SD (range) or Frequency (%)			
Age (in years)	45.2±15.0 (25–73)	44.9±15.9 (27–76)	0.09	0.929
US stay (in years)	15.8±10.0 (1–42)	12.2± 9.0 (2–41)	1.36	0.180
Marital Status				
Married/Cohabitated	10 (40.0)	17 (58.6)	1.86	0.172
Single/Others	15 (60.0)	12 (41.4)		
Education Attainment				
high school	7 (28.0)	6 (21.4)	0.31	0.579
College graduate	18 (72.0)	22 (78.6)		
Employment				
Yes (full+part)	16 (64.0)	8 (27.6)	7.21	0.007**
No	9 (36.0)	21 (72.4)		
Household Income				
Less than\$19,999	8 (32.0)	1 (3.7)	19.19	0.001**
\$20,000~\$29,999	6 (24.0)	1 (3.7)		
\$30,000~\$39,999	0 (0)	9 (33.3)		
\$40,000~\$49,999	3 (12.0)	6 (22.2)		
\$50,000~	8 (32.0)	10 (37.0)		
Living Arrangement				
Living alone	3 (12.0)	4 (13.8)	0.04	0.845
Living w/others	22 (88.0)	25 (86.2)		
English Proficiency				
Poor	13 (52.0)	14 (48.3)	0.46	0.796
Fair	10 (40.0)	11 (37.9)		
Well	2 (8.0)	4 (13.8)		
Religion				
Yes	22 (88.0)	24 (82.8)	0.29	0.589
No	3 (12.0)	5 (17.2)		
Coping Strategy for Trauma				
Meditation	2 (5.1)	1 (2.6)	N.A.	N.A.
Prayer	9 (23.1)	13 (33.3)		
Exercise	10 (25.6)	8 (20.5)		
Counseling (Professionals)	8 (20.5)	8 (20.5)		
Other (e.g., psychic, sleeping)	10 (25.7)	9 (23.7)		
Psychiatric Counseling (Yes)	2 (8.0)	2 (5.2)	0.02	0.877
Current Suicide Thought (Yes)	6 (24.0)	3 (10.3)	1.80	0.179
Trauma Experience (Yes)	20 (80.0)	12 (42.9)	7.62	0.006**

Note. The statistics for coping strategy for trauma is based on multiple responses; N.A. = Not applicable.

*
 $p < .05$

**
 $p < .01$.

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Table 2Pretest Comparison of Groups on Major Outcomes ($N=54$)

	Experimental ($n_1=25$)	Control ($n_2=29$)	t	p value
	Mean±SD (range)			
CES-D	32.0±11.5 (17–59)	31.9±8.5 (17–49)	0.04	0.970
PIL	81.7±22.6 (26–107)	75.3±22.5 (38–127)	1.04	0.305
Coping Strategies				
AC	13.9±4.0 (6–21)	13.3±3.8 (5–20)	0.59	0.557
AB	17.1±6.2 (0–28)	15.7±5.3 (6–27)	0.91	0.370
AS	12.4±4.2 (3–22)	11.8±3.9 (3–19)	0.58	0.563

Notes. CES-D=Center for Epidemiologic Studies Depression; PIL=Purpose in Life; AC=Active-Cognitive; AB=Active-Behavioral; AS=Avoidance Strategies.

Table 3

Repeated Measures GLMs on Major Outcomes Over Time

Outcome Variables				RM GLM		
	Time 1 (Pretest)	Time 2 (Posttest)	Time 3 (Follow-up)			
				Mean±SD	F (df)	p value
						Effect Size
						η^2 η_p^2
CES-D						
Experimental (n_1 =19)	32.1±10.6	18.6±11.1	19.1±11.7	Time	17.62 (2,88)	<0.001***
Control (n_2 =27)	31.8±8.7	29.7±9.9	27.3±10.9	Group	6.57 (1,44)	0.014*
				Time × Group	6.94 (2,88)	0.002**
						0.10 0.13
PIL						
Experimental (n_1 =19)	85.0±20.1	100.3±18.5	96.0±22.0	Time	5.18 (2,88)	0.007**
Control (n_2 =27)	74.3±22.3	76.9±22.1	76.7±26.7	Group	9.44 (1,44)	0.004**
				Time × Group	2.51 (2,88)	0.087
						0.05 0.05
AC						
Experimental (n_1 =19)	14.1±4.3	17.5±3.9	17.3±4.3	Time	5.73 (2,86)	0.005**
Control (n_2 =26)	13.0±3.8	13.4±4.5	12.8±4.5	Group	10.46 (1,43)	0.002**
				Time × Group	5.07 (2,86)	0.008**
						0.09 0.11
AB						
Experimental (n_1 =19)	17.7±5.5	20.6±5.4	20.0±4.9	Time	3.56 (2,86)	0.033*
Control (n_2 =26)	15.2±4.9	16.2±5.7	15.4±5.4	Group	8.18 (1,43)	0.006**
				Time × Group	1.14 (2,86)	0.326
						0.02 0.03
AS						
Experimental (n_1 =19)	12.2±4.5	8.7±4.1	9.2±5.1	Time	3.15 (2,86)	0.048*
Control (n_2 =26)	11.6±4.0	11.8±4.8	11.6±4.7	Group	2.29 (1,43)	0.137
				Time × Group	3.48 (2,86)	0.035*
						0.08 0.08

Notes. CES-D=Center for Epidemiologic Studies Depression; PIL=Purpose in Life; AC=Active-Cognitive; AB=Active-Behavioral; AS=Avoidance Strategies.

$p < .001$

 $10 > d$
**
 $50 > d$
*

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Table 4

Post Hoc Tests Within- and Between-Subject Effects

Outcome Variables		Experimental		Control		Experimental vs. Control		
	<i>t</i>	<i>p</i>		<i>t</i>	<i>p</i>	<i>t</i>	<i>p</i>	
CES-D	Time 1 vs. Time 2	3.84	0.001**	Time 1 vs. Time 2	1.15	0.263	Time 1	0.11
	Time 2 vs. Time 3	-0.20	0.846	Time 2 vs. Time 3	1.43	0.164	Time 2	-3.50
	Time 1 vs. Time 3	4.29	<0.001***	Time 1 vs. Time 3	2.30	0.030*	Time 3	-2.41
PIL	Time 1 vs. Time 2	-3.02	0.007**	Time 1 vs. Time 2	-0.71	0.484	Time 1	1.70
	Time 2 vs. Time 3	1.16	0.261	Time 2 vs. Time 3	0.05	0.962	Time 2	3.91
	Time 1 vs. Time 3	-2.51	0.022*	Time 1 vs. Time 3	-0.65	0.520	Time 3	2.69
AC	Time 1 vs. Time 2	-3.54	0.002**	Time 1 vs. Time 2	-0.50	0.621	Time 1	0.82
	Time 2 vs. Time 3	0.37	0.713	Time 2 vs. Time 3	0.58	0.568	Time 2	3.24
	Time 1 vs. Time 3	-2.93	0.009**	Time 1 vs. Time 3	0.31	0.756	Time 3	3.34
AB	Time 1 vs. Time 2	-3.12	0.006**	Time 1 vs. Time 2	-0.99	0.330	Time 1	1.62
	Time 2 vs. Time 3	0.52	0.611	Time 2 vs. Time 3	0.78	0.446	Time 2	2.68
	Time 1 vs. Time 3	-1.89	0.075	Time 1 vs. Time 3	-0.29	0.777	Time 3	2.98
AS	Time 1 vs. Time 2	2.69	0.015*	Time 1 vs. Time 2	-0.18	0.861	Time 1	0.42
	Time 2 vs. Time 3	-0.63	0.535	Time 2 vs. Time 3	0.23	0.819	Time 2	-2.32
	Time 1 vs. Time 3	2.19	0.042*	Time 1 vs. Time 3	0.04	0.969	Time 3	-1.59

Notes. CES-D=Center for Epidemiologic Studies Depression; PIL=Purpose in Life; AC=Active-Cognitive; AB=Active-Behavioral; AS=Avoidance Strategies.

* $p < .05$

** $p < .01$

*** $p < .001$.