

Project Report

An Evaluation of a Community-Based Psychoeducation Program for Successful Ageing

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Abstract

Background: The increasing numbers and proportion of the ageing population make it essential to develop and evaluate programs to meet the needs of older adults to empower them to age actively, healthily and successfully. Consequently, positive ageing programs have been developed and the need to evaluate their outcomes is essential. This study used mixed methods to evaluate cognitive and behavioural changes and to monitor psychological health and active ageing in participants of a longstanding positive ageing psychoeducation program, *Successful Ageing for Growth & Enjoyment (SAGE)* conducted in Australia, and to evaluate participant satisfaction with the program.

Methods: Two approaches were utilised. The first involved a survey of demographic variables, measures of psychological health (depression, anxiety and stress, self-esteem and resilience) active ageing, including measures of subjective learning and behavioural change after the seminar series, sent to program participants prior to the annual program



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commencement, and again at the end of the ten-seminar program. The second approach was for participants to complete a Likert-rated and short answer survey assessing session satisfaction of participants after each of the ten seminars in the program.

Results: The analyses revealed that of those who attended SAGE, almost half reported specific positive changes to their cognitions or behaviours, with most of these identified changes being maintained at the end of the year-long program. Participant feedback from those attending SAGE seminars was overwhelmingly positive. No clinically significant differences were seen between those who did and did not attend SAGE in psychological health or active ageing before or after attending.

Conclusions: Participants who engaged with SAGE often reported positive behavioural and cognitive changes. Qualitative feedback suggested that SAGE is certainly appreciated and valued by those attending.

Keywords

Ageing; psychoeducation; program evaluation; SAGE program; active ageing

1. Introduction

The number and proportion of older Australians is expected to continue to grow. In 2016, there were 3.7 million (15%) Australians aged 65 and over-increasing from 319,000 (5%) in 1926 and 1.3 million (9%) in 1976. By 2056, it is projected there will be 8.7 million older Australians 65 years and over (22% of the population), rising to 12.8 million people (25%) by 2096 [1]. The increasing numbers and proportion of older people make it essential that accessible programs are available to meet the needs of this group to empower them to age healthily and actively.

The challenges to psychological health associated with ageing may include loss of self-esteem, social isolation and loneliness. A sense of social isolation and a lack of social support may lead to depression, anxiety, stress and poor psychological resilience [2, 3]. Active ageing is a separate construct focussed on continuing participation in society, defined by the World Health Organization [4] as: “the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age”. A growing body of research suggests that active participation in society, along with continued physical, mental and social activity in late life, is a vital element of ageing successfully [5]. Older people are often a source of support to others, through providing unpaid labour either through voluntary work in the community [6] or unpaid services such as childcare for relatives [7]. While clearly of immense benefit to the community, research suggests this contribution is also of benefit to older people by helping them to continue meaningful participation in society in their later years [8]. Therefore, psychological health, active ageing, and continuing physical, mental and social activity are some of the critical issues for older adults that the *Successful Ageing for Growth & Enjoyment* (SAGE) program seeks to address.

Psychoeducation is a humanistic approach to changing attitudes and behaviour patterns of individuals, with the aim of assisting participants in making positive changes to their lifestyles, habits and relationships and promoting the ability to adapt well to their environments through life changes. Psychoeducation programs are designed to educate participants as to the nature of

psychological health and difficulties, to create insight into the processes underlying psychological difficulties, and also to facilitate understanding of the practical approaches, while providing tips to managing difficulties in daily life and improve coping with these challenges. A number of such programs have focussed specifically on brain health in older adults with symptoms of cognitive impairment [9]. While previous programs have focused on one specific aspect of health ageing, such as exercise, no evaluation has been previously reported on a psychoeducation program that includes multiple areas of psychological health. For ageing Australians, a broader syllabus may provide an avenue of support and growth to facilitate successful ageing. The following section summarises research on the impact that modifiable factors, such as social support and mental health, have on the process of ageing. A detailed description of the SAGE program follows, highlighting the clear link between current active aging research and the SAGE seminar content.

1.1 Modifiable Determinants of Active Ageing

1.1.1 Physical Activity

Among behavioural and lifestyle factors, physical activity (PA) is the considered the most important determinate of active ageing and has a major role in improving quality of life, reducing disability, and reducing morbidity in later life [10-12]. According to the guidelines published by the American College of Sports Medicine, it is recommended for older adults to engage in 150 minutes of moderate PA a week to obtain optimal health benefits [13]. Overall, physical inactivity is the fourth leading risk factor contributing to deaths and burden of disease globally, ranking ahead of obesity [14, 15]. There is a wealth of empirical evidence for the benefits of PA on the physiology of aging, including prevention of chronic diseases, improved mental health and overall wellbeing, as well as positive social outcomes [10, 13, 16, 17]. Despite these benefits, high proportions of older adults globally, are living sedentary lives [17].

1.1.2 Social Support

A considerable body of literature has indicated the health benefits to older adults who have strong ties with family members and friends, have access to meaningful social networks and who actively participate in community or group activities [18]. Community connections, such as being active participants in clubs, religious organisations and volunteer work, provide important peripheral social ties and foster a sense of belonging, which is crucial for maintaining a strong sense of identity, purpose, and security as people age [19]. Older adults with stronger social support networks have been found to have lower mortality rates, better mental health, and higher self-rated health [20-24]. However, older adults face a number of challenges in remaining socially connected, such as life course changes including retirement and bereavement, and physical health difficulties. As people approach advanced old age, their opportunities to engage in these activities often significantly diminish. Increasing fragility and deteriorating health can impair mobility, keeping people confined to their homes. Constraints such as living in a rural area, or caring for a spouse, can leave people house bound with few opportunities to engage in local community activities. Several intervention studies have aimed at reducing social isolation in later life by focusing on improving social skills, enhancing social support, increasing opportunities for social contact [25, 26].

1.1.3 Education

Education is also an important determinant of AA. Education not only plays an important role in occupation and socioeconomic status, but influences health and behavioural practices across the life span. Evidence that neuroplasticity is preserved into later life, has paved the way for cognitive interventions to attempt to delay or slow down the progression of cognitive decline [27]. Older adults are now being encouraged to engage in cognitively stimulating activities daily, such as reading, crosswords, trivia, and card games. Evidence suggests that frequent engagement (6 hours a week of reading and hobbies) may reduce incidents of dementia [28].

1.1.4 Mental Health

Stress has been found to affect more than half of all Australians over the age of 65 years, with chronic stress postulated to lead to a number of health risks within this age group including, clinical anxiety and depression, and physical health issues such as high blood pressure [1]. Mental illness, such as depression and anxiety, are common conditions among Australians above the age of 65 years – with prevalence estimated to be approximately 10% for anxiety disorders and between 10 and 15% for depressive disorders [29]. Further, the prevalence and incidence of depression is reported to double after the age of 70 years [30, 31]. Depression in this population is associated with increased risk of morbidity, increased risk of suicide, decreased physical, cognitive and social functioning, and greater self-neglect, all of which in turn are associated with premature mortality and greater health care utilisation [32-34]. High suicide rates have consistently been identified in the older adult population and increase steadily for both men and woman, which has considerable implications given the continually rising aging population [35-38]. Whilst rates of suicide amongst males aged between 70 and 79 years were comparable to those levels seen in mid-life populations, suicide rates are consistently highest amongst males aged 85 years and above, 6 times the average suicide rate in the US [35]. A constellation of modifiable factors have been identified that confer increased risk for suicide in later life, these include psychiatric illness, social disconnectedness, physical illness, and sleep difficulties including insomnia and poor subjective sleep quality and quantity [38-41].

It is noted within the ageing literature that anxiety and depression are frequently overlooked or misdiagnosed in older adults and are often poorly managed [30, 42-44]. Researchers have argued that this may be due to older adults being less likely to report feelings of depression or anxiety and are more likely to present with behavioural or bodily symptomology and somatic complaints [30, 38, 45]. Other postulated reasons include the view held by some older adults that mental health issues are a sign of moral or personal weakness or character flaws [30, 46]. It has been reported that up to 58% of older adults believe depression is a normal part of aging [27]. In line with this observation, it has also been argued that some older adults are not sensitive to their own emotional needs, growing up in a time when communication about such matters was not encouraged [47].

1.2 SAGE Format & Content

SAGE psychoeducation seminars have been conducted by the Cairnmillar Institute in Melbourne, Australia, for over 28 years. SAGE seminars are open to all adults aged 55 years or

above, regardless of whether they have any diagnosed cognitive or other psychological disorder. These seminars are held monthly from February to November each year. A different topic is discussed each month in a format that includes didactic presentation of theoretical and practical aspects of the chosen topic, followed by discussion time and question and answer time. The seminars include discussion of practical activities that participants can undertake in their daily lives to help promote positive change. Each one-hour session is followed by a one-hour informal lunch and socialising session.

The ten SAGE seminars held during this evaluation of the program were: Technology, grandchildren and communication (focussed on how to connect with other people including, but not limited to, one's grandchildren and understanding changes in our social connectedness), Active Ageing (based on the World Health Organisation model of Active Ageing with an emphasis on practical activities that participants could undertake to increase their own levels of active ageing), Loneliness (focussed on the commonality of the issue of loneliness and positive steps that participants could take to reduce or prevent loneliness in themselves and in other), Dementia (focussed on understanding dementia and how individuals can minimise their own risk of developing dementia), Anxiety (focussed on common anxieties related to older age and anxiety-related disorders, approaches to anxiety management and specific strategies that participants could use to deal with anxieties), Health & Medical issues (interaction with the medical system, including self-care and tips for being an active consumer of health and medical services), Advance Planning (issues of Guardianship, Power of Attorney, Advance Medical Directives, Wills and Capacity, empowering participants to make educated decisions for their future and that of their families), Motivation (exploring keys to motivation, including discussion on goal setting and finding rewards in life), Coping Skills (exploring the life-challenges faced by older adults and the range of coping skills that can be used, with an emphasis on using the right skill for the time and situation) and a Review session, "You Are Awesome: Looking back to look forward" (encouraging participants to think about what they had learned and how they are applying their new knowledge). A summary of the seminar content can be seen in Table 1.

1.3 Research Aims

The SAGE program has been conducted, unevaluated, for almost 28 years. With an increased need for such programs it is increasingly important to understand the perceived efficacy and value of such programs. Thus, the following aims of this program evaluation were firstly, to investigate the extent to which SAGE participants made and maintained identifiable changes to cognitions and behaviours as a direct result of attending SAGE, as well as monitoring psychological health (including psychological symptoms of depression, anxiety and stress, self-esteem and resilience) and active ageing in SAGE participants, and secondly, to evaluate participant satisfaction with SAGE seminars.

Table 1 Summary table of seminar topics delivered during the 2017 evaluation period.

Seminar	Seminar Topic	Description
1:	Technology, Grandchildren & Communication	A seminar focusing on ways of connecting with others, including a discussion around modern technology and its impact on communication, perceptions of a generation gap, and useful ways to re-open communication with family, peers and others.
2:	Active Ageing	This seminar presented the WHO model of AA with an emphasis on practical activities attendees could undertake to increase their own levels of AA.
3:	Loneliness	This seminar focused on the commonality of the issue of loneliness in older age, focusing on positive steps that attendees could take to reduce or prevent loneliness within themselves and others.
4:	Dementia	This seminar focused on improving general understanding of dementia and how attendees can minimise their own risk of developing dementia.
5:	Anxiety	This seminar focused on common anxieties related to older age and anxiety-related disorders. Approaches to anxiety management and specific strategies participants could apply in managing anxiety were discussed.
6:	Health & Medical Issues	A guest speaker opened a discussion around interaction with the medical system in older age, including self-care and tips for being an active consumer of health and medical services.
7:	Advance Planning	This seminar involved a discussion of issues involving Guardianship, Power of Attorney, Advance Medical Directives, Wills and Capacity.
8:	Motivation	This seminar explored keys to motivation, including goal setting and finding rewards in life
9:	Coping Skills	This seminar explored frequent life challenges that face older adults and the range of coping skills that can be used.
10:	You are Awesome: Looking Back to Look Forward	The final seminar for the year was a reflective session, which encouraged participants to think about the course of the seminar series, what they had learnt, and how they are applying their new knowledge and skills.

2. Materials and Methods

2.1 Aim 1: Investigation of Cognitive and Behavioural Changes in Participants and Psychological Health of Participants

2.1.1 Participants

Each monthly SAGE seminar during the period of data collection had from 40 to approximately 80 attendees, who range in age from 55 to over 90 years. Participants were recruited from past and present SAGE attendees by both mail and email using old address lists of attendees, with 212 invitations to participate sent, however it is unknown how many of these were lost due to addresses being out of date. There were 68 surveys returned at time 1, however 12 of these had not included any consent form or contact details so could not be included. The remaining 56 time 1 participants were recontacted by mail or email at time 2, following which 37 surveys were returned and used in the analysis (see Figure 1). This research approval was gained from the

Cairnmillar Institute Human Research Ethics Committee to conduct this research (approval number 2016/01740-16, 2017). Informed consent was obtained prior to the research questionnaires being completed. Individuals who did not consent were still welcome to attend the SAGE program.

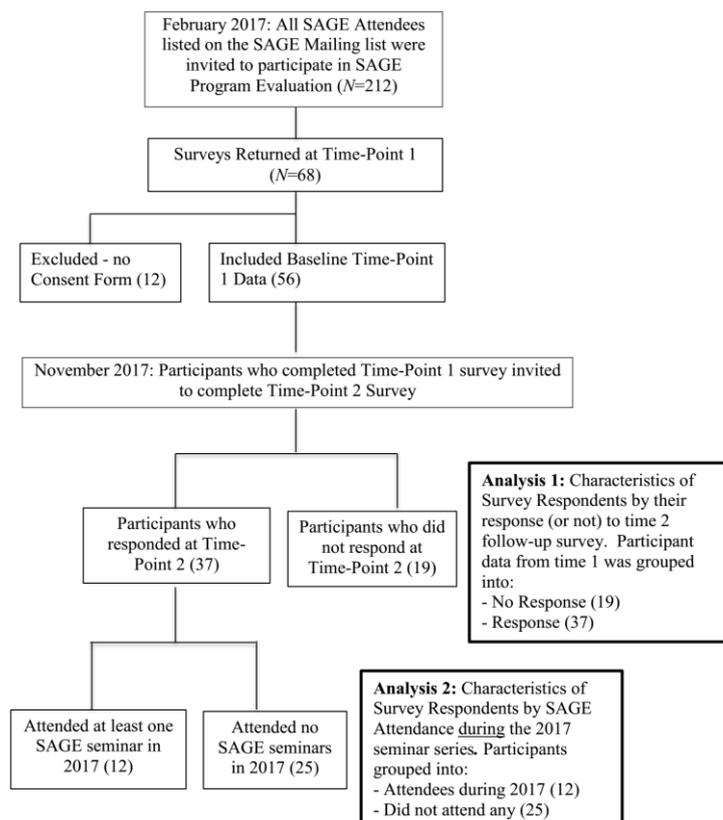


Figure 1

2.2 Procedure and Materials

Participants were requested to complete a pre-seminar questionnaire in March 2017, as well as a post-seminar questionnaire in November 2017. The questionnaire consisted of demographic variables (including age, gender, marital status and income) and measures of psychological health (including depression, anxiety and stress, self-esteem and resilience) and active ageing. The post-test questionnaire recorded details of which seminars the participants had attended in 2017 and any changes the participants reported as a consequence of attending SAGE. The scales included:

2.2.1 DASS-21: Depression, Anxiety, Stress

The Depression Anxiety and Stress Scale (DASS; [48, 49]) is a self-rated measure of stress, anxiety and depression levels over the previous week. This version of the DASS, consists of 21 items and the rating scale is from 0 (Does not apply at all) to 3 (Applies to me very much/most of the time). Internal consistency reliability has been previously shown to be high, with Cronbach’s $\alpha = 0.88$ [11]. For the Depression scale $\alpha = .898$, for the Anxiety scale $\alpha = .839$, and for the Stress scale $\alpha = .913$ [11].

2.2.2 Rosenberg Self-Esteem Scale

The Rosenberg Self-Esteem Scale [50], labelled here as “Feelings about Me”, measures self-worth and self-acceptance. It has 10 items, each scored from 1 (Strongly Disagree) to 4 (Strongly Agree). Half of the items are negatively worded and are therefore reverse scored, giving a range of possible scores for the total scale from 10 to 40, with higher scores indicating higher self-esteem; reliability has been shown to be high with $\alpha = .916$ [12].

2.2.3 Connor-Davidson Resilience Scale

The Connor-Davidson Resilience Scale [3], labelled in this survey as “How I Cope”, was developed as a measure of resilience. The scale has 10 items, each scored 0 to 4, thus giving a range of possible total scores from 0 to 40, with higher scores indicating stronger resilience; $\alpha = .923$ [3].

2.2.4 Active Ageing Index

The Active Ageing Index (AAI) was developed to facilitate measurement of the Active Ageing construct based on the World Health Organization definition [4]. The steps of AAI use are outlined in detail by Zaidi et al. [51]. The version of the AAI used for this evaluation measures the 13 individual indicators of Active Ageing. The scoring method follows the formula cited in Thanakwang and Soonthorndhada [52]. All indicators are scored in a positive manner so that higher scores indicate better active ageing outcomes. Reliability for the 13 indicators was acceptable for research purposes at $\alpha = .535$. To obtain AAI scores, the raw scores for each of the 13 indicators are first transformed into composite scores that weight each indicator equally so that all component indices fall between 0 and 1. Index scores are then calculated for Health, Security, and Participation.

2.3 Aim 2: Satisfaction with SAGE Seminars

Participants who attended SAGE during the data collection period provided feedback on their levels of satisfaction with the seminars by completing the Program Satisfaction Form at the end of each seminar. There were 168 forms returned from 402 attendances (41.8% response rate).

2.3.1 Program Satisfaction Form

Participant feedback was gathered from participants at all sessions on a standardised form with eight questions to be rated on a scale from 1 (Don't Agree) to 7 (Totally Agree). Question 2 was negatively worded in the feedback form but has been reverse-scored in this report so that higher ratings indicate higher satisfaction. The other seven items were positively worded so that, for all questions, higher ratings indicate higher satisfaction. There were also six ‘free-response’ items, where participants could write their thoughts in their own words. The final question was modified from session three onwards, to specifically ask about suggestions for future topics in addition to any other comments.

2.4 Design & Analysis

The end of year (time 2) survey asked about attendance at SAGE seminars in 2017 and from this a grouping variable was created to classify people into those who has attended SAGE in 2017 and those who had not attended in 2017. This grouping variable is dichotomous and does not count the number of SAGE sessions attended. The analysis consisted of three steps. For the first step, cognitive and behavioural changes made by participants following SAGE attendance were tabulated. The second step compared those who completed the study and those who did not return the post-SAGE survey on the psychological health and active ageing variables at time 1, then examined differences between the groups (i.e. those who did, compared to those who did not attend SAGE in 2017) in time 1 (pre-SAGE) and time 2 (post-SAGE) outcome measures. For the third step, addressing aim 2, the free-responses for the participant feedback data for all seminars were collated and summarised with descriptive statistics, then inspected for general themes.

3. Results

3.1 Aim 1: Participant Changes Made Following SAGE Seminars

The time 2 survey asked participants if they had made any changes during the year specifically in response to SAGE seminars they had attended. While a little less than half (48%) of the respondents could clearly name a specific cognitive or behavioural change that they had made, the changes listed were relevant to the content of each session and most participants who named a change they had made also reported they were still doing this new behaviour at the point of the time 2 survey. The following is a sample of the changes participants made each month: remembering the importance of being active; making more social contacts; being more open minded - not so quick to judge; finding a new challenge and challenge self every day with a new task; learning to stay in the moment; accepting uncertainty; organising my health records; checking my will and power of attorney; finding activities that give meaning and enjoyment; feeling more centred and level headed in the face of grief; making the most of every day.

3.2 Investigation of Psychological Health and Active Ageing in Participants

At time 1, the 56 participants were between 56 and 95 years of age (mean = 74.40; *SD* = 8.55) and 55 (81%) were female. They had attended SAGE for between less than one and twenty-eight years, (mean = 7.68; *SD* = 7.09). Of the time 2 respondents, only 12 of the 37 had attended SAGE in 2017, although several indicated on their survey that they would like to attend more but were restricted by finances, health or other circumstances.

A comparison of those who did and those who did not return the post-SAGE survey (to assess for selective attrition) was conducted using a series of between-groups *t*-tests on the time 1 variables of psychological health (depression, anxiety, stress, self-esteem, and resilience) and Active Ageing (health, security and participation indices). There were no significant differences between the groups on any of the time 1 measures (see table 2 for means and test statistics). The next series of between-groups *t*-tests compared the time 1 baseline data for those who did and those who did not attend SAGE in order to check for pre-existing group differences between attendees and non-attendees. There were no significant differences between the groups on any of

the time 1 measures (see table 3 for means and test statistics). A third series of between-groups *t*-tests compared scores of those who had, and those who had not, attended SAGE in 2017 on the time 2 (post-SAGE) mean scores on the outcome variables (means and test statistics are shown in Table 3. There was a significant difference between the groups for scores on Stress, $t(32) = 2.26, p = .030$, with higher scores in those who attended SAGE. There were no other significant differences between the groups in the outcome measures.

Table 2 Comparison of study completers and attrition on outcome measures at baseline (time 1).

	Completed study (<i>n</i> = 37)		Attrition (<i>n</i> = 19)		<i>t</i> -statistic (<i>df</i> <i>p</i> -value =54)	
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Depression	2.92	3.66	4.26	4.60	1.19	.239
Anxiety	2.27	2.62	3.68	4.27	1.54	.131
Stress	4.22	4.30	5.58	5.11	1.05	.297
Self esteem	17.32	5.47	17.47	5.66	0.10	.924
Resilience	31.76	6.11	30.21	6.52	0.88	.385
AAI Health	0.86	.12	0.84	.09	0.38	.708
AAI Security	0.77	.19	0.73	.17	0.92	.359
AAI Participation	0.31	.21	0.36	.23	0.83	.412

Table 3 Group comparison of outcome measures at baseline (time 1) and post-SAGE (time 2).

	Attended SAGE (<i>n</i> = 12)		Did not attend SAGE (<i>n</i> = 25)		<i>t</i> -statistic (<i>df</i> =54)	<i>p</i> -value
	Mean	<i>SD</i>	Mean	<i>SD</i>		
Pre-SAGE						
Depression	2.67	2.64	3.04	4.11	0.29	.776
Anxiety	2.42	2.11	2.20	2.87	0.23	.818
Stress	5.50	5.23	3.60	3.73	1.27	.212
Self esteem	17.17	4.15	17.40	6.08	0.12	.905
Resilience	32.00	5.12	31.64	6.63	0.17	.870
AAI Health	0.88	.05	0.85	.15	0.69	.496
AAI Security	0.71	.21	0.80	.17	1.46	.153
AAI Participation	0.29	.15	0.32	.23	0.44	.666
Post-SAGE						
Depression	2.17	4.89	1.75	2.77	1.90	.066
Anxiety	3.58	3.87	1.71	2.59	1.73	.093
Stress	6.67	6.31	3.21	2.93	2.26	.030*
Self esteem	18.42	2.91	16.20	4.88	1.45	.156
Resilience	30.08	4.40	32.80	6.72	1.27	.212
AAI Health	0.55	.13	0.59	.11	1.19	.241
AAI Security	0.73	.20	0.80	.17	1.09	.283
AAI Participation	0.27	.28	0.20	.16	1.03	.311

3.3 Aim 2- Participant satisfaction with SAGE seminars

3.3.1 Quantitative Feedback

The quantitative feedback for each session is presented in Table 4. The minimum possible rating for each question is 1.0 and the maximum possible rating is 7.0. Item 2 has been reverse scored so that higher ratings indicate greater satisfaction for all questions. Overall satisfaction with the program was very high, being rated at 6.62 out of 7.

The quantitative data shows the participant ratings at between 6 and 7 (the maximum score) for the sessions being informative, understandable, supportive, enjoyable, and useful, i.e. the SAGE seminars are highly valued by the participants. Participants feel confident using the information provided and feel confident to recommend SAGE seminars to friends. All quantitative ratings are extremely high across all questions and all seminars and the overall satisfaction score is 6.68 out of a maximum possible of 7.0. In addition, the participants were usually able to articulate clear plans of action to address the issues discussed in the seminars and plan to make changes in their life accordingly.

3.3.2 Participant Feedback

A collation of the participant feedback for each session indicated that the responses seemed to coincide with two broad constellations. The first constellation reflected the participants finding SAGE seminars useful. This included positive comments from most participants about the topics, facilitators, notes provided for participants and audience interaction, for example, *“Thoughtfully presented – broken down into pillars – lots of examples under each and finished with laughter”*. A smaller number of negative comments focussed on specific content, technology and resource issues, for example, the microphone not working properly, and seminar processes such as proportion of seminar used for questions and discussion, where most participants were comfortable with the mix, or wanted more discussion time. The second constellation reflected the participants identifying specific information from SAGE seminars that they could put into practice. The majority of participants named a specific plan, for example, *“find a group learning activity; make a greater effort to join in /initiate conversations”*, while smaller groups had general ideas of which are they wanted to take action in, or had no specific plan for action. In these free-response questions, participants were extremely complementary about the presenters and the program, with encouraging comments for the regular facilitators and guest presenters. Participants particularly enjoyed the sessions where there were two presenters or a guest presenter with a regular facilitator. These sessions also produced positive comments about the interaction between the presenters.

Table 4 Quantitative feedback: Ratings per question per session.

Session number	S1	S2	S3	S4	S5	S6	S7	S8	S9	Total
Attendance	33	44	50	55	57	57	40	36	30	402
Feedback forms returned	28	17	22	16	15	20	18	14	18	168
I found this session to be very informative	6.57 (0.50)	6.50 (0.82)	6.75 (0.44)	6.60 (0.51)	6.60 (0.51)	6.33 (0.91)	6.53 (0.62)	6.62 (0.65)	6.67 (0.49)	6.58 (0.61)
I found this session too difficult to understand (*Item has been reverse scored)	6.74 (0.53)	7.00 (0.00)	6.80 (0.70)	6.80 (0.78)	7.00 (0.00)	6.44 (1.30)	6.94 (0.24)	6.77 (0.60)	6.94 (0.24)	6.82 (0.64)
I found this session to be supportive	6.36 (0.83)	6.50 (0.82)	6.67 (0.48)	6.53 (0.64)	6.73 (0.46)	6.00 (0.97)	6.53 (0.80)	6.69 (0.63)	6.33 (1.19)	6.47 (0.81)
I enjoyed coming to this session	6.64 (0.49)	6.63 (0.62)	6.76 (0.44)	6.67 (0.62)	6.79 (0.43)	6.39 (0.78)	6.29 (1.05)	6.77 (0.60)	6.44 (1.25)	6.59 (0.74)
I think this session will be useful in my life	6.32 (0.86)	6.63 (0.62)	6.52 (0.60)	6.67 (0.49)	6.47 (0.92)	6.11 (0.83)	6.47 (1.07)	6.62 (0.51)	6.33 (1.19)	6.44 (0.83)
I feel confident using the suggestions and ideas	6.30 (1.20)	6.44 (0.63)	6.43 (0.60)	6.67 (0.62)	6.53 (0.74)	6.28 (0.83)	6.06 (1.00)	6.54 (0.66)	6.44 (1.20)	6.40 (0.89)
I would recommend this session to my friends	6.14 (1.15)	6.56 (0.63)	6.65 (0.59)	6.40 (0.91)	6.60 (0.74)	6.11 (1.02)	6.31 (1.14)	6.69 (0.63)	6.39 (1.24)	6.40 (0.95)
Overall I am satisfied with this session	6.64 (0.49)	6.69 (0.48)	6.71 (0.46)	6.73 (0.46)	6.73 (0.46)	6.22 (0.88)	6.71 (0.69)	6.77 (0.60)	6.44 (1.20)	6.62 (0.68)

4. Discussion

4.1 Interpretation of Survey Results

4.1.1 Changes in Behaviour and Cognitions

Almost half of the participants were able to name specific changes they had made as a result of attending SAGE seminars throughout the year. There were 28 specific changes in thoughts or behaviours reported by participants who had attended SAGE and 24 of these (86%) reported they had maintained this change at time 2 of this evaluation.

4.1.2 Psychological health.

The analysis suggests a significant difference between the groups on one aspect of psychological health: stress, with current SAGE attendees generally experiencing more stress than the participants who are not attending SAGE. One possible explanation for this pattern of results is that these participants may be currently attending SAGE specifically because they are experiencing high stress, thereby driving their help-seeking behaviour. This interpretation suggests that the SAGE seminars are reaching the right audience. We speculate that the non-attending group were all past attendees of the SAGE program who had benefited from the supportive, interactive nature of the program. It may be the case that participants attend SAGE until they feel they have benefited sufficiently or other concerns become the priority, while those who continue to attend feel they still have more to gain from attendance.

It is also possible that the higher stress scores for the current attendees may reflect a greater mental health literacy and greater awareness of their own internal psychological state, thus contributing to greater acknowledgement of difficulties related to stress, coping and self-esteem. This is consistent with comments made in some surveys explaining they had limited attendance at SAGE seminars due to health problems and physical limitations. A large amount of research evidence that indicates that health concerns are a common problem in ageing. With this in mind, it is fortunate that SAGE addressed issues of managing stress, and coping strategies to deal with challenges faced when ageing.

4.1.3 Participant Feedback.

The feedback reflected that participants found SAGE seminars to be useful and practical. This is consistent with participants forming specific plans for behaviour change and maintaining behaviour change after the conclusion of the year-long SAGE program.

4.2 Implications

This evaluation has partially demonstrated the benefits of SAGE for older adults. The positive quantitative feedback from participants shows that SAGE is highly valued by the participants. The free-response feedback demonstrates SAGE seminars are highly valued by the participants, are successful in providing tools and strategies for positive emotional wellbeing, and that participants are making behavioural changes as a result of attending SAGE seminars.

The data reported here reveal significant differences between those who did, and those who did not, attend SAGE in 2017 only one of the outcome variables: stress, with results that suggests that current SAGE attendees are generally experiencing higher stress than the participants who are not attending SAGE. These participants may be currently attending SAGE precisely because they are affected by these difficulties, in which case the SAGE seminars are currently reaching an audience in need of psychosocial support. It may also be the case that the non-attending group, being past attendees of SAGE now feel they have benefited sufficiently, while those who continue to attend feel they still have more to gain from ongoing attendance. In addition, the current attendees may have greater mental health literacy and greater awareness of internal psychological states, contributing to greater acknowledgement of difficulties related to stress.

Issues noted in this evaluation are the accessibility of SAGE, marketing and management of

SAGE and related to this, a declining attendance rate. Given the demonstrated benefits of SAGE, it is recommended that further research is conducted to broaden the reach of SAGE by exploring new locations, including both metropolitan and rural locations, and novel methods of delivery of psychoeducation including internet-based methods. The data can also be used to make variations to the program with the aim of improving its effectiveness. Taken together, these findings support the ongoing provision of the SAGE program. The potential benefits to the community include a positive experience of ageing with constructive cognitive and behavioural change being made following the SAGE seminars, with potential implications for reducing the demands for psychological and other health services in older age, and the combined social and psychoeducational aspects of SAGE may help support those older adults experiencing high levels of stress [2, 3]. The SAGE program is unusual in its 'open-door' approach, which allows participants to attend as desired without appointments, registration or obligation to the program, although this makes it less suited to controlled studies that have shown benefits of other psychoeducation programs [e.g. 9,15]. It is important to remember that the participant feedback on the SAGE program is overwhelmingly positive. This is a program that is highly valued by its participants and those who attend are able to identify changes that they make as a direct result of attendance at SAGE.

4.3 Limitations

As with any self-report data, the results presented here should be treated with caution. Is it unclear how representative our sample was of the total population of SAGE attendees in 2017. Further work in evaluating the demographics of those that attend these SAGE seminars in a given year is needed. This would also highlight any potential demographic gaps such as attendees from low socioeconomic backgrounds, who may require specific targeting. We were unable to track the surveys sent out to old mailing lists and we had a significant amount of attrition during the study, meaning that the final sample was small and therefore had limited statistical power. This meant that multivariate evaluation of outcome variables over time could not be conducted. Finally, due to the explorative nature of this study, the statistical tests were not adjusted for multiple testing and therefore should be interpreted cautiously.

5. Conclusions

Half of those attending SAGE reported positive behavioural and cognitive changes. Qualitative feedback suggested that SAGE is certainly appreciated and valued by those attending. The data suggest that participants continue to engage with SAGE when dealing with stress, which may indicate that SAGE is currently reaching those who would benefit most. SAGE is an open group, with participants welcome to attend as often or as little as they choose, a format which reduces the numbers of participants available and willing to participate in this evaluation. However, in the context of the increasing population of older people and the corresponding need for efficacious programs to support the challenges faced when ageing, the SAGE program holds promise for providing group-based psychoeducation for managing psychological challenges in late life and for the promotion of successful ageing.

Author Contributions

C.L.T., J.C. and D.C. designed the study. J.C. and K.V.T. obtained funding for the study. C.T. and D.C. collected the data. C.T. and S.T. performed statistical analysis and interpreted data. C.T. K.V.T. and S.T. drafted the manuscript. All authors revised the manuscript.

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Competing Interests

The authors have declared that no competing interests exist.

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