

The Intergenerational Care Project 2019

*Research evaluating an
intergenerational learning
program in Australia*







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Executive summary

The Intergenerational Care Project (GU HREC Ref No: 2017_986) aims to contribute to building age-friendly communities by developing, implementing and evaluating an intergenerational learning program in Australia.

While the benefits of intergenerational programs are widely recognised, there is little understanding around the business case and what is needed to operationalise intergenerational programs within different models of care; and the economic, educational and workforce implications. To address these knowledge gaps, the key objective of this project was to prepare, trial and evaluate two innovative models of intergenerational care in Australia

The project focused on two models of intergenerational care. One model was a co-location model, where aged care and childcare centres were located on the same property. The other was a visitation model, where the centres were located separately and people from one centre were transported to the other centre. The study was conducted within four research sites located across South East Queensland and New South Wales and involved six organisations. The project involved older people living with early stages of cognitive decline, and children aged 3 to 5 years.

This research used a quasi-experimental/observational design involving the exposure of an intervention to participant groups and the outcomes were compared to matched control groups. The intervention involved the implementation of an intergenerational learning program over 16 sessions, where children and seniors came together to participate in a range of learning activities for one hour per week. The intergenerational learning program was co-created by the workforce participants and researchers through a collaborative process drawing on theoretical frameworks from the literature. This allowed the program at each site to be tailored to suit the needs of the participants, the environment and the resources and equipment available. The project evaluation focussed on five key areas: participant health and wellbeing outcomes; learning outcomes; workforce outcomes; cost outcomes and program fidelity and sustainability.

Findings suggest that intergenerational learning programs are beneficial for older people, children, organisations and the workforce. For older people, the program had a positive impact on their health and well-being; the program sparked enjoyment and improve mood, and gave them a sense of purpose, all of which may contribute to delaying cognitive decline. For children, there was an increase in confidence and communication skills. Findings also indicate a positive impact on the participating organisations by broadening their perspectives on new types of programs which benefit their clients. For the workforce, while they were hesitant at first and found the program challenging, it expanded their skills and knowledge and broadened their approach to designing activities and programs and improved their job satisfaction. The costs required to implement intergenerational care programs, compared to status quo, were minimal, and were largely dependent upon the delivery model and number of program sessions per year.

1. Introduction

In response to predicted social and economic impact of the aging population and growing disconnect between the generations, the World Health Organization (WHO) is advocating a global healthy aging agenda and the creation of age-friendly cities through its Active Aging Framework (1-3). Intergenerational programs (IPs) directly address many of the key areas including social participation; respect and social inclusion, and life-long learning (4, 5). IPs bring people from different generations together to participate in purposeful activities that are beneficial to all involved (6). Benefits associated with IPs include building relationships, sense of community, and a more inclusive society (4, 7). However barriers to IPs include negative stereotypical views, social policy constraints, rigid institutional structures and conventions, lack of industry knowledge and organisational capacity, staff reluctance and lack of training, lack of an intergenerational learning curriculum, and limited funding and resources (4, 8). As such, the WHO is calling for local projects that adopt a bottom-up participatory approach to overcoming these challenges (1).

1.1 Preliminary research

Preliminary research was conducted prior to commencing this project to explore the feasibility of introducing a formal intergenerational learning program in Australia focusing on three key areas: 1) Legislative requirements (workforce and built environment); 2) Educational programs; and 3) Economic feasibility and willingness to pay. The review into aged care and childcare legislation demonstrated few barriers to the development of such a program in Australia (11). A systematic review of intergenerational care literature revealed no formal intergenerational learning program has been developed and evaluated to support the educational benefits of both generations (10). Results of economic feasibility and willingness to pay study indicated support for such a program amongst professionals, parents, carers and care recipients (12). Overall, the findings from this preliminary research indicate that, while there are some legislative and structural barriers to address, there is strong support for intergenerational programs and opportunities to make an important contribution to addressing the social and economic impacts of our changing environment. However, what remains unknown is how an intergenerational learning program can be operationalised within different models of care, and what the economic, educational and workforce implications might be.

1.2 Aims and objectives

The Intergenerational Care Project aims to contribute to building age-friendly communities by developing, implementing and evaluating an intergenerational learning program (ILP) in Australia. While the benefits of intergenerational programs are widely recognised, there is little understanding around the business case and how to operationalise intergenerational programs that are effective and sustainable. Therefore, the objectives of the evaluation are to identify what is needed to operationalise intergenerational programs within different models of care; what are the impacts on participants, organisations and the community; and what are the implications (economic, educational and workforce). In order to fulfil these objectives, we developed the following five evaluation questions:

1. How do ILPs impact on health and well-being among participants?
2. How do ILPs impact on engagement and learning outcomes for participants?
3. How do ILPs impact on workforce job satisfaction, retention and career development?
4. What are the cost benefits of ILPs compared to status quo?
5. What is needed to ensure the effectiveness and sustainability of intergenerational programs?

From these research questions, we developed an evaluation framework presented Table 1:

Table 1: Evaluation framework

Evaluation question	Evaluation component	Objectives	Indicators
Outcome evaluation (assessing relevance, effectiveness and impacts)			
1	Participant outcomes	To examine how an intergenerational learning program impacts on the health and well-being of participants.	• Health • Well-being • Mood
2	Education outcomes	To examine the impact of an intergenerational learning program on engagement.	• Level of engagement • Program satisfaction
3	Workforce outcomes	To examine the impact on workforce in terms of staff retention and career development	• Job satisfaction • Intention to leave • Program satisfaction
Economic evaluation (assessing impacts, efficiency and sustainability)			
4	Socio-economic outcomes	To examine the costs and cost-benefits associated with implementing an intergenerational learning program	• Cost analysis • Willingness to pay • Cost consequence analysis
Process evaluation (assessing relevance, effectiveness, efficiency, impacts & sustainability)			
5	Program fidelity and sustainability	To identify the core components of the program, that are critical to its success, and other components which can be adapted to suit different contexts	• Did we do as planned? • Why / why not? • What would we do differently?

2. Methods

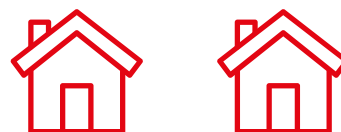
This research used a quasi-experimental design. Participants were exposed to an intervention and measurements were taken pre and post. Matched control groups were also recruited, and measurements were taken at the same timepoints as the intervention groups. Comparisons were made between pre and post measures, and between intervention and control groups. This multi-method study incorporates quantitative and qualitative methods from multiple sources of data.

2.1 Study sites, participant recruitment and sample size

2.1.1 Study sites

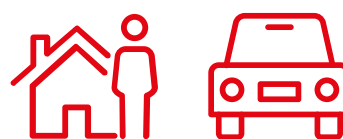
The study was conducted within four research sites located across South East Queensland and New South Wales and involved six organisations. Two of the research sites were co-location models where a childcare and aged care facility were located on the same grounds and owned by the one organisation. The other two research sites were visitation models where the childcare and aged care facilities were located separately and owned by different organisations.

The sites were selected based on their ability to provide suitable locations and facilities, and their willingness to participate in the research. The two visitation sites had intervention cohorts only, while the co-location sites had both intervention and control cohorts. Control cohorts were only selected for the co-location sites as these organisations had both childcare and aged care centres located on other premises with matching organisational and clientele characteristics. The matched control cohorts were located at different premises to mitigate contamination. Table 2 presents the research sites with corresponding key characteristics.



Co-location model

Aged care and childcare are located on the same premises



Visitation model

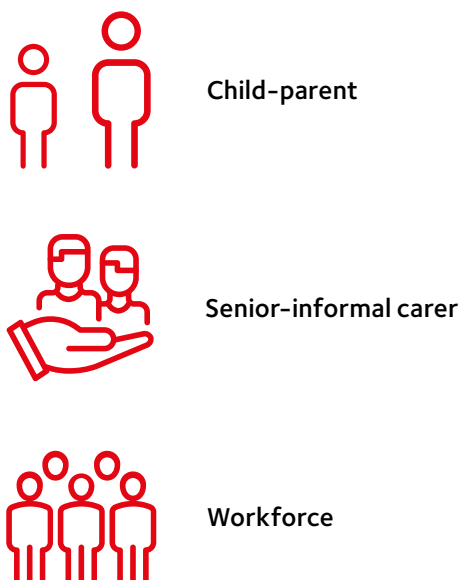
Aged care and childcare are located separately and one or both groups travel

Table 2: Study sites and key characteristics

Study site	Model of IGC	Type of aged care	Type of childcare	Intergenerational learning program location	Cohorts
Site 1	Co-location: Owned by the one organisation	Residential	Child day care centre	Common room located in residential care home. Children walked a short distance within the same grounds.	Intervention & matched control cohorts from the same organisation but located at different premises.
Site 2	Co-location: Owned by the one organisation	Day respite: Culturally diverse community	Child day care centre: Culturally diverse community	Community hall located within the same premises as the childcare centre. Seniors travelled to centre to participate in program and children walked across playground.	Intervention & matched control cohorts from the same organisation but located at different premises.
Site 3	Visitation: Partnering childcare and aged care centres	Day respite	Child day care centre	Childcare centre. Seniors travelled to childcare centre by mini-bus	Intervention cohorts
Site 4	Visitation: Partnering childcare and aged care centres	Day respite	Child day care centre	Aged care centre. Children travelled to aged day care centre in maxi-taxi	Intervention cohorts

2.1.2 Participant recruitment

The study population consists of three participant groups; child-parent dyads (children aged 3 to 5 years attending child day-care and primary carer/parent); senior-carer dyad (older adults living with no dementia or early to mid-stage dementia attending aged care services, residential or day respite, and informal carer where appropriate); and workforce (aged care and childcare workers, managers and volunteers).



Each participating organisation was responsible for selecting and recruiting study participants. Child-parent dyads and senior-informal dyads were selected based on three broad criteria:

1. Attendance at the centre on the day/s and time/s that the program was conducted at each site.
2. Willingness to participate in the ILP and the research.
3. Suitability of child and senior assessed as minimal risk to self and others based on health status and general behaviour.

Selected participants attended an information session and were given a brochure and fact sheet outlining the details and requirements of their involvement in the project. For those who were unable to attend the information session, a video recording was provided to the organisation to present to participants.

Workforce participants were selected based on employment with the organisations and relevant childcare or aged care qualifications, familiarity with the child or senior participants, and willingness to participate in the research program. Organisations were provided with financial compensation for backfill for additional hours required for the workforce to participate.

2.1.3 Sample size

Figure 1 presents the sample size for each participant group in intervention and control cohorts at each research site at baseline, follow up and final analysis.

Baseline

At baseline there were 40 child-parent dyads and 35 seniors in the intervention group. Nine of the seniors were in residential care and the remaining attended day respite care. There were only a small number ($n=6$) of informal carers because the majority of seniors were living with early stages of memory loss or dementia and did not require an informal carer. There were 16 workforce participants including aged care, childcare and volunteers. All participants were required to attend the full 16-session program however it was understood that there would be some absenteeism given the vulnerability of the study population.

In the control cohorts at baseline there were 22 child-parent dyads and 26 seniors. There were no informal carers in the control groups due to site 1 being residential care and site 2, no seniors were living with dementia. The control groups were not exposed to the intervention.

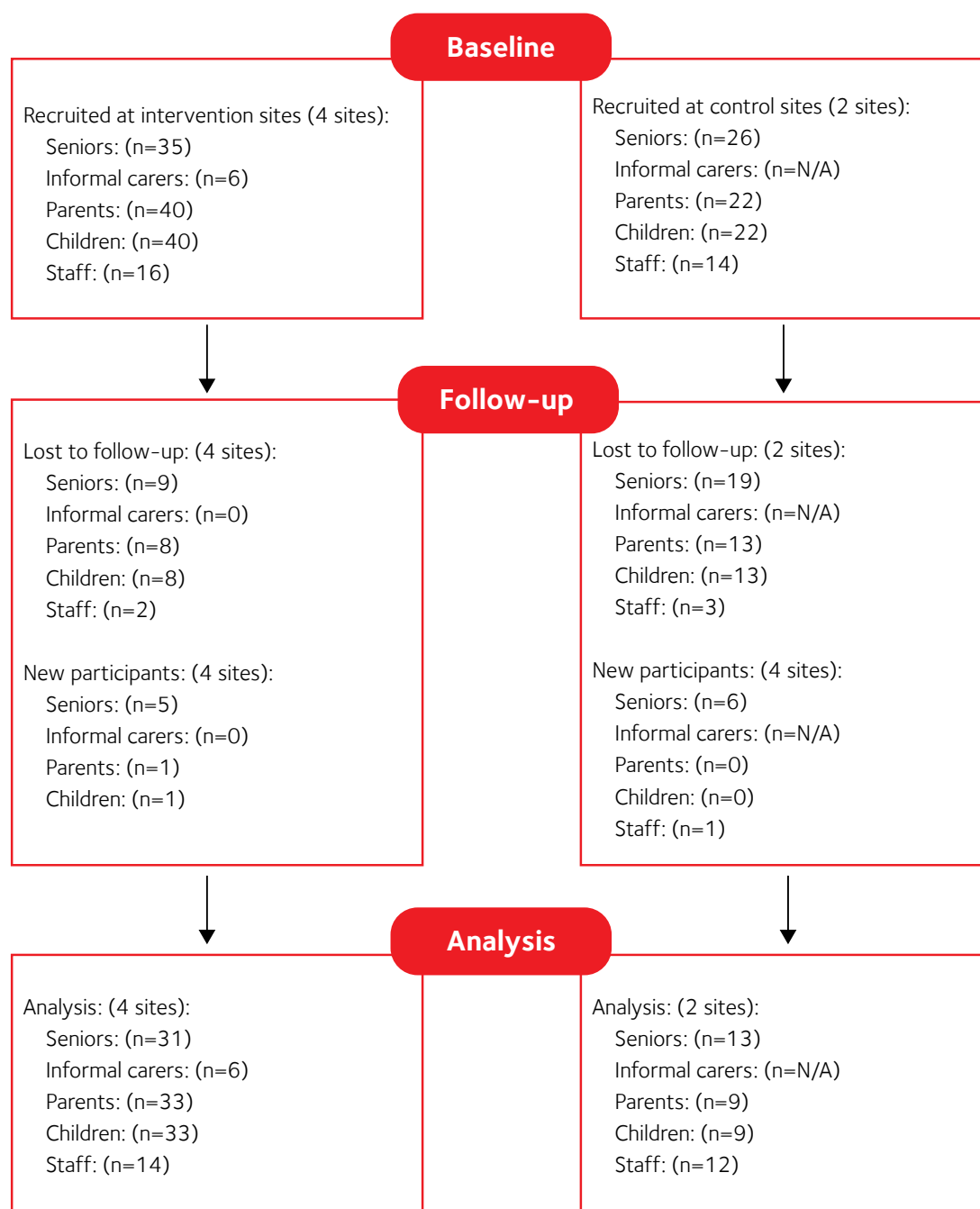
Follow up and analysis

At follow up in the intervention groups there were 8 child/parent dyads lost to follow up, as well as 8 seniors and 2 staff. However, 1 new child/parent joined and 5 seniors. This made a sample size of 33 parent/child dyads, 39 seniors and 14 staff in the final analysis.

In the control cohorts, there were 13 child/parent dyads lost to follow up, 19 seniors and 3 staff. However, there were 6 new senior participants and 1 new workforce participant. This made a total sample size of 9 child/parent dyads, 13 seniors and 12 staff in the final analysis.

The final sample sizes for each participant group are limited due to the nature of the intervention and participant discontinuation. While these small sample sizes are not a limitation for the qualitative components, they are too small for reliable inferential statistical analysis of the quantitative components. However, the findings from the quantitative components provide an indication of trends and can be used to inform the economic evaluation. In addition, the findings from the surveys make a valuable contribution in determining if the tools used are appropriate measures for evaluating intergenerational programs.

Figure 1: Sample size by participant group and study cohort



Adapted from: Moretto, Comans [1]

2.2 Sources of data and methods of data collection

Table 3: Summary of data sources by participant group

Data source	Participant groups	Time points
Surveys	Child/parent dyad Seniors, Informal carers (I&C)	Pre and post
Video ethnography	Children (I) & Seniors (I)	Weeks 1, 8, 16
Participant mood scales	Children (I) & Seniors (I)	Every session Pre and post
Workforce individual practice journal	Workforce (I) Workforce (C) Job Stress Inventory ONLY	(I) Every session (C) Pre and post only
Workforce program reflections Journal	Workforce (I)	Every week
Workforce interviews	Workforce (I)	Pre and post
Participant interviews	Children (I) & Seniors (I)	Post
Costs	Organisation	End of program

I = Intervention groups; C = Control groups

Table 3 presents a summary of the data sources with relevant participant groups.

2.2.1 Surveys

Surveys were administered to each of the participant cohorts at two time-points: pre and post (full details of tools and measures are presented in Table 4). There were three different versions of the surveys administered:

Survey 1: Child-parent dyad (completed by the parent or primary carer of the child)

Survey 2: Aged care recipient (completed by senior with assistance of informal carer or staff member if required)

Survey 3: Informal carer of senior

The surveys included a range of measures covering demographics, health and well-being, service use and service satisfaction. Pre and post surveys were self-administered by hard copy and completed by intervention and control cohorts at the same time points.

Table 4: Survey measures by participant group

Measures	Child	Parent	Senior	Informal carer
Demographic				
Age	X	X	X	X
Gender	X	X	X	X
Relationship to carer / care recipient	X	X	X	X
Education		X	X	X
Marital status		X	X	X
Living arrangement		X	X	X
Employment status		X		X
Pension – concession card status		X	X	X
Health and wellbeing				
List of health conditions			X	X
Number of visits to health professional			X	
Quality of Life WHO – five		X	X	X
Life orientation test revised		X		X
ASCOT			X	
KCSS carer stress				X
Service use/support				
Reason for care		X	X	X
Subsidy for care services		X		
Amount out of pocket		X		
Number of days in paid care	X		X	

Service use/support				
Care program rating	X			
Time spent caring per week				X
Willingness to pay for intergenerational care ¹	X	X		X
Preference for Intergenerational care ¹	X	X		X
Service Satisfaction score	X	X		X
Program Evaluation				
Perception of program's effect ¹	X			X

1 = Follow up survey only

2.2.2 Mood scales

Children and seniors completed an adapted version of the Kunin Attitude Measure [2]. The original measure asks participants to indicate their mood from a series of five face icons. This measure was adapted to only three faces to make it suitable for young children and seniors.

2.2.3 Video ethnography

Video ethnography was conducted to examine the intergenerational learning environment and observe patterns of engagement. Video recordings were obtained at three time points during the 16-session program; Session 1, Session 8 and Session 16. Three to four video cameras were used to record the entire 1-hour sessions; three cameras were set up around the outside of the room to provide 360-degree view of the space, and one camera was used to capture a close-up view of specific activities or interactions.

2.2.4 Workforce reflective journals

Reflective journals were completed by the workforce after every session to capture the planning of the sessions and reflections around individual practice and the program activities. There were two types of journals: Individual Practice and Program Reflections.

Individual Practice Journal

The Individual Practice Journal was completed by all workforce participants and contained four key components:

1. Survey: Job Stress Inventory [3] (pre and post as previously described); individual reflections
2. Session satisfaction using the Kunin Attitude Measure [2]
3. Individual session reflections used the circles of change revisited (COCR) model [4]. This model explores how personal reflection, communication and transformational change can impact on practice. The four steps in the COCR process are: Deconstruct: description of the phenomenon; Confront: clarification of perspectives about the phenomenon and challenge personal values and beliefs; Theorise: examination of characteristics of the phenomenon from different professional and theoretical perspectives; and Think otherwise: Review of the dominant perspective. This process was completed at the end of each session.
4. The Leuven Scale [5] measures observed levels of participant involvement and well-being and was completed for each individual participant relevant to their group (i.e. childcare workforce completed the scale for the children, and aged care workforce complete the scale for the seniors).

Program Reflections Journal:

One Program Reflections journal was completed collaboratively by the participating workforce at each site following each of the 16 sessions. The journal required the workforce to describe each session in detail, including the program planning and delivery aspects such as preparation of the space and learning materials, the activities that were conducted during the sessions, what was successful, and what could have been done differently.

The Program Reflections Journal also had some questions at the end of the journal regarding the workforce perceptions of the program impact on child and senior participants and the organisation.

2.2.5 Interviews

Interviews were conducted with workforce participants before and after the intervention. Interviews were semi-structured and focused on questions around what it is like to work in aged care / childcare, what the challenges and rewards are; why they chose that career and where they see themselves in five to ten years; and how they feel about intergenerational programs. Combined with the reflective journals, these data are used to explore the impact that being involved in the ILP has on aged care and childcare workforce outcomes.

Focus group interviews were conducted with the children at the completion of the 16-week program to explore their perceptions around their involvement in the ILP. The focus group interviews with the children were conducted in small groups and photos and drawing materials were used to assist children to express their thoughts and opinions. Open-ended questions were asked such as: "Tell me about your visits with the older adults"; "What is happening in these photos?"; "What do you remember about these times?" and "Using this paper and pencils draw a picture of going/ being with older adults. Tell me about it."

Interviews with seniors were based on an open-ended survey and were conducted in groups or individually which allowed the seniors to describe their experience in detail. Questions asked included: "Were you looking forward to the program?"; "What did you like about the program; what didn't you like about the program; what could have made it better?"; "How did participating in the program make you feel?"; "Would you like to take part in another program with children? Why / why not?"

2.2.6 Costs

Costs were collected from the agencies at the participating sites and supplemented with information collected from stakeholder interviews, published material and government documents.

2.3 Evaluation and methods of data analysis

The data analysis was conducted in two stages. Stage 1 involved analysis of the separate quantitative and qualitative data sets. Stage 2 involved comparing and contrasting findings from the different data sets in relation to the different evaluation components to derive meaning. Table 5 presents the data sources linked with each of the evaluation components.

Table 5: Evaluation component and data sources

Evaluation component	Data sources
Participant outcomes:	• Surveys (WHO-5, ASCOT, LOT-R) • Mood scales • Follow up interviews with participants (children & seniors)
Education outcomes	• Survey (Program Satisfaction Scale) • Video ethnography • Engagement scale • Leuven Scale • Reflective journal (Program reflections) • Follow up interviews with participants (children & seniors)
Workforce outcomes	• Job stress inventory (pre & post) • Workforce Individual Practice Reflective Journal • Workforce interviews (pre & post)
Economic outcomes	• Surveys • Cost data spreadsheet
Program fidelity and sustainability	• All

Sources: WHO-5 [6]; ASCOT [7]; LOT-R [8]

2.3.1 Participant outcome evaluation and data analysis

Evaluation Objective: To examine the impact of an ILP on child and senior participants with regards to health and well-being.

Indicators: Self-reported health and wellbeing, mood

Sources of data: i) surveys, ii) mood scales and iii) follow up interviews.

- i. Surveys: Statistical analyses were used to measure changes in primary outcomes from baseline to follow up survey data; and to compare intervention groups with matched controls (see Table 4 for key variables relevant to each participant group).
- ii. Data analysis for the mood scales involved descriptive statistics to identify changes in Mean scores pre and post over the 16 weeks, and the change in the Mean score from pre to post for each session.
- iii. A thematic analysis of the follow up interviews was conducted to develop a deeper understanding of which aspects of the program the participants preferred and why, and how the program could be improved.

2.3.2 Education outcome evaluation and data analysis

Evaluation Objective: To examine the impact of an intergenerational learning program on engagement.

Indicators: Level of engagement, program satisfaction

Sources of data: i) video recordings, ii) Leuven scale, iii) Program Reflections Journal, and iv) participant follow up interviews.

- i. Video recordings were analysed in two ways: a) using the Engagement of a Person Living with Dementia Scale (EPWDS) [9] and b) using a multimodal visual transcribing and analysis process [10].

Engagement of a Person Living with Dementia Scale (EPWDS)

The adult participants were assessed by Engagement of Person with Dementia Scale (EPWDS) while they attended IGC program activities at session 1, 8 and 16 during 16 activity sessions. The EPWDS measures five dimensions of engagement: affective, visual, verbal, behavioural, and social. Each dimension is comprised with two statements, one in positive description and another in negative one, which were measured on a 1 – 5 Likert scale. The Scale was assessed by two observers reviewing the recorded videos of three activity sessions for two periods with a duration of 10 minutes by ticking a value for each statement according to each participant.

Multimodal Visual Transcribing and Analysis

A qualitative analysis was conducted using a multimodal visual transcribing process. Still images of interactions between the older people and children were obtained from the video clips that were supported with written commentaries which included observations of speech, gestures, facial expressions and movements. An analysis framework and preliminary coding system were developed based on initial coding of the data and consisted of five focus areas: type of activity; facilitator style; environment; equipment and resources; and participant characteristics. The analysis framework was further developed to explore key focus areas and identify new emergent themes.

- ii. Leuven Scale

The Leuven Scale based on observations of each participants who was given score out of five – one for wellbeing and one for involvement. These scores were tallied to decide which activities in the program were most engaging and least engaging for the participants. These scores were used to give a weekly rating to the program activities

- iii. Program Reflections Journal

The activities recorded in the journal were scored using the Leuven Scale and also mapped to the neurosequential model to link the different activities with different elements of brain development. This analysis about the program provided information of activities that were able to effectively engage all participants.

- iv. Participant interviews

The participant interviews were thematically analysed to provide information about what the children remembered about their participation in the program.

2.3.3 Workforce outcome evaluation and data analysis

Evaluation Objective: To examine the impact that being involved in ILP has on workforce outcomes in terms of staff retention and career development.

Indicators: Job Stress Inventory (job demands, job resources, and job control), intention to leave, program satisfaction

Sources of data: i) Job Stress Inventory; ii) Individual Practice Reflective Journal and iii) Pre and post interviews

- i. Survey – Job Stress Inventory: Childcare Worker Job Stress Inventory (CCW-JSI) is a 51-item scale designed to assess the amount of stress experienced by childcare workers [3]. The scale comprises three job stress subscales measuring job demands, job control, and job resources. Each subscale consists of 17-items. The respondent rates each item on a 5-point scale, ranging from 1 (rarely/never) to 5 (most of the time). A mean score is calculated for each of the subscale. Higher scores indicate that the childcare workers felt they had more work-related demands, greater resources at work, and felt more control in their work.
- ii. Individual Practice Reflective Journal: Thematic analysis was used to explore the journals for reflections that influenced their workforce outcomes. This analysis was guided by the three research questions, which were:
 - What value does an intergenerational care program add to the attraction of childcare and aged care employees?
 - Did being part of an intergenerational learning program change people's perception of the opposite career path?
 - How does an intergenerational learning program influence employee work satisfaction and their overall retention and turnover outcomes in an organisation?
- iii. Pre and post interviews: Thematic analysis was conducted on the PRE and POST interview sets to explore the three overarching research questions.

2.3.4 Economic outcome evaluation and data analysis

Evaluation Objective: To examine the costs, willingness to pay, and cost-consequences associated with implementing an intergenerational learning program

Indicators: Costs, willingness to pay, cost-consequences

Sources of data: i) Cost spreadsheet; ii) surveys

The cost analysis was conducted from an agency perspective. All costs are valued in AUD dollars 2018, over one year. Costs were analysed based on the assumption that the duration and frequency of an intergenerational care program is 2 hours per week over a period of 36 weeks per year. Labour costs considered qualification requirements and staff ratios, in accordance with Australian regulations.

Costs were analysed for two models of care: visiting campus model and shared campus model. Under the visiting campus model, aged care and childcare centres are located separately and either children or older people are transported to one of the centres. Under the shared campus model, aged day care and child day care centres are co-located on the same site with shared infrastructure and facilities.

The outcomes measures used in this economic evaluation of an Intergenerational Care program for each participant group are provided in Table 6. Outcome measures that were administered to both trial arms (intervention and control groups) were included in this economic evaluation. Outcome measures administered to the intervention group only were excluded from this economic evaluation.

All outcomes measures, except willingness to pay, were administered at two time points: baseline and 16-weeks follow up. Willingness to pay was only administered at 16-weeks follow up.

Table 6. Outcome measures selected for the economic evaluation by participant group

Measure	Seniors	Parents	Workforce
World Health Organization (Five) well-being index (WHO-5)	X	X	
Adult social care outcomes toolkit (ASCOT) – SCT4	X		
Life orientation test – revised (LOT-R)		X	
Willingness to pay	X	X	
Use of health services	X		
Service satisfaction	X	X	
Childcare worker job stress inventory (CCW-JSI)			X



The scenarios analysed in this study are hypothetical scenarios and were informed by the literature, expert opinion and experience of the project team. Five scenarios were selected and differed based on model of care (visiting vs. shared campus) and size of the participant group. The five scenarios were:

**Scenario 1 (visitation model):
program operated from childcare centre**



11 Children



11 Older Adults

**Scenarios 2 to 4 (visitation model):
program operated from aged care centre**

Scenario 2



4 Children



4 Older Adults

Scenario 3



8 Children



8 Older Adults

Scenario 4



12 Children

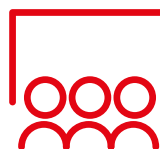


12 Older Adults

**Scenario 5 (shared model):
program operated from shared centre**



Shared Room



11 Children



11 Older Adults

Cost-consequences analysis is a type of economic evaluation which compares costs with its consequences [11, 12]. In cost-consequences analysis, costs and outcomes are estimated and presented separately in their natural units in a tabular format [11, 12]. Cost-consequences analysis was considered the most appropriate type of economic evaluation for this study. Decision makers are more likely to use the information presented in this form of analysis to inform decisions as it is easier to understand than economic summary measures reported in other forms of economic evaluation [12].

2.3.5 Process evaluation and data analysis of implementation fidelity

Evaluation Objectives: To identify the core components of the program, that are critical to its success, and other components which can be adapted to suit different contexts

Indicators: Did we do as planned?
Why / why not? What would we do differently?

Sources of data: All

Currently there is limited understanding of how implementation fidelity of healthcare interventions can be evaluated and reported. There has been some work on articulating the different methods to measure implementation fidelity, however most of the focus is on operational fidelity. The STARI reporting guidelines of implementation research recommend including core components of the intervention and any adaptations made [13], but provides limited guidance about how to do this. Given the increasing need to implement and sustain effective healthcare interventions, understanding how implementation fidelity can be evaluated and described helps to move towards a more consistent way of evaluating implementation fidelity.

As part of the Intergenerational Care Project evaluation, the team worked together to draw from the operational fidelity domains to guide the development of new theoretical and end user domain components. This included identifying the core components of: design, training, intervention delivery and intervention receipt. These core components were used to generate a summary table of implementation fidelity, containing each of the domains and how to measure them, specific to the Intergenerational Care Program. We then used the data that was collected throughout the program to populate the table to assess the level of fidelity in relation to the implementation of the intergenerational learning program. The measures selected for each of the domains are presented in Table 7.

Table 7: Implementation fidelity domains and measurement methods

Domains	Measurement methods
Theoretical implementation fidelity	• Review of project notes • Documents related to the program – including information documents for participants
Operational implementation fidelity	• Grant application • Review of project managers notes • Video Reflective Ethnography (VRE) • Interviews with participants • Focus groups with participants • Interviews with project leads • Reflective journals • Scales (Engagement, Leuven, mood, carer stress)
End user implementation fidelity	Review of project notes
Sustainable implementation fidelity	Interviews with project leads

3 Research findings

3.1 Participant outcomes: Health and well-being

3.1.1 Seniors

Analysis of the survey data showed the well-being score and standard deviation (SD) for the adult care recipients in the intervention group, measured using the WHO-5 well-being index, remained stable from baseline to follow up (mean = 68.1, SD=24.3; mean = 68.0, SD = 25.1), indicating no change in well-being. The mean well-being score for the adult care recipients in the control group slightly decreased from 69.5 (SD=20.8) at baseline to 63.6 (SD=24.9) at follow up, with lower scores indicating lower levels of well-being (See Table 9, p.34).

Social care-related quality of life (SCRQoL) was analysed using the Adult Social Care Outcomes Toolkit (ASCOT) – SCT4. Current SCRQoL remained stable at 0.88 (0.12) from baseline to 16-weeks follow up in the intervention group (See Table 9). Although there was no improvement in quality of life of adult care recipients in the intervention group, it is worthwhile noting that these adult care recipients did not experience a deterioration in quality of life over the follow-up period. Current SCRQoL for adult care recipients in the control group was slightly lower at follow up compared to baseline, with lower values reflecting lower quality of life.

These findings indicate that intergenerational learning programs may, in fact, help delay cognitive decline among older people. Specifically, the post-test findings of the intervention group found that many older participants in this group were adults with cognitive decline, but their cognitive functions did not deteriorate during the 16-week period of the intervention.

Analysis of the mood scale data showed older participants' mood scores before the sessions started improving over time. This suggests that the seniors began looking forward to seeing the children and interacting with them.

Findings from the follow up interviews indicated that overall, the senior participants enjoyed the program. They looked forward to the sessions and were disappointed if the session had to be cancelled. Many felt that the program improved their overall well-being and gave them a sense of purpose; none felt that the program had a negative impact on their health (i.e. no additional illness or injury). The things that the seniors liked most about the program were the interaction with the children and making things that they could keep to remind them of the children and the program. At the end of the program, when asked if they would like to continue with the program, an overwhelming majority of older participants indicated their preference to continue. However, many of them felt that the program went for too many weeks, and suggested that 8 weeks would be enough, then have a break and then resume. Some felt that the children began to get bored and restless towards the end of the program. Others stated they also liked to do other things with their time but felt restricted with the program on every week and the obligation to attend.

3.1.2 Children

Results from the children's mood scale results were varied. Participating children reported happier scores at the beginning compared to the end of the trial. Moreover, children reported being happier after session 9 but the scores changed to unhappy after session 14. It is possible that the children's mood scale scores varied as a result of the type of activity during a particular session and the length of that activity. Activities which allowed for one-on-one interactions between children and older adults were also observed to increase engagement levels between the generations significantly. Alternatively, the program may have been run for too many consecutive weeks, or children may have started to become bored with doing the mood scale after 9 weeks.

Leuven scale: The tallied weekly scores for the children went up and down during the course of the program depending on the level of engagement they had with the activities provided. However at the end of the program the scores for the children had increased in the areas of both well-being and involvement.

3.1.3 Parents

Well-being scores for the primary caregivers increased from baseline (mean=67.0, SD=19.5; mean=57.9, SD=18.0) to follow up (mean=68.7, SD=17.3; mean=59.5, SD=14.7) in both the intervention and control groups, with higher scores indicating higher levels of well-being (See Table 9, p.34).

The median (interquartile range, IQR) service satisfaction score for the primary care givers in the intervention group remained stable at 4.5 (IQR = 4 – 5) from baseline to follow up, indicating no change in satisfaction of the service. Service satisfaction score for the primary care givers in the control group remained fairly stable from baseline to follow up (median = 4, IQR = 4 – 5; median = 4, IQR = 4 – 4.5) (See Table 9, p.34).

3.1.4 Conclusion

Overall, the seniors enjoyed the intergenerational learning program and wished to continue. Findings indicate that intergenerational learning programs are beneficial for older people and have a positive impact on their health and well-being. Specifically, the program sparked enjoyment and improved mood, sense of well-being and gave the seniors a sense of purpose, which may contribute to delaying the cognitive decline.

The parents or primary caregivers of the children experienced benefits on measures of well-being but did not experience benefits on measures of optimism and service satisfaction.

3.2 Education outcomes: Level of engagement

3.2.1 Video ethnography

The video ethnography findings reveal that the length and types of activities played either facilitated or hindered the engagement between the two generations. Children across all the four study sites displayed signs of boredom (e.g. yawning, fidgeting, moving away from their seats) approximately 20 to 30 minutes into an activity. They enjoyed sessions which included a variety of activities played for short periods of time or one on one and individual activities that required them to construct, paint or create handicrafts with the older people. Their attention was more focused during these activities.

3.2.2 Engagement of a Person Living with Dementia Scale (EPWDS)

The results of the EPWDS are presented as a summation and five individual dimensions of the engagement measurements for different sites and varied sessions for the senior participants. See Table 8 for summary Engagement of a Person Living with Dementia Scale (EPWDS) results.

There were 40 participants comprising 104 person-session assessments. Regarding summation engagement measurements, the mean scores of site 1 in three sessions were comparatively lower than other sites in each engagement dimension particularly in session 1 (42.44 ± 5.91). In contrast site 4 demonstrated the highest mean scores of total engagements in three sessions (each mean score > 45.95). In comparison of each dimension of engagement, the mean scores of visual engagement were the highest among 104 person-session (9.42 ± 0.77) whereas the mean scores of affective engagement (9.00 ± 1.10) and verbal engagement (9.01 ± 0.84) were generally lower.

Table 8: Summary of EPWDS results

n=104 person per session						Percentiles			
Engagement	Mean	SD	Med	Min	Max	20	40	60	80
Total	45.95	3.67	47.00	32.25	50.00	43.50	46.00	47.50	49.00
Affective	9.00	1.10	9.50	5.00	10.00	8.25	9.25	9.50	10.00
Visual	9.42	0.77	9.50	6.00	10.00	9.00	9.50	10.00	10.00
Verbal	9.01	0.84	9.25	6.00	10.00	8.50	9.00	9.50	9.50
Behavioural	9.37	0.76	9.50	6.00	10.00	9.00	9.50	9.75	10.00
Social	9.14	0.86	9.50	6.00	10.00	8.75	9.00	9.50	10.00

3.2.3 Leuven scale and workforce program reflections journal

Overall findings from the Leuven scale indicated higher levels of engagement for children and seniors as the program progressed throughout the 16 weeks. The findings from the Leuven scale for each session were mapped to the workforce program reflections journal to investigate which type of activities were most effective in achieving higher levels of engagement. Findings indicate that the type of activity and way it is facilitated strongly influence the type and level of engagement.

- Low energy level activities that were conducted one-on-one such as reading, painting, colouring, drawing, beading etc provided the opportunity to develop bonding relationships. The seniors enjoyed making things that they could keep or give to the children, and they liked to put the paintings up on the wall, and keep souvenirs or memorabilia of things they had made with the children during the program
- Medium energy level activities such as singing, dress-ups and cooking conducted in small groups provided the opportunity for older people to reminisce and share those memories with the children.
- High energy level activities conducted in large groups such as dancing (e.g. Hokey Pokey) and games provided the opportunity to bond as a group, creating that sense of belonging and inclusiveness.

Findings highlighted that those activities focused on sensory outcomes, were more successful in engaging both younger and older participants in the program.

3.2.4 Conclusions

Overall findings indicate that the type of activity and the way it is facilitated play a critical role on the level of engagement between the generations. This suggests that each session needs to be designed with a specific purpose or goal to enhance engagement and facilitate reciprocity in learning. The program needs to include a variety of activities involving different levels of energy that are conducted either one-on-one, in small groups, or in large groups, taking into account the level of cognitive and physical abilities of the participants.

3.3 Workforce outcomes

3.3.1 Job stress inventory

Job demand: The mean scores on the job demand domain decreased slightly from baseline (mean=2.8, SD=0.7) to follow up (mean=2.5, SD=0.8) in the intervention group, indicating that staff felt fewer work-related demands (i.e. better working conditions) at follow up. Mean scores on the job demand sub-scale were stable from baseline (mean=2.4, SD=0.5) to follow up (mean=2.4, SD=0.4) in the control group (See Table 9, p.34).

Job resources: The mean scores on the job resources domain remained stable from baseline (mean=4.1, SD=0.5; mean=4.0, SD=0.5) to follow up (mean=4.2 SD=0.4; mean=4.1, SD=0.6) in the intervention and control groups, respectively, indicating that there no changes in job resources at follow up (See Table 9, p.34).

Job control: The mean scores on the job control domain remained stable from baseline (mean=3.0, SD=0.6) to follow up (mean=3.0, SD=0.7) in the intervention group. In the control group, mean job control scores increased slightly from baseline (mean=2.5, SD=0.6) to follow up (mean=2.8, 0.7), indicating that the staff in the control group felt a greater level of job control (i.e. more positive working conditions) at follow up (See Table 9, p.34).

3.3.2 Workforce individual practice reflective journal

RQ 1. What value does an intergenerational care program add to the attraction of childcare and aged care employees?

In one visiting site, childcare workers were able to reflect critically on their curriculum and teaching and saw the program as an opportunity to use skills in a new, and sometimes challenging, environment. Therefore, it allowed them to broaden their teaching reach and applying them to new participants is a potential attraction. However, a key challenge that was mentioned frequently was the lack of support and subsequent workload. This may detract from the value from the profession if not dealt with appropriately. From an aged care perspective, the staff reflected that the primary value of the program was that they learnt more about their clients and therefore are better equipped to serve their needs.

Another key finding from this group was that witnessing the enjoyment from the older people and the relationships they formed with the children was positive reinforcement for their role. Participants seemed keen to continue an intergenerational care model, which potentially could lead to staying in the profession. Unfortunately, the other visiting site had few positive reflections noted, due to a discord between staff members and value sets.

Across the shared sites, the intergenerational care program allowed them to learn more about the older participants than they knew prior to the program. In addition, seeing the bonds between the participants, and the excitement from both children and the elderly meant that the program added value to the satisfaction of formal carers. Another worker reported increased satisfaction in their role by seeing the improved wellbeing in clients as this program gave them a sense of purpose. Moreover, the staff at the shared sites reported that being part of this program forced them to “slow down” from a very busy role and instead just enjoy the connectedness.

However, both childcare educators and aged care staff felt rushed, and unorganized with each session. In addition, there were frustrations raised around who’s responsibility it was to pack up and plan, where both shared sites reflected the bulk of the work was given to childcare staff to arrange despite initial efforts to share the workload. This suggested that an intergenerational carer role who is allocated this extra work is needed in order to reduce the stress experienced on top of their normal daily duties. This role would also provide a greater perception of control over the activities and influence over both groups to neutralize power relations.

RQ 2. Did being part of an ILP change people's perception of the opposite career path?

Across all journals there was no explicit mention of a changing perception of the opposite career path that naturally emerged however most staff did make a conscious effort weekly to reflect on the effect they were having on the opposite sector. For example, a childcare worker from a visiting site had most of her reflections focused on the elderly rather than the children. Similarly, the aged care workers acknowledge the business of childcare staff but didn’t discuss their perceptions of their career explicitly.

RQ 3. How do an intergenerational care program influence employee work satisfaction and the overall retention and turnover outcomes in an organisation?

Across most sites, staff became more positive in their reflections and often commented on the satisfaction they received by watching the relationships develop between the children and the elderly. Another staff member focused on how her relationship with her clients had strengthened as they were able to explore new sides of clients they previously never saw. Therefore, they could provide a better service to them, and this increased her satisfaction. Across most sites also the mood of staff showed an upward trend. There were no obvious differences in how these differed between the employees in the trials. At one site,

there was some initial discord which meant relationships didn't develop until later in the program, however their mood scores and reflections became more positive towards the end which indicates that perhaps with more time these staff members may have worked more effectively together. This finding also highlights the importance of teamwork training to understand the language, and sector differences and similarities before programs are kicked off.

What was interesting observation across all journals is that the curriculum and programming was a cause of high stress for everyone and in some cases resulted in a perceived lack of organisation or lack of communication between the staff. This finding suggests the need for clear curriculum training to support both aged care and childcare workers in designing appropriate curriculum for intergenerational care programs.

In addition, in visiting sites, it was evidence that travelling to and from the centre was a stressful experience as they constantly felt rushed and unprepared when they arrived late/just on time. This finding suggests that there is a need to budget additional lead time for the activity so that both parties are not stressed upon arrival for the maximum outcomes to be achieved.

3.3.3 Workforce interviews

RQ 1. What value does an intergenerational care program add to the attraction of childcare and aged care employees?

Pre-interviews revealed that exposure to their sector was one of the core reasons that all staff interviewed saw their job as a potential career opportunity. For childcare, this was a sector that staff often fell into after a work experience opportunity or through babysitting roles in their family and wider community. Whereas for aged care employees, the attraction to the industry generally came after being exposed to it through their family members or friends being either admitted or working within the sector.

"My mum was a schoolteacher, so I knew straight from the start that I wanted to be a schoolteacher. I loved it. I always loved going to school with mom, so I knew that's what I wanted to do. And when I was growing up, like kids were just drawn to me. I don't know what it was but like siblings of friends or nieces and nephews of friends they'd always want to come play with me and I don't know why."

Childcare

"I started off doing hairdressing; it was completely different to childcare. I ended up, you know, not being in my particular field that I wanted to work, like wanted to work in. So, I had a really good friend who was in childcare and her mum was a director at a centre at the time. So, I did some work experience there. I was like, "I actually really like childhood care and I really love being with children." Also, I just personally think it's like super rewarding um being in childcare and watching the children grow. So, I went from studying a school based trainee when I was in year 11"

Childcare

"I just did it because it was convenient at the time, think I was there for eight years or something, went straight from school."

Childcare

Combined, these findings highlight that there may have been a potential for intergenerational care to change employees' opinions of the opposite career as a legitimate pathway.

Further enquiry into the impact the intergenerational care program had on employee's daily roles revealed that it increased meaning and contributed positively to their satisfaction towards their roles.

"I did enjoy that my job was a lot more interactive than what it usually is. I do have contact time in the rooms with the children, but to have that designated time of every week, every hour you're going to spend with those children and those residents ... I don't get to go on all the excursions either, so that was a bit different as well."

Childcare Manager

"Actually, my favourite part like I get to see my oldies tomorrow! He's (her partner) like, "You're way too excited," I'm like, "I know but I really enjoy it." So, the night before I'm like, "OH yes I get to see the oldies tomorrow." And then on the day I'm like, "I wonder who's going to come today?"

Childcare Educator

"I felt like I got to know the elderly ladies better, because I was there before the children arrived and sometimes there a little bit after the children had left, so I asked them questions about their lives. I knew more about them"

Volunteer

"I just love that they're so beautifully naïve, that it's just gorgeous. Yeah, I think it's cute. This morning Rachelle was saying the kids, they're like "how did you get here?" And every day she goes in and tells them she got here a different way. And she told them she rode her cow. And they're like "really?" And she's like "Yeah, I did." And they're like, "well where's the cow?" She's like "out the front." They all run to the window and look out the front, and they're like "where is it?" She goes "it's gone down the road to buy some milk." I bet they're all just laughing, and it's just, I love it, I just love the imagination and yeah. Love them."

Aged Care

"Yeah for me it's always been about if you can make a difference in one person's life it's worth it and these nine people, they've walked away with incredible memories."

Aged Care

Combined, these findings suggest that an Intergenerational care Program adds meaning to an employee's role, and increases their satisfaction, therefore it may be a viable program to address the current shortages and high turnover across both sectors..

RQ 2. Did being part of an ILP change people's perception of the opposite career path?

The post interviews revealed that the intergenerational program did change people's perception of the opposite career path. Staff either firmed up their intention not to work in the opposite career path, or the experience opened up their mindset about working in their career and changed their impression of what it meant to work in that sector.

"Before (the intergenerational care program trial) I just thought ew, I don't want to clean that person. And I feel terrible saying it but that's what you do think, like your mind goes straight there. So, but after building the relationships

and actually hanging out with them I could go and hang out with them all day"

Childcare Worker

"No. I'm firmed up in that decision, yeah. And, it's probably somebody made to do that, but I'm quite happy where I am. And probably near to the end of my working career. So, I just turned 65 this year, so I'm not sure how long down the track, one year, two years maybe, down the track. But I'm quite happy working with the elderly. I think that's my passion and what I really enjoy"

Aged Care Worker

"The similarities in the levels of care between children's services and an aged care space, and you know the care and compassion and meeting the needs of the residents is really quite similar. So we talk about, oh yes they're similar in terms of needs. But when it came to actually thinking about that a little more or actually seeing it as I guess a value in action, it became more apparent and nicer to see as well."

Manager, Childcare

"It gives me a bit more insight into how much we can do with the age for seniors. Because, previously, when I think about the seniors, I just think about, they are in the age care, they might be in mobility scooters, or maybe they have mental health issues that we might have to take care of, but they're all independent, and their mind is still very active. It is like a mature person that you work with, and it's very easy."

Childcare Educator

The majority of staff members from both childcare and aged care sectors were keen to continue working in a similar program as an Intergenerational Care Coordinator, and receive specific training on curriculum development and becoming an intergenerational carer. Those who did not see it as a future interest were planning on retiring or moving into a different sector, such as education at primary school.

Consequently, it is possible that the intergenerational learning program could provide a meaningful and attractive career opportunity for both current and future aged care and childcare staff.

RQ 3. How do an intergenerational care program influence employee work satisfaction and the overall retention and turnover outcomes in an organisation?

This program trial revealed that the intergenerational care program added significant meaning and satisfaction to the lives of all staff involved as discussed previously. In addition, staff also gained benefit from the value this program brought to the children and seniors wellbeing beyond the formal interactions.

“It was that I brought the children, at like groups of five, out of the pre-prep room. And some of them had been in the program, and I said to them, can you please draw me a picture of your grandparents? And they're all drawing pictures, and little boy comes up and I said “who's this?” And he said “that's (male) and (female).” I said “are (male) and (female) your grandparents?” He said “no, but they're my old parents.” You see, all of his family live in South Africa. So, it's just really sweet to see that he saw them as like, someone, like, you know, I guess in that roll.”

Childcare

“Just seeing the joy that they were sharing and watching the little relationships growing and hand touching, wanting to be near them. So that was lovely. And seeing the resident's hearts light up to. So they'll say, “I think they're coming. Yes, they're coming.”

Aged Care

However, training is needed on curriculum design, safety, resilience and grief/loss to cope with the realities of this position. This was evidenced by the challenges faced by staff during these trials.

Curriculum design: All staff commented that the challenge of finding activities that met the needs of both older and younger participants was one of the most stressful parts of this trial. This is because they were all working in unfamiliar territory, often with minimal help from their counterparts.

“Well, I didn't contribute to any of the programming and anything like that. So, on those days sometimes I felt that they were, how can I put it. There was sort of, if this is what they planned, they wouldn't really change it. Because this is how they planned it. So, there were a few times where I've just gone, “okay, this is not really working. It looks a bit like organized chaos. Like everyone's just everywhere, so what if we try this way?” And then the guild will be like, “Oh yeah, okay.” And then you just try.”

Childcare Manager

“I think we struggled with the planning as well, finding the time to meet that worked for (staff) to all come together and meet at the same time every week. That was a bit hard, especially because we didn't know at the time that (one staff member) only worked 3 or 4 days a week, which is difficult for us.”

Childcare

“That's very hard. Just keep trying each week. Try different things. We had them out in the yard sometimes on a nice day and we had some lovely days there, nice weather, so they could mingle more. It was a bit too crowded inside I thought. Then we had the other spare bedroom set up, and that was a bit too separate.”

Aged Care Worker

“I think for us it was, definitely, the programming side of things, and it was very one sided for us. And you don't get a lot of support from (the other organisation) with ideas. And resources. So, it was a lot of time it was left just up to us, which was really difficult for us, and the girls to find the time to sit down and go do all the paperwork ourselves, and do all the resource-finding the resources, and finding what we wanted to do. Especially considering we don't have the background in knowing what they (the other participants) can and can't do.”

Aged Care Worker

This was often due to a lack of time to come together as this role was added to their current role, and most agreed that more communication was needed between the parties involved.

“But if we're grouped together in a purpose, then what about we deliver the good program, we deliver the good outcomes and look at the big picture.”

Aged Care Worker

In addition, the trial also revealed that prior to the start of the program, there needs to be training or support for employees working in the program to help them transition to new clientele to avoid stress. For example,

“I was scared of being too involved, and I didn't know if that was allowed. I thought there were rules, but there were no rules. It was just to do as what we would do here. I withdrew myself for the first session, because I thought, “Oh, they're filming. They want to just see them interact,” and then I just felt weird. I just felt like I didn't know what I was doing.”

Aged Care Worker

“The most challenging moment ... I couldn't explain myself properly in terms or words, but that's what I thought. It's sharing new ideas of what the older people do as a pastime. Compared to what the children's games are. So, anyway, it all worked out and came together, and the children wanted to play the game. So that was good. So, I felt good about that.”

Aged Care Worker

“I don't know, we didn't know what to expect, we were probably overstaffed for that because we didn't know how much we were going to have to help the older participants, how much the kids were going to engage, stuff like that.”

Childcare

Training in resilience and death/dying: At one of our sites, we had 2 members die of natural causes in the aged care site. This forced Childcare staff into unfamiliar territory of grief and talking about loss to children.

“Explaining to all the children that one of the residents had passed. I don't know how I got that job but that was really, because I guess my relationship with the children is different to their relationship with the others because they just see me coming in and yes I try to know and be present in the services but I guess talking about that concept with children, and as a slightly unfamiliar person I thought, am I saying the right thing? I need to be respectful that there are many different values and traditions around that, and then also not wanting to offend any of the residents if what I was saying was different. So I was trying to be so intentional that afterwards I think well, I'd probably do it a little differently. I don't think I did the worst job. Some said I should have told them that they'd go to Heaven, and I just thought you know, I said, I thought I remember my Nana said that to me, and I think it's really important that parents have the opportunity to share that ritual. It's really important, you know, I just really ... Thank you for sharing your perspective with me but I just found that that was probably the most challenging thing that I experienced”

Childcare Manager

At other sites, staff demonstrated clear avoidance strategies to dealing with loss.

“No one said anything about it to me at orientation, I wouldn't have even thought about it like I still got all my grandparents, I not long ago lost my great grandparents, do you know what I mean? Like I've still got everyone around me, no one that I've ever been really close to has ever died so I was like, what if they die? And then in orientation they were like, “They do die, what are you going to do? How are you going to tell the kids?” And I didn't think about it and when we left I said to (a colleague), “Oh my god I didn't know that they could die during... I can't let anyone die,” I just didn't think about it.”

Childcare Worker

“All the kids would be like well where is, and they'd ask us who, where they were and we'd double check that they were okay because obviously in first initial meeting they talked to us about the possibility of death and it hadn't even crossed my mind that that could actually be real. So I think that it would be too sad. Like I don't think I'd be emotionally ready for that, especially if you knew them a bit more too. It'd be different if you only knew them a week and like you didn't have that connection with them, but if you had that connection I don't know I think it would just be too sad. I guess that's just the reality of the job.”

Childcare Worker

“I don't think that it's harmful though, people die all the time and they're going to have to face that eventually. That might just be me saying it because I've lost no one, well not no one, it broke my heart when my great grandma died but I think that they have to face it eventually and if it starts younger then it's not such a big shock, like for me that was the most horrific thing that had ever happened and she just went to sleep and didn't wake up. Like it wasn't anything, but because they've never had to deal with that before it kind of hit me a lot harder whereas if I feel like if I dealt with it when I was younger, when it happened now that I would cope better.”

Childcare Worker

Therefore, there is a need for specialised training and support in death and dying, as well as resilience before the commencement of any future programs.

3.3.4 Conclusions

Building on the findings from both the journals and interviews, this study highlighted that intergenerational learning programs provide a viable and valuable possible career path for future aged care and childcare workforces. However, addressing the workload, stress and training gaps is needed for a fruitful outcome. In addition, there is a need to compensate employees for the skill sets they demonstrate, and the creation of an intergenerational coordinator role may be of value to address these challenges and opportunities in the future. However future research is needed to create such a role, and pilot it within future trials of intergenerational learning programs that build on the other lessons learnt in this trial.

3.4 Economic outcomes

A total of 61 adult care recipients and 62 primary caregivers (and children) participated in the Intergenerational Care project. A total of 30 workers participated in the study (20 childcare workers; 10 aged care workers). The baseline characteristics of the adult care recipients, primary caregivers (and children) and care workers by group are presented in the body of the report.

3.4.1 Costs

The balance sheet for the cost-consequences analysis is presented in Table 9. The one-off and recurrent costs associated with implementing a 36-week intergenerational program in the initial year for the five scenarios are listed in the balance sheet. Although the intergenerational program did incur costs above the traditional program, compared to the status quo, these costs were minimal. Labour was the key cost driver in all of the scenarios, followed by recurrent operating costs, which was largely dependent upon the number of program sessions per year. Unlike the shared campus model, the visitation model scenarios incurred travel costs.

Scenario 5 (Shared model – program operated at shared site) and Scenario 1 (Visitation model – program operated at childcare centre) represented the lowest cost scenarios as usual child-staff ratios are in place within the childcare centre and shared campus facility. As Scenario 5 did not involve travel as the program was operated on-site at the shared campus, no transport costs were incurred, thereby rendering it the lowest cost scenario explored in this economic evaluation. In Scenarios 2 to 4 (Visitation model – program operated at the aged care centre), the variation in labour costs across was associated with the increased number of educators required to meet the national ratios, which are lower (1:4) when children travel off-site, compared to usual centre-based ratios (1:11). The costs associated with children visiting off-site varied based on the size of the participant group. The larger group size was associated with a lower cost per participant.

3.4.2 Consequences

Consequences were examined for adult care recipients, parents, informal caregivers and staff and are presented in Table 9. The number of respondents with pre and post data was insufficient to undertake statistical tests of significance between groups.

Table 9: Cost-consequences for an Intergenerational program for one year (2 hours per week, 36 weeks per year) (AUD 2018)

Costs			Visitation model						Shared model	
	Program at childcare centre		Program at aged care centre				Program at shared campus			
	Scenario 1		Scenario 2		Scenario 3		Scenario 4		Scenario 5	
	Total AU\$	Per participant	Total AU\$	Per participant	Total AU\$	Per participant	Total AU\$	Per participant	Total AU\$	Per participant
i. One-off costs										
Equipment cost	313	14	305	38	585	37	865	36	25	1
Initial set-up and training – labour	2,282	104	2,282	285	2,474	155	2,667	111	2,282	104
Initial set-up and training – facility/ materials	193	9	193	24	199	12	205	9	193	9
ii. Recurrent costs (annual, 36 weeks/year)										
Staff recurrent expenditure	726	33	4,192	524	7,657	479	7,657	319	729	33
Recurrent operating costs	3,431	156	3,431	429	3,431	214	3,431	143	3,431	156
Transport	1,080	49	1,080	135	1,080	68	1,080	45	0	0

Consequences		Intervention				Control			
		Baseline		16-week follow up		Baseline		16-week follow up	
		n	Mean (SD)	n	Mean (SD)	n	Mean (SD)	n	Mean (SD)
Seniors									
WHO (Five) Well-being Index (WHO-5)		30	68.13 (24.31)	30	68 (25.1)	21	69.52 (20.84)	10	63.6 (24.91)
Current social care-related quality of life		29	0.88 (0.12)	27	0.88 (0.12)	18	0.88 (0.17)	12	0.82 (0.10)
Willingness to pay, n (95% CI)		N/A	N/A	24	6.87 (3.79, 9.96)	N/A	N/A	7	0.16 (0, 0.47)
Health professional visits (past 2 weeks)		33	1.2 (0.6, 1.8)	25	1.2 (0.6, 1.7)	22	1.2 (0.9, 1.6)	12	0.8 (0.4, 1.2)
Service satisfaction, median (IQR)		35	4 (4 - 5)	31	4 (4 - 5)	20	4 (4 - 5)	13	4 (4 - 5)
Parents									
WHO (Five) Well-being Index (WHO-5)		40	67 (19.46)	30	68.67 (17.26)	21	57.9 (17.96)	8	59.5 (14.73)
Life orientation test – revised (LOT-R)		39	15.97 (3.12)	32	15.44 (3.41)	20	14.5 (2.76)	8	15.25 (3.73)
Willingness to pay, n (95% CI)		N/A	N/A	27	4.38 (2.59, 6.17)	N/A	N/A	9	4.94 (0.34, 9.53)
Service satisfaction, median (IQR)		40	4.5 (4 - 5)	33	4.5 (4 - 5)	22	4 (4 - 5)	9	4 (4 - 4.5)
Staff									
CCW-JSI – Job demand		16	2.75 (0.7)	14	2.5 (0.75)	14	2.36 (0.49)	12	2.36 (0.44)
CCW-JSI – Job resources		16	4.1 (0.46)	14	4.24 (0.39)	14	3.99 (0.51)	12	4.1 (0.63)
CCW-JSI – Job control		16	2.95 (0.62)	14	2.97 (0.69)	14	2.54 (0.64)	12	2.75 (0.69)

All data are mean (SD) unless stated otherwise. All costs are in 2018, Australian dollars. CI: confidence interval; CCW-JSI: Childcare Worker Job Stress Inventory; IQR: inter-quartile range, N/A: not applicable; WHO-5: World Health Organization (Five) Well-Being Index
 Scenario 1: 11 children & 11 adults; Scenario 2: 4 children & 4 adults; Scenario 3: 8 children & 8 adults; Scenario 4: 12 children & 12 adults; Scenario 5: 11 children & 11 adults

This economic evaluation showed that the main costs associated with a 36-week intergenerational care program arose from staff time, and the benefits were experienced by adult care recipients and staff.

The marginal costs of intervention from the perspective of the agencies was examined. The costs required to implement intergenerational care programs, compared to status quo, were minimal. The main driver of the cost was labour, followed by recurrent operating costs, which were largely dependent upon the number of program sessions per year. There was considerable variation in the costs across the scenarios, which was driven by required staffing ratios that differed depending on the delivery setting. The lowest cost scenarios were scenarios involving the operation of the program at either the childcare centre and shared campus facility, where usual centre-based ratios are in place. When the program is delivered within the aged care centre, the incremental increase in cost associated with children travelling off-site is approximately double the cost of the program being delivered in the childcare centre or shared facility. The additional costs associated with children visiting off-site depended on the size of the participant group, with larger group sizes associated with a lower cost per participant and outcomes experienced by more participants.

Using a stated preference approach to elicit willingness to pay estimates, the majority of care recipients and primary caregivers of children were willing to pay an extra amount of around \$5 per day for the intergenerational program, indicating that they valued the program. Those that had experience with the program valued it more than those who had no experience with the program. Adult care recipients participating in the intergenerational care program intervention experienced no change in measures of well-being, quality of life, service satisfaction and number of health professional visits in the last two weeks remained stable. The primary caregivers of the children experienced benefits on measures of well-being but did not experience benefits on measures of optimism and service satisfaction. Staff involved in the intergenerational care program intervention reported fewer work-related demands (i.e. better working conditions) at follow up; however, no changes in job resources or working conditions were found at follow up. These findings should be interpreted in the context of the findings from the qualitative interviews undertaken as part of the Intergenerational Care Project.

Source: Moretto, Nicole, Comans, Tracy A., Harris, Paul, Wu, Cathy and Vecchio, Nerina (2019). Economic Evaluation of the Intergenerational Care Project: Final Report. Centre for Health Services Research, University of Queensland, Brisbane.

3.5 Process evaluation: Program fidelity and sustainability

Implementation fidelity includes four domains: Theoretical, Operational, End User, and Sustained Fidelity. These are outlined in the tables below, and whether they were addressed as part of the Intergenerational Care (IGC) Program and how. Learnings and next steps were also documented, if they were identified.

3.5.1 Theoretical fidelity

Deciding the permissible level of innovation adaptability at outset and identification of the core components of program.

Subdomains	Questions to be answered	Outcomes Yes/Partly/No	Data sources and measures
Curriculum	Were the core components for the IGC program curriculum articulated?	Yes	Project notes
Core learning objectives	Were the core learning objectives for the IGC articulated?	Yes	Project notes
Training	Were the core components for the training of staff for IGC articulated?	Yes	Project notes
Competencies of staff	Were core competencies for staff delivering IGC articulated?	Yes	Project notes
Delivering IGC program	Were the core components to be delivered for the IGC program clearly articulated?	Yes	Project notes
	Was the dose of the core components to be delivered for the IGC program clearly articulated?	Yes	Project notes and information documents
Environment	Were key requirements for the environment to hold IGC programs articulated?	Yes	Project notes

3.5.2 Operational fidelity

Determining if the intervention is being implemented as intended

Subdomains		Questions to be answered	Outcomes Yes/Partly/No	Data sources and measures
Design	Framework	Did the program develop a theoretical orientation?	Yes	Project notes
		Was there a clear need for the intervention and was it clearly articulated?	Yes	In grant application
		Were program goals clearly articulated?	Yes	In grant application
		Were study participant characteristics clearly articulated (Inclusion & exclusion criteria)?	Yes	Project notes
		Were interventionist characteristics clearly articulated?	Partly	Project notes
		Was necessary environment clearly articulated?	Yes	Project notes
		Was governance clearly articulated and implemented?	Yes	Project notes
		Was mode of delivery clearly articulated?	Yes	Project notes
		Was team structure clearly articulated?	Partly	Project notes
	Establish curriculum	Was curriculum content developed by the sites themselves?	Partly	Project notes
		Was the curriculum mapped to the core requirements?	Yes	Project notes
	Establishing training protocols	Did the program clarify roles and responsibilities	Partly	Project notes
	Develop training manual	Was a manual developed to provide training?	No	
Train	Training protocols	Were the providers trained to well-defined procedures?	Yes	Video footage

		Was there certification of training?	Yes	Project notes
		Were provider differences accommodated	Partly	Project notes and interviews
	Supervision protocols	Was supervision clearly articulated and implemented?	No	Interviews with project leads
	Maintenance protocols	Was delivery of program monitored	Not applicable in this case	
	Threats to training	Were internal threats to training monitored?	Yes	Video footage
		Were external threats to training monitored?	Yes	Project notes
		• Variability of interventionist training?	Training was not varied	Video footage
		• Variability in supervisors' training?	Not applicable	
		• Staff turnover/attrition?	No staff left during the project	
		• Absenteeism?	No staff were absent during the project	
		• Financial resources?	Yes	
	Measurements for training meeting objectives	Did the training meet the learning objectives?	Yes	Project notes
Monitoring intervention delivery	Differentiation	Was there adherence to intended core elements of: • Professional practice and Professional boundaries?	No	Video footage
		• Discussing death with children, parents and amongst themselves?	Yes	Video footage
		• Education pedagogy?	Yes	Video footage
		• Understanding both adult and children's learning styles?	No	Video footage

		• Understanding programming?	No	Video footage
		• Flexibility?	Yes	Project notes Video footage
		Was there adherence to prescribed interventionist behaviours?	Yes	Video footage
		Were non-prescribed components/behaviours?	Yes	Video footage
	Interventionist components	Were core elements of IGC delivered?	Yes	Video footage
	Interventionist behaviours	Were prohibited elements excluded?	Yes	Video footage
		Was the effective dose of IGC delivered?	Yes	Video footage
		Were the core IGC behaviours delivered?	Yes	Video footage and interviews
	Interventionist competence	Were the staff competent in the specific IGC skills?	No	Video footage
	Monitor participant enactment	Was IGC program enacted by: • Aged care home staff, people with dementia and their families? • Early childcare centre staff, children and their parents?	Yes	Video footage
	Raters follow established rating protocols	Did raters follow established rater protocols?	Partly	Interviews with project leads
	Maintenance	Was the IGC program core components maintained as assessed by: Monitor drift; Consistency?	Not applicable for the project as too short to see a shift.	Interviews with project leads
	Feedback	Were corrective feedback procedures included?		Project notes
	Threats	Were internal threats monitored?	Yes	Interviews and focus groups and project manager notes
		Were external threats monitored?	Partly	

Monitoring intervention receipt	Monitor dose received	Was the dose of IGC received to be effective, as measured by session attendance?	Yes	Project notes
	Monitoring participants included	Were the core elements of the session received?	Yes	Video footage
		Was the intervention delivered to the intended participants?	Yes	Project notes
	Determine comprehension of core elements	Was the comprehension of the core elements by participants determined?	No	From early years framework, reflective journal and Video footage
	Maintenance	Was delivery of IGC maintained as measured by session attendance?	Yes	Project notes
		Did monitor drift of the IGC occur, as measured by in session receipt of core elements?	Yes	Video footage
	Threats	Were internal threats measured?	Yes	Interviews
		Were the external threats to IGC delivery addressed?	Yes	Project notes, interviews and focus groups
Outcome	Health and well-being of the older person and carer	Does IGC influence the health and well-being of older people in society?	Yes	Project notes, Video footage, scales as listed
	Workforce	Does IGC influence the perception of the workforce on their career path?	Yes	Project notes, Video footage, scales as listed
	Economic	Has the costs of delivering program been articulated?	Yes	Project notes, Video footage, scales
	Educational	Does IGC influence children in terms of engagement and educational outcomes?	Yes	Project notes, Video footage, scales

3.5.3 End user fidelity

The degree to which an intervention reaches end users.

Subdomains	Questions to be answered	Outcomes Yes/Partly/No	Data sources and measures
Monitoring participants awareness and recruitment	Were eligible community members aware of the intervention being available to them?	Yes	Project notes
Monitoring participants included	Was the intervention delivered to the intended participants?	No	Project notes

3.5.4 Sustainability fidelity

The intervention being implemented is sustainable.

Subdomains	Questions to be answered	Outcomes Yes/Partly/No	Data sources and measures
Time	Is it still there in the: short term?	Some yes, some no – this was a project with finite funding. It was up to the organisations re: whether they would continue. The project leaders have applied for additional funding to continue with some of the organisations for IGC.	Interviews with project leads.
	medium term?	N/A	
	long term?	N/A	
Continue delivery	Is the IGC still being delivered currently?	This current project no. This projects project informed the development of a new project of IGC that is more relationship driven and context specific.	Interviews with project leads.
Program may evolve	Has the program evolved from the original?	N/A. This projects program informed the development of a new program of IGC	
Continues to produce benefits to individual	Measure benefits as above.	N/A. This project has ceased – funding being sourced for continuation.	

3.6 Issues and barriers to implementation and evaluation

There were a range of challenges associated with the implementation and evaluation of this project, however most we were able to overcome.

3.6.1 Implementation challenges

Legislative challenges

Working across both aged care and childcare sectors, both of which are highly regulated, we had a few issues that needed to be addressed related to compliance with safety regulations. For example, staff ratios for children, especially for the sites where the children were travelling to another location, as a higher number of staff per child is required. In addition, requirements for booster seating for the children also needed to be taken into consideration.

Organisational challenges

The implementation of the program required a substantial amount of planning and co-ordinating. Organisations that did not provide a large amount of managerial support and involvement made communication and co-ordination challenging for the workforce involved and the research team. In addition, one of the childcare organisations lacked staff capacity due to high levels of staff absenteeism and relying on a casual pool of back up staff. This meant that some of the sessions had to be cancelled due to insufficient staff ratios. Finally, we found that the visitation model was more challenging, not only due to logistics, but due to different values and culture within organisations. Therefore, it is important for partnering childcare and aged care organisations to be selected carefully.

Workforce challenges

There was a high level of hesitance and uncertainty among the staff initially. Mainly because they were feeling apprehensive about working with a generation they had not been trained to care for. However, as the program progressed, they became more confident and really started to think outside their usual approaches to work out to make the program more beneficial to all participants. This suggests that more training and workshops are required for staff to feel confident going into the program.

3.6.2 Evaluation challenges

Data collection tools

We used a vast array of data collection methods and tools to evaluate our project from multiple perspectives. The number of data collection methods and the complexity of some of the tools created some burden on the participants, especially the workforce. Therefore, we need to work towards streamlining and simplifying our data collection tools to ease the burden, and only use those which are most effective in measuring relevant outcomes.

Data collection methods

Some of our data collection was administrated by researchers, and some was administrated by the workforce. As the workforce were not trained researchers and they did not receive much training during the orientation, some the data they collected were not administered or completed correctly. Therefore, if workforce are to continue administering data collection tools, then they need more training up front and more monitoring by researchers during the data collection period

Location / access to research site

One of our research sites was located in Sydney and we did not have a team member that was located near the site who could regularly attend sessions and monitor data collection. This created some challenges with coordination and communication.

4 Learnings from the project

The learnings from the project are presented according to the three stages of development, implementation and evaluation of the intergenerational program.

4.1 Program development

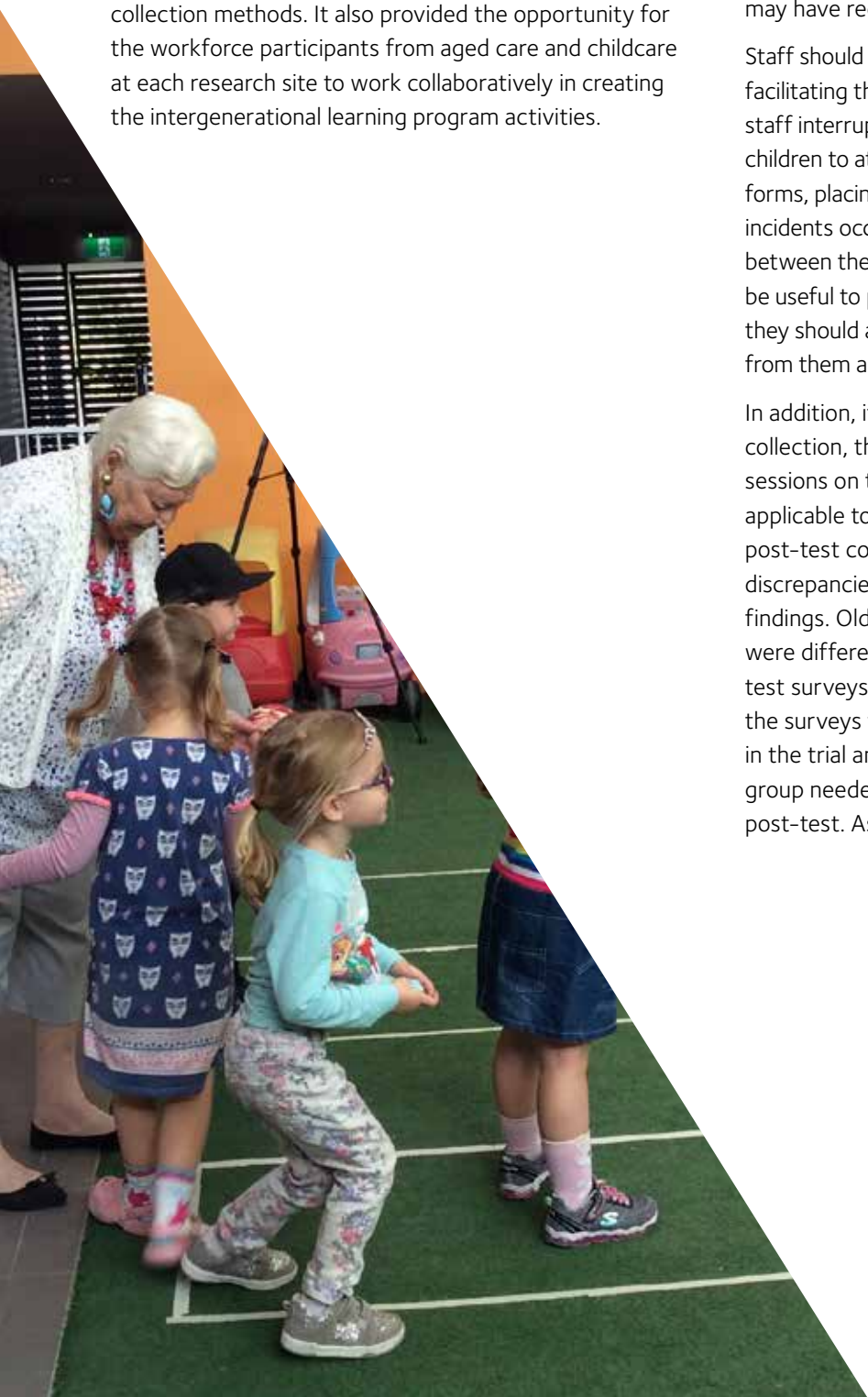
4.1.1 Workforce training

The workforce orientation program provided our workforce participants with an introduction to the key theoretical concepts underpinning the intergenerational learning program, modules on specific topics such as explaining death and dying to children, and an overview of data collection methods. It also provided the opportunity for the workforce participants from aged care and childcare at each research site to work collaboratively in creating the intergenerational learning program activities.

While this approach was effective in providing an overview, feedback from the workforce indicates the need for more workshops and training for both childcare and aged care workforce. Both groups of staff need to orient themselves to how the other sector operates by understanding the commonalities and differences between their care philosophies and practices and learning the physical and mental characteristics of older people and younger children. The staff orientation program should allow room for active discussion for participating staff to share their thoughts, ideas and raise any misconceptions they may have regarding intergenerational care programs.

Staff should also be guided on their specific roles in facilitating the program. Video ethnography findings show staff interrupting interactions between older people and children to attend to administrative tasks (e.g., filling out forms, placing wrist bands on older people). When these incidents occurred, the interactions which were taking place between the two generations stopped. Therefore, it would be useful to provide a clear guide to staff on instances when they should allow interactions to flow without interruptions from them and situations where they could intervene.

In addition, if staff are required to assist with data collection, they should be trained clearly prior to the sessions on the data collection process. This is specifically applicable to survey data collection. During the pre and post-test collection of data from the control group, discrepancies were observed in the control group sample findings. Older adults who completed the post-test surveys were different to the ones who had completed the pre-test surveys. Participating aged care staff distributed the surveys to any older adult who was not taking part in the trial and did not understand that the control group needed to have the same people for both pre and post-test. As a consequence, results were affected.



4.1.2 Participant orientation

An orientation program for both aged care and childcare participants was offered to each of our partnering organisations. However only two organisations took us up on this offer, as such we developed an introductory video for the organisations to show to their participants, however it is unknown if the video was actually shown. Findings suggest that an orientation program should be held prior to the start of an intergenerational care program. Like participating workforce members from both sectors, children and older adults need to build an understanding of how the other generation thinks, acts and feels. Older adults could be advised on childcare practices and how they differ from older adults' parenting practices. Children could be advised on older people's mobility restrictions and to be gentle when interacting with them.

4.2 Program implementation

4.2.1 Implementation procedures and program logistics

Logistics considerations such as day, time, length of session, length of program, travel, transport etc. are all critical to the success of the program. There were a number of variations across our research sites to cater for the needs of our participating organisations and participants. Implementation procedures, including all of these logistics considerations need to be clearly defined prior to commencing the program.

4.2.2 Participants

The number of participants needs to be large enough for participants to not be left out but small enough so they do not feel overwhelmed. Elders overwhelmed with too many children, but sad if they feel left out.

In addition, it is important for the same people to attend each session as much as possible. New people joining the group lowered overall levels of engagement, however, results generally improved over the weeks. Need time to develop relationships so the same group of people. Repetition and familiarity helps wellbeing.

4.2.3 Activities

The program activities need to come from participants' likes/dislikes. Meetings could be held between aged care and childcare staff prior to the intergenerational care sessions to plan the activities to be played and organise necessary resources for the sessions. When both aged care and childcare staff co-design the sessions together, everyone would be in an agreement about what they are trying to achieve for each session.

One-on-one activities allowed for longer and better engagement between older adults and young children. Hence, it is recommended that one on one activities which allow older adults and children to be paired and work together should be prioritised over other types of activities.

Activities should also be designed by taking into consideration of the physical limitations of older adults and the stage of children's' brain development. Need to have physical movement but not too taxing for elders or complicated for children. Children have lower scores without enough movement or they cannot understand and adults have lower scores when it becomes too taxing

Some of the group activities were inappropriate for older people due to their mobility restrictions. Children, as mentioned in the preceding section, also became bored after a while. If something isn't working or they are not interested in doing it both groups lose interest. Where the activities allowed for one on one interactions, the children were able to sustain for a while longer.

4.2.4 Environment

The venue space and facilities have an impact e.g. too small an area, no outside space, not enough bathrooms, space for walkers etc.

Staff should be mindful of the intergenerational care program space. In the initial sessions, long trestle tables were placed between children and older people with each generation facing each other. This created discomfort among the children mostly. Consequently, interactions were limited. Staff were quick to notice this and in subsequent sessions, attempts were made to seat older people next to the children. Tables were removed on most occasions. This new set up improved engagement between the two generations. The same is recommended for future intergenerational learning programs.

4.2.5 Facilitators

The facilitators' relationship with participants and attitude enhance program results. Both groups can need support to form relationships, collaborate together and help to maintain those relationships.

4.3 Program evaluation

4.3.1 Surveys

Out of the three scales implemented, responses to ASCOT and WHO-5 were the most reliable and responses to the Service Satisfaction survey the least. The Service Satisfaction survey results point towards response bias from older participants. Older participants have given relatively high scores in relation to their satisfaction with current care services. This could possibly be a resultant effect of the way the survey was administered. Older participants completed the surveys with assistance from their carers. The presence of the carers could have increased the fear in older participants in providing negative evaluations of their current care services. Consequently, this could have motivated them to answer in a manner that they deem to be more socially acceptable.

The ASCOT scale result was reliable and is a good evaluative measure. However, it was observed that older participants struggled to answer the questions possibly due to the language used. Therefore, the simplified version of the ASCOT scale is recommended for future use, as it would be easier for older people to understand and respond.

4.3.2 Mood scales

Based on the findings, it can be concluded that mood scales by themselves may not be a reliable measure of emotions, among children aged 3 to 5 years or senior people with cognitive decline. They should be accompanied by a short survey asking participants why they have indicated the score. In relation to intergenerational care programs specifically, mood scales are not recommended as an evaluative measure.

4.3.3 Video ethnography

It is recommended that video ethnography be used as a tool for future intergenerational care projects. The videos taken during the three time points of the program managed to robustly capture participants' facial expressions and reactions in real time. This has provided greater depth of understanding on what worked and what did not work in the intergenerational learning program. The video captures revealed new ways of thinking about intergenerational care delivery and generating ideas for improvement.

Although video ethnography is a good evaluative measure, the researchers who analysed the video data were only able to experience the intergenerational learning sessions vicariously. This is because the researchers were not present when the actual sessions were video-taped. It is recommended that the same set of researchers attend the actual sessions to observe participants in action first. This would assist in providing context for some of the interactions which took place during the actual sessions which were difficult to decipher during the data analysis process.

4.3.4 Workforce reflective journals

The workforce reflection journals challenged participants to engage in reflection activities beyond their normal practice. Most employees found this difficult unless they had a qualification in early childhood at the degree level. Although this forced them to reflect on the program and while it stretched workforce participants, those who engaged in the activity at a deeper level were able to produce better outcomes.

4.3.5 Interviews

Interviews were the best form of data collection as they were seen as least imposing on participants. It is therefore suggested that interviews be used as evaluative measures for future intergenerational care related studies.

4.4 Economic evaluation

4.4.1 Sample size

Future studies are required to obtain additional data to determine the reliability of measures to detect change and their suitability for use in economic evaluation. The current study was not sufficiently powered to draw any conclusions on the impact of the program on the adult care recipients, primary caregivers of children and staff.

4.4.2 Longer follow-up period for data collection

Regarding costs, as the timeframe is extended unit costs are expected to decrease as fixed costs are spread over a longer time line. A longer follow-up period is required in order to examine the impact of the program in the medium and longer term. A longer follow-up and broader scope of included benefits would enable a cost-benefit or cost-effectiveness analysis to be undertaken with additional benefits being accrued beyond the costs over time.[14]

4.4.3 Participant retention

Consider provision of reimbursement to participants, staff and agencies to maximise recruitment and data quality. The outcome measures data was partially incomplete, thereby making comparisons and drawing conclusions from the data difficult. To increase the number of participants and to improve the data quality, it may be reasonable to consider providing reimbursement to the participants, staff, and the agency, for their participation in the research evaluation.

4.4.4 Data collection from comparable intervention and control groups

Data from both intervention and control groups is necessary when conducting an economic evaluation of intergenerational care programs. This economic evaluation focuses on the costs and outcomes to aged care recipients, primary caregivers and staff, where data from a control group was collected. Future studies should endeavour to recruit participants for control groups from comparable community settings. This will enable a cost-benefit or cost-effectiveness analysis to be performed.

4.5 Measuring fidelity

Our research into implementation fidelity has broadened what it means to achieve implementation fidelity. A number of components identified in our investigations were not considered at the outset, when planning the implementation of this program. Therefore, we were unable to measure all of the fidelity components that we had identified would be important. Further, as this intervention was funded as a finite project, funding and/or other supports were needed to continue the program after the funding ceased. However, given that this was the first time a program of this type was developed, implemented and evaluated, it became clear that more work is needed to develop more approaches to deliver this program effectively; the implemented program would require changes prior to becoming an ongoing viable intervention, and measuring sustainable fidelity of the existing program is not appropriate.

5 The roll-out and sustainability of intergenerations programs

5.1 Rolling out intergenerational programs throughout Australia

Our vision is that intergenerational programs become normalised within Australian society. To achieve this, we have gathered evidence that demonstrates the benefits of intergenerational programs to children, older people, service providers and the workforce. Drawing on our experiences and findings, we have developed a set of operational guidelines and toolkit for the development, implementation and evaluation of an intergenerational learning program in Australia. These documents will be made freely available and provide a practical step-by-step guide to assist and support others to develop, implement and evaluate effective programs with successful outcomes.

In addition, we have developed a foundational framework for intergenerational programs so that they can be successfully upscaled and adopted more widely within different contexts and models of care. This foundational framework focuses on implementation from four perspectives: theoretical, operational, end user, and sustainability. The goal was to identify the core elements that are required for the successful implementation of effective intergenerational programs, and elements that can be adapted to suit different contexts.

Theoretical implementation fidelity: It is important that the program design is evidence-based and has some theoretical underpinning. Theoretical frameworks such as Being Belong and Becoming: Early Years Learning Framework [15]; community development from The Family Place Approach: Framework of Practice [4]; and neuroscience from A Neurosequential Model of Education; [16] can be used as guiding principles for designing appropriate purposeful activities that are mutually beneficial. Strategies to support stakeholders to do this are needed. In addition, a theoretical grounding is needed to facilitate older people learning. Little is known about learning in older age and there is a distinct lack of guiding principles to guide learning in aged care.

Operational implementation fidelity: All staff members need to be trained in the provision of intergenerational programs. This requires time for staff to undertake training, and also additional funding for increased salary as a result of staff obtaining additional qualifications. Further, interprofessional collaboration doesn't just happen – it needs to be planned, led, organised and controlled (including very clear articulation of roles and responsibilities of all participants). A facilitator is required to support this.

Organisational readiness to change also needs to be considered, and whether there is a culture to allow the intervention to happen, including resources to support the implementation of the intervention within participating organisations.

End user implementation fidelity: Organisations preferred to select which of their residents/children participated in the program. This encouraged organisation 'buy-in' however it may have excluded some potential participants who may have benefited due to the staff gate-keeping role. This needs to be managed and guidance is needed to do this. In addition, end users must be consulted with regards to the types of activities they would like to include in the program, and programs must be co-designed using collaborative approaches.

Sustainable implementation fidelity: Ongoing funding for an intergenerational care coordinator, transport for the groups and resources (such as arts and crafts and activity requirements, particularly in the aged care homes) are needed to support this intervention to continue. In addition, different approaches to deliver intergenerational care are needed. An example is an approach using web video conferencing between school children and residential aged care homes that might be effective for some contexts.

Another aspect that requires inclusion, perhaps embedded within the sustainable implementation domain, is impact. Interventions are only as useful as their impact on the end users, stakeholders, the broader community, and even further, to have policy and research implications. This includes normalising intergenerational programs within our society so that community members accept the concept, which would enable it to become a standard approach of care. Marketing and other methods would be needed to achieve this. Implementation impact would be another necessary component to articulate to better ensure successful implementation and uptake of an intervention. Future research is recommended to pursue this.

5.2 Sustainability of intergenerational programs

The primary aim of this research was to develop an understanding around the business case and how to operationalise intergenerational programs that are effective and sustainable. As such, this project took an organisational development approach to enhance the potential for program sustainability beyond the duration of the project.

An organisational development approach meant that participating organisations were required to collaborate extensively with the research team in all aspects of the development, implementation and evaluation of the intergenerational learning program as outlined below.

Program development: Organisations were responsible for selecting suitable workforce participants, as well as senior and child participants. In addition, the workforce participants were required to participate in an orientation program, which involved a number of training modules to develop relevant knowledge and skills for intergenerational practice. They were also required to work collaboratively to plan and develop the learning program and weekly activities linked with the principals of learning and specified outcomes to enhance engagement between the generations.

Program implementation: The workforce participants were required to facilitate the weekly sessions as part of the intergenerational program. This gave them

hands on experience in applying what they had learned in the orientation program. For many, this experience took them out of their comfort zone, as most had very little experience working with the opposite group than they were trained in. Most were hesitant at first, but as the weeks progressed, the workforce became more confident as they developed their capabilities in managing both senior and child participants in shared activities.

Program evaluation: Workforce participants were also required to participate in and assist with administering multiple data collection activities. Through this hands-on experience, they developed skills and knowledge around different evaluation tools, data collection methods and program evaluation.

The reasons for taking this approach are three-fold; firstly, the collaborative planning process allowed the workforce to tailor the program to the needs of children and seniors, as well as the environment and resources available. Secondly, having the organisation take responsibility for selecting and recruiting participants, and conducting the program within their facilities, showed the organisation and managers how a new innovative program can be integrated within the current services provided. Thirdly, training the workforce and giving them the skills and knowledge to develop, implement and evaluate the program, empowered and motivated them to continue the program and possibly extend into other groups or sites.

At the end of the program, all of our participating organisations expressed intent to continue an intergenerational program, but that the program would most likely be modified or adapted in some way (e.g. with different partnering organisations, with different groups of children or older people, for a shorter period of time, less frequent visits etc.).

To ensure the long-term sustainability of intergenerational programs further work needs to be done to facilitate the normalisation of intergenerational programs and practice within care services and communities more broadly. Government support in terms of funding or legislation to incentivise these types of programs, organisational and managerial support in terms of infrastructure and incentives for staff, and a recognised qualification in intergenerational practice.

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Appendices

Appendix 1: Research output

Journal articles

- i. Cartmel, J., Radford, K., Dawson, C., Fitzgerald, A., & Vecchio, N. (2018). Developing an Evidence Based Intergenerational Pedagogy in Australia. *Journal of Intergenerational Relationships*, 16(1-2), 64-85. DOI:10.1080/15350770.2018.1404412
- ii. Radford, K., Gould, R., Vecchio, N., Fitzgerald, A. (2018). Unpacking intergenerational (IG) programs for policy implications: A systematic review of the literature. *Journal of Intergenerational Relationships*, 16(3), 302-329. Doi: 10.1080/15350770.2018.1477650
- iii. Vecchio, N., Comans, T., Harris, P., Graham, V., Cully, A., Harris, N., Fitzgerald, A., Cartmel, J. Golenko, X., Radford, K. (under review). Economic Evaluation of Intergenerational Programs: Suggested Measures and Design
- iv. Kirsnan, L., Kosiol, J., Golenko, X., Radford, K., Cartmel, J., Fitzgerald JA, (2019). Discovering the benefits of intergenerational learning. *Australian Journal of Dementia Care*, 8(6), 23-26
- v. Fitzgerald, JA., Booth, J., Cully, A., and Radford, K. (2019). Towards redefining eldergogy: a systematic literature review to understand how older people learn. To be presented to the ANZAM conference, Cairns, QLD (Full paper published in conference proceedings)
- vi. Golenko, X., Radford, K., Fitzgerald, J.A., Vecchio, N., Cartmel, J., Harris, N. Uniting generations: A research protocol examining the impacts of an intergenerational learning program on participants and organisations. *Australasian Journal on Ageing* (Accepted for publication)

Book chapter

- i. Cartmel, J., Radford, K., Bell, K. Golenko, X & Fitzgerald, A. (2019) Hearing children's voices in intergenerational learning and practice (Chapter 5) in M. Keenan & G. Cortellesi (Eds) *Intergenerational Learning in Practice: Together Old and Young*, London: Taylor and Francis

Conference presentations

- i. Radford, K., Vecchio, N., Fitzgerald, A., Golenko, X. (2017). A call for age friendly communities: Examining the potential of Intergenerational Care Programs in the Australian setting. GCH Research Week, 28-30 Nov 2017, Gold Coast, Australia (Oral presentation)
- ii. Radford, K., Vecchio, N., Fitzgerald, A., Golenko, X. (2017). A call for age friendly communities: Examining the potential of Intergenerational Care Programs in the Australian setting. NNIDR Australian Dementia Forum, Melbourne, Australia (Poster presentation)
- iii. Fitzgerald, A., Golenko, X., Radford, K., Vecchio, N. (2018). A call for age-friendly communities: Developing, implementing and evaluating an Intergenerational Learning Program in Australia. AAG Conference, 21-23 November 2018 Melbourne, Australia (Accepted for oral presentation)
- iv. Radford, K., Vecchio, N., Fitzgerald, A., Golenko, X. (2018). Unpacking public perceptions of intergenerational care: Is it all roses?. AAG Conference, 21-23 November 2018 Melbourne, Australia (Accepted for oral presentation)
- v. Cartmel, J., Dawson, C., Radford, K. (2018). Models of belonging: intergenerational care for families. AIFS 2018 Conference, 25-27 July, Melbourne, Australia (Oral presentation)
- vi. Fitzgerald, A., Golenko, X., Radford, K., Vecchio, N (2018). A call for age-friendly communities: Developing, implementing and evaluating an Intergenerational Learning Program in Australia. SHAPE Symposium 2018, 18-20 July, Brisbane, Australia (Oral presentation)
- vii. Fitzgerald, A., Golenko, X., Radford, K., Vecchio, N. (2018). A call for age-friendly communities: Evaluating the implementation and sustainability of an Intergenerational Learning Program for Australians living with dementia. Alzheimer's Disease International Conference Chicago 26-29 July, 2018 (Poster presentation – Ashley Culley on behalf of the Intergenerational Care Project team)
- viii. Radford, K., Vecchio, N., Fitzgerald, A., Golenko, X. (2018). Unpacking public perceptions of intergenerational care: Is it all roses? Aging and Society Conference 18-19 Sept 2018. Tokyo, Japan. (Accepted for oral presentation)
- ix. Radford, K., Vecchio, N., Fitzgerald, A., Golenko, X. (2018). The Intergenerational Care Project – 30 min Plenary presentation. AVANTI Innovative Aging Conference 21st Feb 2018, Adelaide, Australia
- x. Cartmel, J., Radford, K. (2018). Inspiring little and big imaginations through play-based activities: presenting our Intergenerational Model of Practice Framework

Early Education and Care Conference C&K 28-30
June 2018, Queensland, Australia (Oral presentation)

- xi. Cartmel, J., Radford, K., Fitzgerald, J.A., Golenko, X. (2019). Working in multi-disciplinary teams to create research programs in intergenerational care programs. Australasian Journal of Early Childhood Research Symposium 14-15 February, Melbourne, Australia (Oral Presentation)
- xii. Golenko, X., Kirsnan, L., Kosiol, J., Fitzgerald, A., Cartmel, J., Radford, K. (2019). Reducing social isolation by developing high quality connections through an intergenerational learning program. AAG Student Webinar, 19 May 2019 Online (Oral Presentation)
- xiii. Fitzgerald JA, Radford, K., Vecchio, N., Cartmel, J., Harris, N., Golenko, X. (2019). The Intergenerational Care Project. Generations United: Portland, Oregon, June 12-14 2019. (Oral Presentation)
- xiv. Fitzgerald JA, Golenko, X, Radford, K., Cartmel, Vecchio, N., Harris, N. (2019). Developing intergenerational learning programs in Australia: a report on an active aging program bringing together the young and the old. Aging and Social Change Conference Vienna, Austria 16-17 September 2019
- xv. Moretto, Nicole, Comans, Tracy A., Harris, Paul, Wu, Cathy and Vecchio, Nerina. (2019). A cost analysis of an intergenerational care program. Australian Health Economics Society (AHES) conference, Melbourne (24-25 Sept 2019) (Oral Presentation)
- xvi. Kirsnan, L., Kosiol, J. (2019). Exploring the barriers and facilitators to social engagement within an Australian intergenerational care program. Australia and New Zealand Academy of Management (ANZAM) Conference 3-6 Dec 2019, Cairns, Australia. (Interactive Paper).
- xvii. Golenko, X., Kirsnan, L., Kosiol, J., Fitzgerald, A., Cartmel, J., Radford, K. (2019). Reducing social isolation by developing high quality connections through an intergenerational learning program. AAG Conference, 5-8 November 2019 Sydney (Oral Presentation)



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