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## Take a Cycle with Me: An Intergenerational Group Activity with Older Adults and Adolescents

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### ABSTRACT

Intergenerational activities have many benefits for older adults and adolescents. The present study describes an intergenerational activity involving older adults and high school students co-producing a video of an experience that was meaningful to residents of a nearby aged care residence. Over two weeks, 2–4 students co-designed an engaging video with 1–2 residents, culminating in a final session where both residents and students stationary cycled while viewing the video. Valuable lessons about the complexity of the activity, materials needed, timing and locations of some activities, and the length of the program will inform a larger trial of the program.

### KEYWORDS

Intergenerational; adolescents; residential care; aged care; school students

### Introduction

The benefits of intergenerational activities between adolescents and older adults living in aged care residences are well described in the literature (De Bellis et al., 2022). The outcomes for older adults include improving general well-being (Blais et al., 2017), increased engagement (Baker et al., 2017), improved mental health (Knight et al., 2017) and giving a sense of purpose (Kim & Lee, 2018). The outcomes for adolescents include improved communication and teamwork skills (Gerritzen et al., 2019), improved engagement (Caspar et al., 2019) and a more positive attitude toward older adults and aging (Santini et al., 2018).

The type, duration and location of intergeneration activities between adolescents and aged care residents are varied in the literature (De Bellis et al., 2022). However, organizing intergenerational activities requires careful planning prior to implementation (Galbraith et al., 2015); activities that focus on building relationships (Gerritzen et al., 2019); pairing residents with the same students over time (Gerritzen et al., 2019); using trained professionals to conceive and run the activities (Caspar et al., 2019); and allowing the adolescents to have a say in the activities (Werner & Linke, 2013).

In 2020, we piloted a small group virtual cycling experience for 10 people living with dementia in residential aged care (D'Cunha et al., 2021). We used

a GoPro to film cycling experiences in local areas that would be familiar to residents. The films were presented on a large screen and residents were encouraged to cycle along using pedal exercisers in small groups to examine whether this is a feasible and enjoyable way to increase physical activity. The virtual cycling was compared to an occupational therapist delivered group exercise session as a usual care control condition. The virtual cycling experience was found to be immersive and facilitated reminiscence. In the current study, an intergenerational component has been added in the form of using high school students to film and present the experiences to older people living in residential aged care. This was identified as an opportunity to build upon the virtual cycling experience reported by D’Cunha et al. (2021) aiming to enhance the experience for residents.

Therefore, the present study builds on the pilot program by adding an intergenerational component to the methodology whereby the video made was co-produced by the older and younger participants. The “Take a Cycle with Me” program focuses on enabling a meaningful co-creation environment between high students and older adults by providing the opportunity for the co-creation of personalized virtual cycling or walking tours of familiar locations. The study had four aims:

- (i) To describe any changes in the attitudes of students toward older adults after the program;
- (ii) To describe any changes in the residents’ quality of life and loneliness after the program;
- (iii) To describe how residents, staff and students experienced the program and insights into how to improve the program; and
- (iv) To see if the “Take a Cycle with Me” program was feasible to implement, and to incorporate lessons learned into designing a larger trial.

## Method

The study received ethics approval from the University of Canberra Human Research Ethics Committee (HREC 4423) and commenced in September 2022. The Take a Cycle with Me program involved a residential aged care residence with 80 beds and a Year 11 class from a high school located approximately 3 km away. The location was a small coastal town in Australia of 3,700 people. Strict COVID-19 mitigation protocols were in place before students entered the aged care residence. Over two weeks, the students visited their allocated residents four times during school hours to negotiate the co-production of a meaningful video for the resident. The method described in this paper builds on the pilot program described by D’Cunha et al. (2021) by adding an intergenerational component to the methodology whereby the video made was co-produced by the older and younger participants.

Students at the high school were placed in groups of 2–4 students and matched with 1–2 residents at the aged care residence based on common interests. The staff at the aged care residence produced a profile of each participant which had a photo and a summary of the resident's social history, interest, likes and dislikes. This profile was given to the school where the teachers matched the interests of the students with the resident.

The videos were shot by the students in their own time using either a GoPro or a smartphone, and varied depending on the wishes and interests of the residents. For example, one resident had a history of working with horses, and there were several students with the same interests, so they were matched. One video was made at a local beach while walking a dog, as this type of activity was previously enjoyed by the residents. Another video featured two students snorkeling at a local beach where the resident remembered swimming.

At the last face-to-face meeting at the residence, the video was shown to the residents on a large television screen whilst they cycled using a seated pedal machine. The materials provided to students and pedal machines are presented in [Figure 1](#). Immediately after all sessions were conducted residents and students were interviewed separately using a semi-structured interview format. The semi-structured interview guide included questions about the experiences and opinions about the program. All interviews were recorded and transcribed verbatim. Two researchers conducted the interviews (NDC and SI) and then independently analyzed the data using a descriptive qualitative approach by extracting key quotes to highlight key aspects around co-creation, rapport building, attitudes and experience about engagement in the program.

### ***Participants***

A convenience sample of older adults and students were recruited. Eighteen residents with an average age of 80.4 ( $\pm 9.76$ ) years were purposively sampled with the assistance of care staff. Twenty students from Year 11 at the local high school were involved aged between 16 and 17 years. The program was incorporated into a subject the students were studying on supporting the local community.

### ***Outcome measures***

Quantitative data were collected before and after the program. Older adults completed the EuroQOL EQ-5D-5 L tool to evaluate quality of life. The EuroQOL EQ-5D-5 L has been shown to be a valid measure of health-related quality of life in people living in residential care (Easton et al., 2018). Participants completed the UCLA 3-item loneliness scale which is a valid and reliable measure of loneliness (Hughes et al., 2004). Students completed the 13-item Adolescent Attitudes toward Dementia Scale



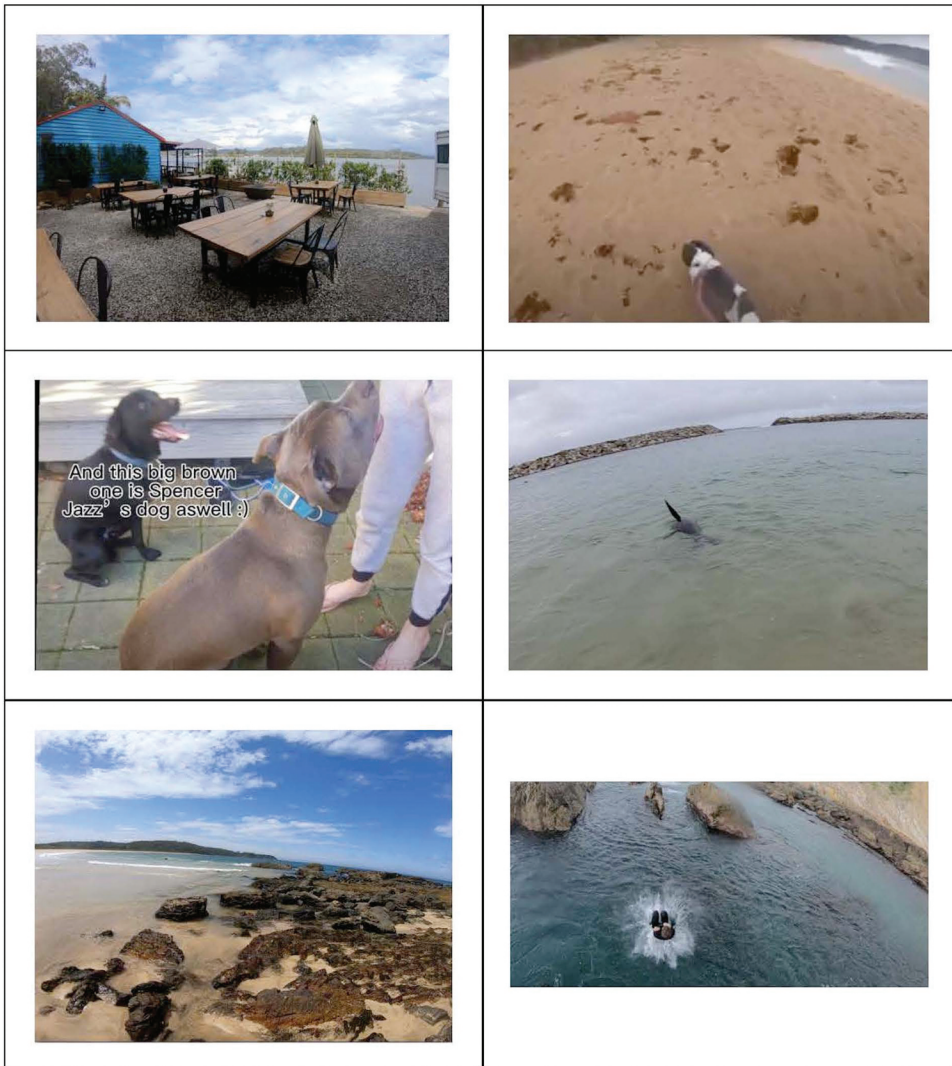
**Figure 1.** Materials used by students to film the experiences.

(A-ADS) which is a valid measure of young people's attitudes toward dementia (Farina et al., 2022). Results are presented as mean and standard deviation. Interviews were conducted using purposeful sampling of 2 staff, 5 residents, and 7 students to elicit their thoughts, feelings, and experiences of being involved in the program.

## Results

In total, 18 residents and 25 students engaged in the program. The students produced four video experiences for the residents (Figure 2). In total, 10 residents and 14 students completed the outcome measures. There were small increases in mean scores increased in quality of life (EQ-5D-5 L) and adolescent attitudes toward dementia (A-ADS) and loneliness (3-item UCLA loneliness scale). See Table 1.

All participants reported a positive experience of the program. Residents and staff reported that student visits were particularly useful as COVID-19 restrictions meant socializing with younger people was impossible for a long period of time. One staff member at the aged care residence said:



**Figure 2.** Screenshots of films taken by students.

**Table 1.** Quantitative outcome measures (mean ± standard deviation).

Outcome measure	Baseline	Post-program
Older adults ( <i>n</i> = 10)		
• EuroQOL EQ-5D-5 L (/1)	0.727 ± 0.244	0.761 ± .247
• EuroQOL Visual Analogue Scale (/100)	66.4 ± 24.5	71.5 ± 23.5
• UCLA Loneliness Scale* (/9)	3.80 ± 1.14	3.77 ± 1.09
Students ( <i>n</i> = 14)		
• Adolescent Attitudes toward Dementia Scale (/65)	51.6 ± 4.93	53.6 ± 5.82

\*Higher score represents greater loneliness.

I just thought from a mental perspective for the residents, it was brilliant. COVID's done some major damage, and I just think being able to bring those two worlds together just gave the residents such a lift mentally to be able to connect with the outside world again.

Another staff member recognised the importance of the intergenerational aspect of the program for the residents:

And I think a lot of the residents are moms, dads, grandpas, grandmas, like you said. And having kids of that age reminds them of a period in their life when they either had kids of that age or they had grandkids of that age. And so it takes them back to a happy place in their life and reminds them of that.

Residents and students commented that they thought it would be difficult talking to or holding a conversation with each other. But, as they established and confirmed some mutual interests, they found this easier. For example, a resident reported:

And they were a bit dubious at the start, because they didn't know how to communicate and that [but] we turned around and said, "How about you doing something and surprising us?" And then all of a sudden they both lit up then. They thought, "Oh this is great. Yeah, we'll do it."

This viewpoint was shared by a student who reported:

I wasn't too keen on it at the start, but getting to know them and the similarities you had . . . And finding the common interest of having dogs. We were all like, well, we all have dogs.

For students, receiving guidance around getting to know the residents assisted with generating conversation from the first meeting. Learning about the lives of the residents helped to inspire the students to create the films. For example a student reported:

So [resident] was like, she said she loved the beach and stuff, and then her dog being a significant part of her life before she moved into the home, and she was like, when we were talking about our dogs and we're like, "Oh, I've got a three-legged dog." "Oh, we've got one with one eye." She was like, "Oh, really?" It was good for her. And she was really interested in what we were talking about. We're like, we will walk the dog along the beach.

This was support by two residents who were husband and wife:

They said at first, "we didn't know how to talk to you." But when we said, "Just do something that interests you," they went, "Oh, fantastic." So that was the ice-breaker.

Additional key quotes from the interviews are presented in [Table 2](#).

## Discussion

Participants of the "Take a Cycle with Me" program and staff reported mainly positive experiences. One of the strong opinions to emerge from the focus groups with staff was the opinion that COVID-19 had negatively affected the residents as they could not interact with the broader

**Table 2.** Selected comments from participants.

Participant	Quote
<i>Residents</i>	
1F	"And we could talk to them about anything. We were having different conversations about different little things, and we ended up communicating with them really well."
2 M	"I reckon if we seen him in the street, I reckon now they'd say g'day if they recognized us."
2F	"I just talked to them like as though they were like my grandson. And my son. I think all of us would be very proud to have done as well as those boys."
3 M	"I got the same girl twice actually. . . . When I came out, I was happy because I knew I met her before which made her talk even more. It was really wonderful."
3 M	"There should be more visits. Yeah. It was actually tremendous for myself to see young kids."
<i>Students</i>	
1F	". . . so it was the best thing, meeting the residents and working with them."
2F	"I was a bit hesitant at first, but then when I went and met them and saw how nice they were, I warmed up to them and they just got better from there."
1F	"We're just hearing the stories [and] having a chat with them because it's really like okay, it's nothing too intense."
3F	"It's good to meet all the people and it's good fun filming. And we were always looking forward to going out to [residence] every week."
1 M	"Because I don't think they'd seen any younger people in the residence. So yeah. I think they were just really appreciative to talk to other people."
2 M	"It's kind of cool to hear their stories."
3 M	"The best thing I've done all year for school probably."
<i>Staff at the aged care home</i>	
1F	"I just thought from a mental perspective for the residents, it was brilliant. COVID's done some major damage, and I just think being able to bring those two worlds together just gave the residents such a lift mentally to be able to connect with the outside world again."
1F	"I also think just that connectedness just gave them a bit more of a purpose on the days they were coming with something that they were looking forward to."
2 M	"For the residents, I think it was unreal. They haven't really had that age group come through this building for a couple years now. And they get a real buzz out of associating with people a bit younger than themselves."
2 M	"And you see the smiles and the energy that they have after the activity when the kids came in. That speaks in itself of the impact that it was having."

Key: F = Female, M = Male.

community and this has also been reported in the literature (Malgorzarta Lion et al., 2022). This result confirmed that there is often a perception that talking to older adults, particularly those with cognitive impairment, can be difficult (Low & Purwaningrum, 2020). However, we found that students overcame the hesitancy to talk to older adults due to the common interest in co-designing and filming the experience.

Co-producing the footage was an important mechanism in building rapport and cohesiveness between the students and the resident. According to a pair of residents, their students did not initially know what to suggest to film. When the residents suggested filming something the students were interested in (e.g. diving), the conversation and rapport improved.

Another group of students quickly established that their residents liked animals and dogs, so their footage focused on those elements. Prior to commencing the project, we anticipated that the videos would predominantly include cycling videos. However, the experiences created were varied, and included walking, swimming and snorkeling. These experiences were more

relevant to both residents and students and did not affect the use of the video with the seated pedals. Intergenerational co-creation activities focused on communication and collaboration have the potential to build and cultivate trusting relationships which can contribute to greater sense of community (Wu et al., 2022). In developing and experiencing the films together, the older and younger people engaged in a mutually beneficial activity that staff and teachers hoped would continue through visits in the future.

### ***Feasibility and key lessons learned***

Some of the key learnings that will be taken into a future larger trial are:

- (i) We anticipated that students would require technical assistance and advice in producing the videos but this was not required.
- (ii) We thought that we would need to have detailed scheduling plans for the development and interaction between groups and having researchers available to assist. This was not needed as the groups navigated this aspect themselves.
- (iii) We planned to pilot the Perception of Generativity Scales (Generative Desire and Achievement) but given the lack of interaction the older adults had due to the pandemic, these were quickly abandoned at baseline as some residents found the questions challenging.
- (iv) There were a large number of older adults and students congregated in one space. While it was pleasing to see the interactions between the groups of students and residents, some residents found it too noisy. In a larger trial, more adequate and quieter space should be used.
- (v) Coordinating the school requirements with the resident's requirements was challenging at times. For example, when the students had a double period was the best time to interact with the residents as they had more time. However, some of these double periods fell over lunchtime at the residence. Some students were also absent from school on the days when outcome measures were collected. Together, this contributed to attrition among students and residents when completing the outcome measures.

Some other interesting observations were made during the program. Two groups did not need a GoPro to film their experience and instead used a standard smartphone. This is important as it shows that the materials and expertise required for the program are easily accessible. The variation in the types of experiences filmed was interesting. One group filmed a snorkeling experience, and another filmed a seal catching a fish. This demonstrated the ingenuity and creativity of the students to try and film something engaging and meaningful to their residents. A summary of recommendations to improve Take a Cycle with Me are presented in [Table 3](#).

**Table 3.** Recommendations to improve the program.

Recommendation	Description
More detailed information for residents	The staff suggested that the residents involved should be better informed in terms of exactly what was to happen and when.
Better planning for large groups of people	Two of the sessions were conducted inside with a large group of people. For residents with hearing impairments this made conversations difficult.
Extend the program duration	An addition two weeks were suggested to allow the students more time to edit and upload the videos.
Synchronise student class times with the aged care home	The times the students had with the residents were a mixture of single periods and double periods. The double period over lunch did not work as well due to lunch time.

## Conclusion

This was the first time the “Take a Cycle with Me” activity was implemented. The initiative was meaningful to participants and provides a foundation for future work where high school students co-create personally relevant films for older people living in aged care residences which can promote physical activity. We plan to repeat the program as part of a more extensive study to evaluate to effects, incorporating the lessons learned during the first program. Due to the precautions taken by many aged care providers in Australia related to COVID-19, effective programs are needed to reestablish engagement and interaction between generations. “Take a Cycle with Me” is one example that could be useful to older adults and help to reduce the stigma of aging and dementia in high school aged students.

## Disclosure statement

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