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Intergenerational Activities Involving Adolescents and Residents of Aged Care Facilities: A Scoping Review

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ABSTRACT

This study reviews the published literature on intergenerational activities involving adolescents and residents of aged care facilities. Electronic sources were comprehensively searched, resulting in 14 articles meeting the criteria for review. Overall, three key themes emerged: the impact of intergenerational activities on adolescents and aged care residents, and effective intergenerational activities. Thoughtfully planned and implemented activities appear to be the most successful. Intergenerational activities can enrich the lives of participants, but the mechanisms of action are poorly understood. Further research is warranted to develop theoretical understandings of intergenerational activities and rigorous evaluation tools.


KEYWORDS

Intergenerational programs; adolescent; aged care residents

In South Australia, the Kalyra Woodcroft residential aged care facility began working with the Southern Montessori Middle School in 2017. This unique collaboration was initiated with a view to establishing mutually beneficial on-site intergenerational linkages for residents, students, and the community. The organizations' leadership teams understood intuitively and through industry readings that the collaboration had potential. They engaged the research team to work with them to co-design and narrate their innovation and explore opportunities and barriers to success. This review of the literature was undertaken to determine what was already known about intergenerational activities in venues co-locating residents of aged care facilities and adolescents.

Cohen-Mansfield and Jensen (2017, p. 255) explained that intergenerational programs are “social vehicles that foster engagement between younger and older generations by offering opportunities to interact in mutually beneficial, planned activities in which there is a sharing of knowledge, skills, and experience.” Intergenerational engagement by schools is purposeful, inclusive and mutually advantageous for those involved (Kaplan, 2002). The depth of engagement can be considered on a continuum from low to high contact between age groups (Kaplan, 2002). While the focus can vary, of particular

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interest are those activities with an educational focus to support curriculum subjects and academic skill development. Moreover, in the Australian context, as reported by Cartmel et al. (2018) in relation to young children, and in our experience more broadly applicable to adolescents, educational activities are commonly segregated by age and intentional intergenerational programs are in their infancy.

The Montessori pedagogy features self-directed learning, manipulable materials, and multi-age classrooms with students free to choose their own learning activities (Marshall, 2017). Beyond the education of children, Montessori principles are used in programs for persons with dementia (Galbraith et al., 2015). Montessori-based intergenerational activities, especially those with a buddy system, provide benefits to both people with dementia and younger participants (Gerritzen et al., 2019).

Initial scans of the literature identified some intergenerational studies focussed on activities involving children, especially young children, and older people, but few which specifically explored activities for adolescents (13–17 years). From previous research, collective activities occurring on shared sites, with co-located child care centers and adult day or residential care, improve health and wellbeing for all (Butts & Jarrott, 2021). The published literature on intergeneration activities for school-age children and older people has recently been examined by Giraudeau and Bailly (2019). Other reviews, such as Galbraith et al. (2015), do not differentiate results for children and youth by age when exploring the impact of intergenerational programs for people with dementia. The outcomes for older adults (Lee et al., 2019), effectiveness (Canedo-Garcia et al., 2017; Lee et al., 2019; Martins et al., 2019), and policy implications (Radford et al., 2018) have also been reviewed without an age focus. To address this gap, the focus of this scoping review is to synthesize the literature about intergenerational activities that involve adolescents and older people living in residential aged care facilities. The results of this review will be used to inform the co-design and evaluation parameters of the Kalyra Montessori Intergenerational Rhythms of Care project.

Method

For the purpose of this study, we conducted a scoping review of the literature guided by the framework set out by Arksey and O'Malley (2005) and more recent literature (Colquhoun, 2016; Colquhoun et al., 2014; Daudt et al., 2013; Khalil et al., 2016; Levac et al., 2010). This was the most appropriate methodology as it enabled exploratory identification and mapping of a broad range of literature about youth involvement in intergenerational activities which could provide a foundation for our own intergenerational project. The scoping review involved five key stages: identifying the research question, identifying

relevant studies, selection of relevant studies, charting the data, and summarizing and reporting findings (Arksey & O'Malley, 2005; Levac et al., 2010). The findings were enhanced through consultation with industry partners, an optional six step endorsed by Arksey and O'Malley (2005).

Identifying the research question

In line with Arksey and O'Malley (2005), a broad research question was developed: What is currently known about intergenerational activities involving aged care residents and adolescent students? The research question arose from the need to inform the development of best practices between an aged care facility and a Montessori middle school that recently co-located onto the same site. As a first of its kind in Australia, there were no familiar precedents upon which the researchers and organizers could initially draw upon, so instead the literature was sourced for information. Of particular interest was synthesizing what was already known about intergenerational activities involving adolescents from 13–17 years and older people living in a residential care facility and identifying where additional research is required. In Australia, residential care facilities provide long term and respite live in accommodation and personal care for older people who cannot live in their own home (Australian Government Department of Health, 2021). These sites may be referred to as nursing homes, homes for the aged, long-term care facilities or aged care facilities in other countries.

Identifying relevant studies

To identify relevant studies, academic data bases were searched. Keywords used in the initial search included synonyms and derivatives of “intergeneration,” “adolescent,” and “residential aged care.” Studies were identified by a search of key electronic databases (Ageline, Applied Social Sciences Index and abstracts (ASSIA), Eric, Informit, Ovid, ProQuest, PsycINFO, Medline, Scopus, and Taylor and Francis). Due to technical and financial constraints, only studies published since 2000 and available online were included. The authors involved the college librarian to assist with setting up a search that included proximity operators to reduce irrelevant results.

Study selection

After performing database searches, citations were exported to Endnote and duplicates eliminated. The search string identified 1127 results after duplicates were removed. Using the selection criteria outlined in Table 1, articles were initially screened by title and abstract. This identified 29 studies for further full text review. The full texts were reviewed

Table 1. Inclusion and exclusion criteria.

Inclusion Criteria	Exclusion Criteria
English language	Non-English language studies
Any article in a peer reviewed journal including gray literature	Grey literature without references
Published since 2000	Articles published pre-2000
Describes or evaluates an organized intergenerational program or activity that involves middle or high school students and residential aged care residents.	Intergenerational program does not include middle or high school students, and residents of an aged care facility. Programs involving college students such as service-learning projects. Programs intentionally involving students and their own grandparents. Programs involving retirement villages. Articles involving other participants where reporting of adolescents and residents is not clearly identifiable
Developed countries	Developing countries

independently by two authors. This resulted in the exclusion of 15 articles because they did not fully meet the inclusion and exclusion criteria. For example, involvement of other participant groups in shared activities where outcomes for residents and adolescents were not clearly identifiable, theoretical articles and passive performances. The study selection process is outlined in [Figure 1](#).

Charting the data

Data from selected studies were extracted into a summary table ([Table 2](#)) of key issues and themes (Arksey & O'Malley, 2005), including country, activities, location, frequency and duration, activity participants, research study design, measures, findings, limitations, and relevance. A standardized Excel spreadsheet was used for data abstraction.

Collating: summarizing and reporting the results

As suggested by Arksey and O'Malley (2005) and Levac et al. (2010), synthesized data are reported descriptively and thematically according to the aims of the study. To complete the process, we consulted with our industry partners.

Results

There were 14 studies that met the inclusion criteria. Of these, 10 explored a particular intergenerational activity, and four reviewed literature (Blais et al., 2017; Galbraith et al., 2015; Gerritzen et al., 2019; Kaplan, 2002). [Table 2](#) presents a summary of the articles meeting the criteria for inclusion.

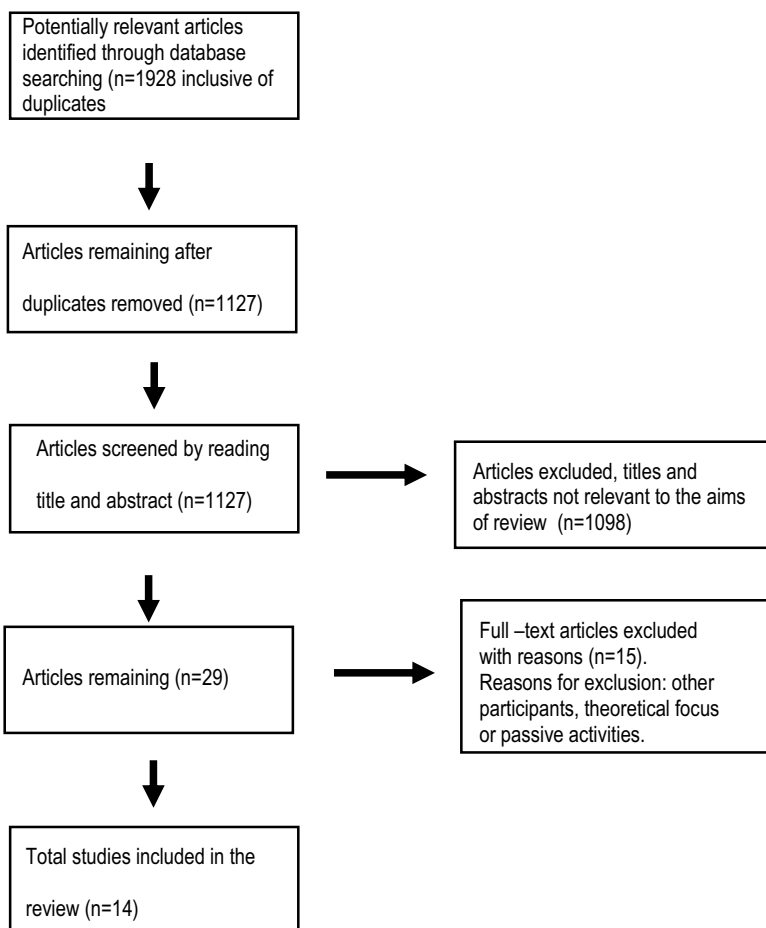


Figure 1. Flow diagram of study selection.

Characteristics of included articles

All selected studies were published between 2002 and 2019. The spread of publications across this time span was spasmodic, with one article published every year or so, until 2017–2019 when seven articles were published across the period of three years. The selected articles included six articles reporting original research findings, four descriptive articles, three literature reviews, and one opinion piece drawing heavily on the literature. Of those articles which focussed on one specific activity, the majority were located in Australia ($n = 3$) and USA ($n = 2$), with just one article from Canada, Germany, Italy, Japan, and South Korea respectively included. Activities often involved reminiscence/life histories, and shared pursuits such as music. The research-based articles drew upon mixed methods ($n = 3$), quantitative ($n = 2$), and qualitative ($n = 1$) methodologies. In regard to the number of participants included in the original research studies, the sample sizes were relatively small, and ranged

Table 2. Summary of results of the scoping review.

Author(s)	Country	Intergenerational programs/ activities	Location of program / activity (e.g., residential facility, co-located space)	Program / activity frequency and duration	Program/ activity participants	Research study design (quantitative, qualitative)	Theoretical model used (if any)	Research participants	Research methods/ measures	Summary of findings/ results	Limitations	Relevance	Notes
Baker et al. (2017)	Australia	Intergenerational design challenge whereby technology students design an item for elder	Residential aged care facility	15 weeks, students and elders met 4 times	Elders: aged care residents with cognitive impairment	Quantitative	-	24 Elders & 59 technology students (13–15 years).	Repeated-measures within-subject design	Increased resident engagement during visits, no benefits to students	Did not ask residents about boredom. Limited time spent with elder, small sample size	Moment by moment benefits can be derived by elders, sustained programs may be more beneficial to students	
Barnard (2014)	Australia	Reminiscence program	Residential aged care facility	Weekly visits for 1 hour over 3 months	Year 11 students and aged care residents	Mixed methods	Thematic analysis	16 youth and 8 aged care residents	Pre and post surveys, thematic analysis of qualitative results	Changes in elder's perception of youth, elders valued experience of recalling and sharing past, suggestions for improving future programs. Students gained deeper appreciation of elders and their own life, development of personal communication skills and increased interest in life histories.	3 residents passed away, small sample size	Highlighted benefits of intergenerational programs.	
Black (2011)	USA	Various for children of all ages. Youth are involved in life histories, pamper groups and Chinese auctions among others.	Aged care facility	Not mentioned	Children of all ages and elders	Descriptive article	-	-	-	Lessons learnt included need for careful monitoring, some older residents prefer not to participate	Descriptive article	An e.g. of how a diversity of activities are integrated across the one aged care facility.	

(Continued)



Table 2. (Continued).

Author(s)	Country	Intergenerational programs/ activities	Location of program / activity (e.g., residential facility, co-located space)	Program / activity frequency and duration	Program/ activity participants	Research (quantitative, qualitative)	Theoretical model used (if any)	Research participants	Research methods/ measures	Summary of findings/ results	Limitations	Relevance	Notes
Blais et al. (2017)	Reviewed articles from US and Canada	Various	Usually aged care facility/ care service	Various	Various	Literature review	-	Youth volunteers (high school and post-secondary) and elders including aged care residents	Various	Benefits and challenges for youth, and benefits for Elders	Small number of articles included in review	Synthesized outcomes for youth, confirms lack of research studies	
Caspar et al. (2019)	Canada	LINKages program that focussed on socialization, creativity, and cognitive stimulation	Residential aged care	1 hr a week for 7 months	Aged care residents and high school students (grades 6 to 12)	Exploratory case study – mixed methods	Intergroup contact theory	65 elders and 87 youth volunteers	Pre- and post-measures, and observations with residents and students	Positive outcomes for youth and elders, relationship building more important than type of activity, adaption of activities to functioning level of residents enhanced social inclusion	Attrition, limited data gathered from residents, secondary analysis of data not direct data collection	Importance of involvement of skilled professionals in planning and delivery	Rigorous study using validated scales to measure changes.

(Continued)

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Author(s)	Country	Intergenerational programs/ activities	Location of program / activity (e.g., residential facility, co-located space)	Program /activity frequency and duration	Program/ activity participants	Research study design (quantitative, qualitative)	Theoretical model used (if any)	Research participants	Research methods/ measures	Summary of findings/ results	Limitations	Relevance	Notes
Coleman and Derosa (2006)	USA	Various, provides an alternative to high school education for students having difficulty in mainstream education including curriculum studies, internships and service projects	Residential aged care	School hours, 5 days a week	Students at risk and aged care residents	Descriptive article	=	-	-	Effective in reengaging many students with school, provided career pathway into aged care	Unique program that may not be directly transferable to other settings	Suggested guidelines for starting up a similar program	
Galbraith et al. (2015).	Various	Most commonly music, art based and narrative	Various locations including aged care facilities	Various	Elders with dementia and children or youth	Scoping review	-	27 articles included in review	Various	Program design, outcomes for children/youth and outcomes for people with dementia	Only included programs that are dementia specific	Relationship building more impactful than type of program, best practices	
(Gerritzen et al., 2019)	Various	Intergenerational dementia programs	Various locations	Various	Older adults with cognitive impairment or dementia and younger people	Scoping Review	-	21 articles included in review	Various	Successful programs included buddy systems, dementia education, Montessori activities, carefully planned activities, student reflective journals and reminiscing.	Only included programs that were dementia specific	Successful elements of intergenerational dementia programs	

(Continued)



Table 2. (Continued).

Author(s)	Country	Intergenerational programs/ activities	Location of program / activity (e.g., residential facility, co-located space)	Program /activity frequency and duration	Program/ activity participants	Research study design (quantitative, qualitative)	Theoretical model used (if any)	Research participants	Research methods/ measures	Summary of findings/ results	Limitations	Relevance	Notes
Kaplan (2002)	Various	Various	Focus on school-based programs	Various	Various	Opinion piece/ review of literature	-	Various	Various	Suggested categorizations of programs and key issues to consider when developing and evaluating programs	Does not include methodology for this literature review	Elements to consider when designing programs	Much like a literature review but not systematic and does not include methodology
Kim and Lee (2018)	South Korea	Structured program involving positive interactions, reminiscence and reflection	Residential aged care programs	6-week program, 90 mins per week	Nursing home residents and high school students	Quantitative	Symbolic interactionism	60 residents and 60 high school students	Pre-posttest control group non-synchronized design	Seniors' ego integrity and adaptation level improved. Youth ego integrity improved, had higher positive emotions and were better adjusted to school.	Sample limitations	Age-appropriate activities promoted mutual understandings and can overcome generation gap	
Knight et al. (2017).	Australia	Writing a life review book	Residential aged care programs	Weekly for 8 weeks	14/15-year-olds (Y95) and elders	Mixed methods	-	24 14/15 year olds and 12 elders	Semi structured interviews + age attitude scale, Ryff multidimensional measure of psychological wellbeing, social connectedness scale-revised, short mood and feelings questionnaire, geriatric depression scale	Breaking down stereotypes, recognition of heterogeneity, satisfaction and personal gain	Pilot test with small sample, does not include pre- and post-statistical results	Example of activity and benefits derived	

(Continued)

Table 2. (Continued).

Author(s)	Country	Intergenerational programs/ activities	Location of program / activity (e.g., residential facility, co-located space)	Program /activity frequency and duration	Program/ activity participants	Research study design (quantitative, qualitative)	Theoretical model used (if any)	Research participants	Research methods/ measures	Summary of findings/ results	Limitations	Relevance	Notes
Nitta (2008)	Japan	Visits and activities	Residential aged care	Unclear, 3 hr session once per semester or more regularly?	Female high school students (15–16 years)	Descriptive article	-	Descriptive	-	Students had some difficulties communicating with elders but this was addressed via training.	Descriptive	Importance of preparing students before commencing activity	
Santini et al. (2018)	Italy	Variety of shared activities	Residential aged care and community visits	At least once every 10 days during school hours	Youth and seniors	Qualitative	Research-action methodology	25 youth, 3 teachers, 16 older residents, 3 social workers & 16 older volunteers (mentors)	Focus groups and in-depth interviews	Positive impact of programs on youth and seniors, age-related stereotypes overcome, increased youth prosocial behavior, increased reciprocity, improved seniors' mental wellbeing.	Pilot study, sample size	Activities should be integrated into daily routine	
Werner and Linke (2013)	Germany	Musik	Various locations including aged care facilities and schools	Weekly	Gifted and talented students, nurses, volunteers and elders	Descriptive article	-	Descriptive	-	Importance of music, general rules and choices regarding participation/involvement. Transmission of culture via folk songs. Goal was experiences rather than knowledge.	Minimal reporting of quantitative results	Activities adapted and delivered in various locations	Results of quantitative research study based on program are published in a foreign language book.

from 18–87 for adolescents, and 8–65 for seniors. While all studies included both youth and resident participants, just one also investigated others involved in the activity (i.e. teachers, social workers and adult volunteers; Santini et al., 2018). On occasions there were limitations on which youth could be involved in the activity. For example, only those assessed as being at high risk (Coleman & Derosa, 2006) or gifted and talented (Werner & Linke, 2013).

Reported intergenerational activities usually occurred within residential aged care facilities. Six studies (Blais et al., 2017; Caspar et al., 2019; Coleman & Derosa, 2006; Kim & Lee, 2018; Knight et al., 2017; Nitta, 2008) reported on programs conducted exclusively within residential aged care, one of which (Coleman & Derosa, 2006) sought to offer a fulltime school program from within the facility. The program outlined by Santini et al. (2018) mostly occurred within aged care but also included occasional community visits. Older people and students came together in aged care, school, and community locations, often churches, to make music in “Triangelpartnerschaften” partnership projects (Werner & Linke, 2013). Only the article by Kaplan (2002) specifically considered the dynamics of older people visiting students at school. There were no articles reporting on co-located education and aged care facilities.

Authorship of selected articles included those with a background in nursing/aged care, health science, mental health, and social work. Few published intergenerational authors included in this review have expertise in high school education. While the article authored by Baker et al. (2017) included a mix of academic backgrounds (psychiatry, high school teaching and aged care), the other authors with a known education studies background (Kaplan, 2002; Werner & Linke, 2013) did not co-publish with authors from another field. Thus, understandings about intergenerational activities may somewhat be missing educators and inter-professionals combined perspectives and understandings.

The impact of intergenerational activities on adolescents

There were a range of personal and academic benefits identified for adolescents who participated in intergenerational activities. These are described in more detail below.

Seven articles (Barnard, 2014; Blais et al., 2017; Caspar et al., 2019; Galbraith et al., 2015; Kim & Lee, 2018; Knight et al., 2017; Werner & Linke, 2013) reported that students personally benefitted from their involvement in an intergenerational activity. Benefits included improved communication, teamwork and interpersonal skills (Barnard, 2014; Blais et al., 2017; Caspar et al., 2019; Gerritzen et al., 2019; Kaplan, 2002; Nitta, 2008); development of self-identity (Caspar et al., 2019; Lee et al., 2019; Werner & Linke, 2013); increased engagement (Caspar et al., 2019; Galbraith et al., 2015); and positively changed perceptions toward the elderly and aging (Barnard, 2014; Caspar et al., 2019;

Gerritzen et al., 2019; Kim & Lee, 2018; Knight et al., 2017; Santini et al., 2018). Further, emotional growth led to adolescents being more appreciative of own life and gave them meaning (Barnard, 2014; Werner & Linke, 2013). Improvements to adolescent mental health have also been noted (Knight et al., 2017). The many potential personal gains for adolescents can be summed up by the theme of “personal gain through making a contribution” described by Knight et al. (2017). However, one study (Baker et al., 2017) did not find any personal benefits for adolescent participants. They speculated that perhaps this was because the duration of the program was too short.

By their design, many intergenerational activities are of some academic benefit to participating students. This was most obvious when activities aligned with an area of curriculum studies. Such activities reinforced learning by offering students the opportunity to gain new skills and knowledge outside their usual classroom setting. The challenge given to students to use technology skills to make an item for an aged care resident (Baker et al., 2017) is an example of this. Other activities may, at least in part, align with art and craft (Blais et al., 2017; Galbraith et al., 2015; Gerritzen et al., 2019; Kaplan, 2002; Kim & Lee, 2018), music (Werner & Linke, 2013; Caspar et al., 2019; Santini et al., 2018), history (Kaplan, 2002), and English (Knight et al., 2017; Kaplan, 2002) studies. Activities, such as reminiscence and writing life histories (Barnard, 2014; Knight et al., 2017), may link with several curriculum areas, i.e., English and history, even if not promoted as such. However, there were activities, or elements within activities, that do not appear to directly link with the academic curriculum which may be considered more as developing cultural diversity and career skills. These included activities that predominantly focused on providing residents with cognitive stimulation and therapeutic activities, such as Chinese Auctions (Black, 2011), providing students with career related skills (Blais et al., 2017; Coleman & Derosa, 2006), and activities seeking to pass cultural understandings between generations (Kim & Lee, 2018; Nitta, 2008; Werner & Linke, 2013). An additional academic advantage of intergenerational activities is that students reported better adjustment to their school environment (Kim & Lee, 2018). There was one program in which the student’s entire school day was conducted in an aged care facility, and this contributed to their high school graduation (Coleman & Derosa, 2006). The evidence provided about intergenerational activities contributing to student learning was predominantly anecdotal and was not well substantiated by factual evidence about participants’ school grades.

Overall, there were low levels of adverse short-term impacts on students reported. Students can feel uncomfortable and awkward, especially at the beginning of programs, when engaging with residents (Galbraith et al., 2015; Knight et al., 2017; Nitta, 2008). First encounters can be emotional, particularly if students were underprepared (Blais et al., 2017; Galbraith et al., 2015; Santini et al., 2018). Furthermore, involvement was sometimes perceived as

stressful and a burden with adolescents pressured to interact with residents (Knight et al., 2017; Nitta, 2008; Werner & Linke, 2013). For some adolescents, engaging with people with dementia was frustrating (Galbraith et al., 2015). For students, any adverse impacts from their involvement in intergenerational activities was unlikely to be long term and could be ameliorated by changes to activities and further training or opportunities to debrief.

The impact of intergenerational activities for aged care residents

The wellbeing of residents can be improved through participation in intergenerational activities (Blais et al., 2017; Werner & Linke, 2013). Experiences and interactions with younger people can enrich residents' life (Blais et al., 2017; Kaplan, 2002; Werner & Linke, 2013) through increased engagement (Baker et al., 2017; Caspar et al., 2019) which in turn can provide a sense of purpose (Kim & Lee, 2018; Knight et al., 2017), and improve mental health (Knight et al., 2017; Santini et al., 2018). Residents valued the opportunity to help students (Knight et al., 2017), especially though the sharing of past events and culture (Barnard, 2014; Werner & Linke, 2013), and may enjoy learning about today's youth (Barnard, 2014). Intergenerational activities can also help residents adapt to their nursing home environment (Kim & Lee, 2018). These positive effects seem to be widespread among resident populations including those with cognitive impairment such as dementia (Baker et al., 2017; Galbraith et al., 2015; Gerritzen et al., 2019), residents without dementia (Kim & Lee, 2018), and residents with aphasia (Blais et al., 2017). Indeed, there is some evidence that activities may be more beneficial to residents than adolescents (Baker et al., 2017).

Residents perceived very few difficulties or concerns arising from intergenerational activities. Several studies reported that not all residents wanted to interact with adolescents (Black, 2011; Galbraith et al., 2015). Choice was important from residents' perspective (Black, 2011). Indeed, initially they may be distrustful (Santini et al., 2018). The focus and attention given by residents to activities can vary depending on personal preferences, extent of challenge and whether living with dementia (Caspar et al., 2019; Galbraith et al., 2015). Although the relationship between duration and engagement was reported as not statistically significant (Caspar et al., 2019; Gerritzen et al., 2019). Furthermore, the product produced or presentation given by students may fall short of residents' expectations (Barnard, 2014). Adverse impacts on residents' mood, attitude and participation tended to fluctuate according to activity.

Effective intergenerational activities

Examination of the selected studies identified a broad range of approaches and strategies for undertaking intergenerational activities. Although activity success was not necessarily directly measured by reviewed studies, elements of

effective programs can be gleaned from student and resident results and reported anecdotes. As Galbraith et al. (2015) noted intergenerational activities can be difficult to evaluate; What is success? Intergenerational activities appear to be most effective when they are carefully planned prior to being implemented. While Black (2011) outlined a whole of site approach to intergenerational activities from very young children through to high school students, the activities described in other articles are more “one-offs” than of an ongoing nature. One long term ongoing activity was the school conducted within a nursing home (Coleman & Derosa, 2006). According to Santini et al. (2018), activities should be integrated into the daily routine of the aged care facility. Studies suggested that length and extent of engagement is an important factor in outcomes (Baker et al., 2017; Gerritzen et al., 2019; Kaplan, 2002). This related to sufficient time to plan, conduct and supervise activities (Black, 2011). Indeed, depth of engagement in intergenerational activities may be considered on a scale from low to high (Kaplan, 2002). Finding activities that enhance intergenerational relationship building, such as Montessori-based activities (Gerritzen et al., 2019), seems to be important (Galbraith et al., 2015). As is consistent pairing so that residents interact most with the same students (Gerritzen et al., 2019). Furthermore, expectations of youth participants should be consistent with their developmental stage (Black, 2011). Employing trained professionals to structure, run, and adapt programs can ensure that the relational aspects and activity organization are carefully considered in each circumstance (Caspar et al., 2019; Galbraith et al., 2015; Kim & Lee, 2018). Follow up by teachers may enhance results for adolescents (Kaplan, 2002). The diversity of recommendations may reflect the variety of contexts and cultures in which intergenerational activities are undertaken.

In relation to adolescents, key elements for their successful participation in intergenerational activities recommended by the reviewed literature are choice, reducing academic stressors, and training. Activities tended to be more successful when students chose whether to be involved or not, and their level of involvement (Werner & Linke, 2013). Allowing adolescents to decide may help to reduce later problems arising from a lack of commitment (Werner & Linke, 2013). Activities should not place excessive academic pressures or burdens on adolescent participants (Werner & Linke, 2013). Student reflective journal writing (Gerritzen et al., 2019) was a suggested assessment activity which was not overly onerous. Providing training about aging and age-related illnesses to youth, so that they are adequately prepared with skills and knowledge before meeting residents, is suggested by many (Caspar et al., 2019; Gerritzen et al., 2019; Kim & Lee, 2018; Knight et al., 2017; Werner & Linke, 2013). In conclusion, optional intergenerational activities that provide training and do not overly increase academic demands on students are preferable.

Specifically for residents, key elements for their successful participation in intergenerational activities recommended by the reviewed literature relate to choice, comfort, engagement, and reciprocity. Participation should be a choice and breaks freely available when needed (Black, 2011). Consideration to the length of activity was important as older people may tire if too long (Black, 2011). Mornings have been suggested as the optimum time (Black, 2011). The study by Baker et al. (2017) suggested that residents may respond better to more personal directed interactions with adolescents than group activities. Adolescents, unlike younger children, can have meaningful dialogs with residents (Kim & Lee, 2018). Shared activities should be pleasurable and meaningful for residents (Caspar et al., 2019; Galbraith et al., 2015). Elements of activities which suggest improvements to health outcomes included those where residents play a more direct role, such as a mentor or helper, feel they are making a contribution to the lives of adolescents, and interact over a period of time (Blais et al., 2017; Knight et al., 2017; Santini et al., 2018; Werner & Linke, 2013). Residents' engagement with an activity may fluctuate according to what it is, duration and level of frustration (Blais et al., 2017; Gerritzen et al., 2019). Whether the immediate effects of an activity are afterward transferable to other aspects of a resident's life is unproven (Galbraith et al., 2015). In conclusion, the extent to which residents benefited from their involvement in intergenerational activities seems to largely depend on controllable factors which can be built into programs and monitored during interactions.

In summary, at least in the short term, carefully conceived and executed intergenerational activities delivered by trained staff may result in mutually beneficial outcomes for residents and youth. Further research into program characteristics, strategies and actions is required to confirm promising early results.

Discussion

The aim of the present scoping review is to identify what is known about intergenerational activities involving adolescents and residents of aged care facilities. There is scant research on this topic with only 14 studies meeting the inclusion criteria. The recent upward trend in the number of new publications per year, albeit from a low base, indicates that intergenerational activities are becoming of increasing interest to researchers. Lee et al. (2019) have begun evaluating intergenerational benefits for intergenerational activities by suggesting some theoretically informed best practice programming principles.

According to the reviewed research, both adolescents and residents benefitted from intergenerational activities. Adolescents benefitted academically and personally through the development of life skills, such as emotional growth and

mental wellbeing. Resident benefits related to improved wellbeing, engagement, and a sense of purpose with benefits somewhat dependent on health status. Collectively these benefits can be framed as experiences of enrichment.

The term “enrichment” is broadly defined as “improving or enhancing the quality or value of something” (Lexico, 2021). Cognitive enrichment is clearly beneficial for adolescent academic achievement. For the elderly, cognitive enrichment, such as reading books or playing a musical instrument, is evidenced to resist age related hippocampal memory decline (Bettio et al., 2017). Environmental enrichment (EE) has been used as an experimental paradigm in animal models for many years to explore how changes in environmental stimulation and complexity can impact on health (Queen et al., 2020). It is argued EE can drive neural activity resulting in formation of a cognitive reserve. The cognitive reserve theory posits that the brain can preserve function through using alternate cognitive strategies that can compensate for age related impairments (Fratiglioni et al., 2004). Further it suggests that clinical manifestations of diseases, like dementia and Alzheimer’s disease (Solé-Padullés et al., 2007), can be minimized with greater cognitive reserve. Although cognitive reserve theory is not well established, this review found residents who participated in intergenerational activities attained personal gains including health and wellbeing benefits.

Social enrichment is argued to be a component of many EE strategies and exercise programs (Tziraki et al., 2015). Strong relationships exist between high social engagement and preserved hippocampal health and reduced memory loss (Dause & Kirby, 2019). Despite this, the social components of enrichment activities are under researched (Dause & Kirby, 2019). The findings from this literature review indicate that intergenerational activities may result in social cognitive enrichment for aged care residents, however the mechanisms of action remain unclear.

For adolescents, environmental enrichment as a concept encapsulates the contributions of family and community to promote wellbeing. Such support is consistently noted as one of the most important predictors of health and wellbeing (Pingitore et al., 2019). The reviewed literature found that intergenerational activities, as an extension of the community environment, supported emotional growth and mental wellbeing. This is extremely important given that despite adolescence being a time of optimal health, mental health conditions account for 13% of the global burden of disease for people aged 10–19 years (World Health Organization, 2021).

Emotional regulation (ER) for example, is crucial for adolescent mental wellbeing and depends on environmental stimuli for development (Buneviciute et al., 2019). Explicit, or effortful emotional regulation, is developed actively in response to stimuli. It involves conscious activities to monitor, adjust, and control one’s emotions (Rice & Hoffman, 2014). It appears from the literature that intergenerational activities provide opportunities to practice

this ER. Exposure to a range of safe adult environments is beneficial at a time when adolescents are shifting away from their parents being primary providers of emotional regulation. At a time of significant neurological development (Berk, 2019), adolescents need opportunities to acquire and practice life skills for independence and self-sufficiency while managing their internal emotional states (Buneviciute et al., 2019).

The review identified that the overall prevalence of peer reviewed research on intergenerational activities for adolescents and aged care residents is low. Consequently, there are wide gaps in knowledge about these activities and a lack of strong evidence to support practices. Intergenerational activities involving youth and aged care residents were most successful when there was careful consideration of how the activity was structured and incorporated within the aged care facility. Adolescents needed to be well prepared and willing to take part. There is no clarity regarding how to best implement strategies apart from considering their unique context. No activities were reported from co-located venues.

Limitations

This scoping review included a small number of studies in total because there has been limited research in this area. To expand insights, descriptive reports were included which do not have the same methodological rigor as research studies. Even so, no reporting of co-located venues was found. In addition, many research studies had few participants, a possible bias toward positive reporting and lacked longitudinal follow up. Therefore, there was a limited evidence base to inform understandings about intergenerational activities. Similarly, after conducting a wider ranging scoping review, Jarrott et al. (2021) reported a lack of evidence-based intergenerational activities. This suggests gaps in theoretical evidence about intergenerational activities extend more broadly. The views of organizers were largely absent in the selected articles, although a recent mixed methods study advocates including all stakeholders in evaluations of intergenerational programs (Cohen-Mansfield, 2021). Furthermore, within the selected literature, there was a lack of consistency in how intergenerational activities were undertaken and reported. Perhaps this was because the studies were conducted in different cultures. Elements, such as program activities, duration, participants, study design, evaluation, and outcome measures, varied greatly and were not always sufficiently described to allow replication. This broad range of approaches made comparison and synthesis difficult. Similar methodological and reporting limitations were reported in a systematic review of intergenerational programs for school-age children (Giraudeau & Bailly, 2019).

Conclusion

In the absence of previously published works about co-locations between middle schools and aged care facilities, evidence from intergenerational activities involving youth and older people is appropriate to draw upon to inform such projects. Not with standing, much more research could be done to expand current understandings about intergenerational activities involving adolescents and aged care residents. To date, few such studies have been conducted. It could be beneficial to report activity and participant characteristics in more detail to enable more robust cross comparisons and replication. Future studies could also report changes to students' academic grades to strengthen available evidence for educators on the benefits of their school participating. We suggest the concept of enrichment encapsulates current understandings about intergenerational activities. Enrichment for aging is about preservation, whereas enrichment for adolescents can be claimed as health promoting. Intergenerational activities between adolescents and aged care residents result in social enrichment, but the mechanisms of action are poorly understood. Further research is warranted to develop theoretical understandings of intergenerational activities and rigorous evaluation tools.

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