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The Effects of Intergenerational Programmes on Children and Young People

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Abstract

Background: Schools can provide a powerful environment for shared learning among similar age groups as well as different generations. This study aims to explore the literature on the effectiveness and economic aspects of intergenerational interventions among children and young people in terms of academic performance and psychosocial outcomes.

Methods: A literature review was conducted to assess current research regarding intergenerational activities and outcomes among young people. The search included English-language publications that reported original data from January 1986 to mid-2014. Studies were published in a peer-reviewed journal with no country restriction. Supplementary searched were conducted and a narrative synthesis was performed. Intergenerational interventions involving older people with dementia were excluded.

Results: There were positive trends in mental health and social aspects of the outcomes such as positive changes in attitudes towards older people shown as better mutual understanding, decreased stereotyping of older people, and more respect for them. Better psychological outcomes were found, including reduced anxiety and an improved sense of self-worth. The intergenerational programmes in non-kin relationships also promoted better family relationships. In addition, classroom behaviours were improved among children in need of fostering pro-social behaviours and there was a non-significant improvement in early literacy development.

Conclusion: More studies with larger sample sizes and longer term follow-ups are needed to explore the possible transferability of the results to different country contexts. Economic modelling techniques can be more utilised to explore the generalisability of the findings from one to another setting under various scenarios. This would facilitate a more optimal allocation of scarce resources by justifying the decision on whether investments in intergenerational activities at a strategic level would be worth pursuing as a public health intervention for a whole society.

Keywords: Mental health; Older people; Children; Community; Intergenerational activity; Volunteer; School

Introduction

Schools are powerful places in almost all societies as this is where shared learning can take place among children classified by similar age groups in classrooms. This kind of classroom-based education is effective in teaching curriculum-based knowledge in a structured manner. However, this may not give young people complete tools to survive for the rest of their life. There is room for a more balanced approach to stimulating young minds and broadening their perspectives for meaningful life through sharing experiential and tacit knowledge from different age groups. However, given a lack of frequent intergenerational communications due to changes in the family structure towards more nuclear families these days [1], encouraging interactions between different generations can potentially play an important role in filling the gaps in children's formal education. A model of cross-generational programmes was implemented in the intergenerational School in Ohio in the USA in the form of community-based teaching activities. Older volunteers in the community teach young children how to read, to solve mathematics as well as playing a role as mentors [2]. A growing body

of studies has reported the potential positive impacts of intergenerational activities on older adults at preschool and school settings [3,4]. There is a question raised- "can intergenerational approaches make a difference to children's attitudes and behaviours?" This present study aims to review the evidence on the effectiveness and economic aspects of intergenerational interventions on children and young people in term of their classroom behaviours and psycho-social outcomes.

Methods

Search strategy

The review search strategy consisted of Medical Subject Headings terms and free text words in Medline from 1986 to mid-2014. Studies identified were published in a peer-reviewed journal and written in English, with no restriction in country or settings as shown below. In addition, a supplementary search was conducted by scanning related citations.

("intergenerational program") OR (("Intergenerational Relations/epidemiology"[Mesh] OR "Intergenerational Relations/ethnology"[Mesh] OR "Intergenerational Relations/statistics and numerical data"[Mesh])) OR ("intergenerational intervention*")*

Inclusion and exclusion criteria: Studies for any formal types of volunteering between two generations in unrelated relationships were included, reporting the impacts of volunteering in unrelated relationships on mental health, psycho-social outcomes and classroom behaviours/academic performance. Volunteering interventions were without any financial rewards and/or with a minimum of financial support such as reimbursement of lunch expenses or transport fees etc.

Studies with randomised controlled trials (RCTs), non-randomised controlled trials and before and after observational studies were included, using quantitative and/or qualitative and/or a mixed method of evaluation. Participants who were healthy or had any pre-existing physical and/or mental health problems were included and individuals, either living in community independently or institutionalised settings were considered for inclusion.

However, studies were excluded if the volunteering activities involve family members such as parenting programmes between adult parents/grandparents and their own children/grandchildren or close relatives in kin-related relationships, physical health outcomes such as falls and obesity prevention etc. Intergenerational studies involving older people with dementia were excluded.

Results

The searches initially retrieved 251 papers. After screening titles and abstracts, 233 studies were excluded and 18 papers were considered as potentially relevant. After reading the full text papers, 4 studies were excluded as the interventions involved direct family members such as parents and children, grandparents and their grandparents, adults and their relatives and a review on fall prevention. 6 studies for people with dementia were excluded. Through checking the related citations and references of the remaining studies, 3 supplementary studies were added and finally 11 studies were included for this current review.

Literature on intergenerational activities was heavily dominated by North American studies. Out of 11, seven studies came from the USA, 3 from Brazil, and 1 from Canada. Interventions in 7 studies were volunteering activities by older adults. Most studies were related to reminiscence interventions from older volunteers, talking to school aged children about themselves and life events. 5 studies included reminiscence only. 7 studies were multi-component interactive programmes between two generations such as small group-based discussions, music, creative arts, games and outings etc. Among them, three studies had music elements, including 2 with art activities. 4 had a reminiscence component as part of the multi-component interventions.

Regarding a hierarchy of evidence, 4 studies were based on RCTs, 1 using a non-randomised trial with controls (CT), and 6 observational studies with a before and after study design. There was only one economic evaluation study using economic modelling approaches using CT with a matched control group. The duration of follow-ups ranged from 8 weeks to 12 months, except the economic modelling study which took a lifetime perspective. 9 studies had a follow-up period, lasting less than 1 year. Most studies took place in school settings and 4 studies were held at older people's places such as assisted living facilities, retirement living facilities, independent living facilities and apartments.

The next section looks at the effects of intergenerational activities in terms of their psycho-social outcomes and academic performance for school-aged children.

Effects of intergenerational activities on psych-social outcomes

Overall, there were positive trends in mental health and social outcomes. Most studies reported that children and young people tended to report positive changes in their attitudes towards older adults during and/or after participating in programmes involving close interactions between the generations. In addition, they had better psychological outcomes, such as reduced anxiety and enhanced feeling of self-worth. Social outcomes were also reported in terms of improved communication skills, reduced social distance in relationships in non-kin relations as well as with older family members.

In the USA, Aday et al. [5] explored the impact of early experience of an intergenerational partner project on children, based on a randomised controlled trial. Young children aged 9 to 10 in grade 4 in a private elementary school with parents from the upper-middle social status participated in the programme with 25 older volunteers aged 65-78. Each session lasted 90 minutes. The intervention included small group discussions, seasonal events such as the Christmas party, painting inspired by music, reminiscence, informal sharing, and picnics at the end. After one year, there was a significant change in attitudes towards older people in children in the programme, compared with 25 students in another class on the 4th grade at the same school ($p < 0.02$). In addition, positive attitudes were described in a qualitative interview by both children and older adults.

In a non-randomised controlled study [6] explored the impacts of an intergenerational music programme between 26 older people from a retirement living facility and 21 children aged 9-10 on grade 4 at elementary school. This was a 10-session programme with each session lasting half an hour and consisting of singing, moving to music, structured communication and instrument playing. More interactions were found in structured conversation and "moving to music" than singing and instrument playing, although there was a non-significant improvement in children's positive attitudes towards the older people, such as their perception of ageing.

In a qualitative study also investigated the impact of a school based intergenerational reminiscence programme on family relationships, health status and solidarity [7]. 32 older adults aged 60 and over from the catchment area of the chosen school together with 111 secondary school children aged 12-18 years participated in the intervention. They shared life stories for 2 hours per week over 4 months in small groups with 2 older people and 10 adolescents per group. Based on focus group discussions from 10 student groups and 4 older people groups, children reported more positive attitudes to older people and respect for them, taking the initiative to talk to grandparents, having better understanding with families, and improving the state of their minds by making comparisons with older peoples' minds by putting themselves into other people's shoes.

In the USA, a qualitative evaluation based on an observational study by Jones et al. [8] assessed the effects of an intergenerational programme between 5 African American youths aged 12 to 17 with emotional, behavioural problems (2 with mental disorder histories, 3 with relatives with bipolar disorder or attention deficit disorders) and 8 older people aged 51 to 94 on low incomes (5 Caucasian and 3 African American) with pre-existing medical conditions such as partial eyesight loss, thyroid disease, cardiovascular disease, obsessive compulsive disorder or musculoskeletal problems. The intervention took place every other month for 11 months at an independent living facility for the elderly. The intervention was based on Yalom's 12 Therapeutic Factors [9] including altruism, group cohesiveness,

universality, interpersonal learning input/output (social skills), guidance and imparting information, catharsis, identification, family re-enactment, self-understanding, instillation of hope and existential.

It consisted of interactive group discussions, games such as Bingo, creative expressions, and outdoor events such as trips or picnics. A teenager was coupled with an older adult to work as a team for crafts and cleaning up the room. Transportation services were provided for the youths, paid by project grants. Over 22 sessions, there was a positive change in attitudes to each generation. Among the 12 factors, group cohesiveness was the most commonly identified therapeutic factor. Other perceived benefits were imparting information, interpersonal skills, instillation of hope, altruism and existential factors. There were improved mutual understandings of each group. 100% of the youths mentioned positive changes in attitudes to older adults.

In an observational study from the USA [10] investigated the beneficial outcomes of an intergenerational visiting programme on those children with inadequate social skills and poor self-image that can elevate risks of academic failure. On a monthly basis, 10 students aged between 8 and 11 at elementary schools in suburban areas visited 6 to 10 older adults living at an assisted facility. Over 4 months, structured activities between school aged children and older people included searching for words together by using pencils and papers, playing the games, which encouraged efforts from both sides, Bingo, children's piano playing with songs and/or older people sharing their early life experiences such as the second World War etc. At the end of each session lasting for an hour, refreshments such as fruit juices and cookies were provided. The children's mood and classroom behaviours were directly observed using the Lawton's Modified Behaviour Stream (Law et al, 1996). It was found that the level of anxiety in children was significantly reduced ($p=0.032$) and they showed more interests in activities during the interaction with older adults than they were in classrooms with peers at similar age groups ($p=0.007$) and there were non-significant improvements in anger, sadness, and fidgeting.

In an observational qualitative study from Canada, Poole and Gooding [11] explored the effects of a community-based intergenerational programme to promote interaction between 13 isolated older adults with an average age of 80, experiencing physical functional decline but living independently at a senior apartment building and 13 public elementary school students with a mean age of 11. The intervention lasted 2 hours every week for 8 weeks after school. Initially the nurse and teacher matched an older adult with 2-3 students. The programme consisted of two types of information-sharing activities by talking about themselves and art/crafts activities such as portrait sketching, plant clippings, as well as playing cards and puzzle games. Particularly, completing crafts together in teams was intended to increase collaboration by working towards a shared goal, while portrait sketching encouraged them to spend more time in eye contact. After the end of the 8 meetings, greater intergenerational exchange was observed in both generations in terms of sharing and giving gifts/cupcakes, as well as in mutual learning from each other.

For instance, when the children brought hand-made cupcakes at school, unfortunately the attendance rates of older people was low as they could not turn up due to aged related sicknesses. The time was used for a nurse at elementary school to explain physical limitations as a result of ageing. Some students visited apartments of the older people, who were absent in the meeting due to illnesses and gave the cupcakes to older people and sent their best wishes for a quick

recovery. In the subsequent session, those older people expressed their appreciation to the young people for their support. Moreover, students transferred the stories told by older people at their school and it also gave children a chance to enhance their self-worth. They expressed a desire for continued meetings even after the formal programme finished. With help from the nurse as a facilitator, informal interactions continued and most students maintained contacts with older adult partners from the programme on a regular basis.

In the USA, Chapman and Neal [12] explored the effects of the Elderly-Youth Exchange (EYE) programme on both generations. The intervention consisted of an employment component for young people aged 9 to 18 and an education/recreation element for older adults by playing a role as helpers and recipients of the activities. In a before and after study, there were four groups including 45 young helpers and 82 older recipients in the employment component that young people got experiences for the work to offer houses and to look after gardens for older adults after the youths received training on ageing and relevant job skills for 30 hours and then continued meetings with older people 1 or 2 hours per week over 6 months. In addition, 163 young recipients and 25 older helpers were involved in the educational/recreational element of the programme including tutoring, summer camps and baseball games, in conjunction with the youth programme in the Young Men's Christian Association (YMCA). A significant reduction in social distance and an increase in enjoyment with older people ($p<0.05$) were found among youth helpers, after taking part in the programme.

In Brazil, a qualitative study explored the benefits of a pilot study for an intergenerational interaction [13]. Over 6 months, 84 students, aged 13 to 19 and 26 older adults aged 60 and above from diverse backgrounds took part in group discussions at school. Older people talked about their life experiences in the past using some objects to trigger the reminiscence process in the classrooms. The results of focus group interviews showed young participants considered the interactions with older generations as opportunities for improving mutual understanding, learning how to communicate with other people from different age groups, and changing their prejudice or stereotyping of older people as boring and old-fashioned. In addition, after participating the programme, young people reported positive changes in family relationships with their parents and grandparents.

However, a later randomised controlled study by De Souza and Grundy [14] reported less positive responses from the young participants. 253 adolescents aged 12 to 18 including 119 in the intervention arm and 134 in the control arm and 266 older people aged 60 and over with 117 vs. 149 in each group respectively, participated in intergenerational activities in the form of reminiscence. The sessions were facilitated by 7 teachers from the school and a nurse from the health centre nearby the school catchment area. Over 14 weeks, the older people shared their memories with the students using memory triggers such as old objects and interviews as small group activities for 2 hours per a weekly session during class time at school. Students made notes of the stories told by the elderly volunteers and drew pictures about talks. The study showed adolescents in the programme were twice more likely to report that "all or most" people were selfish ($p=0.014$) than those without programme. Non-significant increases in quality of family relationship and family relationships were also reported, but there was a significant improvement in trust in family ($p=0.04$). The study suggests the intervention may have positive impacts on some aspects of these social outcomes.

Effects of intergenerational interventions on classroom behaviours

Intergenerational activities can have positive impacts on academic performance and classroom behaviours in children. In the USA, Rebok, et al. [15] reported the impact of the Experience Corps Baltimore (Maryland) programme, using volunteers aged 60 and over. These volunteers were willing and able to serve at least 15 hours on a weekly basis in public schools. In a randomised controlled pilot trial, 1,194 children aged from 5.3 to 12.5 years in grades K-3 from 6 urban elementary schools were followed over the course of the academic year. 688 children were randomly allocated to the intervention group and 506 were in the control group.

At 8 months, children aged 8 to 9 in the intervention schools showed significantly higher reading scores measured by the Maryland School Performance Assessment Program (MSPAP) than those in the control schools ($p < 0.02$). Moreover, in the experimental schools there were 34%-50% reductions in the number of referrals to the three school heads offices due to disruptive behaviours in classrooms, whereas the number of referrals did not change in the three control schools. The study also suggested a promising but non-significant improvement in the scores on the Alphabet Recognition Test and vocabulary ability using on the Peabody Picture Vocabulary Test, Third Edition (PPVT-III) [16] for kindergarteners between the intervention and the control groups. The authors mentioned a small sample size and a relatively short follow-up period to detect significant differences in various outcomes between the groups as study limitations.

Cost-effectiveness of the intergenerational activities

An economic modelling study based on a pilot trial, explored the potential cost-effectiveness of the Experience Corps programme [17]. When the model assumed that 3% of the school aged children in the intervention group switched from not graduating to graduating, the incremental cost was \$49,000 to gain an additional unit of improvement in quality of life by taking account of the increases in the potential incomes over their lifespan. It seems that the programme for children in the long-term fell well within the conventionally acceptable threshold in the USA. In other words, it would be cost-effective due to the improvements in productivity of better educated children from a societal perspective. Moreover, the programme would generate cost-savings when it was assumed that an extra 0.1% of children could graduate from high schools. It suggested that improved educational attainment levels through the programme in public elementary schools could lead to greater economic contributions to society.

Discussion

This review explored the potential impacts of intergenerational programmes such as reminiscence activities by older volunteers or young volunteers and multicomponent interventions between two generations on psycho-social outcomes, academic performance and classroom behaviours in children and adolescents.

In general, there were positive trends in mental health and social aspects of the outcomes. Most studies reported that the regular interactions of the young people with older generations contributed to positive changes in attitudes towards older people after taking part in these programmes. In addition, better psychological outcomes were found, such as a decrease in the levels of anxiety [10] and an increase in a sense of self-worth [11]. Some dimensions of the social outcomes were improved in terms of how to express appreciation and respect [7] for older people by having a chance to look back their own negative perceptions or prejudice against ageism [13,18-20]. These findings are

consistent with the results of other studies showing that children aged seven who participated in classroom activities with older people and those who took part in cross-generational chorus in school tended to use more positive words to describe older people after they took part in the Leaning and Growing Together intergenerational programme, in comparison to using more negative words before the intervention [18]. The intergenerational programmes between unrelated people also promoted better family relationships.

Although there was a non-significant improvement in academic performance in terms of literacy development, disruptive behaviours at classrooms were significantly decreased in the Experience Corps programme. This may be partly because school-aged children tend to be well-behaved in the presence of older people and/or children plan "to act better than usual" during the encounters with older adults [10].

Most studies containing a reminiscence component showed positive mental and social outcomes. The exact mechanisms of how these benefits could occur have not been very well documented. However, it was shown that the intergenerational activities performed with smaller groups or one to one pairs tended to show greater effects [5,6,10,18]. In this way children are more exposed to older people's accumulated knowledge and experiences and have an opportunity to learn about older people's views and wisdom. It was also found that there was a significant improvement in the perception of the young students towards older people when a teacher paired each older person with a small group of children to encourage letter exchanges and to facilitate interactive sessions on listening to older adults' past stories over eight weeks [18]. Similarly, in a study of the music therapy programme, the interventions implemented in pairs such as structured communications and moving to music were more beneficial in achieving more interactions than activities like singing or musical instrument playing in large groups [5,6]. Moreover, activities expected to be completed with inputs from both generations in team work, can also enhance bonding over time by promoting a sense of team spirit going towards the common goals.

Regarding evaluation methods of the programmes, more studies with mixed methods of quantitative and qualitative techniques are needed to enrich the possible interpretations of the study results. For instance, in the study of an intergenerational visiting intervention [10], qualitative descriptions of directly observing the behaviours of children alongside the quantitative analyses made it possible to compare and spot the discrepancies between the written responses, given by the children in need of fostering prosocial behaviours, and actual behaviours observed by staff. As pointed out by the authors, it can be interpreted as a kind of attention-seeking behaviour by those children at risk of anti-social behaviours. Therefore employing multiple assessment methods would be helpful to provide tools for more accurate analyses of the possible causal relations and more effective in capturing the moments of emotional and psychological aspects of responses.

Conclusion

Young people can benefit from interactions with older people, who are willing and able to share their wisdom and knowledge to the next generations. Curriculum-based education alone may not necessarily cover a wide range of social skills, required to survive in everyday life such as compassion, respect, good listening/communications skills with others from different backgrounds with different ages and life experiences.

Studies from the USA were dominant, followed by studies from Brazil. This may limit the generalisability of the findings outside the countries. Especially in the USA, one of the key success factors for this phenomenon may result from a long tradition of well-established organisational collaborative service models with multi-stakeholders such as principals at public elementary schools, political support from the local governments and local funders, which are critical for long-term sustainability of the programmes. More studies with larger sample sizes and longer term follow-ups are needed to explore the possible transferability of these results to different country contexts.

Economic modelling techniques can be more utilised to explore the cost-effectiveness of intergenerational programmes and the generalisability of the findings in different settings under the various scenarios. There is a potential for the intergenerational interventions to be a cost-effective option from a broader societal perspective, especially when considering the potential benefits from reduced drop-out rates at schools, leading to better earning potential in adulthood and greater contributions to the local and national economy in the long term. Future research should be more inclusive in investigating the societal benefits from inter-sectoral approaches. Mutual benefits can be realised from early investment in children's education, health and vocational outcomes accrued over time [21]. This would facilitate a more optimal allocation of scarce resources at a strategic level if investment in intergenerational activities is justified as a cost effective public health intervention for society.

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