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Enhancing Social Interaction between Preschoolers and Older Adults with Dementia - Report Series # 6

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Report Series - # 6

Enhancing Social Interaction between Preschoolers and Older Adults with Dementia

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About SERC (Sheridan Elder Research Centre)

Through applied research the Sheridan Elder Research Centre (SERC) will identify, develop, test and support implementation of innovative strategies that improve the quality of life for older adults and their families.

1. Wherever possible, older adults participate in the identification of research questions and contribute to the development of research projects at SERC.
2. We conduct applied research from a psychosocial perspective which builds on the strengths of older adults.
3. Our research is intended to directly benefit older adults and their families in their everyday lives. The process of knowledge translation takes our research findings from lab to life.
4. SERC affiliated researchers disseminate research findings to a range of stakeholders through the SERC Research Report Series, research forums, educational events and other means.
5. A multigenerational approach is implicit, and frequently explicit, in our research.
6. To the extent possible our research is linked to and complements academic programs at the Sheridan College Institute of Technology and Advanced Learning.

EXAMPLES OF SERC RESEARCH

The Built Environment	**Information & Communication Technology** (ICT)	**Human Communication**	**Public Policy**	**Other research interests**
- Indoor/Outdoor Design - Graphic Design	- Accessible computing - Age appropriate games	- Hearing/low vision - Vision - Language	- Elder Abuse - Ageism	- Self image/self esteem - Care-giver support

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This qualitative intergenerational study, conducted in the spring and summer of 2005, was structured within the parameters of the High/Scope educational approach. High/Scope is guided by active learning which allows children the choice to develop their own learning priorities based on their interests and abilities. Within this model, 5 older adult clients from the Victorian Order of Nurses (VON) Seniors Day Program (Halton Branch) interacted with 5 pre-school children from the Sheridan Child Care Centre. Twelve sessions were conducted over a 6-week time period, and data was collected through both remote (web-casting) and participant observation. Although quantitative data that tracked physical interaction between children and older adults did not show a significant increase in intergenerational interaction, qualitative data indicated greater interaction with frequency of sessions. This study points to a need for further research into specific intergenerational activities and their impact on children, older adults with cognitive impairments and their families.

1. Purpose

An intergenerational program can be defined as any organized activity that supports and promotes the interaction of older adults with younger participants. The purpose of intergenerational programming varies among agencies with possible benefits including improved quality of life for both generations, fostering of positive intergenerational relationships and the opportunity to strengthen and expand program/service delivery. Despite these laudable objectives, a literature review (Appendix A) has demonstrated that, beyond anecdotal evidence, neither the actual benefits of intergenerational programs, nor the actual relationships that exist between the generations, have been clearly articulated in research literature. There is also a paucity of research concerning intergenerational programs that involve older adults with Alzheimer Disease and Related Dementias (ADRD).

In response to this apparent gap, the current intergenerational pilot study was launched in May 2005 as a collaborative initiative between the Sheridan Elder Research Centre (SERC), the Sheridan Child Care Centre and the Seniors Day Program operated by the Victorian Order of Nurses (VON), Halton Branch (located at SERC). The study objective was to identify the processes that contribute to supporting and facilitating positive relationships between pre-school age children and older adults with ADRD, through participant and non-participant (remote or “web casting”) observation of changes in the social distance between them. The goal of the study was to ascertain whether social distance decreased with repeated interaction and what behaviours/activities facilitated the change.

2. Methodology

2.1 Research Design

The study utilized an activity room in the VON Seniors Day Program, with the children being escorted to the day program each day from the Sheridan Day Care Centre (both facilities being located on the campus of the Sheridan Institute of Technology and Advanced Learning). Sessions were semi-structured, designed and facilitated by staff

from both facilities. The staff involved continuously monitored, assessed and made appropriate revisions to the program.

This qualitative study was firmly grounded in the High/Scope educational approach espoused by the Sheridan Child Care Centre. The High/Scope approach is an "active learning" method, which allows children to "construct their own knowledge through interactions with the world and the people around them."[1] Within this educational framework, children choose their learning objectives while "adults expand children's thinking with diverse materials and nurturing interactions."[2] Intergenerational programming involving adults with cognitive difficulties is therefore presented most clearly within the High/Scope educational approach, which defines it as a strategy that allows, "the elderly [to] *maintain* their abilities while supporting young children as they *gain* new skills."[3] The direction of the program's activities was thus partially determined by the participants themselves, data was extrapolated from a naturalistic setting and findings were based on observation.

2.2 Respondent Sampling

Five clients of the VON Seniors Day Program and five children from the Sheridan Child Care Centre were selected to participate in this study. A base level of impairment of the older adults was determined through an SMMSE (Standardized Mini Mental State Examination) administered by a VON staff member prior to the beginning of the study. The older adults had mild to moderate cognitive impairment with SMMSE scores ranging from 8 to 23 on a scale of 30. Participants were chosen through a verbal needs assessment conducted by the day program staff who provided a report on the individuals' psychosocial status and social needs. Verbal consent was obtained from both the participant and the family member, and a written consent form was sent home with each participant to be reviewed and signed by the participant and his/her primary caregiver.

Sheridan Child Care Centre staff members were asked to recommend several children who were expected to function well in the intergenerational environment. For example, they considered children whom they thought were outgoing, who did not present any particular behavioural challenges and who currently had a relationship with their grandparents. Consent forms outlining the study were sent to the parents of identified children. One child from a younger age group was chosen as her interaction level was high during a preliminary class visit to the Seniors Day Program.

2.3 Method

The pilot program consisted of twelve 1-¾ hour shared activity sessions conducted over a 6-week time span. To provide continuity and routine, the sessions were held twice a

[1] Epstein, A.S. (2003). All About High/Scope. High/Scope ReSource, A Magazine for Educators, Spring 2003, pp. 5-7.
[2] Ibid. pp. 5
[3] Boisvert, C. & Epstein, A.S. (2004). Across the Generations: Strategies for Intergenerational Programs. *High/Scope Extensions*, vol. 19 (2), pp. 1-3.

week at the same time. All shared activities took place at the VON Day Program. Each session included walking time for the children from and back to the Child Care Centre and a shared snack followed by opportunities to engage in a number of activities. Staff members from both the Seniors Day Program and the Child Care Centre supported each activity. Prior to the launch of the study, each staff member from the Child Care Centre completed an Ontario Seniors' Secretariat Aging Quiz to familiarize themselves with issues pertinent to the aging process.

An intergenerational program plan was created to structure the visits. The children arrived at 10:15 a.m. each day and shared a snack with the adults. Activity time was scheduled at 10:30 until 11:30 and involved a variety of activities including arts and crafts (pot painting, finger painting, beading), book reading, baking/cooking and physical exercise (music & rhythm activities). Interactions were structured to take advantage of the physical layout of the activity room, to allow for the preferences and comfort level of each participant (as per the High/Scope philosophy, this allowed the children to self-direct while providing a "comfort zone" for older participants). For example, there was a main activity (involving all participants), a table activity, a coffee table activity and a couch activity. The program plan was spontaneously modified as appropriate during each session. Seniors Day Program and Child Care Centre staff members alternated as facilitators for each activity. The room was tidied up at approximately 11:30 a.m. and 11:45 a.m. was scheduled as a departure time for the children.

The primary caregivers of the 5 older adults were provided with informal feedback forms to ascertain any impact on the participants not evident through participant observation e.g. behavioural changes such as decreased agitation or less evident sun-downing syndrome that may have been a result of the intergenerational activity.

2.4 Data Collection Measures
Child Care Centre staff members and two Sheridan Early Childhood Program faculty members involved in the program collected observational data. Data was collected through both in-person participation and webcast observation. The webcast system is a live streaming production that relays visual data (from a camera) through the SERC internal Internet system to monitors within the SERC research facility. On-site (participant) observation was conducted at each session, while non-participant (remote/"webcast") observation was conducted at random intervals throughout the study to establish reliability. Remote observation was conducted at 15-minute intervals with the whole group being observed at snack time. Each interval was dedicated to observing one of the 4 randomly chosen participants (2 pairs of older adult + child): Child 1 at 10:30 a.m. to 10:45 a.m.; Adult 1 at 10:45 a.m. to 11:00 a.m.; Child 2 at 11:00 to 11:15 a.m.; and Adult 2 at 11:15 a.m. to 11:30 a.m.

Each of the three observers completed an observation checklist divided into two sections: 1. General observation of the whole group during snack time and immediately before departure; and 2. Individual observation of each child and older adult during scheduled activities. Individual observation included a checklist for the four categories of social behaviours: verbal communication, proximation, affect and

engagement/disengagement. Additional notes were made on the form as appropriate to record important conversations or events.

Seniors Day Program and Child Care Centre staff members held informal conversations with both the older adults and the children within a week of the last shared session. One of the Child Care Centre staff members who actively participated in the sessions but was not involved in observation, kept a daily journal of activities and interactions. A follow-up meeting between the researcher, research assistant and the staff allowed the research assistant to note the responses of random participants (both children and older adults) as well as gauge the impressions of the participating staff members.

Additionally, the caregivers of older adults were asked to provide informal written feedback on the intergenerational programming experience.

2.5 Data Analysis Process

Observation checklists and anecdotal journals from all staff members were collected and the data was analyzed qualitatively. Each checklist was analyzed individually and the web casting checklists were compared to the participant observer checklists for each day of the study (May 18th to June 22nd, 2005). The checklists were also analyzed as a group for overall themes. Patterns of verbal communication (speaks to adult/child), affect (smiles, direct eye contact, laugh), proximation (moves closer), and engagement/disengagement (observes, engages, initiates) were considered simultaneously with anecdotal evidence provided by staff members involved. The focus of data analysis centered on the activities/processes that fostered interaction between older adults with dementia and children e.g. instances of positive affect such as smiling at the older adult, or interaction-promoting body language such as moving closer to the child (see Tables 1 to 4). Analysis also focused on possible benefits to the maintenance of personhood of the older adult during each shared session. The follow-up informal conversations with staff and participants were also analyzed for comments relating to the program.

Feedback forms from primary caregivers of older adults with dementia were analyzed for possible impact on the caregiver/participant relationship due to possible changes in behaviour resulting from the intergenerational program. All caregivers returned the forms.

3. Results

3.1 Data Analysis Findings

Analysis of anecdotal evidence from the initial visit indicates that children were reluctant to approach the older adults, becoming less reserved if a familiar adult was present during the interaction and if the interaction involved an activity such as looking at photos or singing. Overall, children did not approach the older adults as often as they approached other children and staff (both the Seniors Day Program and the Child Care Centre staff), although there was a slight increase in overall interaction with older adults over time. It is interesting to note that children were more likely to interact with the

Seniors Day Program staff than they were with the older adults although it was not possible to ascertain whether it was age, cognitive impairment or some other variable that contributed to this pattern.

Interactions between children and older adults were more likely to take place if the older adult was familiar with the activity and if the activity was conducive to interaction. For example, no adult/child interaction took place during the viewing of a movie (although the movie itself was brought in by an older adult as a special treat for the children) or Construx[4] activities, whereas significant interaction took place during baking/cooking and physical activities (such as horse shoe tossing and the parachute activity). This is exemplified in Table 1, Week 3 where Adult #1 demonstrated a significant increase in verbal communication while participating in baking (previous occupation of Adult #1 was as a baker) and interacting with the bird (Adult #1 enjoyed singing and whistling). Similarly, children picked partners according to their perceived degree of interest and ability of the partner during an activity. One child who was especially interested in arts and crafts would interact with an older adult during beading (adult acting as a mentor and teaching the child to bead), but with another child during finger-painting (a familiar activity previously shared with other children, wherein the child enjoyed a degree of skill already). During the last two weeks of the study (June 8th to June 22nd) anecdotal evidence from the Child Care Centre staff points to an increase in engagement behaviours (the initiative criterion in particular) on the part of the children, which may have been triggered by increased encouragement to get involved in planning activities during the snack interval. One of the older adults also brought in a bag of Elmo toys for the children (last week of sessions), which increased the children's' interest in that particular adult. However, this increased initiative was not reflected in the observation scores. A small increase in the degree of engagement on the part of older adults was only observed in the last two weeks (Table 2).

3.1.1. Older Adults with Dementia as Mentors

The activities that fostered the most positive interaction between the children and adults were baking/cooking and physical/music activities during which older adults often served as teachers/supports for the activity. There was a significant increase in interaction between the two groups during the "parachute" activity and all music and movement activities (see also Adult #1, Table 3, Week 4). For example, during the "parachute" activity one of the older adults sat on the floor under the parachute, clapping and singing with the children. In addition, two of the older adults actively participated in a game of hopscotch when physically supported and encouraged by children. Older adults initiated conversations with children more readily during the baking activity, and an older adult who normally was not as involved with the children was also more active during this period (see also Adult #2, Table 3 & 2, Week 6). This study demonstrated that many older people increased their social interactions during periods of physical activity, although a design of physical activities for intergenerational

[4] Construx are building parts that snap together allowing children to build items that can be played with.

programs must take into consideration any physical limitations the older adults may have.

A significant decrease in social interaction was observed during the screening of a film. All interaction between children and older adults stopped, although there was some eye contact and smiling among children during the movie. This activity also increased the *physical distance* between the two groups, with all the children on the floor and the adults in chairs and couches surrounding them. Finally, the option of playing with Construx, which are interlocking pieces used to build 3D structures, was entirely ignored by the older adults and did not have any significant impact on intergenerational interaction.

Overall, a group activity involving all of the participants followed by individual, small group activities fostered greater interaction than sessions that exclusively involved group activities. Despite the general decline in planning and choice-making abilities of people with cognitive difficulties stemming from ADRD, the current study demonstrated that the ability to choose and plan independently for the activities seemed to empower both the children and the older adults. Children also tended to repeatedly cue or refocus their older partners when the older adult's attention wandered away from the activity, and in all quoted cases, repeated requests to look at something on the part of the children were effective in bringing the adult back to the activity.

The final memory box activity actively engaged the attention of both older adults and children. During this activity, each person took an item out of the communal memory box and recalled an event that was linked with the item - e.g. a marker was related to the art activity. Child #1, who was not significantly interacting with older adults, exhibited a high number of instances of active verbal exchanges with an older adult during the memory box session (Table 1, Week 6).

Older adults tended to engage in activities that may have been significant and/or interesting to them in the past. The children were also more easily engaged with activities they especially enjoyed. For example, one of the older adult participants only observed until approached by a child with hockey cards; a child who had not previously engaged with older adults (see Child #1, Table 1 & 4, Week1). Similarly, anecdotal evidence showed that one of the older adults observed most of the time, but there was an extreme increase in all aspects of communicative behaviour (i.e. eye contact, smiling, speaking) when a bird named Chi Chi was placed inside the activity room. The bird was a source of increased interaction between children and older adults and children and staff members.

As an unintended benefit, the children's visits increased the interaction between older adults themselves, for example when one older adult would show another how to cut designs in paper with special scissors. One of the group observation checklists also listed an anecdotal situation where a previously passive older adult encouraged a day program staff member to include another older adult who was sitting alone. Anecdotal evidence from the last session shows an interest in the intergenerational program. The

most cognitively impaired older adult, who did not often actively participate, questioned a day program staff member about the children coming back. The adult expressed the hope that they would. Another older adult who was not always involved was planning to bring the children gifts from a future trip. The day program staff members helped the older adult group create a picture poster of the activities and sent it as a gift to the Child Care Centre, which was received very well by the children. In fact, several children who had not participated in the intergenerational program were very eager to be included in the future.

It is important to note, however, that the observational data of individual behaviours did not directly correspond to the anecdotal evidence from the participating staff who noticed a significant decrease in social distance between older adults and children over time. There was no significant increase in all of the positive interaction behaviors on the part of children or older adults in both the participant and web casting observational data (Tables 1-4). Interaction behaviours varied for all individual participants depending on day and activity, although engagement behaviours did show a shift from observation only, towards initiation and participation on the part of both generations. However, behavioural data did show specific patterns based on the *type* of activity in progress, such as increased engagement when the bird Chi Chi was present in the activity room. A larger sample of adults and children being observed and recorded would most likely give more specific results.

All caregivers of the older adults felt the intergenerational program had positive results on the emotional/behavioural state of the older participants (e.g. talking a lot about the children, positive demeanor after being picked up in the afternoon) and there was considerable interest in continuing the program. Only one caregiver of the most cognitively impaired member of the older adult group did not observe any kind of changes nor did the older adult ever mention the children.

Anectodal evidence collected from the parents of the children involved in the program stressed the positive attitudes of the children and enthusiasm for the program to continue. Several parents reported that their children related stories about the older adults and activities they enjoyed.

3.2 Limitations

Children were selected based on definite criteria and thus the sample was not random. The children's disposition was a confounding factor as some of the interactional data may have been affected by the natural interaction patterns of the children involved - e.g. some children were extremely shy while others quickly adapted to the new setting.

Only four individuals (two older adult and two children) were randomly selected to allow for limitations in the number of research assistants available to observe at any one time. Technical support was limited and its lack may have prevented the observers from accessing the web casting on several occasions and using it to its full capacity.

4. Implications for Policy and Research

The results of this pilot study provide a number of recommendations for further investigation. These include:

- The results of this pilot study provide a starting point for further research into the design of activities that invite interaction between persons with ADRD and others, without infantilizing the older adult. Overall, adults were more easily engaged with manual activities such as music and movement and simple crafts such as playdough. It is possible that the presence of children allowed the adults to participate in activities which were more in step with their actual functional level without the associated stigma of the activity being too childlike/simplistic.

- Future studies should include both information sessions about aging and about child care theories espoused by the Child Care Centre prepared specifically for the Seniors Day Program staff. A presumption of natural knowledge should not be made with respect to either age group.

- Conduct short interviews with the older adult participants prior to the study to ascertain which activities may engage their interest during the session. Such an interview would contribute to the data analysis process by providing a point of comparison for activity levels.

- Comments from the follow-up meeting with day program staff suggested that many of the older adults have never before demonstrated a level of physical activity as high as during the intergenerational sessions. This points to a need for further investigation into the role of intergenerational programming as a tool for increasing function through physical fitness. One important role of intergenerational research is to provide directions for practical solutions to intergenerational programming, with a special focus on older adults with ADRD.

- Observational data for all children and adults involved should be available to better account for the variations in personal characteristics. This research found that four subjects do not provide enough data to draw any statistically significant conclusions about older adult/child interactions. Participant observation should also be accompanied by the web-casting (non-participant) observation during every session, so that the results of the two can be compared on an ongoing basis.

- It would be positive to follow-up with the day program staff immediately following the study to compare the before and after engagement of older adults involved i.e. if a previously non-engaging person becomes active when the children were present. A Phase 2 of the project should include a webcast (if possible) or observation checklist for follow-up comments by staff to better gauge the reactions of both children and older adults *immediately* following each shared session.

- Finally, caregiver relief is an important aspect of dementia care, one that has a significant impact on the economy as well as on individual and societal welfare. This researcher thus recommends, based on the positive feedback of the caregivers of older adults in this study, that a more in-depth feedback form is given to these individuals during the next phase of this intergenerational pilot. Such an evaluation form should consider a rating system on a continuum that includes the older adult's behaviour following intergenerational interactions (e.g. less agitated, more positive), as well as the caregiver's reaction to the behaviour (e.g. relief, easier communication, fewer difficulties providing physical help).

4.1 ADRD Recreational Programming

The study results suggest that intergenerational programming may have a positive impact on both personhood and the perceived functional abilities of adults with ADRD. As previously mentioned, the presence of children may allow older adults to participate in activities which they may view as too simplistic, yet which are more in step with their actual functional capacity. As demonstrated in the study by Jarrott and Bruno (2003), this study also showed that mentoring activity by older adults to pre-school age children may contribute to maintaining personhood.

It is very important to note that, based on anecdotal evidence and follow-up meetings with staff, the children did not directly acknowledge any cognitive impairment affecting the older adults. This may be a very important aspect of intergenerational programming for older adults with ADRD, as the adults are not infantilized as may happen in interactions with other adults. When an older adult was not paying attention or lost focus, a child would patiently explain the activity or persistently insist that the adult pay attention, an approach that was successful in all of the cases in this study.

Further research into intergenerational programming may provide further evidence about specific activities and processes that help to maintain personhood and perhaps enhance the physical functioning of older adults. It is important to design activities that are significant to older adults as well as children. Caution must be taken not to infantilize older adults. This study demonstrates that adults with ADRD can be engaged on an adult level as mentors, adults who can educate and inform children.

4.2 Caregiver Relief

It is important to note that anecdotal evidence from follow-up meetings with staff and the caregiver feedback forms suggests that intergenerational programs may help to reduce caregiver stress. A general reduction in agitation and increased communication are two factors quoted as being especially helpful to caregivers. A study that examines this aspect of intergenerational programming would be of great value to research dedicated to caregiver relief programs.

5. Conclusions

This study mirrors the results obtained by Epstein & Boisvert (2004) in that the observation data shows a disappointingly low level of actual interaction between older adults and children, where the interaction is "neither consistent nor sustained"[5] by the end of the project. However, these findings also point out the importance of further research into the kinds of activities that may help to maintain the cognitive and functional abilities of people with ADRD, as anecdotal evidence from participants, staff, caregivers and the research team all show positive subjective outcomes and the willingness to continue the project. The importance of structured activities with built-in opportunities for choice making, as well as the appropriateness of activities to both older adults and children, are two of the demonstrated criteria for future research.

Drawing on the results of this pilot, a follow-up study could provide invaluable insight into several areas of research including intergenerational relationships and their impact on both early childhood education and recreational programming for those with ADRD. An important outcome of this study was to show clear evidence of certain activities being more conducive to intergenerational as well as *intra-generational* interaction than others. Anecdotal evidence is clear in establishing a link between intergenerational programming and the lessening of social distance between generations. Similarly, evidence from all staff members involved in the project suggests that the pilot left a lasting impression on both the older adults and the children. Both older adults and children involved in the project expressed interest in continuing the visits. All staff involved encouraged the continuation of the project as they felt it was a beneficial addition to the educational and recreational curricula.

This collaborative Sheridan Elder Research Centre (SERC), Sheridan Child Care Centre and the VON Seniors Day Program study has already made a significant contribution to alleviate the paucity of research relating to intergenerational programming for older adults with ADRD (see Appendix A1). Our goal is to continue with this study in order to provide practical solutions/suggestions that may contribute to the social development of children, while providing exemplary program design for older adults with dementia.

[5] Epstein & Boisvert, 2004, pp. iii.

6. Appendix A - Results Tables

Table 1. Verbal Communication

	Week 1			Week 2			Week 3			Week 4			Week 5			Week 6		
	SO	SC	SS	SO	SC	SS	SO	SC	SS	SO	SC	SS	SO	SC	SS	SO	SC	SS
Child #1	10	17	0	0*	7*	2*	2	0	8	3*	8*	1*	1	7	7	7	6	10
Child #2	7	9	14	16	30	21	2	32	19	2	6	4	1	26	6	0	5	22
Adult #1	7	11	9	0	32	1	7	6	5	4	10	1	0	22	1	4	4	9
Adult #2	2	17	13	1	11	24	17	7	30	6	10	31	0	11	18	3	3	23

Legend:

SO - spoke to older adult
SC - spoke to child
SS - spoke to staff,
* - one day total (absent other day)

Table 2. Engagement

	Week 1			Week 2			Week 3			Week 4			Week 5			Week 6		
	O	E	I	O	E	I	O	E	I	O	E	I	O	E	I	O	E	I
Child #1	1	2	3	1*	0*	1*	1	2	1	0*	1*	0*	1	2	1	0	1	0
Child #2	0	1	0	0	2	2	1	2	1	0	1	1	0	2	0	0	0	1
Adult #1	1	4	0	1	2	2	0	2	0	0	2	1	0	2	2	2	2	1
Adult #2	1	2	2	2	0	0	0	2	1	2	0	1	0	1	0	1	1	2

Legend:

O - observes activity
E - engages in activity
I - initiates activity
* - one day total (absent other day)

Table 3. Proximation

	Week 1			Week 2			Week 3			Week 4			Week 5			Week 6		
	MS	MA	MC	MS	MA	MC	MS	MA	MC	MS	MA	MC	MS	MA	MC	MS	MA	MC
Child #1	1	6	1	0*	0*	0*	2	2	0	0*	0*	0*	1	2	0	0	3	0
Child #2	0	0	0	1	0	0	0	1	1	0	0	0	0	0	0	1	6	1
Adult #1	0	1	2	1	0	5	0	0	2	0	0	6	0	2	11	1	0	2
Adult #2	0	1	1	0	0	0	0	1	0	0	0	0	3	1	0	1	0	3

Legend:

MS - moves closer to staff
MA - moves closer to older adult
MC - moves closer to child
* - one day total (absent other day)

Table 4. Positive Affect

	Week 1			Week 2			Week 3			Week 4			Week 5			Week 6		
	OA	S	C	OA	S	C	OA	S	C	OA	S	C	OA	S	C	OA	S	C
Child #1	11	1	1	2*	4*	3*	7	7	0	1*	2*	4*	1	2	3	3	2	1
Child #2	10	10	5	2	1	8	1	12	15	1	4	5	2	3	13	1	9	6
Adult #1	7	9	18	1	4	20	3	4	8	4	9	12	0	2	0	9	6	6
Adult #2	0	1	7	0	2	5	0	0	0	0	17	5	0	4	3	0	5	7

Legend:

OA - Positive affect (smiled/direct eye contact) towards older adult
S - Positive affect (smiled/direct eye contact) towards staff
C - Positive affect (smiled/direct eye contact) towards child
- * - one day total (absent other day)

7. Appendix B - Literature Review

Introduction

The extended family unit is an example of an environment in which older adults may better maintain their personhood as they move along the life continuum from a position as "contributing" members of the society (on an economic level), to "mere" support systems for their offspring. Anecdotal evidence suggests that the involvement of grandparents in their grandchildren's development creates an enriched learning environment or, at the very least, provides "extra adults" to support and guide the children. An increasing number of researchers, especially those working within specific educational perspectives such as the Montessori or High/Scope approach, have applied this "everyday knowledge" to the design of intergenerational programs within social service settings such as child day care centres. In fact, according to Epstein & Boisvert (2004), although exact statistics are lacking, the consensus between professionals is that the number of intergenerational programs is growing, despite the fact that research into this area of programming has been relatively scarce.

Intergenerational programs (IGP's) have also been applied to settings with older adults who exhibit some type of cognitive impairment (specifically, Alzheimer's Disease and Related Dementias - ADRD). Increased prevalence of those suffering from ADRD has put pressure on the social service system as the families of those caring for them seek support and knowledge. Intergenerational programming may thus provide another form of support as day programs and long-term care facilities integrate this approach into their recreational activities, despite the fact that any research studies showing clear benefits assigned to intergenerational programming for people with dementia have so far been sparse. One of the reasons for this, as seen in a study by Gigliotti et al. (2005), is that intergenerational programming for adults with dementia poses several serious challenges, due to the high inter- and intra-personal variability of their cognitive and functional abilities.

The following literature review provides a brief introduction to the research undertaken by educators from both the Montessori and the High/Scope schools. Next, it examines one of the well-documented research studies on intergenerational programming that is not based on a child-oriented educational approach. These specific research studies will be followed by an examination of studies that deal with the general "success" and appropriateness of IGP activities as relating to adults with dementia. The review will focus on the specific, documented benefits that IGP programs provide for both older adults and children.

Article Summaries

High/Scope vs. Montessori Educational Approach
One of the issues affecting intergenerational programming research is the variability of results, which in turn stems from the use of varied methodologies based on the specific educational/program design approaches. The following two studies demonstrate this conflict.

The goal of a report written by Epstein and Boisvert (2004) based on a research study sponsored by the High/Scope Educational Research Foundation (Ypsilanti, MI) was to "identify and document intergenerational activities that effectively promote healthy mental involvement and social interactions between young children and seniors in a joint day care setting."[6] The High/Scope educational approach is based on the idea of "active learning", wherein children are encouraged to make their own learning choices as per individual preference, with adults serving as guides and supports throughout the process. The intergenerational research program was based on 25 activity sessions, involving 176 participants, 68 seniors and 108 children, from 2 months to six years of age. The sessions were held at Generations Together in Dexter, MI, a day care facility that integrates programs for both seniors and children. The follow-up phase involved 25 activity sessions, with 204 participants, 93 older adults and 111 children aged 4 months to six years. Activity sessions were allowed to evolve over time, as staff improved and enhanced the joint activity sessions as appropriate, with significant changes resulting from the 36 hours of training provided to staff between February and May 2003. The project was evaluated using two research instruments to assess program implementation and the experiences of the participants. *The High/Scope Intergenerational Program Quality Assessment (I-G PQA)* was used to document the program's physical setting, activities, and interpersonal environment, while the *High/Scope Intergenerational Involvement and Interaction Inventory (I-G I-3)* measured level of engagement of seniors and children.

The project outcomes led the researchers to identify five key "ingredients" to effective intergenerational programs. The "space" criterion stipulated that joint activity space must be conducive to interaction by both age groups i.e. include materials which interest both generations. The "scheduling" criterion showed that a consistent daily schedule and smooth transitions between activities increased interactions and enhanced interest. The study identified "initiative" as the third criterion, which stipulates that sessions must be open-ended and allow both seniors and children to make own activity choices, including time to plan and reflect. "Interaction", or the opportunity to share a common space with another generation, increased interaction as shown by the 37% increase in the number of seniors participating in the intergenerational program. Finally, the "assessment" criterion showed that improved training and the sharing of information

[6] Epstein, A. & Boisvert, C. (2003). Let's Do Something Together: Identifying the Effective Components of Intergenerational Programs Final Project Report: Executive Summary. High/Scope Educational Research Foundation Report, Ypsilanti, MI.

with families significantly enhances the program outcomes as shown through the increased interaction patterns during the follow-up study.

An earlier study by Cameron Camp et al. (1997) used the Montessori educational approach, a highly structured method aiming to increase the cognitive function of children. Tasks were presented in an order from the simplest to the most complex, with a focus on repetition, immediate feedback and a high probability of success.[7] According to Camp, this type of structure was well-suited to working with persons with dementia, citing as evidence the ability of dementia patients to learn through procedural/implicit memory which closely mirrors the "unconscious learning" professed by the Montessori method. The goals of this study were thus two-fold: 1. to ascertain if older adults with dementia could serve as teachers of Montessori lessons to preschool-aged children and 2. if apathy, or disengagement, could be reduced by involvement in the intergenerational program. Twelve older adults diagnosed with dementia and a median SMMSE score of 18 were paired with 12 children ages 2.5 to 4 years from an on-site childcare center. Older adults were also administered the Direct Assessment of Functional Status (DAFS) to measure their functional capacity in ADL's and IADL's, as well as a Montessori-based assessment test to measure their cognitive, motor and sensory functioning. The adults were then paired with children who were not yet at their ability level for specific activities, to ensure that each adult could serve as a mentor. A total of 75 weekly sessions, 30-45 minutes in length were conducted on a regular schedule, on the same day and at the same time each week, with each session being facilitated by a Montessori-trained staff member. Measures of disengagement/apathy were taken through 5-minute behavioural observations in time periods before, during and after scheduled intergenerational activities, including the days on which the activities did not take place.

The number of successful lessons taught by older adults increased by the end of the program. A striking pattern was observed in disengagement measures during the days that intergenerational activities took place versus on those when they did not – whereas disengagement was found to be a common feature of participants' daily affect, no disengagement episodes were measured during the 53 instances of older adults teaching children, and the research team did not observe any episodes of aggression, anxiety or confusion during the intergenerational sessions. The authors conclude that both older adults and children reflected their satisfaction with the program, and that intergenerational activities based on structured, step-by-step Montessori methods were well suited to working with dementia patients.

Contact Theory Approach
Gigliotti, Morris, Smock, Jarrott, & Graham (2005) conducted a qualitative study of an intergenerational summer program grounded in the Contact Theory (Allport, 1954, Pettigrew, 1998 in Gigliotti et al., 2005), which defines five conditions necessary for positive interaction between disparate groups. Based on this theory, the IG activities were designed to incorporate the criteria of having *authority support* from key

[7] Camp et al, 1997, p. 689.

stakeholders (caregivers, staff, participants), *equal group status*, *cooperation* rather than competition, *goal-directed* contact (coming together for mutually beneficial outcomes), and the opportunity to build *friendships* over time. The goal of this qualitative study was to assess the feasibility, sustainability, and effectiveness of an IG summer program, involving older adults with care needs and preschool-aged children. This longitudinal, 2-year study took place in a facility that housed both an adult day service, and a child development lab school, although locations were rotated depending on activity. Most of the older participants had dementia, with a wide range of cognitive and functional abilities, and adult participation ranging from one to all 14 adults. Children aged from 2 to 10 years old, with typical sessions of 3 to 5 children, and each age group visiting on a specific day of the week. Visits took place 4 times per week, for a total of 10 weeks. To encourage participation adults and children were paired to complement each other's abilities, participation was voluntary, and the difficulty of activities was modified based on level of ability.

The program was evaluated on multiple levels, including independent interviews, surveys, and evaluation forms for the key stakeholders in the program (four administrators, four child care staff, 10 parents of the child participants). Results were divided into five themes: intended goals, actual benefits, costs or inputs, challenges, and future goals. The study found that the comfort level between the two groups increased over time, and the summer program achieved the intended goal of most stakeholders, namely the continuity of services. Identified benefits of the program included: attractiveness to clients and caregivers (provided a competitive edge for enrolling new clients), furthered research potential between the child care and elder care centers, staff noticed children becoming more accepting, tolerant, and less judgmental, and enhanced relationships between all stakeholders. Challenges identified included logistical concerns (such as scheduling), participant characteristics (severe cognitive impairment for example), and promotion of stakeholder buy-in (the need to train and support staff to enhance their understanding of the program). Gigliotti et al. (2005) concluded that evidence and theory-based practices enhance program sustainability and their application in the summer program produced gains for the participants, increased program interdependence, and stakeholder buy-in.
Gigliotti et al. (2005) additionally focused on the cost-effectiveness of IG programming with a view on practical issues that often guide administrative decisions about recreational programs.

Evaluations of IG Programs
Studies by Sonia Miner Salari (2002) and Deutchman et al. (2003) provide a framework for the evaluation of IG programs. Salari's qualitative 2002 study developed from a larger research initiative that aimed to identify the characteristics of adult day centers that facilitated client interaction and friendship formation. This study is a comparative ethnography of two adult day centers (B & C), whose clients were similar in number, cognitive abilities and health. Center B was observed for 60 hours, while center C was observed for 40 hours in a naturalistic setting, with an average of 2 hours per session. Observation consisted of detailed field notes describing the setting, map of environment, verbal and nonverbal communication, and the perceived well-being of the

participants. Additionally, 7 individual participant interviews were also conducted. A quantitative analysis of activities that had a distinct beginning and end allowed the researchers to qualify them as age-appropriate or infantilizing e.g. reprimands, client use of toys, baby talk towards adults etc. Researchers analyzed the programs based on age-appropriateness, opportunities for autonomy, privacy regulation, choice, and adult interaction as children were introduced into the setting.

Data analysis showed that infantilization of adult participants occurred in multigenerational program situations where adults and children were treated as "status equals", and where activities were only child-oriented. Older adults chose to withdraw if contact with children was age-inappropriate or not stimulating. The positive intergenerational experiences included the older adults in a mentoring role, in situations that allowed choice making on the part of the adults, and voluntary participation. For example, older adults were much happier with activities that assisted children rather than ones that were directed at them. Overall however, Salari (2002) found that intergenerational programs were rated as beneficial for both generations, although actual program design showed better results if it was focused on "productive roles [for older adults], choice in participation, and retention of adult status for older persons."[8]

Deutchman, Bruno & Jarrott (2003) provide a guide for the design and implementation of multigenerational activities for adults with dementia based on a program developed at a co-located day care center. The authors identify the specific steps required to ensure that the experience is enriching and effective. The original research by Bruno & Jarrott (2003) on which this article is based involved 48 adults with dementia enrolled in the ONEGeneration Daycare, a facility that offers day activities for both older adults with cognitive impairment and children ages 6 weeks to 5 years old. The three research questions guiding this study were: 1.) Is level of cognitive functioning associated with participation in and response to intergenerational programming? 2.) Is affect during intergenerational programs vs. non-intergenerational programs different?, and 3.) Does behaviour during the two types of programs differ? Adult participants were selected randomly from 94 adult clients who were grouped according to their level of their cognitive function (mild, moderate, severe) based on SMMSE scores, and their likelihood of participating in an intergenerational activity. Observational data was collected in a natural setting over a 5-day period, during a variety of activities such as snacks, scheduled recreational activities, meals, and caregiving. Older adults could choose whether they wanted to participate, and each activity involved a different age group of children. A treatment group of 21 adults included those who chose to participate, whereas a comparison group of 27 adults included those did not have an interest in the intergenerational activities.

Data was collected in three domains. Demographic data included age, ethnicity, living arrangements and gender. Cognitive function data included the SMMSE scores for each older adult. The activity/affect data was collected using the DCM (Dementia Care Mapping) tool, which involved charting a patient's behaviour and affect every five

[8] Salari, S., 2002, p. 332.

minutes over a 5 to 8 hour period in an institutional setting. Statistical analysis on the DCM data was used to provide information pertaining to the average level of affect and percentage of behaviours during intergenerational versus non-intergenerational activities. Correlations were performed to ascertain whether any demographic or cognitive variables affected participation in intergenerational programs. T-tests were conducted to determine any between-group differences on demographic variables or indicators of cognitive functioning. Multiple linear regressions were used to ascertain whether the affect and behaviour for participation in intergenerational and non-intergenerational programs differ. Finally, within-group t-test analyses were performed to identify differences in behaviour and affect during intergenerational and non-intergenerational activities among treatment group participants.

The results of this study showed that cognitive function did not affect participation in the intergenerational programs. Statistical analysis of the DCM data also demonstrated that affect of the treatment group was higher during both intergenerational and non-intergenerational activities, as opposed to the affect of the comparison group during the non-intergenerational activities; within-group analysis showed that affect was significantly higher within the treatment group during intergenerational programs. Finally, the research study found that passive, non-person centered behaviours such as withdrawal occurred more frequently within the comparison group as opposed to the treatment group during non-intergenerational activities. Based on these results Deutchman et al. (2003) identify some project guidelines when designing an intergenerational activity. These guidelines include setting an intergenerational goal for the activity, preplanning the activities, ensuring that the activities are interaction-driven, ensure frequency and finally, have a backup plan.

Conclusion

Salari (2002) notes that the most salient aspect of intergenerational programs is their variability, followed by their tendency to focus on children-oriented activities. The High/Scope[9] and Montessori studies, although based on educational theories that are distinctly different, are inherently oriented towards enhancing *child*-development. Any positive effects on older adults are treated as a secondary benefit. As an example, although Camp et al.'s (1997) use of Montessori methods took cognitive impairment into consideration, the Montessori facilitators' goal was ultimately to teach the children, with a mentoring role for the older adult as a by-product of the teaching process. On the other hand, Gigliotti et al. (2005), unlike the studies based in child-education theories, based their research on a theory applicable to *any* pairing of disparate groups. Graduate assistants studying human development who, it is implied, considered both ends of the age continuum designed the activities. Gigliotti et al. (2005) were the only ones who addressed the fact that activities based in child-care theories were not necessarily helpful to older adults. The majority of the studies in this review demonstrated that there is an assumption of child-education theories being easily

[9] For details on High/Scope theory please see the summary entitled "All About High/Scope" by Ann S. Epstein.

applied to adults with dementia, perhaps due to the fact that a diagnosis of dementia appears to colloquially imply a "child-like" level of cognitive function. Despite a professed focus on general human development, even Gigliotti et al. (2005) focused largely on the outcomes beneficial to children. The only noted benefit to older adults was that they "enjoyed themselves more".

There is also a lack of consistent methodology, possibly resulting from the varied educational approaches espoused in the above studies. This makes it very difficult to obtain consistent results, making replication unlikely since there are no common measures for assessing interaction levels or behaviours. There is also disagreement on whether structure is necessary and important (such as in Camp et al. 1997), or whether it is the process rather than the product, and a built-in choice-making function that makes such programs successful (Epstein & Boisvert, 2004). Research literature surveyed appears to favour the process over product theory, as shown by Griff, Lambert, Dellman-Jenkins, & Fruit (1996) who posit that product-focused approaches such as those espoused by Montessori methods are harmful to the well-being of older adults with dementia. The studies quoted are hence focused on evaluation of the programs, with none or little focus on the process of activity design itself and even less in terms of consistent research methods.

Recurring themes
Several recurrent themes were identified in the studies surveyed. First, successful intergenerational activities must be meaningful to both generations and somewhat structured (although this varies between the High/Scope and Montessori approaches). There is a consensus that, to prevent the infantilization of older participants, successful intergenerational activities must allow for choice on the part of both generations, providing well defined "outs" wherein participants can choose to withdraw (Salari, 2002; Bruno & Jarrott, 2003; Deutchman, Bruno & Jarrott, 2003).

Second, all studies showed that participants, staff and caregivers were pleased with outcomes, and felt that the program should be continued. Interestingly, however, only the research presented by Salari (2002) did not involve a co-located day program for both adults and children. As Bruno & Jarrott (2003) point out, it would be important to extend the intergenerational research into facilities which do not involve frequent contact between the two groups to eliminate some of the confounding factors, i.e. older adults with cognitive impairment already used to the presence of children. Additionally, although Gigliotti et al. (2005) also posit that the "stakeholders" were happy with the results, the study surveyed only the administrative staff and those adults who were involved with the children i.e. parents. The caregivers of the older adults or the staff caring for older adults were not surveyed as part of the satisfaction analysis.

Third, although there is a consensus that IGP programs are beneficial and appropriate for older adults with dementia (Gigliotti et al, 2005; Bruno & Jarrott, 2003; Deutchman, Bruno & Jarrott, 2003) the question of which activities benefit the most remains. There is also little mention of the processes that allow the participants to reap these benefits (e.g. what forms of communication are most effective). Only Bruno & Jarrott (2003)

identify interaction-driven activities as those which are most suitable to IG programs. Interaction-driven activities are those where eye contact, conversation and laughing are achieved, and which are not product but process driven (although having a product to take home is a good secondary benefit) (Bruno & Jarrott, 2003; Salari, 2002). In fact, both Epstein & Boisvert (2004) and Bruno and Jarrott (2003) identified many of the same "ingredients" that contribute to a successful intergenerational activity. Despite this, the above literature does not show a *consensus* between researchers on what constitutes a benefit on completion of the program.

As Bruno and Jarrott (2003) demonstrated, the degree of cognitive impairment does not preclude older adults from participating in intergenerational activities, and it may thus be beneficial to concentrate on design of personhood-supporting activities, rather than activities based solely on the degree of cognitive function. However, it is important to note studies such as that by Camp et al. (1997), which stress the importance of recognizing the cognitive impairment. Our challenge as professionals is thus to design activities which are multilateral. As both Salari (2002) and Bruno & Jarrott (2003) write, the focus should be on supporting personhood *as well* as cognitive function within an environment that also supports adulthood. The importance of addressing multiple levels of need is demonstrated by the fact that levels of apathy/disengagement were higher for adults participating in intergenerational programs that involved infantile activities (Salari, 2002), just as high levels of apathy were found in individuals who did not participate in intergenerational programs at all (Bruno & Jarrott, 2003). In general, however, Salari (2002), Camp et al. (1997), and Bruno & Jarrott (2003) all showed that overall levels of apathy consistently increased as a result of intergenerational involvement.

As demonstrated above, further research into the actual processes and activities involved in encouraging positive interaction in intergenerational environments would be of great value. It is important that programs be designed from a human development perspective, rather than a solely educational perspective. Both the High/Scope and the Montessori studies were very child-oriented, while the study by Gigliotti et al. (2005) although meant to be inclusive, surveyed only the people connected with children i.e. children's parents and staff from the day care center, not the caregivers of older adults. It would be important to know what types of interaction between older adults and children support both the *adult (*personhood and functional levels) and the child. Although Bruno and Jarrott (2003) as well as Deutchman, Bruno & Jarrott (2003) lay an excellent foundation for a model of intergenerational programming for older adults with dementia, additional research is required to address the delicate balance between the older adults' perception of their abilities and the actual measurements. In short, we as researchers have to focus on both the qualitative (personhood) and the quantitative (cognitive function) aspects of intergenerational programming.

8. Appendix C - Bibliography

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