
Intergenerational activities involving persons with dementia: An observational assessment

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Abstract

Although benefits of intergenerational programs (IGP) have been identified for older adults, adults with dementia are rarely targeted for such programs. Characteristics of dementia challenge caregivers to find appropriate activities that successfully engage the adults. With consideration of participants' abilities and interests, beneficial IGP can be facilitated. A co-located program for children and seniors was assessed for effects of IGP on adults with dementia. Results indicate that affect was higher during IGP for treatment group members than during non-IGP activities for treatment and comparison group members. Behaviors supporting personhood were common during IGP and non-IGP activities for treatment and comparison group members. Cognitive ability was unassociated with participation in IGP and affect during IGP. Findings suggest IGPs are appropriate and effective for persons with dementia.

Key words: intergenerational programs (IGP), dementia, Dementia Care Mapping

Introduction

Successful occupation in an engaging activity by adults with dementia is associated with positive physical and affective outcomes.¹⁻³ However, facilitating developmentally appropriate activities challenges care staff given the special needs of this group of adults.⁴ Intergenerational programs represent one option for involving adults with dementia in engaging, appropriate activities. Such programs are, however, few and far between, with

considerable variation in level of interaction and type of programming.

While intergenerational programs (IGP) have successfully been facilitated with older adults in settings ranging from childcare centers to college classrooms, few programs have considered the possibility of inviting adults with dementia to interact with young children.^{5,6} Early research by Seefeldt, which determined negative effects on children participating in an IGP with severely cognitively impaired adults, highlights the considerable challenge of facilitating IGP with cognitively impaired adults.⁷ While negative experiences may represent the reality of some programs described, they may also be the result of poor planning and execution of the visits. These same programs might look entirely different and demonstrate positive outcomes given improved planning, implementation, and evaluation techniques. Other programs have established successful IGP through collaboration, careful planning, and ongoing informal evaluation.^{8,9}

Limited research has identified benefits for the older adults. Newman and Ward assessed an intergenerational music program involving adult day service (ADS) participants with characteristics of dementia.¹⁰ Adult participants demonstrated an increase in some positive behaviors when children were present compared to when they were not. Work using modified Montessori activities revealed that adults with mild to moderate levels of cognitive impairment were able to act as mentors to preschool age children for the modified Montessori activities.^{1,11} Furthermore, researchers identified significant increases in the level of constructive engagement accompanied by a drop in passive engagement among the mentoring adults.

Evaluation of IGP with adults with dementia is challenging given the adults' cognitive impairments. Traditional assessment methods such as interviews or surveys are often inappropriate. Measures of agitation provide valuable data but do not address the affective experience of participating adults.¹² The observational scale used by

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Newman and Ward is limited in the scope and depth of its coding mechanisms.¹⁰ The targeted behaviors, including verbal interaction and tapping feet, imply a positive outcome, neglecting the possibility that these behaviors could be experienced as negative by the older adult or child. Furthermore, the brief coding periods yielded only 16 minutes of data per person, providing only a thumbnail sketch of the individual's experience.

The present paper contributes to the field of IGP research by using an innovative, time-intensive evaluation method to consider whether cognitive function is associated with participation in intergenerational programming, and to assess the effects of IGP on the affect and behavior of persons with dementia attending a co-located day program serving adults and children. The following research questions targeting interindividual and intraindividual differences are addressed:

1. Is level of cognitive functioning associated with participation in and response to intergenerational programming?
2. Is affect during IGP and non-IGP different?
3. Is behavior during IGP and non-IGP activities different?

Program background

The first author consulted with the ONEgeneration Daycare to perform an evaluation of its co-located day program. The observational assessment of adult participants described here constitutes one element of the program evaluation.

The ONEgeneration Daycare serves an ethnically diverse group of approximately 82 children and 60 adults five days per week. Children range in age from 6 weeks to 5 years, and adults range in age from 60 to 92. Children attend the program five days per week, and adults typically attend three days each week. Most of the adults possess some form of cognitive impairment, although others attend for physical care needs. Only adults with a diagnosis of dementia are included in the present analyses.

Each of the five classrooms has one IGP activity with the ADS participants, or "neighbors," each day, which takes place in either the children's or adults' rooms. Staff from both programs supervise and facilitate each activity. Activities are planned by child and adult care staff to emphasize collaboration, and participation in any of the IGP activities is optional for the children and the elders. The activities meet criteria for being developmentally appropriate for both groups.

Methods

Sample

The sample consisted of 48 adults experiencing dementia who were enrolled in the ONEgeneration Daycare. On average, adult participants had been enrolled in the program 23 months.

Procedures

Study participants were selected from 94 clients enrolled at the ONEgeneration Daycare in order to represent a wide range of abilities. Prior to the observations, the second author categorized participants into cognitive functioning groups [severely, moderately, or mildly impaired according to the cognitive Mini-Mental State Examination (MMSE) scale] and also by the level of likelihood they would join in intergenerational activities (would not participate; low, medium, and high likelihood). Participants were then selected randomly from each of these subgroups for observation to equally represent the varied levels of participant abilities and tendency to engage in IGP. The first author and a research assistant collected naturalistic observational data over a five-day period, with each certified "mapper" observing four to five different clients per day for six hours during attendance at the program. Observations spanned normal ADS activities, including meals, snacks, scheduled activities, and caregiving.

Participants had multiple opportunities daily to engage voluntarily in IGP. Each activity involved a different age group of children (infants from 6 weeks to 12 months, toddlers between 13 and 24 months, 2-3 year olds, 3-4 year olds, or 4-5 year olds), and adults could engage in any or all of the IGP activities. Those adults who self-selected to participate in IGP activities ($n = 21$) during the observation period constituted the treatment group, whereas those who did not engage in IGP activities ($n = 27$) comprised the comparison group.

Measures

Data were collected in three domains, including demographic data, cognitive function, and activity/affect. Measurement of these domains is described below.

Sociodemographic data. Data, including gender, ethnicity, age, and living arrangement, were collected on each observed adult participant.

Cognitive function. The MMSE was used to assess level of cognitive impairment for each participant.¹³ Scores range from 0 to 30, with lower scores indicating greater cognitive impairment.

Behavior and affect. Participant behavior and affect were assessed using Dementia Care Mapping (DCM).¹⁴ Mapping requires coding behavior and affect every five minutes over a five- to eight-hour period for cognitively impaired adults as they participate in an institutional care setting. A “mapper” observes up to five adults simultaneously.

Twenty-three predetermined behavior category codes describing behaviors typically observed at institutional care programs are used to assess participants’ behavior (e.g., personal care, exercise, games, and conversation). The goal of DCM is to identify and promote behaviors that support individual personhood, which represents an individual’s status as a social being and implies recognition and respect.¹⁵ Behavior category codes are broadly grouped into Type 1 and Type 2 behaviors. Type 1 behaviors (e.g., eating, crafts, or sensory stimulation) provide the greatest opportunity for supporting personhood, whereas Type 2 behaviors (e.g., repetitive behaviors or passive observation) do not have the same potential for sustaining personhood. Table 1 presents the behavior codes.

Affect is assessed with a six-point scale ranging from -5, which indicates “considerable ill being,” to +5, for “considerable well being” (the other four points are -3, -1, +1, and +3). Observers are trained to code affect from the vantage point of the older adult being observed.

An acceptable inter-rater reliability rate (α) of 0.87 between the two observers was obtained.

Statistical analysis

Before conducting data analyses, calculations were performed using the DCM data; average level of affect and percentage of each type of behavior (Type 1 or Type 2) displayed during the IGP and non-IGP observations were computed. The first step was to categorize observations as IGP or non-IGP. Engagement in IGP could be active or passive; if a participant observed an IGP but did not join in, the observation was still considered to be intergenerational. However, the observations for a participant who read a book in the presence of an IGP activity without observing or joining the activity was not considered intergenerational. If a treatment group participant engaged in more than one IGP activity during the observation period, calculations were based on all the observations involving IGP.

Then, for the second step, the same calculations were made for non-IGP observations for treatment and comparison group members. For non-IGP behaviors, the author based non-IGP calculations of average affect and percentage of Type 1 and Type 2 behaviors on all the non-IGP observations.

Correlations were calculated to determine whether any demographic variables or indicators of cognitive

functioning were associated with participation in the IGP activities or with affect and behavior displayed during the IGP and non-IGP observations. Those variables that significantly correlated with the dependent variables were included as covariates in the between-group comparisons. Additionally, t-tests were conducted to determine any between-group differences on demographic variables or indicators of cognitive functioning. Variables on which of the two groups differed were also included as covariates in the between-group analyses.

Multiple linear regressions were conducted to answer the two research questions regarding differences between group members in affect and activity (Type 1 and Type 2 behaviors) during IGP and non-IGP observations. Within-group t-test analyses were done to determine differences in behavior and affect during IGP and non-IGP observations among treatment group participants.

Results

Sample characteristics are presented in Table 2. Most participants were female (77 percent) with an average age of 79 years (Range = 60-94; SD = 8.7) and an average MMSE score of 16.5 (Range = 1-29; SD = 6.6).

T-tests were conducted to determine differences between the treatment and comparison group members. The groups differed only on the number of days per week participants attended the program ($t = -4.1$, $df = 46$, $p < 0.005$). Treatment group members attended the program more days per week than comparison group participants.

Correlational analyses revealed no significant relationships between gender or length of enrollment and the dependent variables. Client age was associated with affect scores of non-IG activities and with affect expressed by treatment group members during IG activities, with older participants tending to have lower average levels of affect during these activities ($r = -0.30$, $p < 0.05$).

Question 1. *Is level of cognitive functioning associated with participation in and response to intergenerational programming?* Correlational analysis revealed that cognitive function, as indicated by the MMSE, was not associated with participation in IGP. Those self-selecting to join IGP possessed MMSE scores ranging from high (29) to extremely low (1), with a mean of 16. Among treatment group members, MMSE was not associated with affect or level of Type 1 and Type 2 behaviors observed during IGP activities ($p > 0.1$).

Question 2. *Is affect during IGP and non-IGP different?* Average levels of affect are presented in Figure 1. Regression results are presented in Table 3. Affect among treatment participants during IGP activities was higher than affect exhibited by comparison group participants

Table 1. Dementia care mapping behavior codes grouped by type

Type 1 behavior codes	Type 2 behavior codes
Verbal or non-verbal communication	Passive social involvement
Creative expression	Withdrawn
Eating or drinking	Unattended distress
Engaging with media (e.g., TV, books, newspapers, magazines)	Communicating without receiving a response
Handicrafts	Repetitive self-stimulation
Intellectual	Talking to oneself or an imagined person
Exercise	Excessive sleep
Worklike activity	
Games	Neither Type 1 nor Type 2 behaviors
Self-care	Walking
Physical care provided by another	Sleeping
Religious activity	
Sexual expression	
Sensory stimulation	
Toileting	

Adapted from pages 23 and 29 of *Evaluating Dementia Care: The DCM Method* (7th Ed.).¹⁴

during non-IGP activities ($p < 0.005$). Affect was also higher among treatment group members than comparison group members during non-IGP activities ($p < .05$). Within-group analysis revealed that affect among treatment group members was significantly higher during IGP than non-IGP activities ($p < 0.005$).

Question 3. *Is behavior during IGP and non-IGP different?* Average percentages of Type 1 and Type 2 behaviors are presented in Table 4. Independent sample t-tests were used to compare behaviors between treatment and comparison group members because analyses of variance for the regression models were not significant. Levels of Type 1 behaviors were similar among treatment and comparison group members during IGP and non-IGP activities ($p > 0.05$). However, during the non-IGP observations, higher levels of Type 2 behaviors were observed among comparison group participants than among treatment group participants ($p < 0.05$).

Paired sample t-tests were conducted to determine behavioral differences in the treatment group for IG and non-IG activities. Levels of Type 1 behaviors were similar among treatment group members during IGP and

non-IGP activities ($p > 0.5$), but levels of Type 2 behaviors were lower during non-IGP than IGP ($p < 0.05$).

Discussion

The present study addresses whether behaviors and affect of persons with dementia engaged in IGP are different from the behaviors and affect demonstrated by cognitively impaired adults in ungenerational activities. Although limited research has considered the effects of IGP on adults with dementia, research methods have not focused on expressed affect or more than a few activity-specific behaviors. The current study used an innovative data collection technique to consider the influence the children's presence had on the ADS participants. Although an exploratory study, the current work represents an advance in intergenerational research that stimulates ideas for future IGP research involving cognitively impaired adults.

The study revealed that cognitive impairment is not prohibitive of participation in IGP activities, nor is it associated with affect or behavior during IGP activities.

Table 2. Sample characteristics

Characteristic	Treatment group (n = 21)	Comparison group (n = 27)
Percent female	85.7	70.4
Mean age (SD)	76.7 (8.2)	80.9 (8.7)
Mean MMSE (SD)	16.7 (7.0)	16.3 (6.4)
Race (%)		
Caucasian	85.7	76.9
African American	4.8	3.8
Hispanic	9.5	11.5
Middle Eastern	0.0	7.7
Mean tenure at program in months (SD)	20.3 (15.8)	25.0 (20.2)
Mean days/week attending* (SD)	3.9 (1.0)	2.7 (1.0)
*p < .05.		

Higher and lower functioning adults were equally likely to join in IGP and to experience positive affect and high levels of Type 1 behaviors during IGP and non-IGP activities. Furthermore, treatment group members experienced more positive affect during their interactions with the children than they did during non-IGP. Consequently, IGP may be recommended for other dementia care programs.

Levels of affect expressed by the treatment group participants during both IGP and non-IGP activities were more positive than the affect expressed by the comparison group members during non-IGP activities. While we may attribute the difference found in comparing treatment group members during IGP to comparison group members during non-IGP activities to the children's presence at the IGP, there may be alternate explanations given that the treatment group's affect was also more positive during non-IGP activities. First, the treatment group participants may possess personal characteristics (e.g., extroversion) that support more positive affect than do comparison group members. Alternately, participation in IGP may have a lasting positive effect on treatment group members' mood that carries over to the unigenerational activities with which they are involved. Such possible explanations should be explored in future research.

Turning to observed behaviors, Type 2 behaviors, those not typically associated with person-centered care,

constituted a greater percentage of the non-IGP observations among comparison group participants than among treatment group participants. The difference resulted from a greater frequency of observations characterized by participants passively watching activities, although analysis of this single behavior code revealed no significant between-group differences. The members of the treatment group may have been more physically or socially able to actively engage in the ADS activities. These constructs were not assessed in the present study but should be considered in future research. Levels of type 1 behaviors, those that typically support person-centered care, were similarly high among treatment and comparison group members during non-IGP and IGP activities. Although the children's presence did not increase the level of Type 1 behaviors among persons with dementia, neither did it negatively affect levels of Type 1 behaviors, further supporting the potential of IGP for cognitively impaired adults.

The association between the number of days per week attending the program and participation in the IGP activities supports the value of consistency and frequency of program attendance and IGP opportunities that may be especially salient among persons with dementia. Given the typical impairments in new learning and short-term memory, it is logical that adults with dementia are more likely to experience benefits from a program if they can participate in the activity frequently and regularly.

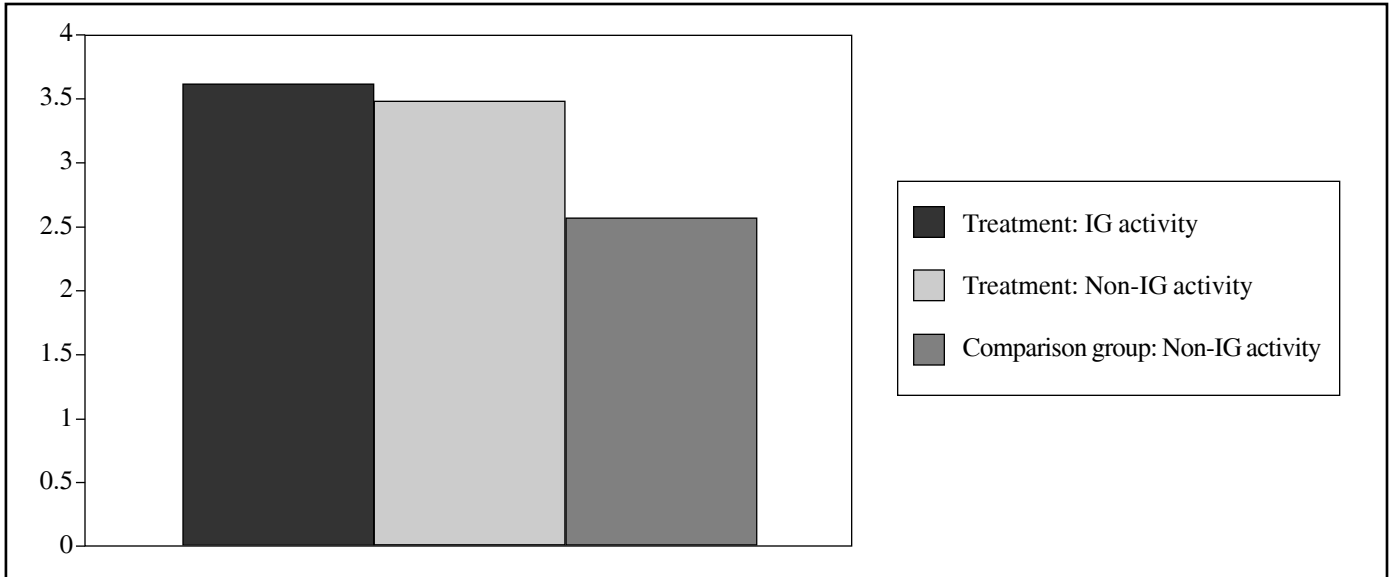


Figure 1. Average levels of affect.

Future research

Although the present study adds to the extant research of IGP with cognitively impaired adults, future research could improve upon the methodology used in the current project. First, researchers should use a quasi-experimental design in which the observed IGP activities are compared to observations of similar non-IGP activities (e.g., exercise with and without children) since the similarity in

content will help to control for potentially influential factors such as social history or prior experience with a particular activity. Alternatively, at an ADS without an existing intergenerational program, participants could be assigned randomly to an IGP treatment group while other participants attend a similar non-IGP activity.

The DCM method has important advantages over other intergenerational research instruments. It provides a comprehensive map of the care recipient’s day, and it

Table 3. Effects of group membership on participant affect

Dependent variable	B	SE	β
Affect (IG or non-IG) Adj. R-squared = .23			
Days/week attending	-0.21	0.18	-0.19
Participant age	-0.03	0.02	-0.26
Group membership	1.25	0.37	0.51*
Affect during non-IG activities Adj. R-squared = .13			
Days/week attending	0.08	0.18	0.07
Participant MMSE score	0.06	0.03	0.31
Group membership	0.68	0.42	0.27*

*p < .05.

Table 4. Mean levels of Type 1 and Type 2 behaviors

Behavior	Treatment group IGP observation (n = 21)	Treatment group non-IGP observation (n = 21)	Comparison group non-IGP observation (n = 27)
Type 1 (%)	75.14	88.29	83.19
(SD)	(26.17)	(23.67)	(20.75)
Type 2 (%)*	20.19	4.57	11.81
(SD)	(26.62)	(5.67)	(14.46)
Total (%)	95.33	92.86	95.00

*p < .05.

attempts to take the perspective of the person being observed. Perhaps most important, it recognizes that description of what happened is not sufficient to detail a person's experiences; rather, attention must also be paid to how the individual appears to have experienced the event. The DCM method should be included in future research to obtain increasingly refined evaluations of the experiences of adults with dementia.

Conclusion

Those seeking to unite young and old community members often overlook dementia care programs. The current study illustrates the value of IGP and suggests that dementia care programs represent a viable option for those seeking to facilitate IGP. Adults with a wide range of needs and abilities successfully engaged in IGP and experienced considerable levels of positive affect and behavioral engagement. The expressed affect of IGP participants was significantly higher when the children were present than when they were not, indicating a positive influence of the children's and adults' mutual involvement in activities.

Perhaps most important, the present study serves as a starting point for future research. Other investigators of IGP involving adults with dementia should structure their research for more control in the data collection process. Although adults with dementia challenge the creativity of activities staff, consideration should be given to the potential that may be tapped by linking children with this unique group of elders, many of whom still have a great deal to offer young people.

Acknowledgment

This research was supported by a grant from the Department of Human Development, Virginia Polytechnic Institute and State University.

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