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Intergenerational Connections and Multidimensional Well-Being in Older Adults in Retirement Communities

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Intergenerational Connections and Multidimensional Well-Being in Older Adults in Retirement Communities

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ABSTRACT

Intergenerational Connections and Multidimensional Well-Being in Older Adults in Retirement Communities

The purpose of this study was to investigate the relationship between intergenerational connections amongst older adults and younger generations and multiple dimensions of well-being. Cognitive (Mini Mental State Exam), physical [Community Healthy Activities Model Program for Seniors Survey (CHAMPS)], functional [Senior Fitness Test, Katz Index of Activities of Daily Living (ADL), Lawton Instrumental ADL (IADL) Scale], and affective [Geriatric Depression Scale (GDS)] components of well-being were assessed among the target audience of older adults living in independent living communities. A total of 21 subjects sought enrollment in the study. Three subjects were not eligible for the research. Four other subjects did not have a complete data set to analyze. Consequently, the data were underpowered. There were no significant, positive correlations found for social interactions and bicep curl task ($p = .206$), sit-stand task ($p = .073$) or GDS ($p = .183$). Findings did show, however, a significant, positive correlation when comparing Katz Index of ADL and the bicep curl task ($p = .045$, $r = .412$) as well as the sit-stand task ($p = .043$, $r = 0.415$). In addition, the results of the sit-stand task correlated in a positive manner with the amount of walking as reported on CHAMPS ($p = .024$, $r = .472$). Lastly, there was a significant, positive correlation between the number of participants who felt they were impacted by younger generations and the number who felt they impacted younger generations ($p < .001$, $r = .765$). Despite being underpowered statistically, the present results do show the positive relationship between physical activity and the perceived value of social interactions for this demographic. Authors encourage more research in this area.

Introduction

The older adult population is the fastest growing demographic in the United States [1-3]. Americans are living longer than ever before, thus creating the need for research and efforts to "add life to these years," making these years fuller and of better quality [4, 5]. Notable and reliable organizations and agencies such as the American Geriatrics Society, American Occupational Therapy Association, and National Institute on Aging support the belief that social interaction, including intergenerational relationships, are beneficial to the well-being of older adults.

There is empirical evidence to show the important relationships between social interaction and well-being in older adults [6-12]. For example, social interaction addresses key underlying factors related, but not limited to, depression, loneliness, mood, and outlook on life [6-12]. Social interactions often result in increased physical activity, as physical movements are necessary to prepare for travel or engage socially. In this manner, social interactions may indirectly reinforce activity engagement for older adults. Indeed, there is evidence of interconnectedness for social, physical, and mental health [13].

One unique perspective on the potential outcomes associated with intergenerational connection is exhibited at the Intergenerational Learning Center located in West Seattle, where an assisted living center and daycare are jointly aligned in a single facility. The exact effects on the children are difficult to ascertain, and perhaps they will evidence later in life. Nevertheless, the benefits on the older adults are demonstrated in research as decreased loneliness, moderated mental decline, and increased smiling [14].

Hypothesis

We suspected that upon investigating the relationships between older adults and their younger counterparts, we would find a positive correlation between social interactions and physical and mental markers of health.

Methodology

Study Approval and Eligibility

This study was approved by the Institutional Review Board at Abilene Christian University (IRB# 16-057). Subjects were recruited by posting fliers around the Abilene community, specifically in retirement communities. Participants were also recruited by word of mouth within these facilities. Specifically, the goal was to recruit older adults living in independent living communities. Upon expressing interest in participation, potential candidates were given information regarding the study, including what would occur, as well as potential risks and benefits. All questions were answered and additional explanation was given before participants willingly and voluntarily signed the informed consent. As an added precaution, the Mini Mental State Exam (MMSE) was completed concurrently with the informed consent. The MMSE is a valid and reliable assessment used to assess levels of cognitive functioning [15]. The exam consists of 11 tasks that test the client's orientation, registration, attention and calculation, recall, and language. The highest possible score is 30. A score of 25 or higher on the MMSE was used as an inclusion criteria in order to identify a group of older adults who had sufficient cognitive function to address the questions of the study and offer a fully informed consent. If they did not achieve the adequate score, they were then informed of their ineligibility.

Study Procedures

The research occurred in a single data collection session. The informed consent and MMSE were completed prior to the initiation of the research questionnaires and physical tasks. The primary data collection commenced with a series of surveys, interspersed with two, 30-second physical tasks.

Part I of the surveys was an intergenerational connections questionnaire [Appendix A]. The survey consisted of 10 questions and took about 10 to 15 minutes to complete. It was comprised of "yes" or "no" response questions regarding the participants' relationships with younger counterparts, as well as Likert scales to gauge meaningfulness of the existing relationships. The final question was open ended and asked the participant to describe their legacy in 10 words or less.

The first physical test, the bicep curl task, was explained and demonstrated prior to completion. Results for the bicep curl task were compared against the sex- and age-referenced norms from the Senior Fitness Test manual [16]. The test required the subject to sit in a chair with the back against a wall for stability. Females used a five-pound weight and males used an eight-pound weight. They were given 30 seconds to complete as many repetitions as possible, curling from their thigh to their abdomen, as demonstrated by the primary investigator (PI).

Part II of the surveys consisted of the Katz Index of Independence in Activities of Daily Living (ADL) [17] and the Lawton Instrumental Activities of Daily Living (IADL) Scale [18]. This section took about five to 10 minutes to complete. The Katz Index of ADL is made up of six questions that examine the participant's level of independence in completing activities of daily living (i.e. bathing, feeding). Items that can be completed independently are scored as one, while those that cannot be completed independently are

scored as zero. The highest possible score on the index is six. The Lawton IADL Scale consists of eight questions that focus on complex living skills such as shopping, finances, and transportation. Participants select the answer that most closely reflects their highest level of function. Both the Katz Index of ADL and Lawton IADL Scale are recognized and used in this demographic. Katz Index of ADL has been used to test the functionality of older adults for more than 35 years [17]. The Lawton IADL Scale has demonstrated acceptable concurrent validity when correlated with other well-known tests, such as the Physical Self-Maintenance Scale (PSMS) [18]. Higher scores on both tests indicate increased levels of functionality and independence in daily living.

The second physical test, the sit-stand task, was explained, demonstrated, and completed after Part II. Results for the sit-stand task were compared against the sex- and age-referenced norms from the Senior Fitness Test manual [16]. Using the same stabilized chair as the bicep curl task, subjects were asked to sit and stand as many times as they were able to in 30 seconds. They were asked to cross their arms across the chest and complete the task in a controlled manner, with an upright posture. Arm movement and excessive forward lean were minimized so that results reflected true leg strength.

Part III of the surveys consisted of the Geriatric Depression Scale (GDS), Community Healthy Activities Model Program for Seniors (CHAMPS) questionnaire, and demographics form. This portion took roughly 10 to 15 minutes to complete. The GDS consists of 15 "yes" or "no" questions [19]. Questions indicating signs of depression were noted. The noted questions that were answered with an affirmative were tallied at the end. Scores of 5 or higher may suggest depression. The CHAMPS questionnaire calculates engagement in physical activity and is comprised of 41 questions [20]. Each question inquires whether a subject engaged in a particular physical activity in the past four weeks,

and if so, the extent of that engagement (how many times per week and how many hours per week were spent doing the activity). The demographics survey administered was brief and inquired about age, sex, ethnicity, education and average income.

Data Analysis

Descriptive statistics including means (*M*), standard deviations (*SD*), and ranges, accompany selected data. Correlations were conducted to determine the associations between variables. Data analysis was completed using IBM SPSS Statistics 24 (SPSS, Chicago, Illinois).

Results

Descriptive Statistics

A total of 21 participants expressed interest in the study. Three did not meet inclusion criteria due to a score <25 on the MMSE. Of the 18 who completed the study, there were two males and 16 females. The sample was primarily Caucasian (n=17) with one Hispanic. Most participants were educated through high school (n=13). Three earned a BS degree. One participant had not finished high school and one moved beyond the BS degree. Table 1 presents select descriptive statistics of the 18 participants who were eligible for the full research.

Table 1. Descriptive statistics of the participants

	M±SD	Range
Age, yrs.	84.8 ± 8.9	57-98
Mini Mental State Exam, score	28.4 ± 1.5	26-30
Bicep Curl Task, #	14.3 ± 4.7	2-23
Sit-Stand Task, #	5.7 ± 4.0	0-13

M = Mean; SD = Standard deviation

Primary Outcomes for Questionnaires and Physical Function

Of the 18 subjects who completed the study, four did not have any connections with kids or grandkids. This result precluded researchers from obtaining a "meaningfulness of intergenerational connections" total score for these individuals. Thus, data from only 14 subjects were used to examine the correlation between social interactions and physical (bicep curl and sit-stand tasks) and mental (GDS) markers of health. With the loss of subject number, the data was underpowered. Employing directional analysis, there were no positive correlations found for social interactions and bicep curl task ($p = .206$), sit-stand task ($p = .073$) or GDS ($p = .183$).

According to the GDS, only one participant scored greater than five, a potential sign of depression. The average score for all participants was 2.22 ± 1.73.

There were significant, positive correlations between Katz Index of ADL and the bicep curl task (directional test: $p = .045$, $r = .412$) as well as the sit-stand task (directional test: $p = .043$, $r = 0.415$). The directional relationships between Lawton IADL Scale and the bicep curl ($p = .498$) and sit-stand tasks ($p = .384$) were not significant.

There was a significant, positive correlation between the results of the sit-stand task and the amount of walking as reported on CHAMPS (directional test: $p = .024$, $r = .472$). Finally, there was a significant, positive correlation between the amount of participants who felt impacted by younger generations and the number who felt they were able to impact younger generations (nondirectional test: $p < .001$, $r = .765$).

Secondary Outcomes

The intergenerational connections questionnaire gathered information about older adults' relationships with younger counterparts. The main outcomes of this instrument showed that all older adults identified as having some intergenerational relationships, and

they viewed these connections as being impactful. Table 2 presents selected data from the questionnaire.

Table 2. Findings from the Intergenerational Connections Questionnaire

	% of Respondents	# of Respondents
Have Intergenerational Relationships	100%	18/18
Desire More Relationships	66.67%	12/18
Impacted by Younger Generations	94.4%	17/18

The final, open-ended question from the intergenerational connections questionnaire asked participants to describe their legacy in 10 words or less. This was an opportunity for participants to provide a subjective answer and verbalize what they would like to be remembered for once they have passed away. There was great variation in the responses. Responses may have been offered based on what each participant valued. The most common response ($n = 9$) was to "love family and love others". A desire for spiritual involvement ($n = 7$), "loving the Lord", or "going to church" was commonly noted. Lastly, "having good morals, ethics and honesty" was also common ($n = 5$). Less frequent responses ($n < 3$) included: "leaving tracks behind" and "doing great things in life".

Discussion

This study was aimed at describing the connection between intergenerational relationships and overall wellness in older adults. Investigators approached this problem by administering several questionnaires and surveys that inspected various aspects of social interactions and overall well-being. Variables focused on responses for cognitive, physical, functional and affective components. When 7 subjects were removed from analysis (3 due to eligibility and 4 due to lacking intergenerational relationships) there was a lack of statistical

power to detect differences between social interactions and physical and mental markers of health. Thus, authors cannot comment further on that connection.

There were positive correlations between the bicep curl and sit-stand tasks and Katz Index of ADL. In addition, there was a correlation between the sit-stand task and the amount of time spent walking according to CHAMPS. This finding likely shows the value of physical exercise for this demographic. Those who did more physical movements perceived less complications and reported more positive abilities when answering the Katz Index of ADL questions. This indicates that there is great value in helping this demographic engage in more physical tasks.

There was a significant correlation for those who felt they were impacted by younger generations and reciprocally impacted younger generations. It seems there is a perception among older adults that they both receive value from social interactions with younger generations (n = 17) and give value to younger generations through social interactions (n=18). This is a very strong finding. This might explain why 12 out of 18 participants desired more intergenerational relationships in their lives. They want to impact and be impacted by younger counterparts.

Limitations

It is important to note that with sample size collected, there was a lack of ability to detect and test the hypothesis. Time constraints precluded the acquisition of additional data.

Conclusion

This study was aimed at identifying associations between social interactions and multiple variables associated with well-being. Unfortunately, there was a lack of statistical power to address the main hypothesis. Nevertheless, there is value in the data that was

found. As this topic is under-researched, the data collected is valuable to create awareness in the field—not only to the academic world, but also for the well-being of participants and their younger counterparts. Older adults need to be reminded of the value of physical exercise. Also, they need to be surrounded by positive social interactions. Indeed, our findings suggest that physical exercise is correlated with better functional ability and that older adults gain value and perceive to give value through social interactions. This study provides encouraging data for older adults. As this is an under researched area, there is certainly potential for discovery in this area.

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Appendix A
Intergenerational Connections Survey

Intergenerational Connections Survey

Thanks for your important feedback!

Please respond to the following questions to the best of your ability

Refer to the following definition of "Intergenerational Relationship" when answering: **A relationship in which you connect and/or interact with a counterpart of a younger generation.**

1. Considering family, friends, and acquaintances, do you have intergenerational relationships?	Yes / No (circle one)
2. Do you desire more intergenerational relationships?	Yes / No (circle one)

3. Who do you have IG relationships with?	Enter # of relationships below	How frequently do you interact with them?	How meaningful is this relationship to you?
Children		Daily / Weekly / Monthly / Annually	1 2 3 4 5 6 7 8 9 10 (1 being the lowest, 10 being the highest)
Grandchildren		Daily / Weekly / Monthly / Annually	1 2 3 4 5 6 7 8 9 10 (1 being the lowest, 10 being the highest)
Non-family		Daily / Weekly / Monthly / Annually	1 2 3 4 5 6 7 8 9 10 (1 being the lowest, 10 being the highest)
Other:		Daily / Weekly / Monthly / Annually	1 2 3 4 5 6 7 8 9 10 (1 being the lowest, 10 being the highest)

4. Are you impacted by your intergenerational relationships?		Yes / No (circle one)
	4b. IF YES… How much are you impacted?	1 2 3 4 5 6 7 8 9 10 (1 being the lowest, 10 being the highest)
	4c. IF YES… In what dimensions of well-being are you impacted?	Physical / Mental / Social / Spiritual / Emotional (circle all that apply)
5. Considering your intergenerational connections, do you feel you are able to impact younger generations?		Yes / No (circle one)
	5b. IF YES… How much do you impact them?	1 2 3 4 5 6 7 8 9 10 (1 being the lowest, 10 being the highest)
	5c. IF YES… In what dimensions of well-being are you able to impact younger counterparts?	Physical / Mental / Social / Spiritual / Emotional (circle all that apply)
6. In 10 words or less, what is your legacy?		