An Age-Friendly University Assists with Technology Learning and Social Engagement

among Older Adults and Individuals with Developmental Disabilities

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## Abstract

As an Age-Friendly University (AFU), University of Akron is striving to support lifelong learning. A collaborative research effort developed between aging researchers at the university and a government-sponsored pilot program aimed to provide learning opportunities for older adults (OA) and engagement for individuals with developmental disabilities (IDD). The present study assessed the success of a pilot program to increase comfort with technology and community engagement. OA and IDD participants met twice a month for 9 months to discuss how to use technology (e.g., an IPad). We assessed satisfaction, perceived changes in comfort with technology, perceived changes in connection with others, and motivations for participating with questionnaires and a structured interview. On average, participants reported very high satisfaction with the group, and moderate increases in comfort with technology and how connected they feel to others as a result of participating in the group. The most common motivations for participation were related to values, strengthening social ties, seeking to learn, and bringing joy to others. These findings suggest that the pilot was successful at improving community engagement. The involvement of the university in the assessment of this pilot program situates the university as an age-friendly partner for community efforts to support lifelong learning.

*Keywords:* generativity, social engagement, programming, applied research, volunteer

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In 2017, University of Akron was one of the first 10 universities in the United States to become an Age-Friendly University, but the university has been engaged with the older adult community for decades. As such, researchers at the university were a natural partner for assessing the effectiveness of a pilot program to increase social engagement and comfort with technology in a group of older adults, "Tech Connect." The Medina County Board of Developmental Disabilities and the Soprema Senior Center partnered to develop a pilot program during which individuals with developmental disabilities (IDD) and older adults (OA) met consistently for almost a year to discuss technology. Many aspects of this project exemplify the Age Friendly University (AFU) Principles. In particular, this project encouraged the participation of older adults in the core research activities of the university (AFU Principle 1), promoted intergenerational learning (AFU Principle 4) as well as broadened the the age-friendly approach to greater diversity and inclusion, highlighted the need for research responding to older adults' interests and needs (AFU Principle 6), engaged actively with the retired community (AFU Principle 9), and encouraged a regular dialogue with organizations representing the interests of the aging population (AFU Principle 10).

Tech Connect was designed to accomplish three goals for the group members. First, OA who need assistance with technology could get the one-on-one guidance that is necessary to learn such skills. Second, IDD were able to cultivate conversational skills. Such practice would also improve language skills that would allow them to intermingle in other areas of the community. Finally, interaction with the group can reduce isolation experienced by OA and IDD. Researchers at the university were asked to assist with determining the success of this pilot

program to increase community engagement for both groups of individuals. We identified three areas to assess success of the program: 1) older adults' perceived changes in comfort with technology as a result of participation in the Tech Connect Group, 2) both groups' perceived changes in engagement with the community, and 3) both groups' motivations to participate in the program. We assessed these areas via a structured interview with open and closed-format questions. We hope the data provide evidence for success of the program that might stimulate more mutually beneficial programs for these two groups of individuals. If so, it would be important to assess pre-and-post attitudes on our three areas of interest to determine whether change occurred in the participants as a result of participating in the group. For the pilot program, we were brought in after the program began, so we were only able to collect data after individuals participated in the program. The Tech Connect program provided a unique opportunity for researchers to translate ideas and results from the field into a research study. This collaboration could yield observations about the psychological benefits of the program that might have otherwise been overlooked, such as purpose in life and social engagement. Because the university has a reputation as being age-friendly, the organizations involved in the pilot program decided to invite researchers in the psychology department to assess the effectiveness of this pilot intervention. Faculty members, graduate students, and undergraduate students were directly involved in the design of the study, data collection, data cleaning, transcribing, and coding, data analysis, and dissemination.

**Origins of the Tech Connect Group: A Sample Case of Mutually Beneficial Programming**

In March of 2016, Disability Rights Ohio filed a lawsuit in U.S. federal court against Governor John Kasich and the State of Ohio, including the directors of the Department of Developmental Disabilities, the Department of Medicaid, and Opportunities for Ohioans with

Disabilities (Ball v. Kasich, 2016). On behalf of six Ohioans with disabilities and 27,800 similar Ohioans, the suit claimed that the state was engaging in "illegal segregation of institutionalized people with disabilities". They claim that current state funds were not enough to allow people with disabilities to engage with the community as the Americans with Disabilities Act of 1990 demands. As a result, the Medina County Board of Developmental Disabilities sought to create a program to help people living with disabilities engage with members of the community. The "Tech Connect Group" was created.

The Tech Connect Program was delivered by the Soprema Senior Center and the Medina County Board of Developmental Disabilities. Every other week for nine months, approximately 10 IDD and 10 OA met for an hour at a local senior center. OA were taught how to use technological devices, such as an iPad, from a person with a developmental disability who was familiar with the device. The Medina County Board of Developmental Disabilities reached out to the senior population as a partner for this program because many of the obstacles for community participation and interaction are the same as folks with disabilities: physical limitations, transportation, speed for task completion, fear of technology, loneliness, and change of roles within the family unit. In addition, the senior population might be motivated to volunteer to participate in the group for several reasons: to contribute to their feelings of purpose in life, as a way of being generative, or for their own social engagement.

**Purpose in Life**

Unfortunately, groups who are not in the workforce, such as older adults who have retired (65 years plus), are often stripped of feeling valued. For example, compared to young and middle aged adults, older adults reported the lowest levels of purpose and growth (Ryff & Singer, 2002; Mackenzie, Karaoylas, & Starzyk, 2017). Despite theorizing that generativity, or the desire to

pass on important contributions to others, should increase with age, older adults struggle to find their role in society. One reason for this struggle is that opportunities for engagement with the community are lacking (Riley, Kahn, Foner, & Mack, 1994; Emlet & Moceri, 2011). Many older adults find that volunteer work can help to fill this void. We argue that not all opportunities to volunteer or engage with the community are alike.

For example, the Tech Connect program is a new mutually beneficial program that brings together two groups of individuals who would like to engage with their communities more. This program and other opportunities like it are special in that the participants are uniquely useful for benefiting others, allowing older adults to contribute to society in a meaningful way.

**Generativity**

In addition to the basic human desire to feel needed and useful, older adults are thought to have increased motivations to contribute to the next generation. In Erik Erikson's psychosocial model of development, generativity versus stagnation is the main developmental goal of middle adulthood (40-65 years; Erikson, 1950). Later, Erikson contended that this extends into late adulthood. Specifically, he recommended that OA stay involved in meaningful ways and continue to be concerned with generative goals (Erikson & Erikson, 1997). McAdams and colleagues have described a theoretical framework for assessing generativity that includes three components: generative concern, action, and narrative (McAdams & de St. Aubin, 1992). Indeed, this study showed that self-reports of generative concern were greater in men who were fathers than men who were not, reinforcing the idea of giving to the next generation. Despite elegant theoretical work on generativity and aging, not much empirical work has examined whether generativity is linked with purpose in life or volunteering activity. It seems likely that generative concern would be associated with volunteering activity. Field situations such as the Tech

Connect program are ideal for studying the relationship between generative concern and social engagement because of its ecological validity.

**Social Engagement**

Social engagement is characterized by having social and emotional connections with other people and is important for well-being (Baltes, 1996; Levasseur, Tribble, Desrosiers, 2009). However, OA may be in jeopardy of losing these connections due to status changes after retirement (Riley & Riley, 2000), heightened possibility for disability (Rosso, Taylor, Tabb, & Michael, 2013), and the increased loss of social partners experienced as people age (Utz, Carr, Nesse, & Wortman, 2002). Where can OA find such connections to replace some that are lost? A national study reported that OA are most likely to seek out social engagement through familial relationships, religious affiliations, and volunteering (Cornwell, Laumann, & Schumm, 2008). Activity theory suggests social participation is a key component for OA to positively adjust to the demands and changes of old age (Lemon, Bengtson, & Peterson, 1972; Longino & Kart, 1982), and technology can facilitate these social interactions (Woll & Bratteteig, 2017). Engaging in meaningful social relationships can have positive effects on cognitive functioning (Derksen et al., 2015), health (Buchman et al., 2009), and overall well-being (Baltes, 1996; Rook, 2015), but concerns still remain for those who are socially isolated, or lack social engagement opportunities (McBride, 2006).

*Benefits of Social Engagement*

Quantity of social engagement is related to higher life satisfaction and fewer depressive symptoms for OA living in long-term care facilities (Park, 2009). Frequency of social engagement for community-dwelling OA was similarly related to depressive symptoms (Glass, De Leon, Bassuk, & Berkman, 2006) and to life satisfaction, especially so for those with

disabilities and chronic health conditions (Jang, Mortimer, Haley, & Borenstein-Graves, 2004).

Researchers have found decreases in social activity were associated with decreases in motor

function (Buchman et al., 2009) which in turn was related to a 40% increased risk of mortality

(Bennett, 2002; Buchman et al., 2009).

In addition to improvements in overall well-being, selectively engaging in activities can

produce cognitive benefits that enhance functioning and buffer against cognitive decline (Stine-

Morrow, 2007; James, Wilson, Barnes, & Bennett, 2011). Studies have found both quality and

quantity of socially engaging activities to be associated with lower risk for cognitive decline (i.e.,

a buffer effect) over a 4-year (Zunzunegui, Alvarado, Del Ser, & Otero, 2003), 5-year (Barnes,

Mendes de Leon, Wilson, Bienias, & Evans, 2004), and up to 12-year period (James et al., 2011).

A recent study by Park and colleagues (2014) found engagement in highly cognitively

demanding tasks for three months produced improvements in memory performance but they did

not find the same benefits for the OA who engaged in non-intellectual social activities.

Interestingly though, when OA were able to interact with a social partner during 24 trials of a

matching game, their performance gradually increased across trials to equal the working memory

performance of the young adult participants (Derksen et al., 2015).

Thus, OA benefit both cognitively and psychologically from social engagement. With the

benefits of social engagements clearly illustrated, what is the impact then for OA who are not

able to be socially engaged due to isolation, social network changes associated with retirement,

or feelings of inadequacy compared to their younger counterparts?

*Barriers to Social Engagement*

Many OA lack financial resources and/or have health-related difficulties that can make

engaging in social activities difficult (Gonzales, Matz-Costa, & Morrow-Howell, 2015; McBride,

2006) such that the frequency of social engagement decreases with increasing age (Golden, Conroy, & Lawlor, 2009). Rosso and colleagues (2013) discovered low mobility was associated with lower social engagement even for activities within the home (e.g., talking to friends and family on the telephone or connecting to social groups via the internet). OA may also avoid socially engaging activities because they fear social rejection or do not want to be exploited (Goll, Charlesworth, Scior, & Stott, 2015). A recent study examined the effects of environment on social participation and found proximity to activities and years lived in current dwelling were positively associated with engagement (Levasseur, et al., 2015). This could suggest familiarity with surroundings and the community could reduce the barriers of fear of rejection and exploitation.

Similarly, the theory of Structural Lag (Riley, Kahn, Foner, & Mack, 1994) suggests we live in a youth-focused society where the majority of social programming and resources are made available to young adults. Even with increases in the older adult population from the Baby Boomer generation, society (i.e., structure) has failed to develop and encourage socially engaging activities that are not age-segregated, leaving OA with fewer opportunities for social participation. Riley and Riley (2000) specifically point out that young adulthood is marked by education, middle adulthood by work, and older adulthood by leisure. The authors propose programming that encourages age integration such that education, work, and leisure activities are available and easily accessible for all age groups. Researchers suggest activities that mix age groups will encourage age-integrated programming and reduce age stereotypes that reinforce structural age segregation (Dannefer, Uhlenberg, Forner, & Abeles, 2005).

*Other Groups Lacking Engagement Opportunities*

OA, however, are not the only group seeking, or lacking, social engagement opportunities. Individuals with Autism (Yirmiya, Gamliel, Pilowsky, Feldman, Baron-Cohen, & Sigman, 2006), mental illnesses (Hinshaw & Stier, 2008), intellectual disabilities (Abbott & McConkey, 2006), racial minorities (Juvonen, 2007), and those with lower economic status (Lancee & Van de Werfhorst, 2012) may also experience barriers that limit opportunities to engage in social activities. Similar to the complaints of OA, people with intellectual disabilities suggest access and proximity to activities and fear of being rejected were major factors that impaired their ability and willingness to seek out and participate in socially engaging activities (Abbott & McConkey, 2006; Verdonschot, de Witte, Reichrath, Buntinx, & Curfs, 2009).

A major hypothesis related to racial prejudice, and thus social segregation, is the contact hypothesis (Allport, 1954) which suggests positive attitudes toward outgroups (e.g., racial minorities) increase as frequency of contact with the ingroup (e.g., Whites/Caucasians) increases. This hypothesis can then be applied to other segregated groups such as individuals with mental illnesses or developmental disabilities. However, some researchers have concerns about the effectiveness of the contact hypothesis and found interactions between groups with extreme inequalities (e.g., high and low income) actually reinforced negative stereotypes between the group members (Lancee & Van de Werfhorst, 2012). This suggests the importance of matching stigmatized groups in some way so they are on equal footing. The Tech Connect group employs this principle by bringing the two groups together to overcome a common challenge: fear of technology. In this way, the meetings are reciprocally beneficial for both groups.

**Present Study**

This study had four objectives: 1) to establish and foster a connection between researchers at the university and the community consistent with Age Friendly University

principles, 2) to assess perceived change in comfort with technology as a result of participation in the program, 3) to assess perceived changes in levels of connectedness as a result of participating in the program, and 4) to assess motivation to participate in the program. We expected to be successful in establishing a connection between the university and the community, especially in regards to AFU Principles 1, 4, 6, 9, and 10. We also expected that participants would experience increases in comfort with technology and levels of connectedness as a result of their participation in the program. Finally, we expected the two groups to report similar motivations for participation, including social and learning motivations.

## Methods

### Participants and Procedure

Twelve IDD ($M_{age}$ = 31.09 years, $SD$ = 6.64; 58% female) and 12 OA ($M_{age}$ = 73.25 years, $SD$ = 7.50; 91% female) participated in this study. The two groups met every other Thursday for about 9 months. The number of meetings attended by IDD ranged from 4 to 17 (Median = 11 meetings) and 2 to 20 meetings (Median = 8.5 meetings) for OA. Each technology class meeting was one hour. Class members introduced themselves and discussed how to use technology in informal conversations. At the end of the 9 months, participants completed questionnaires and a structured interview. The experimenter was present if individuals needed help understanding or completing the questionnaires; many of the IDD required assistance. This study was approved by the Institutional Review Board. Informed consent was obtained from participants and anyone with the power to make decisions for them.

### Measures

**Satisfaction.** Participant's satisfaction was assessed with the item, *What is your overall satisfaction with the group* (*1 = very dissatisfied, 7 = very satisfied*).

**Technology.** Participants completed the *Attitudes toward Computers Questionnaire –*
*Comfort Subscale* (Jay & Willis, 1992) to assess overall comfort with technology. The 5-item
subscale included items such as, *Computers make me nervous* (*1 strongly agree* to *5 strongly*
*disagree*). Reliability was good in our sample (Cronbach's $\alpha$ = .86). We also asked participants
to rate their perceived change in comfort with technology as a result of participating in the group
(*1 = very much decreased* to *5 = very much increased*).

**Connection with Others.** We assessed perceived change in connection with others with
one item, *How has being in the group changed how connected you feel to others?* (*1 = Not at all,*
*2 = Some, 3 = A great deal*).

**Structured Interview**. In the structured interview, participants were asked four
questions: 1) *What do you find the most rewarding about this experience?*, 2) *Has this*
*experience been different because of your role as a helper?*, 3) *How does it feel to be the person*
*providing help?*, and 4) *Is there anything else you'd like to tell me about your experience,*
*thoughts, or feelings about the Tech Connect Group?* Interviews were audio-recorded and later
transcribed. Two independent coders categorized participants' motivations to participate into 10
categories ($\kappa$ = .65). Disagreements were settled through discussion. The first five categories
were from the *Volunteer Functions Inventory* (Clary & Snyder, 1999) and the other five were
theoretically derived for this study: Values, Understanding, Enhancement, Social, Protective,
Generative Concern, Empowerment, and Enjoyment. See Table 1 for conceptual definitions,
examples, and frequencies by group for each category.

**Analysis**

Analyses were conducted in IBM SPSS (Version 25.0, Armonk, NY) and R (2013,
Vienna, Austria). Frequencies and descriptive statistics were computed to describe overall

satisfaction with the group and motivations to participate in the group. An independent-samples t-test was computed to compare average scores on the Comfort with Technology Subscale for IDD versus OA. An independent-samples Mann-Whitney U test was used to compare the ordinal responses of perceived increase in comfort with technology across the two groups. One-sample Wilcoxon tests were used to determine whether responses to perceived change in comfort with technology and perceived change in feelings of connectedness were significantly greater than the midpoint of each ordinal scale.

## Results

Data collection in the field was successful. Researchers from the university were able to collect survey and interview data on site following the Tech Connect group sessions. This collaboration established a connection between researchers at the university interested in adult development and aging and members of the community who support OA and IDD. By assessing this pilot intervention, researchers and community members came together to promote the common goal of improving social engagement among OA and IDD. The design of the Tech Connect group promoted intergenerational learning with IDD from a younger generation coming together with OA to share their expertise with technology (AFU Principle 4). The Tech Connect Group and our assessment of it allowed for direct engagement with members of the retired community, i.e., the older adult participants (AFU Principle 9). Finally, the collaboration between researchers at the University of Akron and community organizations (the Medina County Board of Developmental Disabilities and the Soprema Senior Center), required regular dialogue with organizations representing interests of the aging population (AFU Principle 10). For these reasons, we felt we met our first objective.

Participants reported that their overall satisfaction with the group was high, ($M = 6.74$,

$SD = .45$; scale 1-7). We compared the extent to which each group reported comfort with

technology, overall. On average, IDD reported greater comfort with technology than OA,

$t(16.83) = 2.90$, $p = .010$, $d = 1.18$. IDD also reported greater perceived increase in comfort with

technology than OA (IDD $Mdn = 5$, OA $Mdn = 4$; $U = 28.00$, $Z = -2.61$, $p = .009$, $r = -.54$; see

Figure 1). The medians of both groups, however, were significantly above the midpoint of 3

regarding the extent to which their comfort with technology changed as a result of participating

in the group ($1 = very\ much\ decreased;\ 5 = very\ much\ increased;$ IDD: $Z = 2.84$, $p = .002$, $r =$

.82; OA: $Z = 2.47$, $p = .0067$, $r = .71$). This supports our second hypothesis.

Both IDD and OA reported a considerable increase in how connected they feel to others

as a result of participating in the group, $Z = 2.47$, $p = .0067$, $r = .52$, one sample Wilcoxon test

difference greater than $2 = Some$ (see Figure 2). This supports our third hypothesis. Also

consistent with our expectations, the categories of motivation to participate that were mentioned

most frequently included values, social, understanding, and enjoyment.

**Discussion**

The results of this study suggest that the pilot was successful at improving social

engagement among OA and IDD. Individuals from both groups reported high satisfaction,

increased comfort with technology, and increased feelings of social connectedness from

participating in the program. This collaboration also exemplifies the Age Friendly University

Principles through engagement of the local and retired older adults via intergenerational learning

and research. We recruited older adults from the local community to partake in our research

program. The majority of the older adults were retired but were also engaged in other community

activities through local community centers. The older adults who participated in the 9-month

Tech Connect program were not only encouraging the individuals with developmental disabilities to interact with them, but they were simultaneously learning valuable technological skills (i.e., using a touchscreen tablet). Additionally, the older adults were able to benefit from the social interaction and demonstrated positive feelings and improved feelings of connectedness after the volunteering experience. Finally, this study stemmed from a demand for more community opportunities for individuals with developmental disabilities. The collaboration between the University of Akron and the aging community in the present study provided more volunteer opportunities for older adults to learn and actively participate in research. Tech Connect and the present study provided older adults and individuals with developmental disabilities the opportunity to be engaged with other members of society whom they would not typically interact with, to participate in research, all while providing mutual benefits to each other through technological learning.

Although the ideas of generativity and social engagement are not new, actually translating those ideas into opportunities and programs that increase older adults' purpose in life and well-being has been a challenge. For example, OA may view some volunteer work as non-essential, which does not make them feel needed. The Tech Connect program is the type of program that provides that opportunity to feel needed. We believe the idea to pair groups that have been excluded from society to help *each other* may be particularly successful, especially with OA.

**Mutually Beneficial Programming**

The nature of symbiotic relationships is, organically, mutually beneficial. In principle, a symbiotic relationship is not limited to the application of organic survival; rather, it may extend to a wide range of beings and ideas. Psychological and sociological research has demonstrated

the lay principle of "it's better to give than receive" can be especially applicable in situations of helping behaviors for feelings of positivity and health (Kahana, Bhatta, Lovegreen, Kahana, & Midlarksy, 2013; Momtaz, Ibrahim, Hamid, 2014; Weinstein & Ryan, 2010). Our results are consistent with this idea: both groups enhanced their feelings of social connectedness through this volunteer activity and reported that the experience was rewarding. There are studies which demonstrate that altruistic social programming improves sense of well-being and perceived social capital in older adult participants, especially those who desire generativity (Erikson, 1968; Midlarksy & Kahana, 1994). This effect can be further enhanced if the individuals providing the help are used to being the recipients of help because this encourages feelings of competence, control, and self-efficacy (Herzog, Franks, Markus, & Holmberg, 1998). This is likely the position of many of the OA and IDD who participated in this study.

Kahana and colleagues (2013) demonstrated that performing any prosocial outlets (e.g., volunteering, informal helping, and general altruism) had positive effects on life satisfaction and psychological well-being. Our culture is one which places additional merit upon those who perform essential tasks and whose self-identities align with these roles. The Tech Connect volunteer program capitalizes on this idea by having both groups serve essential functions.

**Age Friendly Principles**

In a way, there were many layers of mutual benefit, from the participants in the program to the organizations involved in delivery and assessment of the program. This project not only provided valuable assessment data to the organizations who developed and delivered the pilot program, but also provided a template for future collaborations between an age-friendly university and the community. This project provides tangible examples of how the age-friendly principles can bridge university and community members. First, older adults were involved in

the core activities of the university: contribution to research programs (AFU Principle 1).

Second, the pilot program itself was a model of intergenerational learning where older adults and

IDD of various ages came together to learn about technology (AFU Principle 4). Importantly, the

inclusion of diverse abilities in this project highlights how the age-friendly approach offers value

to diversity and inclusion efforts in higher education. We intentionally asked older adults and

IDD about their experience with the program using a structured interview, to allow the

participants to contribute to the current research as well as ideas for future research in this area at

the university (AFU Principle 6). The researchers at the university directly interacted with the

retired community surrounding the university in this local project when interviewing the older

adults about their experience with Tech Connect (AFU Principle 9). Finally, this project opened

up a dialogue with one of the local senior centers, as well as government agencies involved in

serving and representing older adults (AFU Principle 10).

**Limitations and Future Directions**

To truly measure the degree of change as a result of this intervention, we would need to

measure comfort with technology and feelings of social connectedness before and after the

intervention. Because we joined the project once it had already started, we were not able to collect

pre-intervention data to compare to the post-intervention data. Instead, we asked participants to

report on the degree to which their comfort with technology and social connectedness changed

after their participation in the group. Thus, these data reflect participants' perceptions of change

as they look back on the experience, which is not the best way to measure change (Schwarz, 2007).

Researchers have also found retrospective pretest designs and questions can be an effective

methodology when conventional pretests are not accessible (Chang & Little, 2018; Pratt,

McGuigan, & Katzev, 2000). Despite this limitation, this study were successful in establishing

connections between researchers at the university and older adults in the community. Further, the results of this study suggest that the intervention is promising: participants perceived an improvement in their comfort with technology and social connectedness as a result of participation in the Tech Connect group. Future work should confirm these results with a pre-post design. Now that a partnership has been established between the university and the organizations, future iterations may involve students in the delivery of the program, as well as the assessment of its effectiveness.

**Conclusions**

Based on perceived change reported by participants, the Tech Connect pilot program was successful at improving comfort with technology and increasing feelings of social connectedness. Moreover, the collaboration between researchers at the university and community members was also successful. Learning and teaching about technology may be a way to create common ground for different groups that suffer from isolation to mutually benefit from community engagement. It is exactly these types of situations, where unique characteristics of OA render them likely candidates to help others, which might be most successful in not only making OA useful, but indispensable. This paper addresses an important gap in programming currently available to OA. Many OA report feeling decreased purpose in life but current volunteer opportunities often fail to make OA feel necessary or useful. We propose that more programs adopt an approach where OA are important components of a social program, perhaps helping another group that is excluded from society. The assessment of the pilot program was a special opportunity that arose because of the university's status as an age-friendly university. Many aspects of the assessment exemplified age-friendly principles that can provide a template

for how other age-friendly universities might extend their age-friendly research efforts to the

community to address local issues of relevance.

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Table 1.
*Motivations to Participate*

| Category | Conceptual Definition | Example | Frequencies | |
|---|---|---|---|---|
| | | | IDD | OA |
| Values | The individual volunteers in order to express or act on important values like humanitarianism. | *"I like being a helper, I like helping."* | 5 | 5 |
| Understanding | The volunteer is seeking to learn more about the world or exercise skills that are often unused. | *"...we learned quite a bit about the things that they were able to do with their, um, computers…"* | 5 | 8 |
| Enhancement | One can grow and develop psychologically through volunteer activities. | *"It feels really good because, you know what I was saying, it's better to give than to receive."* | 2 | 0 |
| Social | Volunteering allows an individual to strengthen his or her relationships. | *"I like all the people over there. They've got smiley faces."* | 9 | 5 |
| Protective | The individual uses volunteering to reduce negative feelings, such as guilt, or to address personal problems. | *"...it actually gets me out of the house and it kinda, that de-stresses me from home care to something that I enjoy and I can relax more…"* | 0 | 1 |
| Generative Concern | The individual volunteers in order to nurture and guide the next generation. | *"It just, when you walk out there, when you see the smiles on their face, it's amazing."* | 0 | 2 |
| Empowerment | The individual volunteers in order to feel like a useful member of society or their community. | *"It, that was very satisfying for me, not ever having children, and this is even more satisfying."* | 0 | 1 |
| Enjoyment | Expressed excitement about others' enjoyment. | *"It's just really it's rewarding and it's um like I said just to see how excited they are…"* | 2 | 11 |

*Figure 1.* Percent Category Responses for Perceived Change in Comfort with Technology Item, by Group

*Figure 2.* Percent Category Responses for Perceived Change in Connection with Others Item, by Group