Corporation for NATIONAL & COMMUNITY SERVICE

Longitudinal Study of Foster Grandparent and Senior Companion Programs: Service Delivery Implications and Health Benefits to the Volunteers

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Executive Summary

As the federal agency for volunteering and service, the Corporation for National and Community Service (CNCS) is one of the nation's largest grant makers for service and volunteering, and plays a critical role in strengthening America's nonprofit sector by addressing social and economic challenges through service. Through AmeriCorps, Senior Corps, and other programs, CNCS engages millions of Americans of all ages and backgrounds in results-driven service at 50,000 locations across the country. Senior Corps, one of the agency's signature programs, provides national service opportunities for Americans aged 55 and over, leveraging their skills and experience while addressing some of the nation's most pressing challenges.

CNCS conducted a longitudinal evaluation of two of the Senior Corps programs, Foster Grandparent Program (FGP) and Senior Companion Program (SCP), to build the evidence base of these programs' effectiveness. The evaluation was designed to assess how to strengthen and expand national service programs to support overall adult health and well-being.

Senior Corps volunteers who serve in the Foster Grandparent Program serve as one-on-one tutors and mentors to young people. Their service goes beyond academic support. As role models in the community, Foster Grandparent volunteers help reinforce values, teach parenting skills to young parents, and care for premature infants and children with disabilities. Senior Companions help elderly, homebound seniors and other adults maintain independence and remain in the their own homes. Senior Companions help clients with daily living tasks such as grocery shopping, transportation to medical appointments, and alerting doctors and family members to potential problems.

The study, launched in 2014, collected data from more than 1,200 first-time Foster Grandparent and Senior Companion volunteers on their social, demographic, and economic backgrounds; their interest in and motivation for volunteering; their experience with the program's training and support; and health and well-being outcomes. The final report used data from three time points of data collection (baseline and two follow-ups) to achieve three objectives:

Objective 1: Describe the demographic profile, knowledge of national service, and motivation for volunteering among first-time FGP and SCP volunteers.

Objective 2: Assess retention, satisfaction, and engagement with FGP and SCP.

Objective 3: Examine how participation in national service contributed to changes in self-rated health and well-being.

The longitudinal study recruited first-time volunteers with FGP or SCP between July and November 2015. The participants were enrolled in the study after they completed the program's application and security clearance process. All individuals who had not previously volunteered with FGP or SCP were eligible to enroll. Participants completed a baseline survey prior to the

start of their service and two follow-up surveys during a two-year period. The analysis sample for the final report consists of the 841 volunteers who completed the three surveys.

The full sample was used to examine each of the three objectives, and the analysis compared outcomes for several subgroups. For each objective, the analysis specifically compared FGP and SCP volunteers. The second objective also compared differences between those who remained in service (stayers) and those who left their program (leavers) during the study period. The third objective examined change in health outcomes for FGP and SCP stayers and leavers. In addition, the analysis compared FGP/SCP volunteers to similar adult volunteers and non-volunteers in the general population.

Highlights of Results

Objective 1: Portrait of first-time volunteers

The first-time Foster Grandparents and Senior Companions were primarily female and racially and ethnically diverse. Most were retired but some remained active in the labor force by either looking for work or working. Most (91 percent) were female; more than half (51 percent) were 65 years old or younger; 40 percent were between 66 and 75 years old; and 9 percent were 76 years old or older. Most (80 percent) reported total annual household income of less than $20,000; 15 percent reported household income between $20,000 and $29,999; 5 percent reported income of $30,000 and higher. About one-third (34 percent) reported a disability such as a long-lasting condition like severe vision or hearing impairment or a condition that limits basic physical activities. The volunteers, though of retirement age, continued to be active in the labor force by either looking for work or working. Nine percent were currently working; 14 percent were unemployed and looking for work; 6 percent were homemakers; more than one-fourth (28 percent) reported their employment status as disabled; and 43 percent were fully retired (neither working nor looking for work). FGP and SCP volunteers were similar in characteristics, but notably different in some areas. A higher proportion of SCP volunteers reported their employment status as disabled compared to FGP volunteers (30 percent for SCP versus 27 percent for FGP), and a higher proportion of FGP volunteers reported they were working compared to SCP volunteers (10 percent for FGP versus 8 percent for SCP).

The recruitment strength of the programs is generated and sustained by the volunteers themselves. The primary mode of recruitment is through informal networks such as friends and word of mouth. The success of this informal recruitment network rests on ensuring that those in service have an overall positive experience, which can translate to positive feedback about FGP and SCP to friends and family. How individuals learned about Senior Corps national service was comparable for FGP and SCP volunteers with one notable difference. A significantly higher proportion of Foster Grandparents (70 percent) were “told by a friend” about their program compared to Senior Companions (59 percent).

The volunteers' expectations were not solely altruistic (e.g., a desire to impact their community, to help other people/children). The volunteers also sought to learn new skills, get more experience, keep busy, and gain a sense of accomplishment. For some of the volunteers, the stipend was also an important factor. Approximately 31 percent had an underlying financial reason for volunteering.

Objective 2: Retention, satisfaction, and engagement

FGP and SCP volunteers who persisted in service were among the most vulnerable in terms of risk factors associated with poorer health outcomes. The adults who remained in service (stayers) had the lowest income (reporting income under $20,000), had a disability that could limit employment, and had attained at most a high school diploma or had not graduated from high school.

Stayers were highly engaged with their program, contributing more than 900 hours of service during the year. Almost two-thirds (64 percent) reported five to six hours per day of service in the month. FGP volunteers reported an average of five hours of service compared to 4.7 hours for SCP volunteers.

Overall satisfaction and perception of the volunteer experience, such as feeling that their assignment was a match for their skills and that the assignment was interesting, were high. Although the volunteers who left their program (leavers) were less positive about their overall satisfaction and their experience with training and support, 94 percent of stayers and 74 percent of leavers reported being completely satisfied or very satisfied. Between volunteers in FGP and SCP, there were no significant differences in overall satisfaction, willingness to recommend the program, the overall volunteer experience, and the training and support received. Although not statistically significant, lower proportions of SCP leavers reported they would recommend the program to a friend, agreed that their supervisors provided them with the support and information they need to serve successfully, affirmed that the support from people in the program was helpful, and mentioned that the flexibility to manage their time was helpful. These perceptions of their satisfaction and experience would tend to weaken SCP volunteers' retention, which is lower than FGP retention.

One effective management practice for promoting retention is to rely on volunteers as recruiters. Those who left their program were sufficiently satisfied with their experience that they continued to demonstrate a strong willingness to be an ambassador for their program – 85 percent of those who left reported they were "extremely likely or very likely" to recommend FGP/SCP to a friend. This finding is consistent with the high overall satisfaction with volunteering in FGP and SCP among both stayers and leavers. The volunteers who left tended to do so because of personal health or having to help family or friends. However, about 6 percent to 14 percent of volunteers did leave because their expectations and motives for volunteering were not met. For example, 14 percent reported they were not getting the experience they wanted, not learning (6

percent), not helping other people/children (12 percent), and not making a difference (11 percent).

Flexibility to manage time and overall satisfaction emerged as the two main barriers that contributed to lower retention. A logistic regression model was estimated to predict the contribution of individual characteristics and organizational factors to the probability the volunteer would remain in service. Overall satisfaction with the program and feelings about the flexibility to manage their time had the greatest impact on the odds of staying in service. Volunteers who reported higher satisfaction and felt they had flexibility to manage their time were almost three times more likely to remain in service than those who were less satisfied or those who felt their ability to manage their time time was not flexible.

There is not one static reason that drives retention over time. The volunteers who ended their service in the first year were generally more dissatisfied with their experience than those who remained in service. The volunteers might have left because they realized their service activities and necessary commitment did not permit them enough flexibility. Beyond the first year, it is possible that retention could have been affected by declining personal health or having to help a family member.

Objective 3: Health and well-being

Health and well-being were measured through five outcomes: self-rated health, which is a subjective perception of one's general health; life satisfaction; social isolation and loneliness; symptoms of depression; and self-efficacy. Volunteers' perceptions of their health improved among stayers, but leavers perceived a decline in their health. A higher proportion of stayers reported improved self-rated health, a decrease in perception of social isolation/loneliness, and fewer symptoms of depression in their first two years of service.

The improvement in health and well-being was observed among volunteers with more risk factors associated with poor health outcomes. It would therefore be expected that these high-risk individuals would show declines in overall health, on average. Given these health benefits, service with FGP and SCP has the potential to help adults at high risk of poorer health outcomes to maintain their health longer.

FGP/SCP stayers also reported significant improvement in how they perceived their health as compared to reporting by other adult non-volunteers in the general population. The health and well-being outcomes of FGP/SCP stayers were compared to a matched sample of adult volunteers and non-volunteers with similar income levels in the general population who participated in the Health and Retirement Study (HRS). Self-rated health for FGP/SCP stayers did not significantly differ from that of HRS volunteers. Self-rated health was significantly higher for both FGP/SCP stayers and HRS volunteers compared to HRS non-volunteers at both baseline and second follow-up. At baseline, the percentage difference in average self-rated health between FGP/SCP stayers and HRS non-volunteers was 11 percent, which increased to 22

percent at second follow-up. The increase in average self-rated health was due to both an increase in the average self-rated health among FGP/SCP volunteers and a decrease among HRS non-volunteers. The size of the difference in perception of health, life satisfaction, social isolation/loneliness, and symptoms of depression between stayers and leavers – and between stayers and other volunteers and non-volunteers – falls within the moderate range.

Beyond documenting the health benefits associated with volunteering, it is also important to identify and understand the characteristics of the volunteering experience that contribute to these benefits. These characteristics can inform policy decisions to strengthen these programs. The analysis examined the effects of service activities, service hours, and motivation for volunteering on changes in self-rated health, life satisfaction, and social isolation/loneliness. Service activities were measured based on whether the volunteer served with FGP or SCP, because each program offers distinct volunteer service activities. FGP stayers were more likely than SCP stayers to report improvement in self-rated health. But SCP stayers reported higher average scores on life satisfaction and scored lower on the social isolation/loneliness scale than FGP stayers. In change-of-life satisfaction, however, FGP and SCP stayers did not differ significantly.

Number of hours served was not a significant contributor to health outcomes, though the association between the number of hours served and the volunteers' report about their health was positive. Upon joining FGP and SCP, there is an expectation of commitment to serve 15 to 40 hours per week. Individuals who persist in the program through the first two years have clearly demonstrated this commitment. In the context of FGP and SCP, once a volunteer commits to service, a change in hours does not have a large effect on health outcomes.

Motivation appeared to be important in understanding the health benefits associated with volunteering. The volunteers who were motivated by personal growth (e.g., to learn, get more experience) and had self-oriented goals (e.g., keeping busy, feeling better, having a sense of accomplishment), as well as financial incentive motives for volunteering, had higher odds of improvement in self-rated health. The odds that self-rated health improved were 68 percent higher for volunteers motivated by personal growth. The odds that self-rated health improved were 10 percent higher for volunteers who had self-oriented, personal growth, and financial incentive motives than for other volunteers. There was a positive association between life satisfaction and self-oriented and personal growth motives; at the same time, altruistic and financial motives were negatively associated with life satisfaction.

The findings from this evaluation provide insights for advancing agency and program priorities. Through Senior Corps, CNCS is providing opportunities to adults with low-incomes who would otherwise not have the opportunity to serve and improve their community. This program is a valuable addition to the national service portfolio because volunteers found their community service satisfying and meaningful, and they reported having opportunities for personal growth, a sense of accomplishment, and making friends. They also kept busy and earned extra money. There are health benefits associated with national service. Stayers reported improvement in

general health and greater life satisfaction; they felt less socially isolated, and had fewer symptoms of depression.

The programmatic structure of FGP and SCP incorporates several management practices found to promote recruitment and retention. One of these is relying on volunteers as recruiters for the organization. Senior Corps does this exceptionally well. The primary mode for recruitment is through informal networks where volunteers serve as the primary ambassadors for recruiting new volunteers. More than two-thirds of the first-time volunteers learned about FGP and SCP from a friend. The volunteers who left the program were satisfied with their experience and had a strong willingness to be an ambassador for the program – 85 percent of leavers reported they were "extremely likely or very likely" to recommend FGP/SCP to a friend.

Recommendations

While this study examined Senior Corps' effect on self-perception of physical health and well-being of its FGP and SCP volunteers, two additional areas for research can guide future policy directions and strengthen management practices. Specifically, research efforts could examine whether volunteering with national service leads to improved physical health through self-reporting and biometric screening. Research also could examine the characteristics of volunteering that improve mental and physical health. This research could strongly position Senior Corps to promote its national service program as a public health intervention leading to healthier lifestyles for low-income adults and those with little education, who generally have poorer health and lower participation in volunteering.

Physical health benefits of volunteers

- The research on mental health benefits is well-documented among Senior Corps and adult volunteers in general. There is limited research on the effects of volunteering on physical health. The current study did not examine the volunteers' physical health, only their self-rated health. A future study could address this limitation and examine how Senior Corps national service participation might promote better physical health measured through self-reporting *and* biometric screening. These physical health measures might include blood pressure, blood cholesterol, blood glucose, aerobic fitness test, weight, height, and body mass index. Longevity is another physical health measure that has been examined in the literature. An integrated mixed methods approach of both quantitative and qualitative data from volunteers could more deeply explore the complex and multiple ways that volunteering activities promote better physical health.

Characteristics of volunteering that lead to improved health and well-being

- Volunteering might lead to improvement in physical and mental health. An emerging focus of research is to understand which characteristics of volunteering lead to improved physical and mental health. The current study began to explore these characteristics of

volunteering in a limited way. A future mixed methods study should more explicitly measure and analyze characteristics of volunteering and how they affect physical and mental health. Characteristics of volunteering that could be examined in future research might include hours in service, types of service activities, volunteer training prior to service and continued support through the term of service, and motivation for volunteering.

- Future research could examine how length of service, as well as consistency and amount of service hours, affect organizational capacity and volunteers' physical and mental health. A unique characteristic of FGP and SCP is the commitment to a minimum number of service hours. FGP and SCP do not impose a minimum length of service for its volunteers, however it is reasonable to assume each sponsoring organization potentially seeks to maximize volunteers' length of service to reduce recruitment and training costs and minimize service gaps to the community. Future research could directly assess this policy to minimize organizational costs in building capacity with a stable volunteer corps and whether length of service and stability of service hours maximize health benefits for the volunteers. Besides costs to the sponsoring organization, the current study's findings suggest potential personal costs to the volunteers themselves in that a reduction in time commitment or ending volunteer service could reduce the health benefits associated with volunteering.
- Given the health benefits associated with volunteering, a follow-up mixed methods study could delve deeper into the complex factors contributing to leaving. For example, the results showed that volunteers who reported they did not have enough flexibility to manage time were three times more likely to leave national service. A future study might examine how policy and practice around service commitment might be adjusted to allow those volunteers to continue to meet the required hours of service with enough flexibility that will allow them to remain in service and thereby attain the health benefits associated with service.
- A future study could examine the effect of the stipend on recruitment, retention and health outcomes. Senior Corps makes provision to remove economic barriers to serve through a modest stipend of $2.65 per hour intended to defray the cost of volunteering. The study design did not set out to test the impact or effectiveness of the stipend. However, the questionnaire included two questions to begin to understand whether the stipend was a factor in the decision to volunteer. One question asked whether earning extra money was an important consideration in deciding to volunteer. Another question asked whether the stipend was helpful or not. The exploratory analysis of both questions suggests that the financial aspect of the decision to volunteer should be more closely examined in future research. Close to one-third of the first-time volunteers; and more than 80 percent of first-time volunteers reported the stipend was "extremely or very helpful."

Introduction

As the federal agency for volunteering and service, the Corporation for National and Community Service (CNCS) is one of the nation's largest grantmakers for service and volunteering and plays a critical role in strengthening America's nonprofit sector by addressing social and economic challenges through service. Through AmeriCorps, Senior Corps, and other programs, CNCS engages millions of Americans of all ages and backgrounds in results-driven service at 50,000 locations across the country. Senior Corps, one of the agency's signature programs, provides national service opportunities for Americans aged 55 and over, leveraging their skills and experience while addressing some of the nation's most pressing challenges.

Senior Corps provides opportunities for individuals ages 55 and over to serve their community. Senior Corps comprises three national service programs that are authorized under Title II of the Domestic Volunteer Service Act of 1973. In 2017, the three programs – Foster Grandparent Program (FGP), Senior Companion Program (SCP), and RSVP – matched approximately 220,000 individuals ages 55 and older with service opportunities addressing critical needs in their communities. FGP engages adults in providing supportive services to children and youth through local schools and community-based programs such as youth facilities, early childhood education, and day care centers. Foster Grandparent volunteers help children learn to read, provide one-on-one tutoring, mentor troubled teenagers and young mothers, and care for premature infants or children with disabilities. SCP engages adults in providing supportive, individualized services to help other adults with special needs maintain their dignity and independence. SCP provides direct services to homebound clients to support independent living as well as services to caregivers of family or friends who are having difficulty with daily living. Some of the services SCP volunteers provide include transporting clients to medical appointments, helping shop for food and necessities, providing companionship to offset isolation, and offering respite to family members and caregivers. RSVP engages individuals 55 and older in volunteer service in a variety of activities to meet critical community needs such as disaster response and recovery, tax preparation services, and meal delivery services. FGP and SCP are means tested programs and volunteers are have incomes below 200% of the poverty level.

CNCS carries out the Senior Corps programs (FGP, SCP, and RSVP) by making grants to non-federal entities. Senior Corps encompasses approximately 1,100 sponsoring organizations, known as "projects," all of which are locally administered. The sponsoring organizations receiving grants include national and local nonprofits, schools, government agencies, faith-based and community organizations, and other groups committed to strengthening their communities through volunteering. Within the broad framework of Senior Corps legislation, service activities grow out of agreements among the participants, projects, and the community as represented by community advisory groups and volunteer-hosting organizations known as "stations." As a result, Senior Corps activities reflect a mix of needs unique to each community. In 2017, Senior

Corps volunteers provided independent living services to more than 364,000 individuals and provided educational support, such as mentoring and tutoring, to more than 217,000 children.

The Domestic Volunteer Service Act of 1973, as amended (Public Law 93–113), directs CNCS to assess the impact and effectiveness of Senior Corps programs at least once every three years [Sec. 416(a)]. The reauthorization of CNCS through the 2009 Edward M. Kennedy Serve America Act provided for an expansion of CNCS-supported programs and enhanced CNCS's role in strengthening America's nonprofit sector and addressing the nation's challenges through evidence-based practices. In addition, the agency has outlined a commitment to building an evidence base to inform decision-making and the allocation of resources in subsequent strategic planning documents. The evidence base is built on several research activities, including the implementation of uniform, outcome-based performance measures; rigorous, national evaluations of national service program models; grantee program evaluations; and policy and management studies.

Overview of the Current Evaluation

Within the Serve America Act framework, Senior Corps developed a research agenda with integrated short- and long-range objectives incorporating four goals from the 2011–2015 CNCS Strategic Plan – **Goal 1:** Increase the impact of national service on community needs in communities served by CNCS-supported programs; **Goal 2:** Strengthen national service so participants engaged in CNCS-supported programs consistently find satisfaction, meaning, and opportunity; **Goal 3**: Maximize the value added to grantees, partners, and participants; and **Goal 4**: Fortify management operations and sustain a capable, responsive, and accountable organization. In 2014, CNCS launched a longitudinal evaluation of Senior Corps' FGP and SCP programs, which consisted of a study of FGP and SCP volunteers and a study on caregivers receiving respite services. Both studies were intended to assess progress in advancing goals 1, 2, and 4 of the 2011–2015 Strategic Plan. The results of the Caregiver Study are discussed in separate reports, *Senior Corps Longitudinal Evaluation: A Profile of Senior Companion Caregiver Respite Clients*[1] and *Does the Senior Companion Respite Service Matter for the Health and Well-being of Caregivers?*[2] The current report provides the results for the study of FGP and SCP volunteers.

This is the second national evaluation of FGP and SCP volunteers. The first evaluation, completed in 2013, was a cross-sectional study of all FGP and SCP volunteers in service at the time the data were collected. The cross-sectional study examined volunteers' health, self-

[1] Georges, A., Uppal, H., Fung, W., Pratt, D., Birmingham, C., Sum, C., ... Gabbard, S. (2016). *Senior Corps Longitudinal Evaluation: A Profile of Senior Companion Caregiver Respite Clients* North Bethesda, MD: JBS International Inc.

[2] Georges, A., Fung, W., Liang, J., Smith, J., Pratt, D., Sum, C., ... Gabbard, S. (2017). *Does the Senior Companion respite service matter for the health and well-being of caregivers?* North Bethesda, MD: JBS International Inc.

efficacy, perceived social ties, and social support; it also compared health outcomes to those of similar adult volunteers and non-volunteers in the general population.[3] The cross-sectional study did not measure retention, motivation, or satisfaction and experience with national service. Due to its cross-sectional nature, the first study also did not measure whether or how participation with FGP or SCP may be associated with changes in the volunteers' health and well-being. Although the cross-sectional study found the average length of volunteering as a Foster Grandparent or Senior Companion was six years, it was not possible to examine whether the volunteers who left national service early might differ in satisfaction and experience with the program or whether the individuals who left early differed in health and well-being outcomes. The current study collected the data to address these limitations.

The longitudinal study builds on findings from the previous cross-sectional study as well as evidence from the research literature on the health benefits of volunteering. The study focuses on increasing the levels of evidence for FGP and SCP and on progress made in meeting goals 1, 2 and 4 of the 2011–2015 CNCS Strategic Plan. The study provides information on how CNCS accomplished its commitment to strengthen national service participation as indicated by volunteer satisfaction and retention, self-rated health, and overall well-being (e.g., psychological distress and loneliness). The study collected data that directly examined program effectiveness such as satisfaction, experience with training and support, and change in health, including change in health among volunteers who remained in service as well as among those who began but subsequently ended their service.

Previous Reports

Two previous reports from the longitudinal study are available. The first report, *Senior Corps Longitudinal Evaluation: A Profile of New Foster Grandparent and Senior Companion Volunteers*,[4] provided a descriptive portrait of the first-time FGP and SCP volunteers who began national service between July and November 2015. The results in the first report showed a high proportion of adults who began national service were low-income earners, unmarried, racially diverse females with some college or associate's degree, but many did not attain a bachelor's degree. This is a group of adults who have fewer volunteer opportunities compared to adults in higher income groups and those with higher levels of education (McNamara & Gonzalez, 2011).[5]

[3] Tan, E., Georges, A., Gabbard, S., Pratt, D., ,Nerino, A, Roberts, A., Wrightsman, S.... Hyde, M. (2016). The 2013–2014 Senior Corps Study: Foster Grandparents and Senior Companions. *Public Policy & Aging Report, 26*(3), 88–95. doi: 10.1093/ppar/prw016

[4] Georges, A., Uppal, H., Fung, W., Pratt, D., Birmingham, C., Sum, C., Smith, J. & Gabbard, S. (2016). *Senior Corps Longitudinal Evaluation: A Profile of New Foster Grandparent and Senior Companion Volunteers.* North Bethesda, MD: JBS International Inc.

[5] McNamara, T. K., & Gonzales, E. (2011, July). Volunteer transitions among older adults: The role of human, social, and cultural capital in later life. *The Journals of Gerontology. Series B: Psychological Sciences and Social Sciences*, *66*(4), 490–501. doi:10.1093/geronb/gbr055

Consistent with the literature,[6] most Foster Grandparent and Senior Companion volunteers were motivated to volunteer for altruistic reasons. There was often more than one motivating factor influencing the decision to volunteer. Volunteers who were highly motivated by altruistic reasons in their decision frequently reported also being motivated for personal growth (e.g., learning something new), and some reported self-oriented motives (e.g., having a sense of accomplishment, keeping busy/filling time). The FGP and SCP programs both offer income-eligible volunteers a tax-free hourly stipend to help cover volunteering costs. To be considered income eligible, the volunteers' total income must be at or below 200 percent of the federal poverty level. The volunteers also receive supplemental accident, and liability insurance while in service. The stipend was a motivating factor; 12 percent of first-time volunteers reported their primary motivation was to "earn extra money." A higher proportion of volunteers between ages 55 and 65, and African Americans, reported altruistic motivations as reason for volunteering than other volunteers surveyed. A higher proportion of Hispanic volunteers and those with less than a high school education reported both self-oriented and personal growth motivations. First-time volunteers learned about national service opportunities from friends, word of mouth, or through church. First-time volunteers also learned about volunteering opportunities from printed brochures or posters and community outreach talks.

The second report, *Health Effects of Volunteering as a Foster Grandparent or Senior Companion*,[7] examined retention in service among the first-time volunteers who were surveyed in the first report, their experience as volunteers, and change in their health and well-being one year after beginning their service. This second report summarized the proportion of the volunteers who remained in service and the differences between those who stayed in service and those who left in sociodemographic characteristics, satisfaction, and experience with the training and support received. Results from regression models were used to examine differences in health and well-being between volunteers who stayed in service and those who left.

The results discussed in the second report showed fewer than one-fourth (22 percent) of first-time volunteers ended their service within six months, reporting either personal health problems or health problems of a family member/friend, lack of time to fulfill their volunteer service obligations, and/or insufficient financial incentives as reasons for ending their service. Retention rates were higher among FGP than SCP. Neither the volunteers' initial rating of health and well-being at the start of their service, nor their motivation for volunteering were significant contributors to the odds of remaining in service. Overall satisfaction was generally high among first-time volunteers, but the volunteers who left within their first year were somewhat less satisfied with the overall experience of national service than those who remained.

[6] Chen, H. & Morrow-Howell, N. (2015). Antecedents and outcomes of older adults' motivations to volunteer with Experience Corps. *Research in Human Development, 12* (1-2), 118–132. doi: 10.1080/15427609.2015.1010352
[7] Georges, A., Fung, W., Smith, J., Liang, J., Pratt, D., Sum, C., Birmingham, C., & Gabbard, S. (2017). *Health Effects of Volunteering as a Foster Grandparent or Senior Companion.* North Bethesda, MD: JBS International Inc.

The results discussed in the second report also showed that in the first year of service, FGP and SCP volunteers reported improvement in how they felt about their overall health. A higher proportion of volunteers who remained in service (stayers) reported their health as having improved, a decrease in perception of loneliness, and fewer symptoms of depression within one year of national service. After accounting for initial health status at the time the volunteers started national service as well as changes in their personal health or health of a family member or friend that could impact their ability to remain in the program, a higher proportion of the volunteers who left rated their health as declining. The odds of reporting a rating of excellent or very good health in the first year decreased for those who left compared to those who stayed. A similar pattern of difference favoring stayers over leavers was also seen in volunteers' perception of social connectedness (i.e., perception of loneliness) and in the number of symptoms of depression.

Objectives and Research Questions

The final report uses data from all three time points of data collection (baseline and two follow-ups) to achieve three objectives. The first objective was to describe the demographic profile, knowledge of national service, and motivation for volunteering among the first-time volunteers. The specific research questions addressed in the first objective were:

1. What are the social and economic characteristics of FGP and SCP volunteers?
2. What sources did the volunteers use to learn about FGP and SCP service opportunities?
3. What motivates adults to volunteer with FGP and SCP?

The second objective was to assess retention in service, reasons that contributed to leaving national service, differences between the volunteers who stayed and those who left in terms of satisfaction and experience with the training and support received to serve, service activities, and level of engagement. These questions are intended to shed light on areas where national service can be improved and to inform programmatic discussions. The specific research questions under the second objective were:

1. What is the retention rate? What is the difference in retention rate between FGP and SCP volunteers?
2. What are the differences between volunteers who remain in service and those who leave?
    a. What are the differences in demographic characteristics and motivation for volunteering? What are the personal reasons contributing to volunteer retention?
    b. What are the differences in satisfaction, volunteer experience, motivation, and types of training and support received between those who remain and those who leave?
3. What is the level of engagement among first-time volunteers? What types of service activities do they report? What is the association between retention, service hours, and service activities for volunteers who remain in service?
4. Which individual characteristics, motives, and types of training and support received are the most important contributors to volunteer retention?

The third objective examined how participation in national service contributed to changes in self-rated health and well-being. The specific research questions for the third objective were:

1. How do health and well-being change among volunteers who remain in service and those who leave?
2. Do health and well-being differ over time between FGP/SCP volunteers and similar adult volunteers and non-volunteers in the general population?
3. Do service activities, service hours, and motivation for volunteering contribute to the health and well-being outcomes of volunteers who remain in service?

Study Procedure

The longitudinal study recruited adults enrolling for the first time as volunteers with FGP or SCP between July and November 2015. The participants were recruited after they completed the program's application and security clearance process. All individuals who had not previously volunteered with Senior Corps were eligible to enroll in the study. The initial enrollment occurred in two stages. In the first stage, JBS International staff provided technical assistance to grantees on how to enroll participants into the study. In the second stage, grantees explained the study to eligible participants. Those who agreed to participate received a survey packet that included a consent form and the survey. Participants were provided a prepaid envelope to return their surveys directly to JBS.[8] Figure 1 shows the survey administration timeline.

Figure 1 Survey Administration Timeline

In 2015, all 523 active Senior Corps grantees were contacted to participate in the study. Of these grantees, 236 had at least one eligible volunteer who completed the baseline survey in 2015. In 2016, of the 236 grantees from the baseline survey, 230 grantees had at least one volunteer who completed the first follow-up survey. In 2017, 223 of the grantees from the first follow-up had at

[8] The study's data manual, *Volunteer Study Users' Manual for First Follow Up*, provides more details on the data collection administration procedures. The survey development is described later in this report.

least one volunteer who completed the second follow-up survey. At the baseline survey, the number of eligible volunteers range from 1 to 21 per grantee.

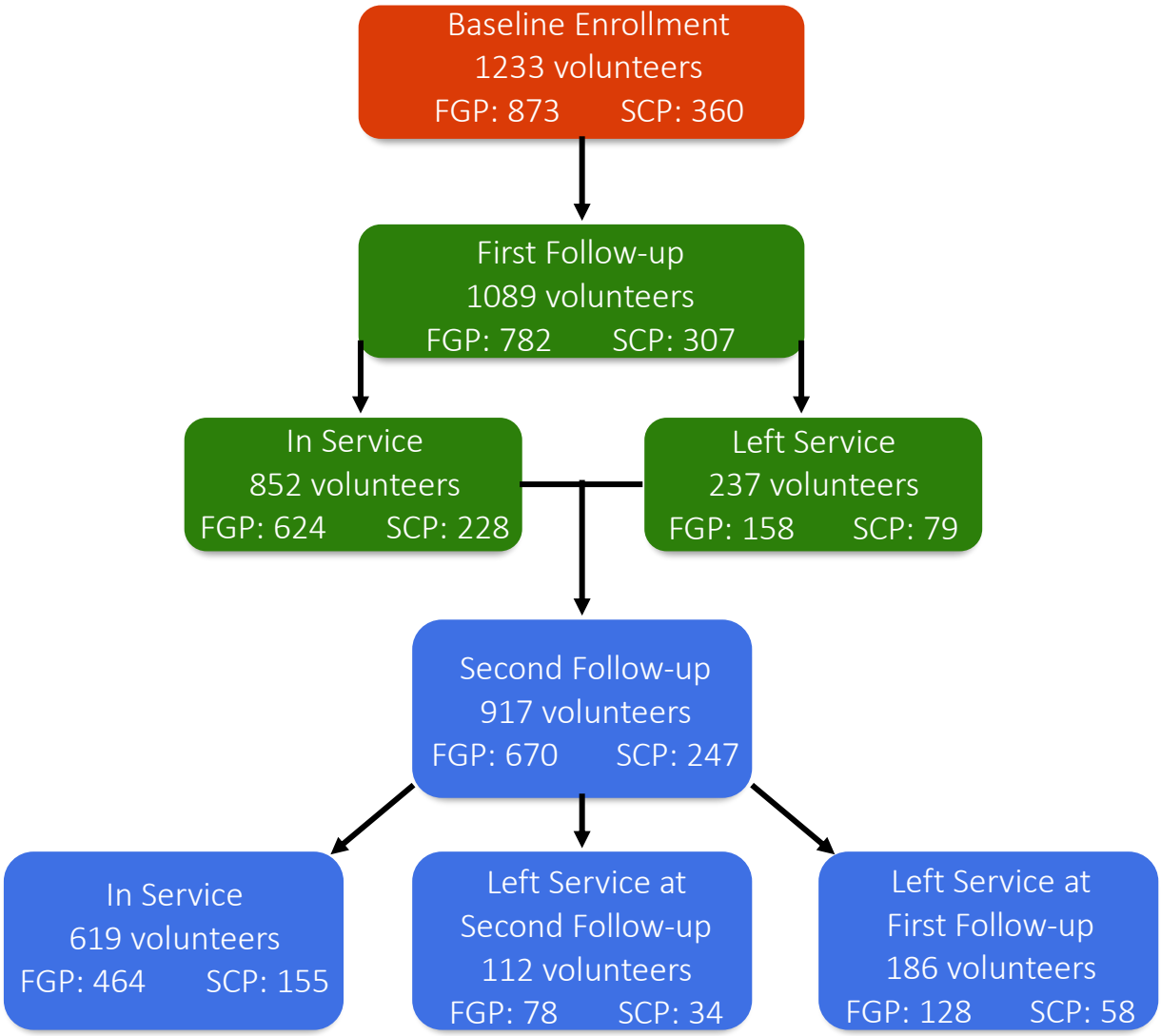
The baseline survey was distributed and completed before the volunteers began their service, typically when they attended their program's orientation. The same volunteers who completed the baseline surveys were contacted two additional times for follow-up surveys. The first follow-up survey was administered nine months after the volunteers completed the baseline survey. All participants were contacted for the first follow-up whether they were still volunteering or not. The second follow-up with the final survey was administered at 21 months after the baseline survey. The second follow-up was administered to all first follow-up respondents whether the individual had left the program or not. Each participant received a $20 honorarium for completing each survey. Grantees received a $10 honorarium for each participant who completed a survey.

A federally-qualified Institutional Review Board (IRB) oversees JBS's research and evaluation studies. The research protocol for this study received an IRB exemption on June 15, 2015 (IRB approval number AG15-01). The Office of Management and Budget (OMB) cleared the survey and data collection plan on June 24, 2015 (OMB control number: 3045-09173).

Participants

During the enrollment phase, 1,424 volunteers completed the baseline survey. A total of 191 surveys from 104 grantees were determined to be ineligible for the following reasons: 165 were excluded because they were identified as returning volunteers based on their responses to survey questions, 21 were determined to have begun service prior to the study enrollment window, and 5 volunteers completed the survey but did not provide informed consent to participate. This yielded a sample of 1,233 volunteers completing the baseline survey and eligible to participate in the first follow-up survey. Of these 1,233 volunteers, 1,089 completed the first follow-up survey, representing an 88 percent response rate. At the second follow-up, 917 of the 1,089 first follow-up respondents completed the second follow-up survey, representing an 85 percent response rate. At baseline, FGP volunteers comprised 71 percent of the participants, which is representative of the distribution of volunteers across these two programs. At each of the subsequent follow-up surveys, the distribution of volunteers remained proportionally the same, with FGP volunteers comprising 72 and 73 percent of the respondents. Figure 2 shows the distribution of FGP and SCP participants, including the number of respondents who had left national service, at each time point. At the first follow-up, 237 respondents had left national service, and at the second follow-up, an additional 112 respondents had left national service.

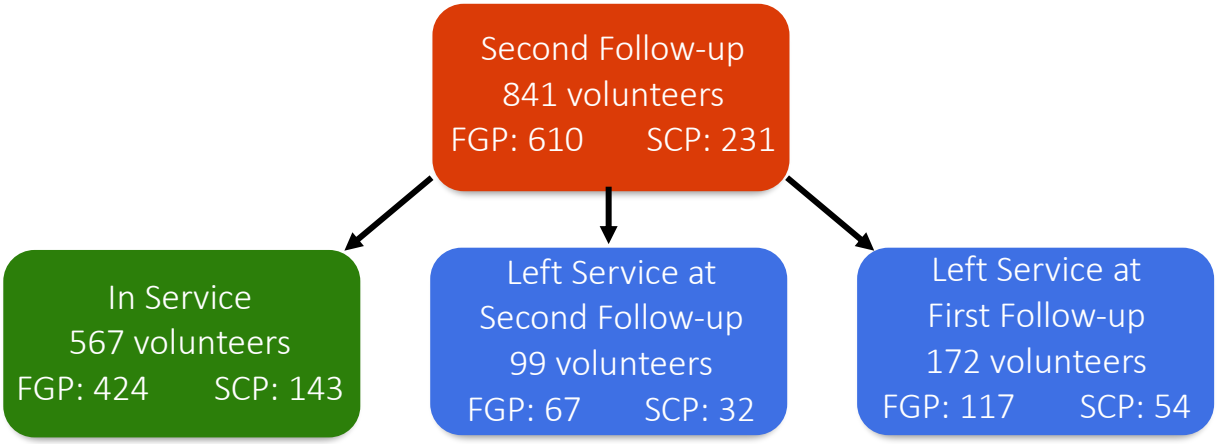
Figure 2 Participants by Program Type and Participation Status



Previous research demonstrates that volunteering has health benefits. However, it is unknown how long it takes for these benefits to be manifested. For the current analysis, we excluded 108 volunteers who had a gap of more than one month between their start date and the date the baseline survey was completed on the assumption that if volunteering impacted health, then these benefits might be noticeable within that time gap; the baseline data point would therefore not be a true baseline prior to service. The final sample in the current report, shown in Figure 3, consisted of 841 respondents – 567 participants who remained in national service through the study period and completed the baseline and both follow-up surveys, 171 respondents who had

left national service at the time of the first follow-up survey, and 99 respondents who left national service at the time of the second follow-up survey.[9]

Figure 3 Final Analytic Sample



Note: Four volunteers had missing status (i.e., unknown whether they are still volunteering).

This sample size for comparing two groups – those who remained in service (N = 567) compared to those who left (N = 270) – would detect mean differences of an effect size of 0.20 within the survey with a power of 0.85 and alpha value of 0.05. A sensitivity analysis shows this sample size should allow the analysis to detect mean differences between the two groups of effect size of about 0.17. A comparison of the mean differences between those who remained (N = 567) and those who left at the first follow-up survey (N = 171) would detect difference of an effect size of 0.22 with a power of 0.81; and a comparison with those who left at the second follow-up (N = 99) would detect mean difference of an effect size of 0.28 with a power of 0.82. The analysis that used only the sample of the volunteers who remained in service (N = 567) would detect an effect size of 0.11 with a power of 0.83.

Characteristics of Non-respondents

The non-response rate was 12 percent at first follow-up and 15 percent at second follow-up. Overall chi-square tests were conducted to determine whether there were significant differences between responders and non-responders at each of the follow-up surveys. If the overall chi-square tests were significant and the variable had more than two levels (e.g., education), dummy variables were created, and chi-square tests were conducted to examine the differences at each level. At the first follow-up, differences between responders and non-responders were found in program type (FGP versus SCP), ethnicity, and gender. SCP, males and Hispanic volunteers were significantly over-represented among non-respondents relative to their proportion in the

[9] It was not possible to determine participation of four respondents who had completed all three surveys. Three of the participants were actively in service at the first follow-up, but it could not be determined if these three participants were still active at the second follow-up. One of the participants had left service at the time of the first follow-up but it could not be determined if that participant, at the time of the second follow-up, had returned to be an active volunteer or not.

overall sample. A similar analysis was conducted for non-responders at the second follow-up survey. The differences between responders and non-responders at the second follow-up were found in program type and ethnicity. At the second follow-up survey, SCP and Hispanic volunteers were significantly over-represented among non-responders.

Survey Development and Testing

The survey questions were adopted from the Health and Retirement Study (HRS), developed by the University of Michigan. The HRS data is the only longitudinal panel study of a national representative sample of non-institutionalized adults ages 50 and older, collecting a diverse set of information on health care, housing, assets, pensions, employment, and disability, all of which are intended to inform a broad discussion about retirement. The HRS is well-suited to construct a comparative sample because its broad national representation permits for analysis of the older population in general, as well as the great diversity and variability of aging; and drawing questions from the HRS allows for comparison of variability with a national sample of adults. Questions were also drawn from previous Senior Corps surveys. The survey's organization and content were reviewed by the CNCS Office of Senior Corps, the CNCS Office of Research and Evaluation, the Field Working Group (FWG) comprised of FGP and SCP grantees, and the Technical Working Group (TWG) comprised of experts in gerontology, longitudinal surveys and evaluation design, psychometrics, and the measurement of stress and symptoms of depression. These internal and external reviews were used to revise and modify the survey questions. The survey was pilot-tested with eight volunteers and modified based on the feedback from the pre-testers. The baseline and both follow-up surveys were adapted into Spanish and Chinese, and the accuracy of translation was reviewed by native speakers of each language.

Approach to Analysis

Prior to analysis, the data were reviewed for out-of-range responses, coding, skip edits, missing values and consistency. The users' manuals for the baseline,[10] first follow-up,[11] and second follow-up[12] provide additional details on data preparation. The report used descriptive statistics, bivariate analysis, correlation analysis, regression (logistic for dichotomous outcomes, multiple regression, and repeated measures analysis of variance (ANOVA)), and propensity score matching. Repeated measures analyses of the three time points (baseline, first follow-up, and second follow-up) were conducted to examine changes over time. Only volunteers with

[10] Georges, A., Uppal, H., Pratt, D., Birmingham, C., Sum, C., Smith, J. & Gabbard, S. (2016). *Senior Corps Longitudinal Evaluation Volunteer Study Baseline Data Collection Users' Manual.* North Bethesda, MD: JBS International Inc.

[11] Georges, A., Smith, J., Fung, W., Pratt, D., Sum, C., Birmingham, C., & Gabbard, S. (2017). *Senior Corps Longitudinal Evaluation Volunteer Study First Follow-up Data Collection Users' Manual.* North Bethesda, MD: JBS International Inc.

[12] Georges, A., Fung, W., Smith, J., Liang, J., Sum, C., & Gabbard, S. (2018). *Senior Corps Longitudinal Evaluation Volunteer Study Second Follow-up Data Collection Users' Manual.* North Bethesda, MD: JBS International Inc.

outcomes data at all time points were used in the ANOVA analysis. Prior to examining the results, the assumption of sphericity was examined. If violation of sphericity was found, the severity of departure from sphericity was assessed, and the Greenhouse-Geisser or Huynh-Feldt corrections were used for the *p*-values. Contrasts were then conducted to determine whether significant differences existed between baseline and first follow-up, first follow-up and second follow-up, and baseline and second follow-up. Independent samples t-tests were conducted to examine the differences between stayers and leavers at baseline and the two follow-ups. Prior to examining the results, the assumption of equality of variances was examined. If violation of equality of variance was found, the Satterthwaite Approximate was used to determine significance.

Propensity score matching (PSM) was used to construct a sample of FGP and SCP volunteers with a sample of volunteer and non-volunteer participants in the Health and Retirement Study (HRS). The comparative analysis was conducted to assess how FGP/SCP volunteers differed from similar adult volunteers and non-volunteers in the general population. The 2012 and 2014 HRS data, which are the most recent available data at the time of this report, were used to construct the matched samples. PSM reduces bias in estimates due to confounding variables in circumstances where random assignment is not feasible; when correctly specified, PSM provides groups that are equivalent on baseline characteristics, and PSM can substantially reduce threats to a study's internal validity.[13] Appendix A describes the propensity score method and results of the matched sample.

Missing data were typically limited, except for income and service hours, where 13 percent did not respond to the question about income and 52 percent did not answer the question about service hours. For the analysis under the first objective, which describes the volunteers' demographic characteristics, missing values on income were imputed using the "hot deck" imputation method, a nonparametric approach used to impute missing values by creating a contingency table of respondents with no missing values on items associated with the item to be imputed.[14] In the logistic regression model that included income and service hours as predictors, all missing values were imputed using the fully conditional specification (FCS) method, which uses a separate conditional distribution for each imputed variable. This specification is used for imputing a variable that takes specific values such as a binary outcome for a logistic model. For multiple regression models, missing values were imputed using the Markov chain Monte Carlo (MCMC) multiple imputation method. The health and well-being outcome measures were not imputed. Appendix B describes the multiple imputation and the results.

[13] Stuart, E. A. (2010). Matching methods for causal inference: A review and a look forward. *Statistical Science, 25*(1), 1–21. doi: 10.1214/09-STS313

[14] Allison, P. D. (2002). *Missing data*. Thousand Oaks, CA: Sage Publications.

Findings

The findings from the analysis are organized into three sections, one for each of the three objectives. The report concludes with a discussion of the main results and a set of recommendations for future research.

Portrait of First-time FGP and SCP Volunteers

This section presents findings for the first objective, to describe the demographic profile, knowledge of national service, and motivation for volunteering among the first-time volunteers. The following research questions guided the analysis:

1. What are the social and economic characteristics of the FGP and SCP volunteers?
2. What sources did the volunteers use to learn about FGP SCP service opportunities?
3. What motivates adults to volunteer with FGP and SCP?

The analysis used the baseline survey responses. We used descriptive statistics and tested for differences between FGP and SCP volunteers. Type of motivation was measured based on the results of a factor analysis (a method for identifying groups of variables that measure the same underlying concept). The factor analysis was conducted on 11 items to determine which of the items could be grouped together for types of motivation.

Characteristics of the Volunteers

To serve as a Foster Grandparent or Senior Companion volunteer, an individual must be at least 55 years old and meet an income eligibility, which is that their income must be at or below 200 percent of the national federal poverty level guidelines. At the time of the first survey, when the volunteers were about to begin service, 200 percent of the national poverty level for a household of one was $23,540, for a household of two was $31,860, for a household of three was $40,180, and for a household of four was $48,500.[15] Given the income eligibility criteria, FGP and SCP provide service opportunities to adults who are potentially in the high-risk group for poorer health and other health disparities.[16] Looking at the volunteers' demographic composition, they were typically unmarried women with an average age of 65 who had completed some college (Table 1). Approximately 91 percent were female; more than half (51 percent) were 65 years old or younger; 40 percent were between 66 and 75 years old; and 9 percent were 76 years old or older. The majority (80 percent) reported total annual household income of less than $20,000; 15 percent reported household income between $20,000 and $29,999; and 5 percent reported

[15] U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. (2015). 2015 Poverty guidelines. Retrieved from https://aspe.hhs.gov/2015-poverty-guidelines; Georgetown University Health Policy Institute, Center for Children and Families. 2015 Federal poverty guidelines. Retrieved from https://ccf.georgetown.edu/wp-content/uploads/2015/01/2015-Federal-Poverty-Guidelines.pdf

[16] Centers for Disease Control and Prevention National Center for Health Statistics. (2017). *Health, United States, 2016: With chartbook on long-term trends in health*. Hyattsville, MD. Retrieved from https://www.cdc.gov/nchs/data/hus/hus16.pdf.

income $30,000 and higher.[17] The volunteers' average income was closer to 100 percent of the national poverty level guideline rather than the 200 percent eligibility guideline to serve as FGP and SCP volunteers.

[17] Approximately 13.3 percent of the respondents did not answer the question on household income. The missing income values were imputed using the "hot deck" imputation method, which is a nonparametric method to impute missing values by creating a contingency table using respondents with no missing values on items that are associated with the item to be imputed. The variables used to create the contingency table were age, education level, marital status, and employment status. Without imputation, among respondents that reported household income: 69.2 percent reported total annual household income that was less than $20,000; 13.3 percent reported household income between $20,000 and $29,999; 1.6 percent reported between $30,000 and $39,999; 2.4 percent reported income above $40,000; and 0.2 percent reported greater than $20,000 but did not specify the amount. The remaining 13.3 percent of respondents did not report their household income.

Table 1 Characteristics of the First-time Volunteers

	All	FGP	SCP	p-value
Age				
55-65 years	51.4	50.3	54.3	0.31
66-75 years	39.7	40.6	37.1	0.36
76 years or older	8.9	9.1	8.6	0.84
Gender				
Male	8.9	8.2	10.8	0.23
Female	91.1	91.8	89.2	0.23
Race				
Native American Alaska Native	1.6	1.5	1.8	0.76
Asian	3.0	2.9	3.2	0.84
Black or African American	45.1	46.3	42.1	0.29
Native Hawaiian Pacific Islander	0.3	0.0	0.9	0.07
White	47.3	45.9	51.1	0.18
More than one race	2.7	3.4	0.9	0.05
Ethnicity				
Not Hispanic	90.1	90.9	87.9	0.20
Hispanic	9.9	9.1	12.1	0.20
Education				
Less than HS	10.5	10.4	10.7	0.90
HS or GED	30.3	29.9	31.3	0.71
Less than BA	43.1	43.0	43.3	0.94
BA or higher	16.1	16.6	14.7	0.51
Income				
Less than $20,000	80.1	77.3	87.3	**0.001**
$20,000-$29,999	15.4	17.4	10.0	**0.008**
$30,000 and higher	4.5	5.3	2.6	0.10
Marital Status				
Married/Partner	25.1	27.6	18.7	**0.009**
Separated/Divorced	40.1	37.0	48.0	**0.004**
Widowed	23.4	23.8	22.2	0.63
Never Married/Other	11.5	11.6	11.1	0.83
Veteran Status				
Active duty or veteran	3.4	3.2	3.7	0.73
Military family or family of veteran	17.4	17.7	16.7	0.74
Not a veteran	75.0	74.8	75.5	0.85
More than one answer	4.3	4.3	4.2	0.94
Disability				
Long lasting conditions or any condition that substantially limits basic physical activities	33.9	34.0	33.6	0.92

Note: Significant differences between FGP and SCP (i.e., *p*-values less than 0.05) are in bold.

In terms of education level, 11 percent did not have a high school diploma; 30 percent graduated from high school; 43 percent had some college or an associate degree but did not attain a

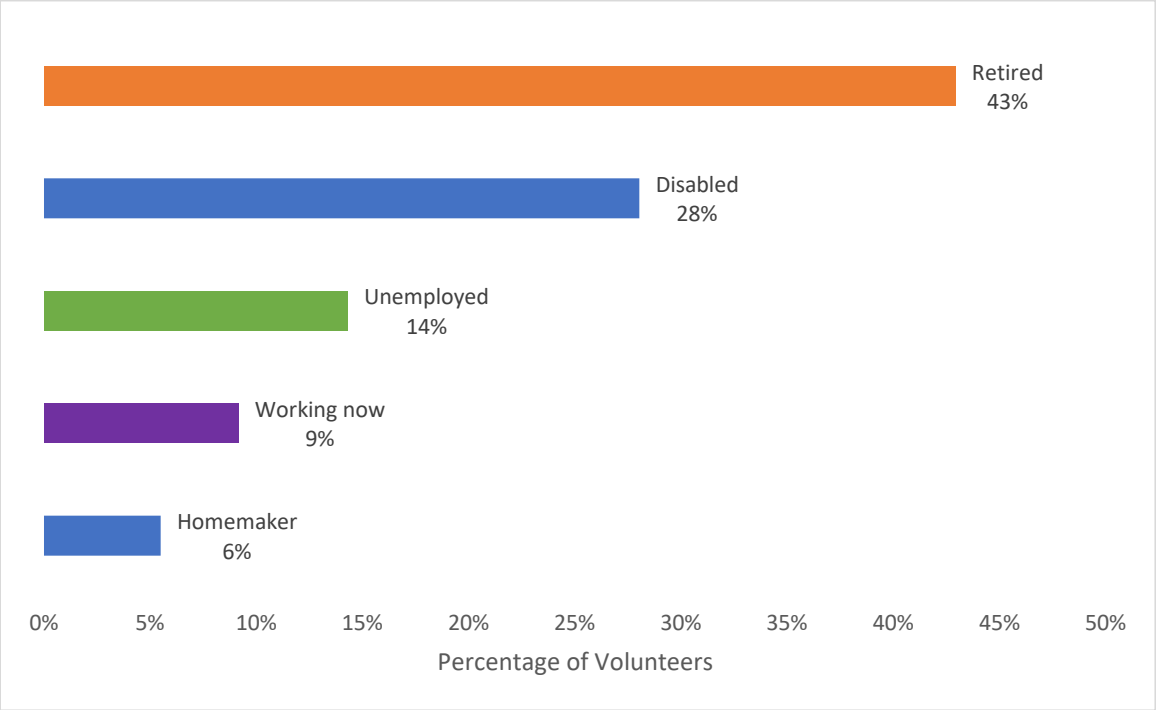
bachelor's degree; and 16 percent graduated from college or earned an advanced degree. About one-fourth of the volunteers were currently married; the remaining three-fourths were separated or divorced (40 percent), widowed (23 percent), or never married (12 percent). About one-fourth had a family member who was a veteran or were veterans themselves. In terms of racial composition, more than 90 percent were White (47 percent) or African American (45 percent). Approximately 10 percent were Hispanic or Latino. About one-third (34 percent) reported having a disability, such as a long-lasting condition like severe vision or hearing loss, or a condition that limits basic physical activities.

Labor Force Participation, Retirement, and Disability

Labor force participation rate among seniors has risen since the late 1990s, with a marked reversal to full-time employment over time.[18] This trend of working or seeking employment was noticeable among FGP/SCP volunteers. As previously noted, about half of the volunteers were 65 years old or older, yet most were not fully retired. When asked about their retirement and employment status, almost three-fourths (74 percent) reported they were retired. A closer examination of their responses showed more than half of these retirees reported they were also working or looking for work. Figure 4 shows the employment status of the volunteers at the start of their service after accounting for the proportion of retirees who were still in the labor force. The results show 14 percent were unemployed and looking for work; 9 percent were currently working, more than one-fourth (28 percent) reported they were disabled, and 43 percent were fully retired (neither working nor looking for work).

[18] U.S. Bureau of Labor Statistics. (2008, Aug. 6). More seniors working full time. *TED: The Economics Daily*. Retrieved from https://www.bls.gov/opub/ted/2008/aug/wk1/art03.htm

Figure 4 Labor Force Participation, Retirement, and Disability at the Start of Service



There was a significant difference in employment status by age, particularly between volunteers age 65 and younger and those older than 65. As would be expected, a higher proportion of volunteers age 65 and younger were working, and that number was significantly different from volunteers age 66 and older. About 11 percent of volunteers age 65 and under were working, compared to 7 percent of those between ages 66 and 75 and 3 percent of those age 76 and older. The older volunteers, however, reported being active in the labor force. A significantly higher proportion of volunteers age 76 and older reported looking for work compared to the volunteers age 65 and younger. About one-fifth of the volunteers age 76 and older reported looking for work compared to 10 percent of volunteers age 65 and younger (Table 2). These age differences among those volunteers looking for work is consistent with the trend of increasing labor force participation among individuals over age 65. In addition to remaining active in the labor force, for FGP/SCP volunteers, a greater proportion of those under age 66 reported being disabled (Table 2).

Table 2 Age Differences in Employment, Retirement, and Disability Status at the Start of Service

					p-value	*p*-value	*p*-value
	All	55–65	66–75	76 or older	55–65 vs. 66–75	55–65 vs. 76	66–75 vs. 76
Working now	9.2	11.4	7.3	2.7	0.05	**0.02**	0.22
Unemployed and Looking for Work	14.3	10.4	17.7	20.6	**0.01**	**0.02**	0.52
Disabled	28.0	44.9	12.0	9.6	**<.0001**	**<.0001**	0.66
Retired	43.0	25.4	59.9	65.8	**<.0001**	**<.0001**	0.33
Homemaker	5.5	7.9	3.2	1.4	**0.01**	**0.02**	0.54

Note: Significant differences (i.e., *p*-values less than 0.05) are in bold.

Table 3, which compares the employment, retirement, and disability status of FGP and SCP volunteers, shows there were two notable differences between the two volunteer groups. A higher proportion of SCP volunteers reported being disabled compared to FGP volunteers (30 percent for SCP versus 27 percent for FGP); and a higher proportion of FGP volunteers reported they were working compared to SCP volunteers (10 percent for FGP versus 8 percent for SCP).

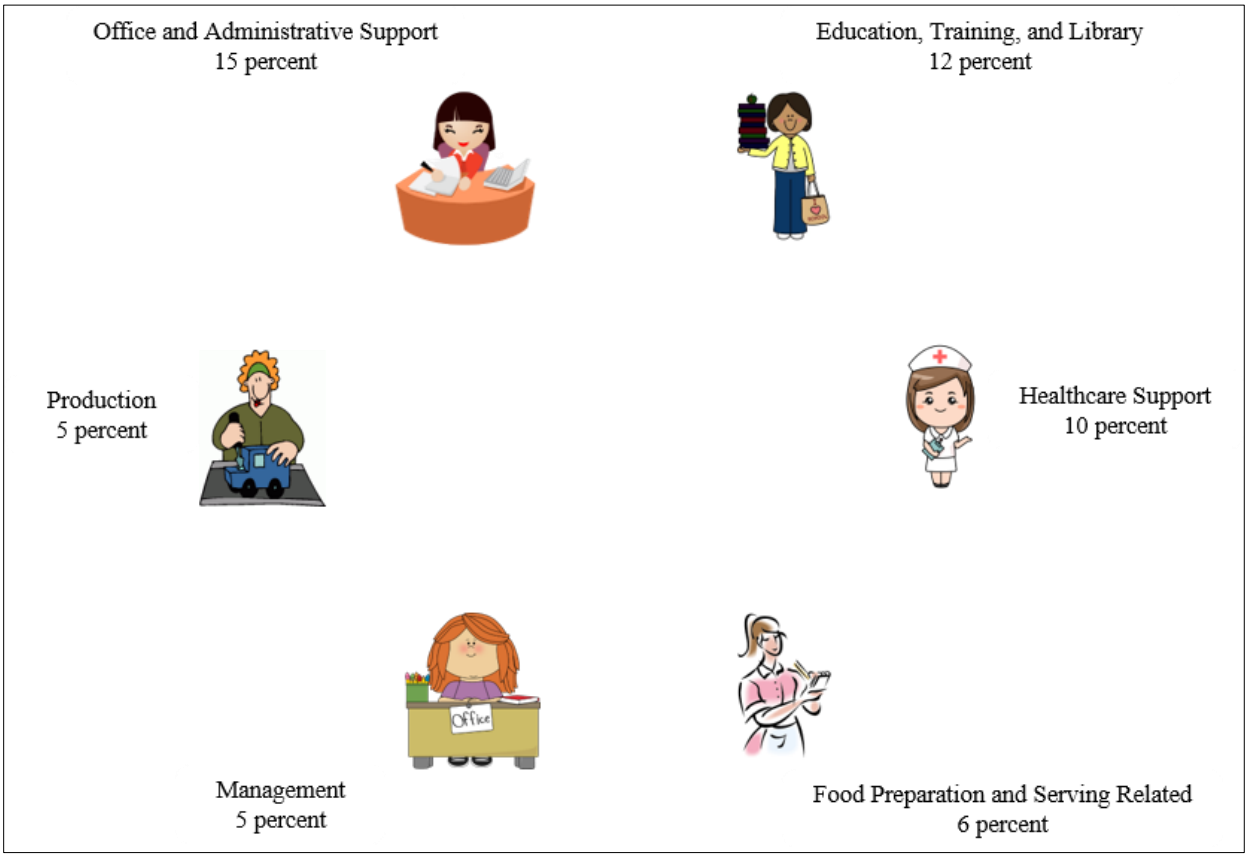
Table 3 Comparison of Employment Status of FGP and SCP

	All	FGP	SCP	*p*-value
Working now	9.2	9.7	7.9	0.43
Unemployed and looking for work	14.3	14.4	14.0	0.88
Disabled	28.0	27.3	29.8	0.48
Retired	43.0	43.3	42.1	0.76

Occupation

An individual's occupation provides some information about the nature of their work, required education and training to perform the work, potential earnings, and job outlook. Occupation reflects the type of jobs and pay the volunteers could garner if still active in the labor force. Occupation was measured from an open-ended question in the baseline survey. The written responses were reviewed then coded into occupation codes based on the U.S. Bureau of Labor Statistics' guidelines. There is diversity in the volunteers' occupations, where some occupations potentially required a bachelor's degree, while most of the occupations did not. Figure 5 shows the six occupations volunteers described most frequently. These were Office and Administrative Support (15 percent); Education, Training, and Library (12 percent); Healthcare Support (10 percent); Food Preparation and Serving (6 percent); Management (5 percent); and Production (5 percent).

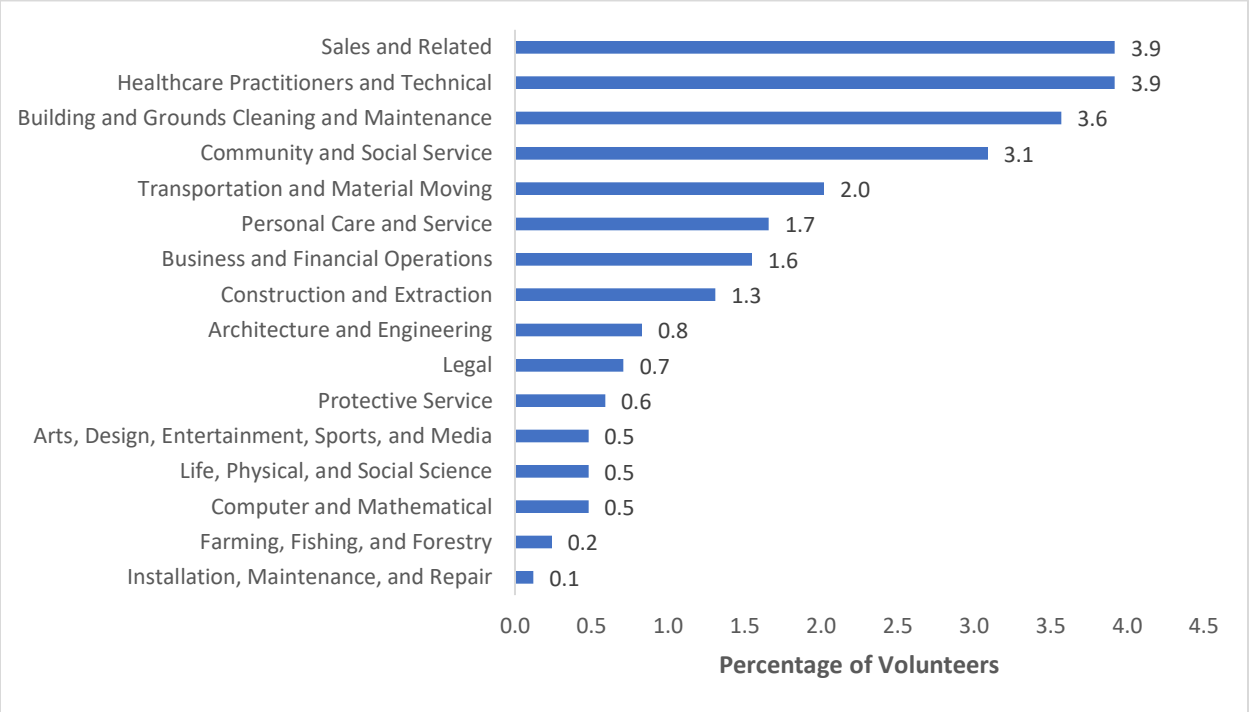
Figure 5 Top Six Occupations Among First-time Volunteers



The remaining 47 percent (Figure 6) of the volunteers described occupations in sales, healthcare and technical fields, cleaning and maintenance, community and social service, and transportation. More than 8 percent of volunteers indicated they had more than one occupation, and 7 percent were unable to be classified into one of the major occupation codes. Overall, the average earnings in the occupations identified are low to moderate. The estimated salary for these occupations was below $30,000.[19]

[19] U.S. Bureau of Labor Statistics. (2017). *May 2017 National Occupational Employment and Wage Estimates United States*. Retrieved from https://www.bls.gov/oes/current/oes_nat.htm#53-0000

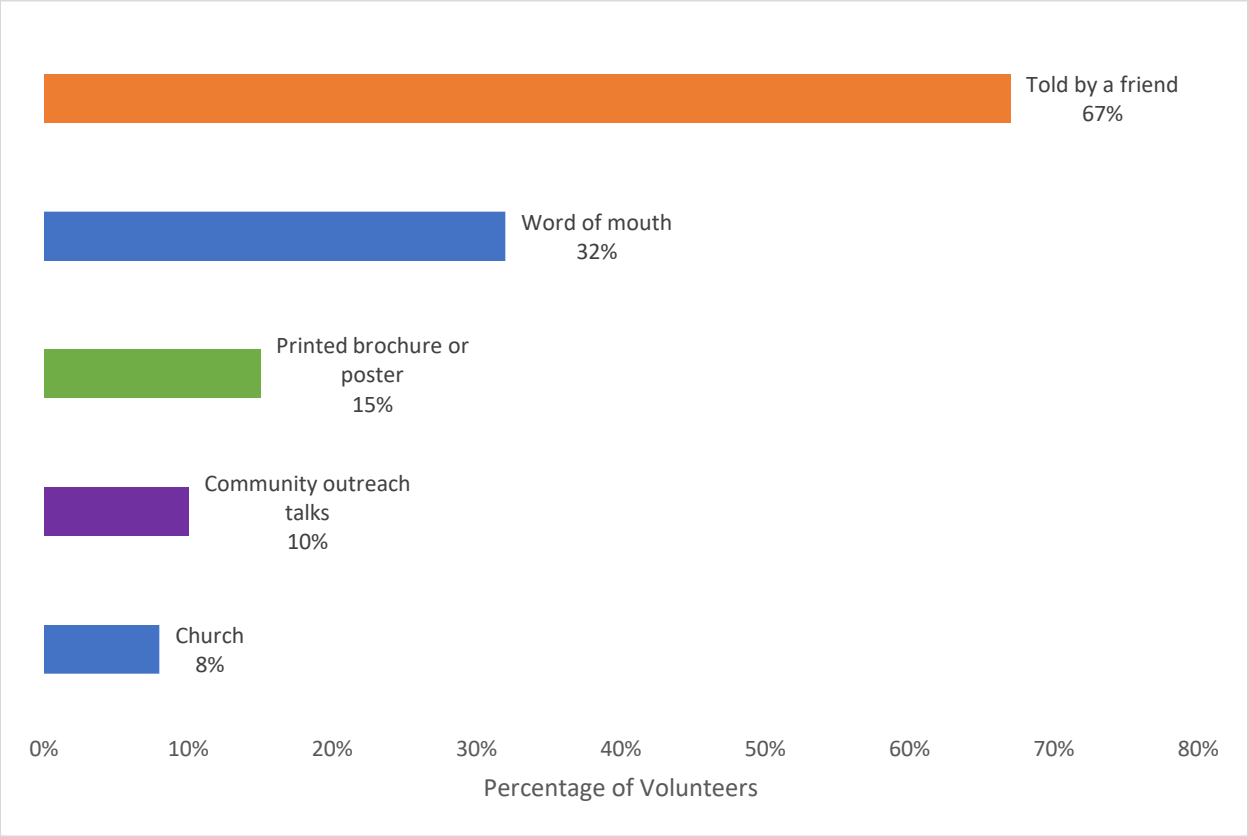
Figure 6 Occupations Among First-time Volunteers (%)



Sources Used to Learn About National Service

How first-time volunteers learned about service opportunities with Senior Corps is important because it can inform how to plan and strengthen recruitment. The volunteers primarily learned of FGP and SCP through informal networks, which suggests the most effective recruitment methods are active, and former volunteers sharing their experience with friends and family. As shown in Figure 7, approximately 67 percent learned about FGP and SCP service opportunities from a friend, or other informal communication through word of mouth (32 percent). Approximately 15 percent learned about FGP and SCP from a printed brochure or poster, and 10 percent indicated community outreach talks were their primary source. Eight percent learned about FGP and SCP from their church.

Figure 7 Sources Used to Learn About FGP SCP National Service



About one-third (34 percent) learned about the FGP and SCP from more than one source. Being told by a friend and word of mouth was the most frequent combination of sources reported (41 percent) followed by a combination of a friend and printed brochure or poster (8 percent).

As shown in Table 4, the sources used were mostly comparable for FGP and SCP volunteers with one notable difference. A significantly higher proportion of Foster Grandparents (70 percent) were "told by a friend" compared to SCP (59 percent). There were no significant differences between Foster Grandparents and Senior Companions in their use of printed brochures, attending community outreach talks, and information obtained from church as their sources for learning about national service opportunities.

Table 4 Differences in How FGP and SCP Learned About National Service

Type of Sources	Percent Total	Percent FGP	Percent SCP	*p*-value
Told by a friend	66.8	69.8	58.9	**.004**
Word of mouth	32.3	31.5	34.6	.39
Printed brochure or poster	14.5	14.7	13.9	.78
Community outreach talks	10.3	9.7	12.1	.39
Church	8.2	8.5	7.4	.59

Note: Significant differences between FGP and SCP (i.e., *p*-values less than 0.05) are in bold, based on a Rao-Scott Chi-Square Test.

Motivations for Volunteering

There are many reasons that could spur an individual to volunteer. Some individuals could be concerned for others or their community (altruistic), have an interest in feeling good about themselves, or simply enjoy that activity or have an inherent interest. Others could be motivated by extrinsic factors, external influences often described as perceptions of social norms.[20] Understanding individuals' motives for volunteering is informative for recruitment. Studies show recruitment can be more effective if the appeals to the individual match the motives; matching motives to assignment is also important for retention.[21] Many first-time FGP and SCP volunteers had expectations beyond the goal of impacting and improving their community. Some volunteers wanted to achieve personal growth such as learning new skills or getting more experience; some wanted to keep busy or make new friends; and some wanted to earn extra money as a volunteer.

The measure of motivation was based on responses to 11 items asking participants to rank how much certain factors influenced their decision to volunteer. The response to each item was on a 5-point scale from 1 ("not at all") to 5 ("a great deal"). Factor analysis was used to group the 11 items into types of motivation. The responses to these 11 items were grouped into four types of motivations as summarized in Table 5. For example, if the volunteer's response to the items, "help another person/children," and, "improve community," was, "a lot," or, "a great deal," the motivation was coded as altruistic. For personal growth and self-oriented motivations, the volunteer had to respond, "a lot," or, "a great deal," to at least three of the four items. Financial incentive consisted of only one item – "earn extra money."

[20] Geiser, C., Okun, M. A., & Grano, C. (2014). Who is motivated to volunteer? A latent profile analysis linking volunteer motivation to frequency of volunteering. *Psychological Test and Assessment Modeling*, *56*(1), 3-24.
[21] Ibid.

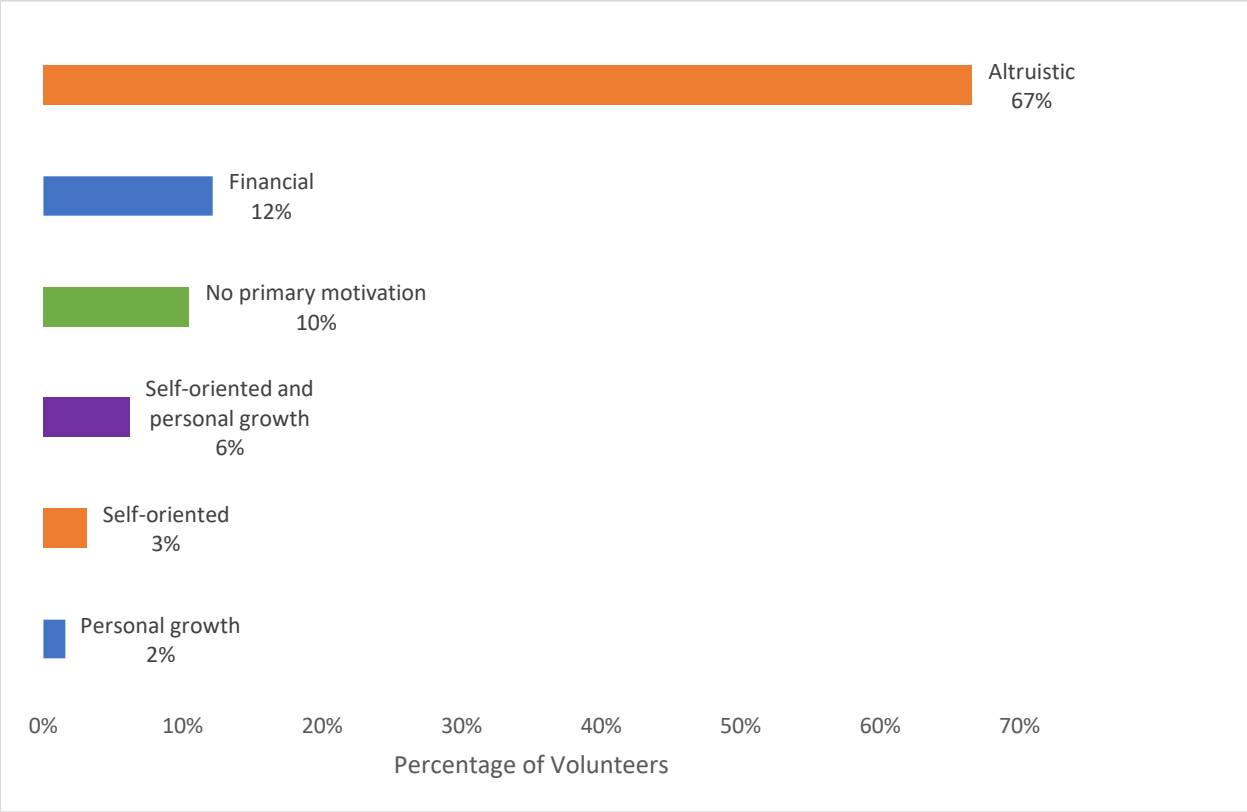
Table 5 Definitions of Types of Motivations

Type of motivation	Consisting of the following items	Answered "a lot" or "a great deal" to:
Altruistic	A1. Help another A2. Improve community	Both items
Personal growth	P1. Learn something new P2. Learn new skill P3. Get more experience P4. Learn about myself	Three of the four items
Self-oriented	S1. Keep busy S2. Make me feel better S3. Make new friends S4. Sense of accomplishment	Three of the four items
Financial incentive	Earn extra money	One item

Figure 8 shows more than two-thirds (67 percent) reported their motivation for volunteering was to help another person or a child and improve their community. The altruistic motivation is distantly followed by the potential to earn extra money (12 percent). The remaining 11 percent joined national service for personal growth (2 percent), for self-oriented goals (3 percent), and a combination of self-oriented and personal growth (6 percent). Ten percent of the volunteers reported no primary motivation for joining national service.[22]

[22] Volunteers identified as "no primary motivation" include those who did not respond "a lot" or "a great deal" to any of the 11 items.

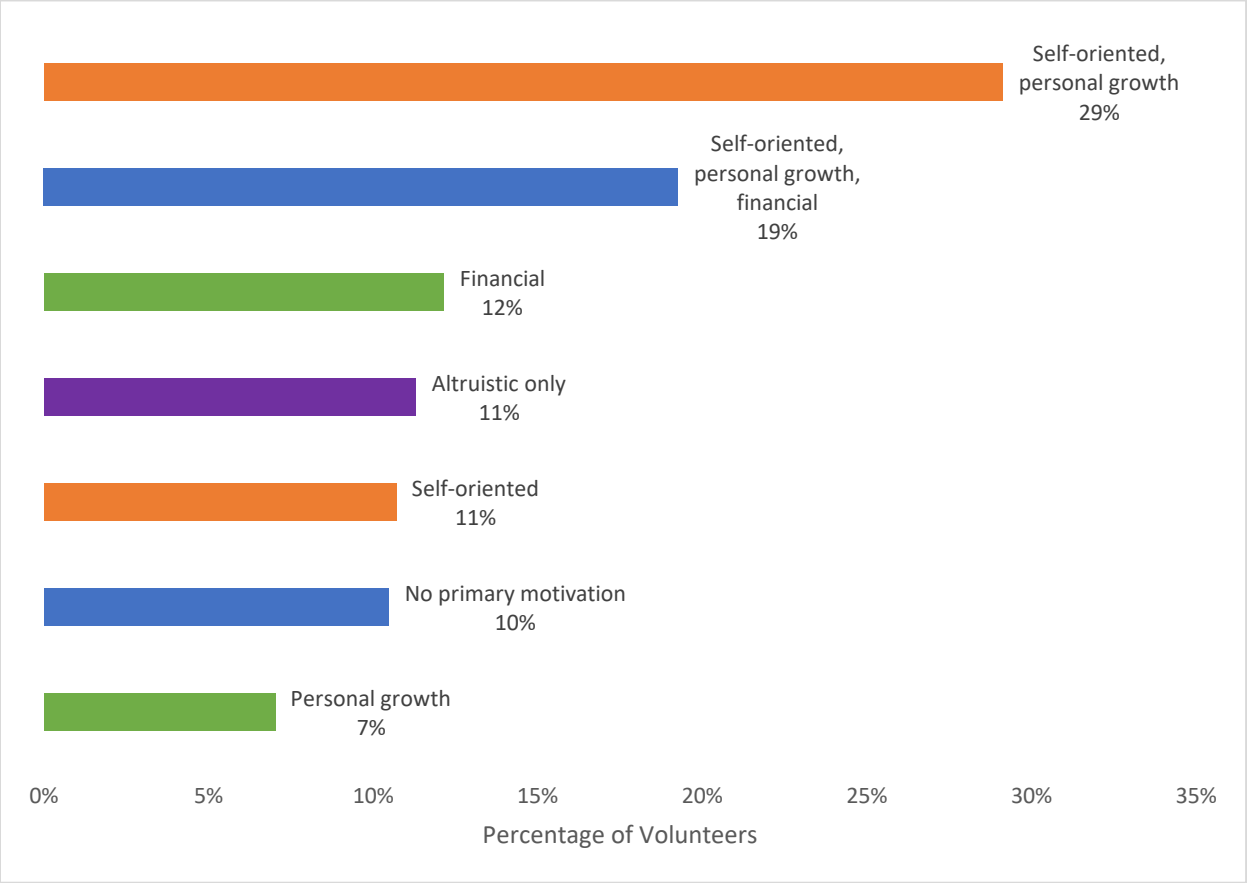
Figure 8 Primary Motivation for Volunteering



A closer examination of the responses revealed altruism was not a sole motive for volunteering.[23] About 11 percent were only motivated for altruistic reasons; more than three-fourths had reasons beyond altruism in deciding to serve. As shown in Figure 9, about 30 percent expressed personal growth and self-oriented goals as motivating factors in their decision. As previously noted, 12 percent were motivated for financial reasons; notably, an additional 19 percent who expressed personal growth and self-oriented goals were also motivated for financial reasons. In all, about 31 percent had an underlying financial reason for volunteering.

[23] The overlapping motivations are defined as: "Altruistic only" category includes respondents whose motivation is only altruistic; respondents do not have any other motivation for volunteering. "Self-oriented" category includes respondents who have altruistic and self-oriented motivations. "Personal growth" category includes respondents who have a combination of altruistic and personal growth motivations. "Self-oriented, personal growth" category includes respondents who have a combination of altruistic, self-oriented, and personal growth. "Self-oriented, personal growth, financial" category includes respondents who have a combination of altruistic, self-oriented, personal growth, and financial motivations. "No primary motivation" indicates having none of the primary motivations for volunteering.

Figure 9 Multiple Motivations for Volunteering



Bivariate test results show there were no significant differences in motivation by age, gender, or living arrangement (Table 6). However, as shown in Table 6, motivation for volunteering did vary significantly by race, ethnicity, and education. A lower proportion of Whites reported self-oriented goals and personal growth motives; and a higher proportion of these volunteers had financial motives. A higher proportion of volunteers who were Hispanic reported self-oriented, personal growth, and financial incentive as factors that mattered in their decision to volunteer. A higher proportion of volunteers with a college degree reported being solely motivated for altruistic reasons; a lower proportion of them reported self-oriented and personal growth as a motivation for joining national service, and a higher proportion also reported financial incentive as a motivating factor.

Table 6 Characteristics of Volunteers, by Motivation

		Altruistic only (%)	Self-oriented (%)	Personal growth (%)	Self-oriented, personal growth (%)	Self-oriented, personal growth, financial incentive (%)	Financial only (%)	No primary motivation (%)	Total (%)	Chi-square *p*-value df = 6
Age										
	55–65	13.1	9.1	7.9	30.7	18.3	11.7	9.3	100	0.27
	66–75	9.6	11.7	5.9	28.4	21.3	12.4	10.8	100	0.64
	76 or older	8.2	15.1	6.9	24.7	17.8	16.4	11.0	100	0.68
Gender										
	Male	12.0	4.0	4.0	30.7	17.3	14.7	17.3	100	0.18
	Female	11.2	11.4	7.3	29.0	19.5	11.9	9.8	100	0.18
Race										
	White	11.0	10.5	5.2	26.4	20.7	16.0	10.2	100	**0.0495**
	African American	11.0	10.4	8.0	31.9	19.8	8.5	10.4	100	0.09
	Other	7.7	12.8	5.1	30.8	23.1	12.8	7.7	100	0.97
Ethnicity										
	Not Hispanic	11.7	10.8	7.0	27.7	19.3	12.6	11.0	100	**0.0128**
	Hispanic	3.8	8.9	3.8	43.0	25.3	11.4	3.8	100	**0.0128**

Note: Significant differences (i.e., *p*-values less than 0.05) are in bold. The overlapping motivations are defined as: "altruistic only" category, which includes respondents who are altruistic motivation only, respondents do not have any other motivation for volunteering. The "self-oriented" category includes respondents who have altruistic and self-oriented motivations. The "personal growth" category includes respondents who have a combination of altruistic and personal growth motivations. "Self-oriented, personal growth" category includes respondents who have a combination of altruistic, self-oriented, and personal growth. "Self-oriented, personal growth, financial" category includes respondents who have a combination of altruistic, self-oriented, personal growth, and financial motivations. "No primary motivation" includes respondents who do not have any of the primary motivations for volunteering.

Table 6 (Cont.) Characteristics of Volunteers, by Motivation

		Altruistic only	Self-oriented	Personal growth	Self-oriented, personal growth	Self-oriented, personal growth, financial incentive	Financial only	No primary motivation	Total	Chi-square *p*-value df = 6
Education										
	Less than HS	4.7	8.1	11.6	33.7	20.9	8.1	12.8	100	0.14
	HS or GED	8.9	8.9	5.2	31.9	23.0	11.7	10.5	100	0.22
	Less than BA	12.2	11.6	8.2	28.3	17.6	11.1	11.1	100	0.67
	BA or higher	17.4	13.6	5.3	22.0	16.7	18.9	6.1	100	**0.04**
Living Arrangement										
	Live alone	10.7	11.3	6.9	26.6	18.5	15.7	10.3	100	0.05
	Live with others	11.8	10.5	7.0	32.4	21.3	7.9	9.2	100	0.05

Note: Significant differences (i.e., *p*-values less than 0.05) are in bold.

Summary

Senior Corps has met its goal to provide service and community-improving opportunities to low-income earning adults. As shown by the data, the majority of volunteers are low-income earning, educated with at least a high school diploma and some college, unmarried females, many of whom are still active in the labor force either working or looking for work. The high percentage of volunteers over age 65 still active in the labor force underscores their financial strains, but follows a national trend that began more than 20 years ago among older adults who remained active in the labor force past the legal retirement age.

The recruitment strength of the programs is the volunteers themselves. The primary mode of recruitment is through informal networks such as friends and word of mouth. The success of this informal recruitment network rests on ensuring that those in service have an overall positive experience that can translate to positive feedback about FGP and SCP to friends and family. This informal recruitment also speaks to the need to strengthen and promote the facets of the programs in which service with FGP and SCP could facilitate and support adults' expectations for ongoing opportunities to learn new skills, get more experience, keep busy, and have a sense of accomplishment. In fact, motivation for volunteering is complex and multifaceted.[24] Most altruistic volunteers reported their motives encompassed the desire to make friends, stay busy, learn, and get more experience. A source of supplemental income could also be important for this low-income earning group who may be seeking financial security. Senior Corps does make provision to remove economic barriers to serve through a modest stipend of $2.65 per hour intended to defray the cost of volunteering. The evaluation design did not set out to test the impact or effectiveness of the stipend. However, these results on the financial aspect of the decision to volunteer can inform future studies intended to more closely examine the effect of a stipend on recruitment, retention, and – potentially – health outcomes.

Some volunteers under age 65 reported having a disability. About one-third of the volunteers reported having a long-lasting condition such as severe vision or hearing impairment, or a condition that limits basic physical activities. Close to half of the volunteers self-identified as disabled workers when asked about their employment status. The survey did not ask about sources of income, therefore it cannot be known whether the disabled workers were receiving Social Security Disability Insurance (SSDI) or Supplemental Security Income (SSI). The nature of the disability could not be ascertained; this could be a severe mental or physical impairment preventing the individual from performing past relevant work. The onset of the disability also could not be determined.

[24] Chen, H., & Morrow-Howell, N. (2015). Antecedents and outcomes of older adults' motivations to volunteer with Experience Corps. *Research in Human Development*, 12, 118-132.

Retention, Satisfaction, and Engagement

This section presents findings for the second objective, to assess retention in service, reasons that contributed to leaving national service, differences between the volunteers who stayed and those who left in terms of satisfaction and experience with the training and support received to serve, service activities, and level of engagement.

Retention is a challenge for volunteer programs in general. The rate of volunteering has declined, while at the same time, those who volunteer serve for a shorter period.[25] Studies have noted the recruitment costs as well as the financial and service delivery implications of losing a volunteer before the end of their service. Although Senior Corps does not impose a minimum length of service for its volunteers, ideally each sponsoring organization seeks to maximize volunteers' length of service to reduce recruitment and training costs and minimize service gaps to the community. Besides costs to the sponsoring organization, other studies have noted personal costs to the volunteers themselves. For example, studies have consistently shown there are health benefits associated with volunteering. Therefore, a reduction in time commitment or ending volunteer service could reduce the health benefits for those volunteers who leave early. The policy goal is to minimize costs while allowing for the opportunity to maximize benefits. Doing so entails understanding and identifying malleable organizational factors that maximize retention. Based on existing research, these organizational factors include training and support provided to volunteers, the level of engagement such as hours devoted to service, and service activities. The analysis in this section is guided by these research questions:

1. What is the retention rate? What is the difference in retention rate between FGP and SCP volunteers?
2. What are the differences between volunteers who remain in service and those who leave?
    a. What are the differences in demographic characteristics and motivations for volunteering? What are the personal reasons contributing to volunteer retention?
    b. What are the differences in satisfaction, the volunteer experience, motivations, and types of training and support received between those who remain and those who leave?
3. What is the level of engagement among first-time volunteers? What types of service activities do they report? What is the association between retention, service hours, and service activities for volunteers who remain in service?
4. Which individual characteristics, motives, and types of training and support received are the most important contributors to volunteer retention?

We used descriptive statistics and tested for significant differences between FGP and SCP. The analysis on retention examined differences between volunteers who remain in service (stayers) and those who left their program (leavers). We also examined differences between FGP and SCP stayers and leavers. A logistic regression model was estimated to answer the third research

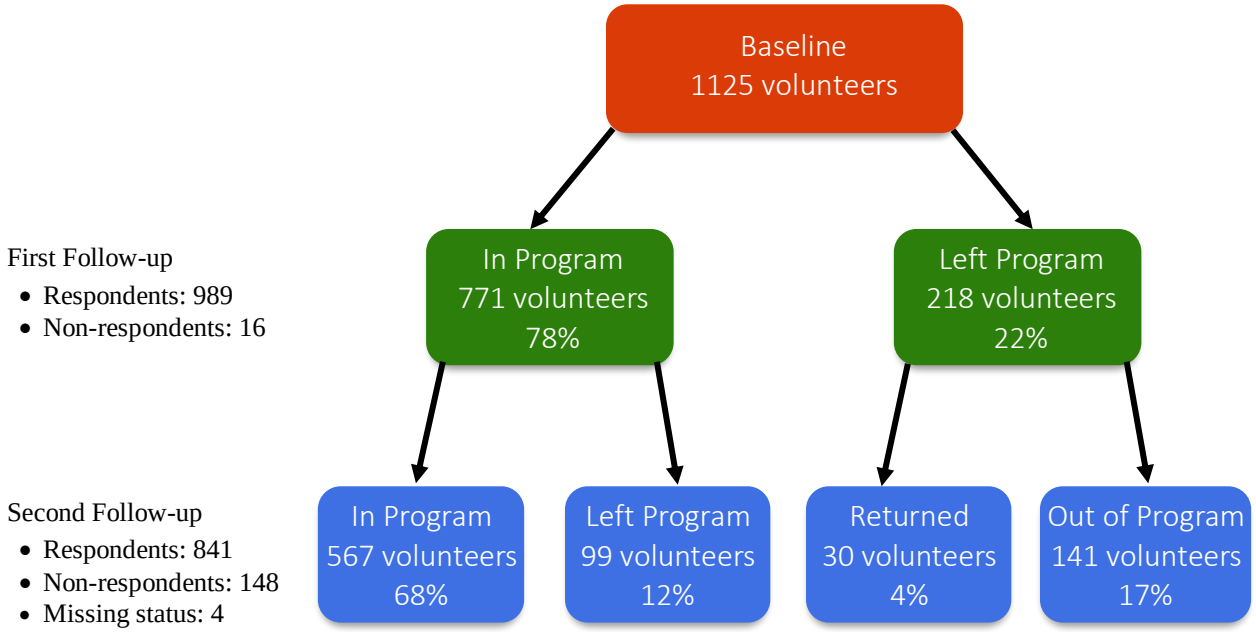
[25] U.S. Bureau of Labor Statistics. (2016, Feb. 25). Volunteering in the United States, 2015 [Press release]. U.S. Department of Labor. Retrieved from https://www.bls.gov/news.release/volun.nr0.htm

question, which examined factors that contribute to volunteer retention. Missing data were typically limited, except for income and service hours, with 13 percent of the respondents not responding to the question about income and 52 percent not responding to the question about service hours. In the logistic regression model, which included income and service hours as predictors, all missing values were imputed using the fully conditional specification (FCS) method which uses a separate conditional distribution for each imputed variable. This specification is used for imputing a variable that takes specific values such as a binary outcome for a logistic model. Appendix B describes the multiple imputation.

Retention in Service

The overall retention rate was higher among FGP/SCP volunteers compared with national estimates. As shown in Figure 10, 78 percent of the volunteers remained in service through the first year. The most recent national estimate showed 66 percent of volunteers remain in service through their first year.[26] Among FGP/SCP volunteers who remained for a second year, the retention rate was 68 percent; approximately 12 percent left national service in the second year. A small proportion (4 percent) of volunteers who had left returned to their program the following year.

Figure 10 Retention in Service



Note: Percentage based on number of respondents at each follow-up

[26] Corporation for National and Community Service, Office of Research and Policy Development. (2007, April). *Volunteering in America: 2007 State Trends and Rankings in Civic Life*. Washington, DC.

Retention was higher among FGP volunteers. Approximately 79 percent of FGP and 74 percent of SCP volunteers remained in service through the first year. Among volunteers who remained for a second year, the disparity increased; the retention rate was 70 percent for FGP and 62 percent for SCP. A higher proportion of FGP volunteers than SCP volunteers returned to service. Of the 4 percent of adults who returned to national service, 70 percent were FGP volunteers.

Demographic Differences in Retention

There were no significant differences in age, gender, race and ethnicity, income, household structure, and family composition (i.e., the number of children) between participants who remained (stayers) with the program and those who left (leavers). Table 7 compares and tests for differences in demographic characteristics between stayers and leavers. The retention rate was lower for volunteers age 76 years and older, which could be due to health. The retention rate was 60 percent among volunteers age 76 and older, 70 percent among ages 65 to 75, and 69 percent among those younger than age 65. Although fewer than 10 percent of the volunteers were men, once in service, the retention rate among men was not significantly different from women (Table 7).

Retention rates also varied based on education. FGP and SCP attract a diverse group of low-income earning adults with varying levels of education. Most (73 percent) completed a high school diploma, and more than half (58 percent) completed either an associate degree or bachelor's degree. Contrary to previous studies, the retention rate among FGP and SCP volunteers with less education was higher than among those with more education. Fewer than half (43 percent) of leavers had some college education or an associate degree, and 16 percent had attained a bachelor's degree. By contrast, 44 percent of stayers either did not complete high school or had a high school diploma or GED, and 15 percent had attained a bachelor's degree (Table 7).

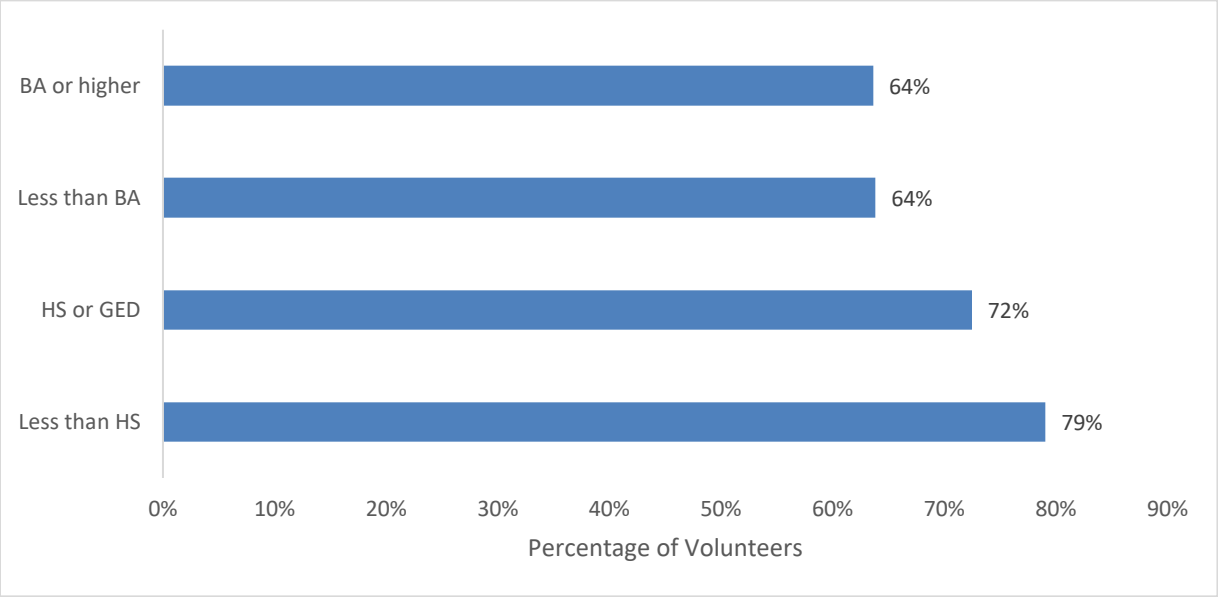
Table 7 Demographic Differences in Retention

	All		Stayers		Leavers		*p*-value	Retention rate
Age	**N**	**%**	**N**	**%**	**N**	**%**		
55–65 years	418	51.3	289	51.7	129	50.39	0.73	69.1%
66–75 years	324	39.8	227	40.61	97	37.89	0.46	70.1%
76 years or older	73	9.0	43	7.69	30	11.72	0.06	58.9%
Gender								
Male	75	8.9	47	8.29	28	10.33	0.33	62.7%
Female	763	91.1	520	91.71	243	89.67	0.33	68.2%
Race								
Native American Alaska Native	13	1.6	10	1.84	3	1.15	0.56	76.9%
Asian	24	3.0	19	3.49	5	1.92	0.22	79.2%
Black or African American	362	45.0	246	45.22	116	44.62	0.87	68.0%
Native Hawaiian Pacific Islander	2	0.2	0	0	2	0.77	--	--
White	381	47.4	255	46.88	126	48.46	0.67	66.9%
More than one race	22	2.7	14	2.57	8	3.08	0.68	63.6%
Ethnicity								
Not Hispanic	713	90.0	477	89.16	236	91.83	0.24	66.9%
Hispanic	79	10.0	58	10.84	21	8.17	0.24	73.4%
Education								
Less than HS	86	10.5	68	12.25	18	6.9	**0.02**	79.1%
HS or GED	247	30.3	179	32.25	68	26.05	0.07	72.5%
Less than BA	351	43.0	224	40.36	127	48.66	**0.03**	63.8%
BA or higher	132	16.2	84	15.14	48	18.39	0.24	63.6%
Income								
Less than $20,000	667	80.0	453	80.18	214	79.55	0.83	67.9%
$20,000–$29,999	129	15.5	90	15.93	39	14.5	0.59	69.8%
$30,000 or higher	38	4.6	22	3.89	16	5.95	0.18	57.9%
Marital Status								
Married/Partner	203	25.2	140	25.55	63	24.32	0.71	69.0%
Separated/Divorced	323	40.0	212	38.69	111	42.86	0.26	65.6%
Widowed	188	23.3	141	25.73	47	18.15	**0.02**	75.0%
Never Married/Other	93	11.5	55	10.04	38	14.67	0.05	59.1%
Veteran Status								
Active duty or veteran	26	3.4	17	3.28	9	3.54	0.85	65.4%
Military family or family of veteran	134	17.3	91	17.53	43	16.93	0.83	67.9%
Not a veteran	580	75.0	387	74.57	193	75.98	0.67	66.7%
More than one answer	33	4.3	24	4.62	9	3.54	0.49	72.7%
Disability								
Condition that limits basic physical activities	280	33.9	185	22.4	95	11.5	0.48	66.1%

Note: Significant differences between stayers and leavers (i.e., *p*-values less than 0.05) are in bold.

Figure 11 illustrates that the retention rate among volunteers with less than a high school diploma (79 percent) or those who had completed high school or GED (73 percent) was higher than the retention rate among volunteers with a bachelor's degree or with some college (64 percent). These differences are statistically significant (see Table 7).

Figure 11 Retention Rate by Education



We also examined retention for FGP and SCP separately. Appendix C shows the full results. Among FGP, the lowest retention rate was among volunteers age 76 and older (59 percent), those with income at $30,000 or higher (59 percent), and those who were single (60 percent). The retention rate among FGP volunteers was highest for those under age 66 (73 percent), with less than high school or with a high school diploma or GED (82 and 75 percent, respectively), and who were widowed (73 percent).

Among SCP, the lowest retention rate was among volunteers who had completed a bachelor's degree (55 percent), those under age 66 (60 percent), older than 76 years old (58 percent), were married or had a partner (55 percent), or had reported a disability (58 percent). The highest retention rate was for SCP volunteers who were widowed (80 percent).

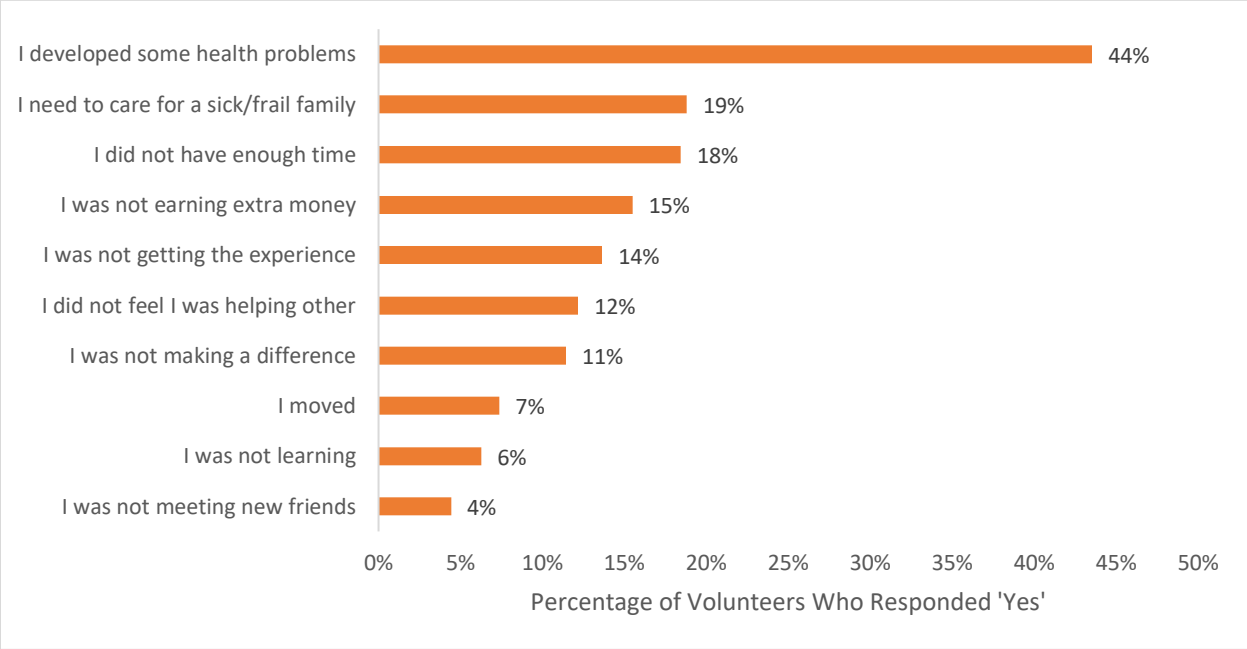
Reasons for Leaving National Service

The volunteers who left were asked about their reasons for leaving FGP and SCP. There were 10 items that asked how much certain factors influenced the decision to stop volunteering (i.e., leave the program). The items covered reasons related to health, time constraints, and whether expectations for volunteering were met. The response to each item was on a 5-point scale from 1 ("not at all") to 5 ("a great deal"). There was one additional question where participants could write freely their reason for leaving. All written responses were coded and analyzed. Each item was dichotomized to simplify interpretation. Responses of "not at all" were coded as "no," which

indicated that this factor did not matter in the decision to leave. Responses of "a little," "somewhat," "a lot," or "a great deal," were coded as "yes," indicating that this factor mattered in the decision to leave.[27]

There were a multitude of reasons that some individuals ended their volunteer role. Personal health or the health of a family member/friend was the main reason for most of those who left. Figure 12 shows the distribution of responses to each of the items. Among participants who left, 44 percent reported personal health and 19 percent reported "need to care for a sick or frail family member or friend" as a reason. Besides health, the other most frequent reason for leaving was, "not having enough time" (18 percent). Some participants left because they were disillusioned with the program or their expectations for joining were not met, while for some, the financial incentive was insufficient or their expectation for personal growth was not met. Figure 12 shows specifically not earning enough extra money (15 percent), not getting the experience they wanted (14 percent), and not learning (6 percent) as reasons for ending their service. Some participants also reported their altruistic motivation for joining was not met – they reported not helping other people/children (12 percent) and not making a difference (11 percent) as their reason for leaving.

Figure 12 Reasons for Leaving National Service



Many volunteers reported multiple reasons for leaving national service. More than half (51 percent) of volunteers had one reason, 18 percent had two reasons, 13 percent had three reasons,

[27] Appendix D shows the distribution of responses for each of the five response categories.

and 3 percent had four reasons. Approximately 8 percent of leavers did not provide a reason that they stopped volunteering.

Retention and Employment Status

Volunteers who, at the start of service, were looking for work had the lowest retention rate; retirees had the highest retention rate (Table 8). As previously discussed, almost one-fourth of the first-time volunteers were still active in the labor force, either working or looking for work, and close to 30 percent reported their employment status as disabled. Labor force status following entry into national service is of particular interest for those volunteers who were looking for work or were disabled because previous studies suggest a positive association between volunteering and subsequent employment.[28]

Table 8 Retention by Employment, Retirement, and Disability Status

	All		Stayers		Leavers		*p*-value	Retention Rate
	N	%	N	%	N	%		%
Working now	74	9.2	46	8.3	28	10.7	0.28	62.2
Unemployed and looking for work	117	14.3	70	12.7	47	17.9	0.045	59.8
Disabled	228	28.0	156	28.3	72	27.5	0.82	68.4
Retired	351	43.0	249	45.1	102	38.9	0.10	70.9
Homemaker	44	5.5	31	5.6	13	5.0	0.70	70.5

Note: Significant differences between stayers and leavers (i.e., *p*-values less than 0.05) are in bold.

There is no support from this analysis of a significant positive association between staying in service and subsequent employment. The change from unemployment to work, or even a change to retirement, is complex for both leavers and stayers. Figures 13–16 show the change in employment, retirement, and disability status for stayers and leavers from baseline to second follow-up. A separate comparison is made for the volunteers who at baseline were looking for work (Figure 13), were working (Figure 14), reported their status at baseline as disabled (Figure 15), or were retired (Figure 16). For stayers who at baseline were looking for work (Figure 13), more than one-third (38 percent) of stayers reported that they transitioned to working at the second follow-up; another 35 percent transitioned to retirement; and 13 percent reported they were still looking for work. The transition for leavers who at baseline were looking for work was similar to stayers (Figure 13), and the difference between them was not statistically significant. As shown in Figure 13, about one-third (33 percent) of leavers reported they had transitioned from looking for work to working, while 30 percent transitioned to retirement. Notably, a higher proportion of leavers (23 percent) reported they were still looking for work at the second follow-up.

[28] Spera, C., Ghertner, R., Nerino, A., & DiTommaso, A. (2013, June). *Volunteering as a pathway to employment: Does volunteering increase odds of finding a job for the out of work*? CNCS, Office of Research and Evaluation: Washington, DC.

Figure 13 Change in Employment, Retirement, and Disability Status from Baseline to Second Follow-up: Looking for Work

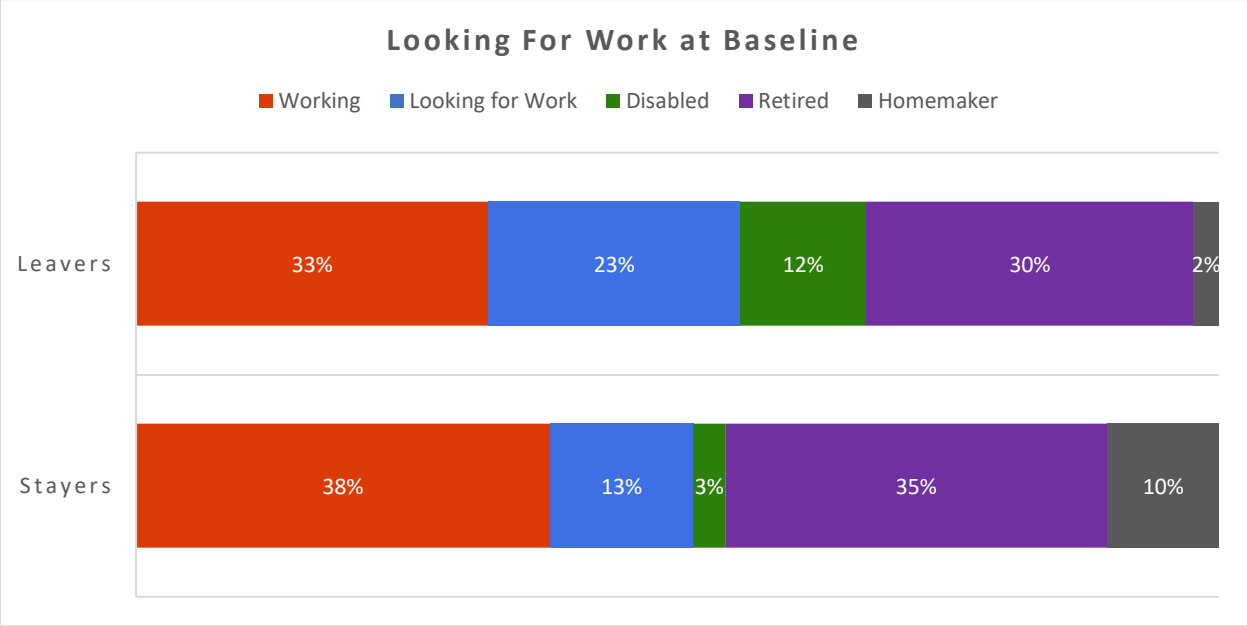
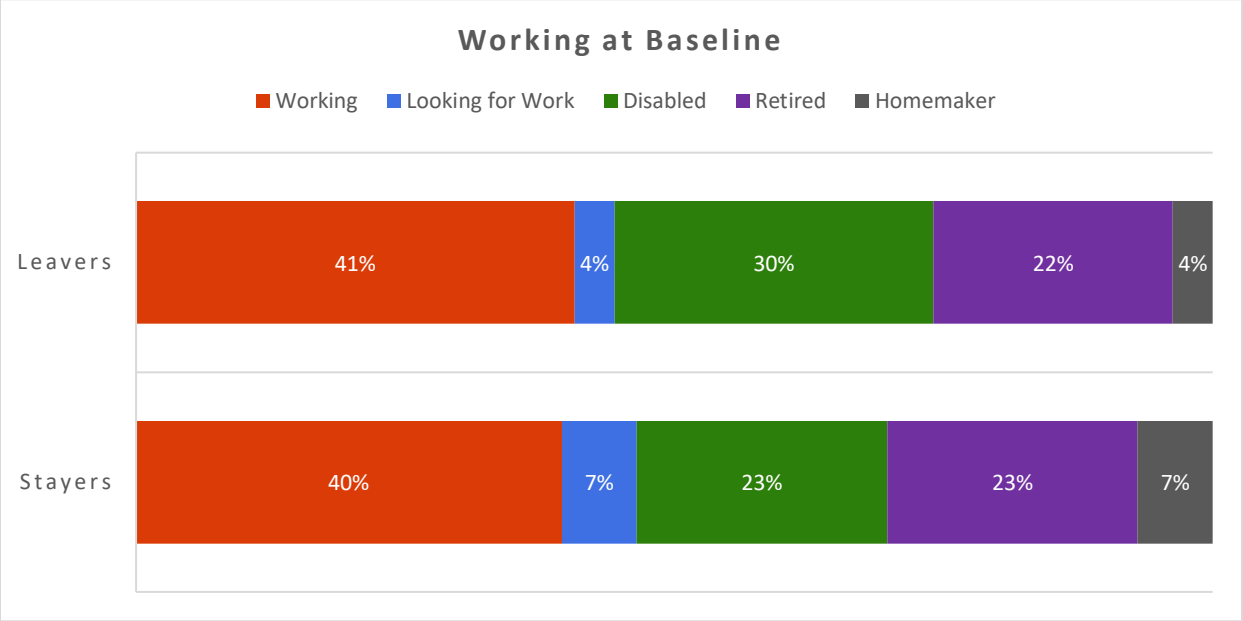


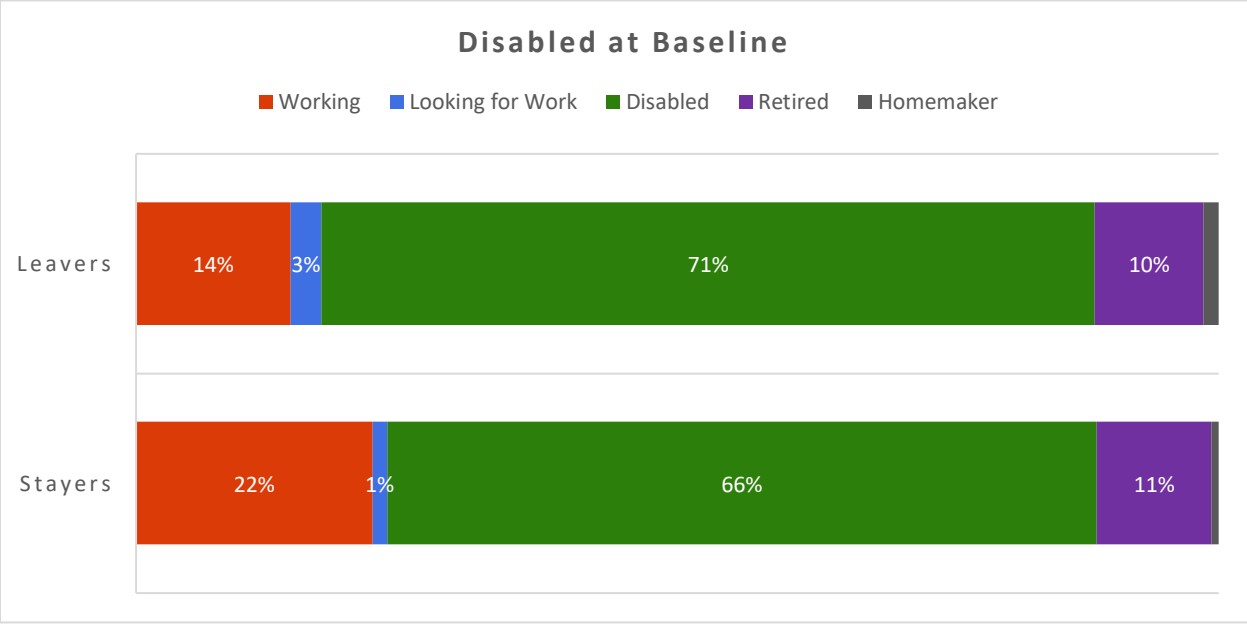
Figure 14 shows the change in employment, retirement, and disability status for volunteers who were initially working at baseline. Among these volunteers, an equal proportion (40 percent and 41 percent) continued to work whether they stayed in service or left. At the same time, a higher proportion of leavers who were initially working reported their status as disabled (30 percent) at the second follow-up compared to those who stayed (23 percent).

Figure 14 Change in Employment, Retirement, and Disability Status from Baseline to Second Follow-up: Working



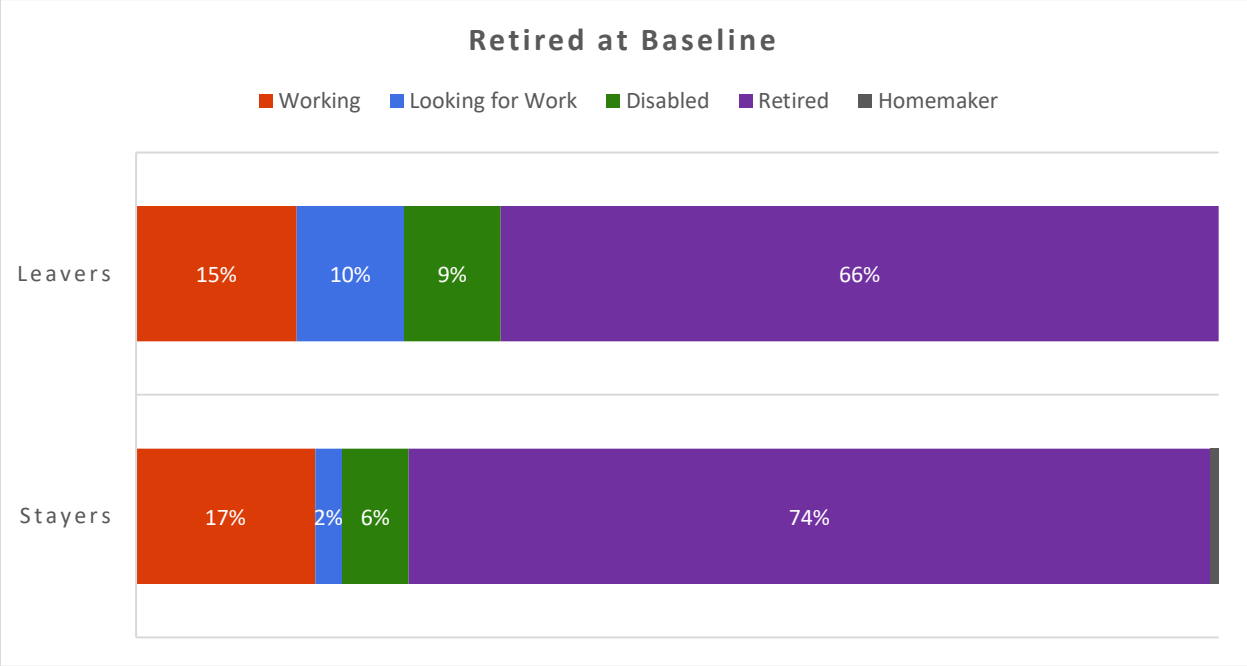
Some portion of the volunteers who reported a disabled status (Figure 15) or reported being retired (Figure 16) at baseline also transitioned into the labor force at the second follow-up. For example, as shown in Figure 15, 22 percent of the stayers who reported a disabled status at baseline reported transitioning to work at the second follow-up. A smaller proportion transitioned to retirement.

Figure 15 Change in Employment, Retirement, and Disability Status from Baseline to Second Follow-up: Disabled



Employment transition among the retirees is consistent with our previous discussion that retirement was a gradual movement out of labor force, and that older adults have remained in the labor force over a longer period and did not necessarily exit the labor force permanently. Volunteers who reported being retirees at baseline also returned to the labor force whether they had stayed in service or left. At the second follow-up, 15 to 17 percent of retirees reported they were working and another 10 percent of leavers who were retired at baseline reported they were looking for work (Figure 16).

Figure 16 Change in Employment, Retirement, and Disability Status from Baseline to Second Follow-up: Retired



Organizational Factors and Retention

Research posits management practices that provide training and support, screening procedures to identify and match volunteers to assignments, using volunteers to recruit others one-on-one, and recognition activities such as awards for volunteers matter for promoting retention.[29] The programmatic structure of FGP and SCP incorporates several of these practices. Volunteers receive training before they begin their assignment. They are matched to a beneficiary in their community, and there are monthly in-service meetings for active volunteers. The primary mode of recruitment is through informal networks where volunteers serve as the primary ambassador for recruiting new volunteers. More than two-thirds (67 percent) of first-time volunteers learned about FGP and SCP from a friend, and through informal communication like word of mouth (32 percent).

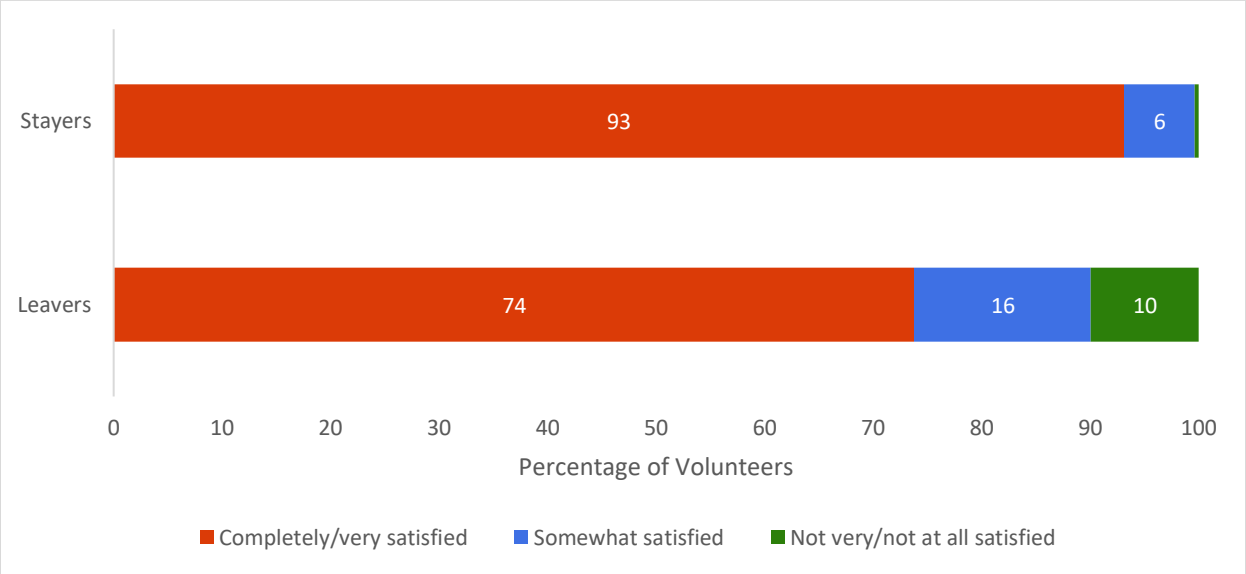
[29] Hager, M. A. & Brudney, J. L. (2004, June). *Volunteer management practices and retention of volunteers*. Washington, DC: The Urban Institute. Retrieved from https://www.nationalservice.gov/pdf/Management_Brief.pdf

Satisfaction and Experience with Training and Support

The study explicitly asked respondents about their overall satisfaction with their volunteer experience, their experience with training and support, the flexibility to manage their time as a volunteer, and the stipend. This section describes differences between stayers and leavers in overall satisfaction, experience with the program, and the training and support the volunteers felt they received.

Overall satisfaction with FGP and SCP was high for both stayers and leavers; however, overall satisfaction was higher among stayers compared to leavers, with 94 percent of stayers and 74 percent of leavers reporting being "completely satisfied" or "very satisfied" (Figure 17).[30] The high overall satisfaction is consistent with earlier discussions of the reasons volunteers gave for leaving service. The difference in overall satisfaction between stayers and leavers was statistically significant. A higher proportion of leavers reported being "not very/not at all satisfied" (10 percent for leavers, 0 percent for stayers) or "somewhat satisfied" (16 percent for leavers, 6 percent for stayers) with their national service experience (*p*-value < .0001). We also examined differences in retention rate based on the volunteers' overall satisfaction. Among volunteers who reported being "completely/very satisfied," the retention rate was 74 percent, much higher than the 54 percent retention rate among volunteers who reported being "somewhat" or "not very/not at all satisfied."

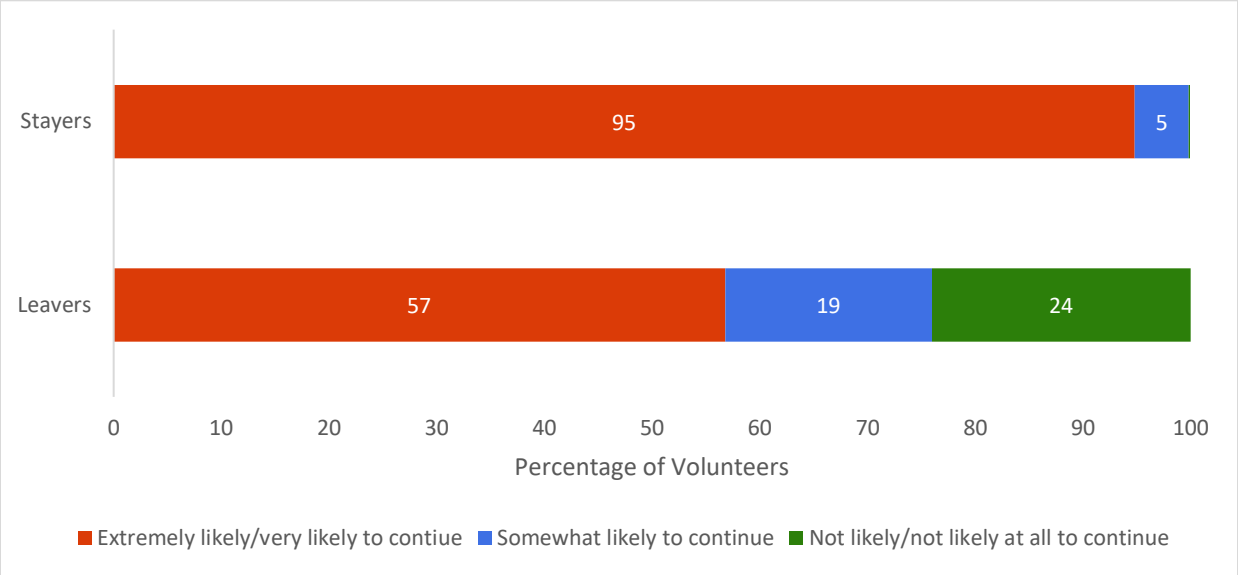
Figure 17 Overall Satisfaction with Volunteering, Stayers and Leavers



[30] The latest surveys for stayers and leavers were used to examine volunteers' satisfaction and experience with training and support received to serve. That is, stayers are participants who stayed with the program throughout the entire study period, and the second follow-up survey data were used. Leavers are those who left at the first follow-up (first follow-up survey data) or the second follow-up (second follow-up survey data).

Almost all (95 percent) stayers reported they were "extremely likely/very likely" to continue with the program (Figure 18). More than half (57 percent) of leavers reported they were "extremely likely/very likely" to continue with the program; 24 percent reported they were "not likely" or "not at all likely" to continue. There is a possible association between likelihood of continuing with the program and retention. Volunteers who felt strongly about continuing with the program had a higher retention rate than those who reported they were unlikely to continue with the program. Some leavers returned to their program. As previously discussed (see Figure 10), about 4 percent of volunteers returned to their program within a year. Those who returned noted personal health problems, needing to care for a sick family or friend, or moving as among their primary reasons for having left service.

Figure 18 Likelihood of Continuing with FGP and SCP, Stayers and Leavers



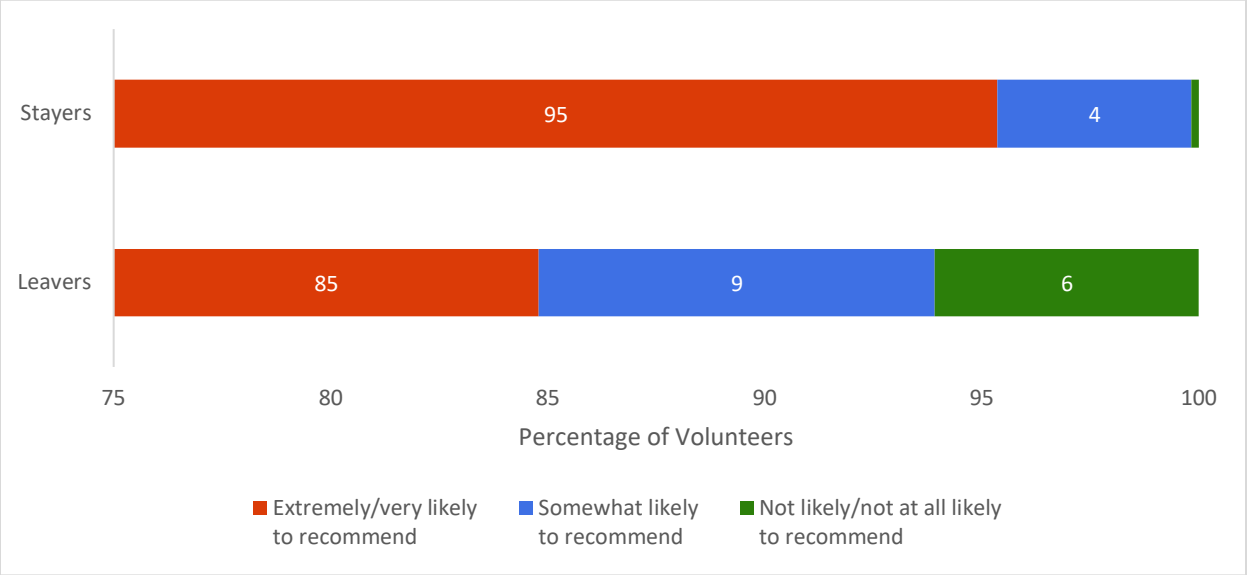
Note: Volunteers who left at the second follow-up were not asked this question.

One of the effective management practices for promoting retention is to rely on volunteers as recruiters for the organization. The reason for the strong influence of this practice on retention is that it shows, "the organization provides a worthwhile experience."[31] Leavers were sufficiently satisfied with their experience that their responses to the question, "How likely are you to recommend the Foster Grandparent/Senior Companion Program to a friend?" indicated strong willingness to be ambassadors for the program they left – 85 percent of leavers reported they were "extremely likely or very likely" to recommend FGP/SCP to a friend (Figure 19). Almost all stayers (95 percent) reported they were "extremely likely or very likely" to recommend the program to a friend. This is consistent with the earlier discussion that personal health of a family or friends were the most frequent answers provided for leaving service. However, some volunteers left because their expectations and motives for volunteering were not met.

[31] Hager & Brudney, 2004.

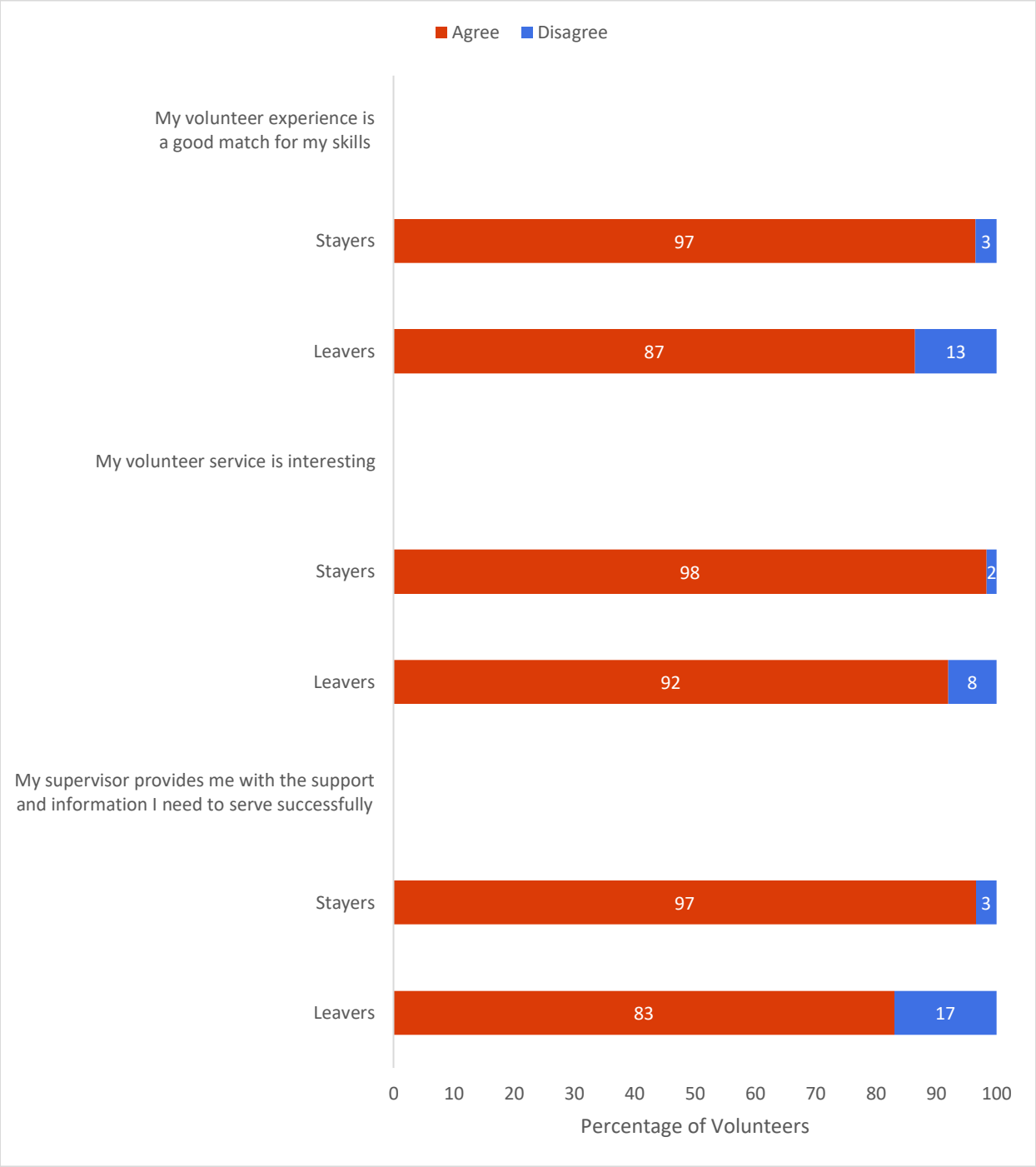
Notwithstanding, leavers appeared to appreciate the value of the program to the community as evidenced in their willingness to be ambassadors and recommend it to others.

Figure 19 Likelihood Would Recommend FGP and SCP, Stayers and Leavers



FGP and SCP volunteers reported positive experiences with the training and support they needed to serve. There were significant differences between stayers and leavers in their perception of the volunteer experience such as "feeling good about the match," the "service is interesting," and "having the support needed to serve." More than 95 percent of stayers agreed with those statements (Figure 20). Most (83–92 percent) of the volunteers who left felt positive about the match between their skills and their volunteer service, that the service was interesting, and that they received the support and information to succeed as a volunteer. A comparison of stayers and leavers showed that the higher proportion of leavers who disagreed or felt negative about their training and support was significantly different from stayers (all *p*-values < .0001). Overall, leavers did not perceive their training and support as "helpful."

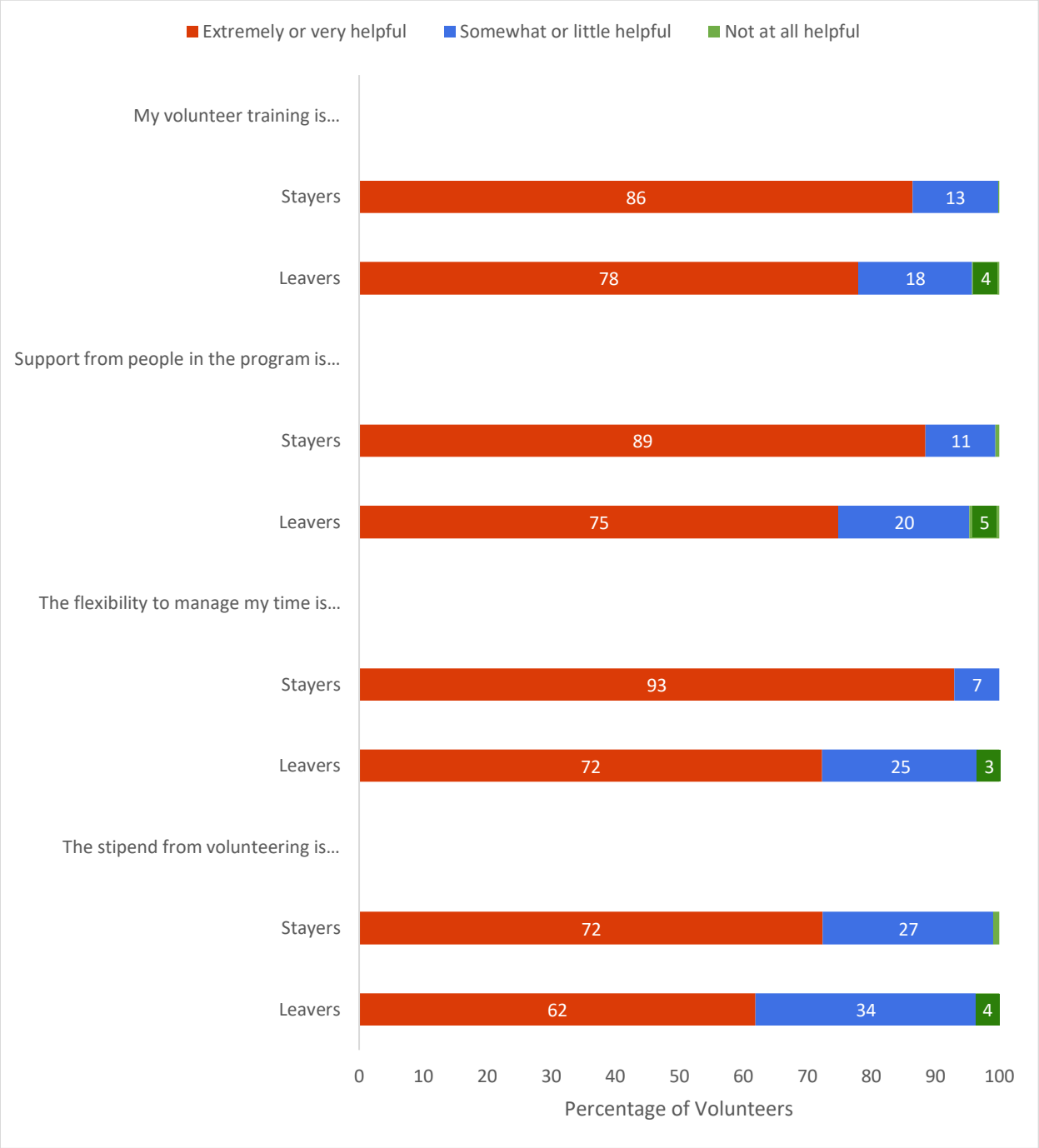
Figure 20 Differences in Perception of the Volunteer Experience, Stayers and Leavers



Similarly, as demonstrated in Figure 21, most participants reported that the training and support they received to serve, the flexibility to manage time, and the stipend were "extremely or very helpful." At least 86 percent of stayers reported that the training, support and flexibility to manage time were "extremely or very helpful." The ranking among leavers was lower. Among

leavers, fewer than 80 percent reported that the training, support, and flexibility were "extremely or very helpful."

Figure 21 Perception of Volunteer Training, Support, Flexibility, and Stipend



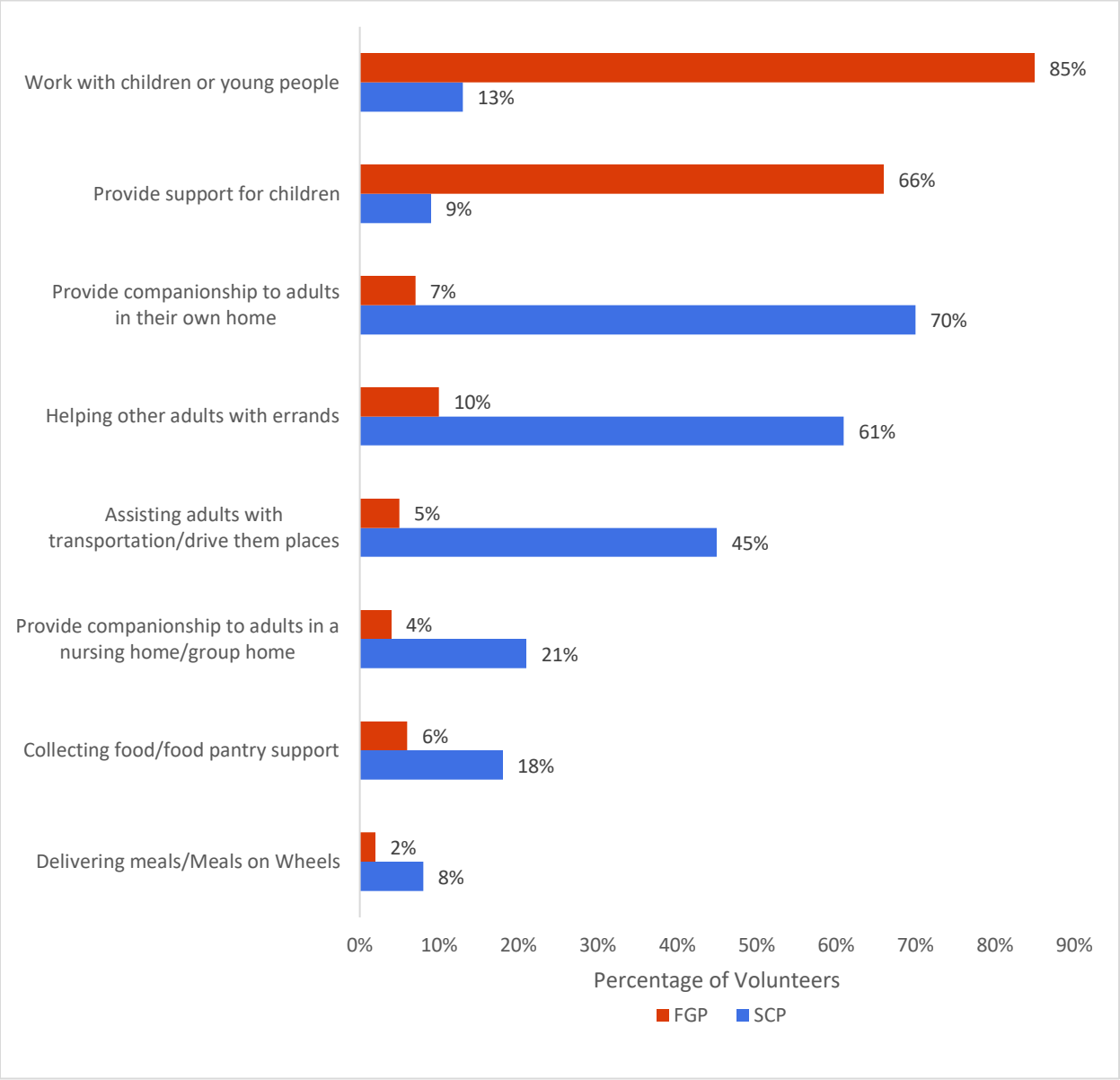
Differences Between FGP and SCP

There were no significant differences between FGP and SCP in overall satisfaction, willingness to recommend the program, overall experience with volunteering, and training and support received. Although not statistically significant, there were notable differences between FGP and SCP volunteers. Lower proportions of SCP leavers reported they would recommend the program to a friend, agreed with the statements that their supervisor provided them with the support and information they need to serve successfully, identified the support from the people in the program as helpful, and found the flexibility to manage their time was helpful. These perceptions of their satisfaction and experience would tend to weaken SCP volunteers' retention if, as the research suggests, those factors matter for SCP volunteer retention, which is lower (62 percent) than the retention rate for FGP (70 percent).

Service Activities and Level of Engagement

Foster Grandparents primarily mentor and serve as role models to children and young people, and Senior Companions serve as companions to homebound individuals, helping with daily living tasks such as grocery shopping, providing transportation to medical appointments, and alerting doctors and family members to potential problems. The service activities the volunteers reported aligned with these expectations. Most Foster Grandparents reported working with children or young people, or providing support to young people. Similarly, most Senior Companions reported providing companionship to adults in their home, helping adults with errands, or assisting adults with transportation (Figure 22).

Figure 22 Service Activities Reported Among First-time Volunteers



A small percentage of the volunteers reported activities that appear incongruent with their program. For example, about 17 percent of Foster Grandparents reported they provided companionship to adults or helped other adults;[32] about 22 percent of Senior Companions reported they worked with or provided support for children. It is unclear whether these respondents counted hours for other volunteer organizations in which they engaged outside their service as Foster Grandparents or Senior Companions. About 21 percent of respondents

[32] The children assigned to Foster Grandparents must be under 21 years old. However, there are some exceptions that might account for some Foster Grandparents reporting companionship to adults as part of their volunteer activities. Specifically, when a Foster Grandparent is assigned to a child with a disability, the assignment may continue beyond the child's 21st birthday, provided certain conditions specified in 45 CFR 2552.82 are met.

volunteered with other organizations. Some of the differences among Foster Grandparents who reported providing companionship was explained by other volunteer service activities. Similarly, some of the differences among Senior Companions who reported mentoring children and youth were explained by other volunteer service activities.

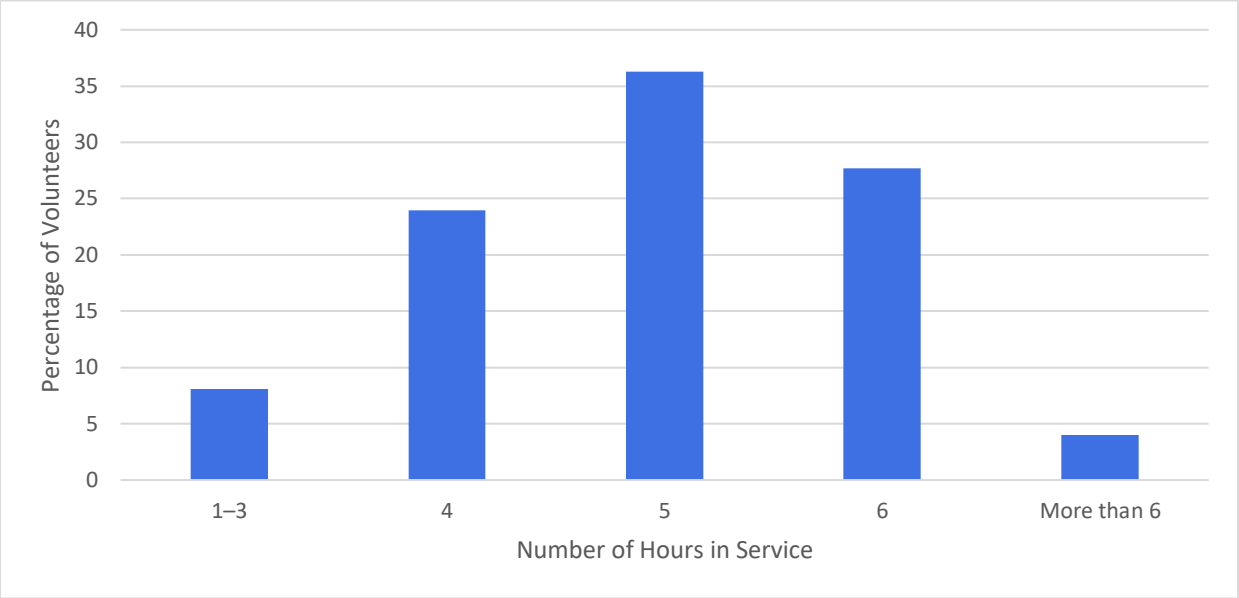
The second follow-up survey included questions on volunteers' level of engagement measured by the number of hours and days in service in the month prior to the survey.[33] Senior Corps requires 15 to 40 hours of service per week, which is approximately 780 to 2,080 hours of service per year. Due to the required commitment of hours, FGP and SCP volunteers engaged in more hours of service than other adult volunteers. This level of service requirement is greater than the median number of volunteer service hours older adults typically reported in national surveys. For example, volunteers ages 55 to 64 years reported a median 52 hours of service a year, and volunteers age 65 and older reported a median of 86 hours a year of service.[34] The third and final survey asked respondents to report on the number of hours per day and the number of days they engaged in national service in the month prior to taking the survey.[35] FGP and SCP volunteers who remained in service through their second year were highly engaged with their programs, contributing about 900 hours of service during the year. Senior Corps volunteers spent on average five hours per day in the month prior to the survey serving their communities. Almost two-thirds (64 percent) reported five to six hours per day of service in the month prior to the survey (Figure 23). FGP volunteers reported an average of five hours of service compared to 4.7 hours for SCP volunteers.

[33] Fifty-two percent of volunteers did not answer the question on number of service hours, and 42 percent did not answer the question on number of days of service. The analysis of the distribution of hours and days devoted to service was conducted with an imputed dataset. Appendix B describes the multiple imputation.

[34] U.S. Bureau of Labor Statistics. (2014). Volunteering in the United States, 2013. Washington, DC. Retrieved from http://www.bls.gov/news.release/archives/volun_02252014.pdf

[35] The questions on hours of service was asked of respondents who had remained in service through the end of the data collection period when the third and final survey was administered. As shown in Figure 2, a total of 771 participants were in service at the time of the second follow-up; of those, 567 were in service, and 99 participants reported they were no longer serving with their program.

Figure 23 Distribution in Number of Hours in Service per Day



In terms of number of days spent in service, the volunteers reported 14 days of service to their community during the month prior to the survey. The two most commonly reported sets of days spent in service were 1–11 days or more than 20 days, with 26 percent of volunteers in each of these two categories. About 25 percent reported 12–15 days, and 23 percent reported 16–19 days of national service. An average of 15 days per month and 5 hours per day translates to an average of 900 hours per year.

Individual and Organizational Predictors of Retention

This section discusses the results from the logistic regression model predicting the contribution of individual characteristics and organizational factors to retention. Volunteers withhigher odds of staying in service had low education (less than high school or high school diploma), reported their health as "fair/poor" when they began service, had income below $20,000, or were with a disability. Adults with these characteristics were more likely to be at higher risk of poorer health outcomes. We estimated two models. The first model controlled for background characteristics (age, sex, race/ethnicity, education, income, marital status, whether the volunteer lived alone, had children), health characteristics (self-rated health at baseline, functional limitations, medical conditions, whether the volunteer reported a disability), motivation for volunteering, and type of program (FGP or SCP). In the first model, the odds of staying in service were 83 percent higher (OR = 1.83, *p*-value = 0.04) for volunteers who did not complete high school and 44 percent higher (OR = 1.44, *p*-value = 0.04) for volunteers with some college or a bachelor's degree. The odds of staying in service did not significantly differ based on the volunteers' self-rated health, medical conditions, motivation for volunteering, disability status, or program type, all else being equal.

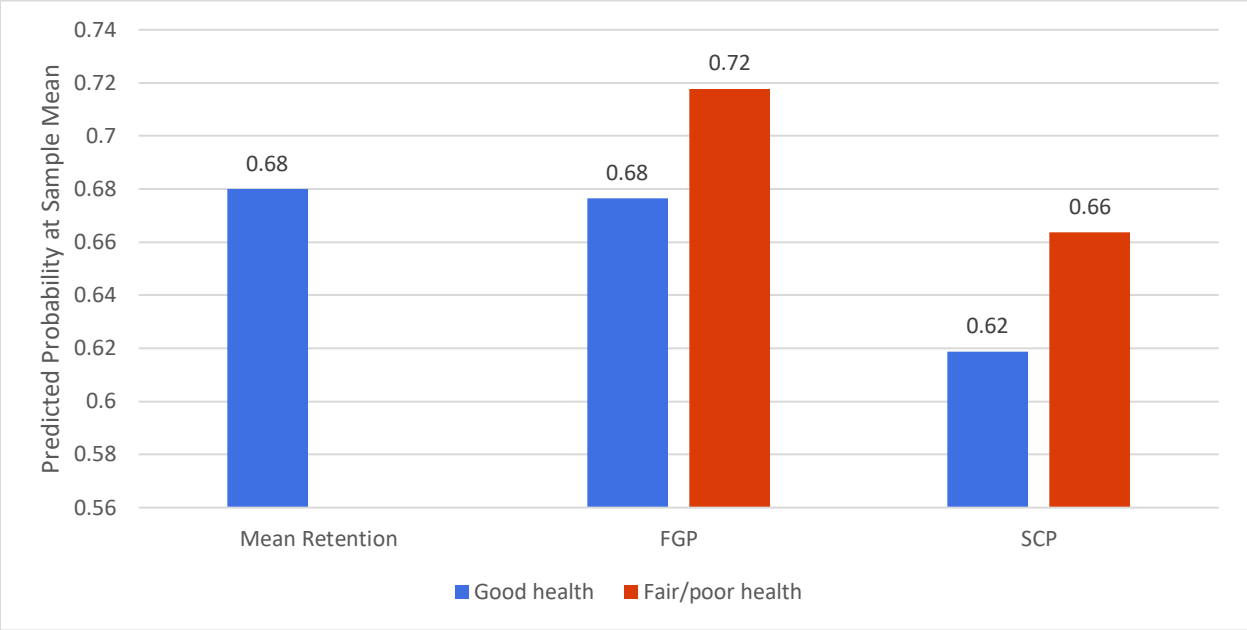
We estimated a second model which expanded the first model to include employment status at baseline, volunteers' overall satisfaction with the program, and their experience with the training and support they receive to serve. The results from the second model differs from the first in that after controlling for organizational predictors, education was no longer a significant predictor of the odds of staying in service; volunteers' overall satisfaction and their perception of the ability to manage their time significantly predicted the odds of staying of service. The odds of staying in service were 37 percent higher (OR = 1.37, *p*-value = 0.30) for volunteers who did not complete high school and 24 percent higher (OR = 1.24, *p*-value = 0.25) for volunteers who completed high school than for those with some college or a bachelor's degree. In other words, the odds of staying with the program among volunteers with less than a high school education was 1.4 times higher than among those who had some college or a bachelor's degree. The odds of staying in service were 15 percent lower (OR = 0.85, *p*-value = .75) for volunteers with income over $40,000 compared to volunteers with income lower than $20,000. The odds of staying in service were 22 percent higher (OR = 1.22, *p*-value = .50) for volunteers who rated their health as "fair/poor" at the start of their service compared to volunteers who rated their health as "very good/excellent." Volunteers who had a disability had 19 percent higher odds (OR = 1.19, *p*-value = .44) of staying in service than those who did not have a disability. As with the first model, the odds of staying in service did not significantly differ based on the volunteers' self-rated health, medical conditions, motivation for volunteering, whether they had a disability, and whether they served in the FGP or SCP, all else being equal. Appendix E shows the regression coefficients and odds ratios for all predictors.

Volunteers' overall satisfaction with the program and feelings about the flexibility to manage their own time had the greatest impact on the odds of staying in service. Volunteers who were

"completely/very/somewhat satisfied" with the overall volunteer experience at the first follow-up were almost three times more likely (OR = 2.94, *p*-value = .0001) to remain in service compared to those who were less satisfied. Volunteers who reported the flexibility to manage their time as "extremely/very/somewhat helpful" were almost three times more likely to stay (OR = 2.68, *p*-value = .0002) compared to those who reported flexibility to manage their time as a "little/not at all helpful." The odds of staying in service were 31 percent lower for volunteers who reported their experience was interesting. That is, leavers were more likely to report their volunteer experience as interesting. As previously discussed, an effective management practice is reliance on volunteers to recruit for the program. The findings that leavers felt their experience was interesting could help with recruitment as the leavers share their experience with their family and friends.

An alternative interpretation of the logistic regression coefficients is to translate the effects of odds into the effects of probabilities for a subgroup of volunteers or a typical volunteer. Figure 24 shows the predicted probabilities of retention based on the volunteers' self-rated health relative to the mean probability of retention. The probability of retention for FGP volunteers who reported their health as "fair/poor" at the start of their service was 0.72; that is, volunteers who began their service feeling their health was "fair/poor" had a 0.04 higher probability of retention at the sample mean than volunteers who felt their health was "excellent or very good." There was no difference in the probability of retention between volunteers who reported their health as "very good" and those who reported their health as "excellent or very good"; both groups had a probability of retention of 0.68, which was the same as the mean retention. SCP volunteers had a lower probability of retention than FGP volunteers. However, the pattern was the same in that the SCP volunteers who reported their health as "fair/poor" had a higher probability of retention at the sample mean than SCP volunteers who reported their health as "good."

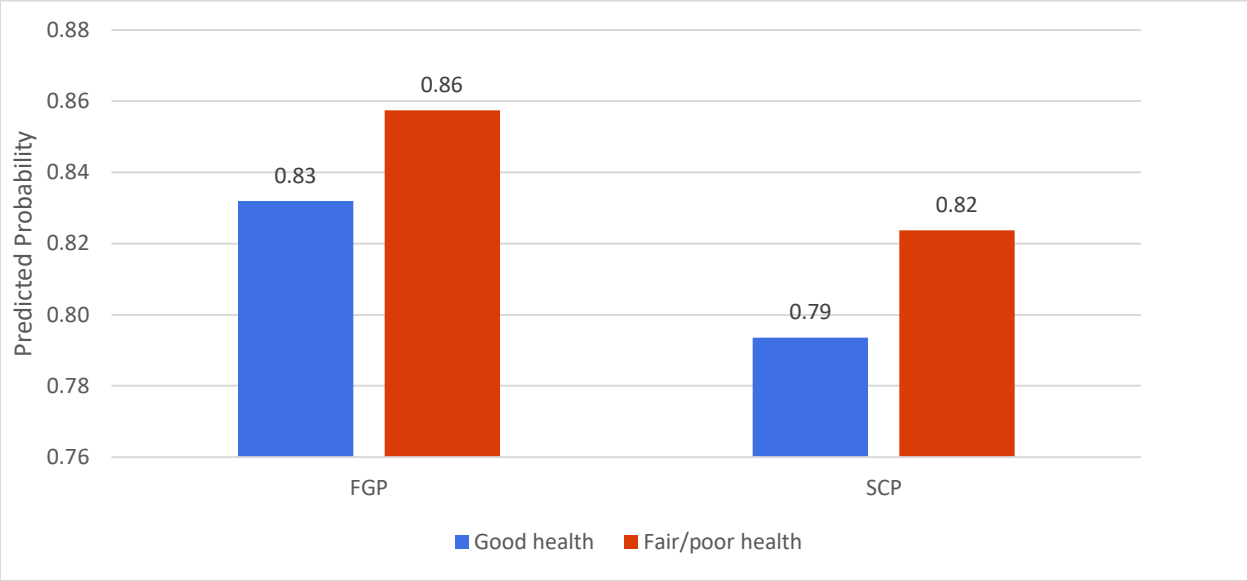
Figure 24 Predicted Probability of Retention Based on Self-rated Health at Sample Mean



Note: The measure of self-rated health is from the volunteers' report at the start of their service.

Based on findings presented in the previous sections, a typical volunteer is a 66-year-old retired, married female with a high school diploma, and an income of less than $20,000, who is not living alone, has no disability, and had a positive experience with training and support. Retention did not significantly differ on self-rated health at the start of their service, and health outcomes are known to be important benefits post-volunteering. The probability of retention for a typical volunteer was compared for two subgroups based on self-rated health at the start of service (Figure 25). A typical volunteer who rated their health as "fair/poor" at baseline had a higher probability of retention compared to a volunteer who rated their health as "excellent/very good" or "good." For a typical FGP volunteer who rated their health as "fair/poor" at baseline, the probability of retention was 0.86, and for a similar typical SCP volunteer, the probability of retention was 0.82. For a typical FGP volunteer who rated their health as "good," the probability of retention was 0.83; for a similar SCP volunteer, the probability of retention was 0.79.

Figure 25 Predicted Probability of Retention, a Typical Volunteer



Note: The measure of self-rated health is from the volunteers' report at the start of their service.

Hours of Service and Retention

There is scant research on volunteers' engagement and the likelihood of continuing to serve. One national study using the 2004–2006 Current Population Survey Volunteer Supplement showed a positive association between hours of service and the propensity to remain in the volunteer role for another year.[36] This observed positive association was premeditated on offering volunteers challenging and multiple activities centered on enriching their experience. A logistic regression model was estimated for the sample of volunteers who remained in service through their first year. The full results are shown in Appendix F. All else being equal, hours of service were not a statistically significant predictor of a volunteer remaining in service. The possible explanation is that there is a commitment at the outset on the number of hours of service as an FGP and SCP volunteer. For volunteers who commit to the program through their first year and beyond, these findings show that the requirement on number of hours of service is not the significant contributor to leaving the program. Other factors affect retention once the volunteers make it through a one-year commitment to the program; these include potentially declining health or onset of medical conditions that contribute more to retention the longer the volunteer remained in the program.

Summary

Senior Corps provides opportunities for low-income earning adults to serve and strengthen their community through service as Foster Grandparents who mentor, tutor, and serve as role models to children and youth, or as Senior Companions who provide companionship to those who are

[36] CNCS, Office of Research and Policy Development. (2007). *Volunteering in America: 2007 State trends and rankings in civic life*. Washington, DC.

homebound. During the first two years of service, the retention rate, at 68 percent, was higher than national estimates among the general population of adult volunteers. The first-time volunteers who also persisted with serving their community were among the most vulnerable in terms of risk factors associated with poorer health outcomes. The adults who remained in service had the lowest income (reported income under $20,000), had a disability that could limit employment, and had attained at most a high school diploma or had not graduated high school. The volunteers who remained in service, though they exhibited the risk factors associated with poorer health outcomes, did not differ from those who left on self-rated health, medical conditions, and motivation.

Even volunteers who left the program reported overall satisfaction and a positive perception of the volunteer experience, such as feeling that their assignment was a match for their skills and that the assignment was interesting. These positive experiences bode well for future recruitment. In fact, 85 percent of those who left reported they would continue to recommend the program and were more likely to find their experience interesting than those who stayed. This again is a boost for future recruitment given that most eligible adults who join the program do so based on information obtained from their friends and other informal communication.

The volunteers who left did so for myriad reasons, with personal health as one reason most frequently cited. Two barriers emerged as significant contributors to retention: flexibility to manage time and overall satisfaction. However, there is not one static reason driving retention over time. The volunteers who ended their service in the first year might have done so because they realized their service activities and commitment did not permit them enough flexibility; they were generally more dissatisfied with their experience than volunteers who stayed with the program (Figure 17). Though these barriers contributed to retention, those who left actually reported the experience was interesting and that they would recommend it to a friend. Beyond the first year, declining personal health or having to help a family member could affect retention.

The level of service commitment for Senior Corps is 15 to 40 hours per week, far greater than the median number of service hours among adult volunteers in the general population. This required service engagement does not seem to negatively impact retention. One possible explanation for the non-significant association between service hours and retention is that the question about hours of service was asked of respondents who remained in service. At the outset, there is a clear expectation on service hours. The findings showed, therefore, that hours of commitment do not significantly contribute to retention for those who remained committed to their program. Because only a subset of the respondents were asked about service hours, it was not possible to assess whether service hours contributed to retention in the first year of service.

Health and Well-being

This section presents findings from the third objective, which is to examine whether changes in health and well-being were associated with participation in national service. The specific health and well-being measures included self-rated health, life satisfaction, social isolation and loneliness, symptoms of depression, and self-efficacy.

The results presented in the previous section showed that first-time volunteers who remained in service had more risk factors than those who left. A higher proportion of the volunteers who remained in service had income below $20,000 with low education levels, and at the time they began their service, a higher proportion of those who stayed reported their health as "fair/poor." Many more stayers reported having a disability, and many identified as disabled workers. The fact that these volunteers are in the lowest income category puts them at risk for both physical and mental health problems. Income is not necessarily the cause of poorer health and well-being; rather, income reflects the individual's social and economic circumstances, which in turn affect access to those resources leading to healthy lifestyles and experiences.[37] Although income could facilitate better health outcomes, the reverse is also true in that poor health or having a disability could make it more difficult to secure and retain a job, thus resulting in lower income.

Research shows that volunteering is a protective factor that mitigates the effects of income on health and well-being among adults. A previous study using cross-sectional data on FGP and SCP volunteers also documented greater health and well-being outcomes when compared to similar adults in the general population.[38] The current longitudinal study, which collected health outcomes at multiple times from first-time volunteers, can document whether the health and well-being outcomes and the specific characteristics of volunteering promote health benefits. The findings presented in this chapter replicate previous studies on the health benefits of volunteering. The analysis also contributes new knowledge by examining whether there are characteristics of volunteering that promote improvement in health and well-being. The specific research questions were as follows:

1. How do health and well-being change among volunteers who remain in service and those who leave?
2. Do health and well-being differ over time between FGP/SCP volunteers and similar adult volunteers and non-volunteers in the general population?
3. Do service activities, service hours, and motivation for volunteering contribute to the health and well-being outcomes of volunteers who remain in service?

For the first research question, repeated measures ANOVA analyses (baseline, first follow-up, and second follow-up) were conducted to examine changes over time. Only participants whose health and well-being measures were not missing at any of the three points were included in the analysis. We examined whether significant differences existed between baseline and first follow-

[37] Hager & Brudney (2004).
[38] Tan, Georges, Gabbard, et al. (2016).

up, first follow-up and second follow-up, and baseline and second follow-up. Independent sample *t*-tests were conducted to examine whether changes observed since baseline were statistically significant. We examined changes for stayers and leavers as well as by program type. For the second research question, PSM was used to construct a matched sample of FGP/SCP volunteers to volunteers and non-volunteers from the HRS 2012–2014 data. The analysis compared changes in health and well-being of FGP/SCP stayers and HRS volunteers and non-volunteers separately. For the third research question, a logistic regression model was estimated to predict whether self-rated health improved from baseline to second follow-up for stayers. A separate regression model was estimated for life satisfaction and social isolation/loneliness at the second follow-up. Each regression model controlled for baseline characteristics, service activities, service hours, and motivation for volunteering as predictors. The effect of service activities was captured by whether the volunteer served with FGP or SCP, because controlling for program type also captures differences in service activities. Appendix A describes the propensity score method and results of the matched sample.

This section of the report has three subsections, one for each research question.

Health and Well-being Among Stayers and Leavers

This subsection presents findings related to the first research question, how do health and well-being change among volunteers who remain in service and among those who leave?

Self-rated Health

Self-rated health is the subjective perception of one's general health condition, which has been found to be a consistent objective and a good global measure of health.[39] Self-rated health is typically based on a single item, which has been found to be a valid and reliable measure of subjective health.[40] The study included one self-rated health item asking the participants to rate their health at baseline and both follow-ups. The responses to the self-rated health item were on a Likert scale ranging from 1 = excellent, to 5 = poor. The five response categories were collapsed into three categories because the distribution of responses on either end of the scale was sparse; then the scale was reverse-coded so that higher scores would indicate feeling better about one's health in general (1 = fair or poor, 2 = good, and 3 = excellent or very good).

Over time, stayers continued to feel better about their health. By contrast, leavers showed a decline in how they rated their health. Table 9 shows the distribution of responses in health for those who stayed and those who left at each of the three time points. At baseline, 38 percent of those who stayed and 36 percent of those who left rated their health as "excellent/very good." At the second follow-up, the distribution of responses differed between the two groups; 43 percent

[39] Wu, S., Wang, R., Zhao, Y., Ma, X., Wu, M., Yan, X., & He, J. (2013). The relationship between self-rated health and objective health status: A population-based study. *BMC Public Health, 13,* 320. doi: 10.1186/1471-2458-13-320
[40] Bombak, A. E. (2013). Self-rated health and public health: A critical perspective. *Frontiers in Public Health, 1,* 15. doi: 10.3389/fpubh.2013.00015

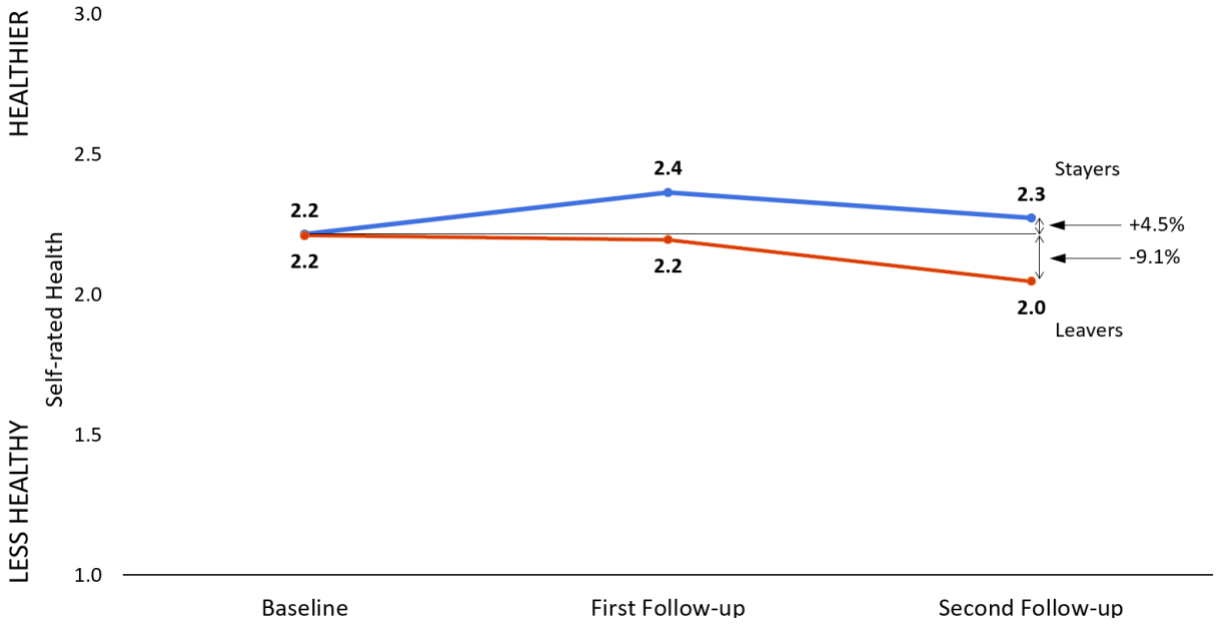
of stayers and 32 percent of leavers rated their health as "excellent/very good," whereas 16 percent of stayers and 27 percent of leavers rated their health as "fair/poor."

Table 9 Distribution of Responses on Self-rated Health, Stayers and Leavers

	Baseline		First follow-up		Second follow-up	
Stayers	N	%	N	%	N	%
Excellent/Very good	213	38.1	274	48.5	241	43.4
Good	253	45.3	220	38.9	224	40.4
Fair/Poor	93	16.6	71	12.6	90	16.2
Total	559		565		555	
Leavers						
Excellent/Very good	96	35.7	110	41.5	85	32.2
Good	129	48.0	97	36.6	107	40.5
Fair/Poor	44	16.4	58	21.9	72	27.3
Total	269		265		264	

An average self-rated health score was calculated for each time point (Figure 26). Over time, the average self-rated health score increased for stayers and decreased for leavers. Among stayers, there was a significant increase in the average self-rated health score from baseline to the first follow-up (p-value < .0001), and a decrease from the first to the second follow-up (p-value = .0004). Overall, among stayers, there was an increase in the average self-rated health score from baseline to second follow-up (p-value = .04). Among stayers, the percent increase in the average self-rated health score was 4.5 percent from baseline to second follow-up. This reflects an average change from a rating of "fair/poor" to "good," or from a rating of "good" to "excellent/very good" health. Among those who left, their average self-rated health score decreased from baseline to the second follow-up (p-value = .0004). Among leavers, there was a 9 percent decline in the average self-rated health score from baseline to second follow-up. This reflects an average change from a rating of "excellent/very good" to "good," or a rating of "good" to "fair/poor."

Figure 26 Average Self-rated Health Score, Stayers and Leavers



There was no significant difference in the average self-rated health score between stayers and leavers at baseline (*p*-value = .94). At both follow-ups, stayers had significantly higher average self-rated health scores than leavers. As shown in Table 10, these differences reflect an effect size ranging from .01 to .31 between stayers and leavers. The effect size between the two groups is 0.01 at baseline and increases at each follow-up. An effect size of 0.30 indicates the average self-rated score for stayers is at the 62nd percentile, or a 12 percentile gain for stayers over leavers.

Table 10 Average Self-rated Health Score and Effect Size, Stayers and Leavers

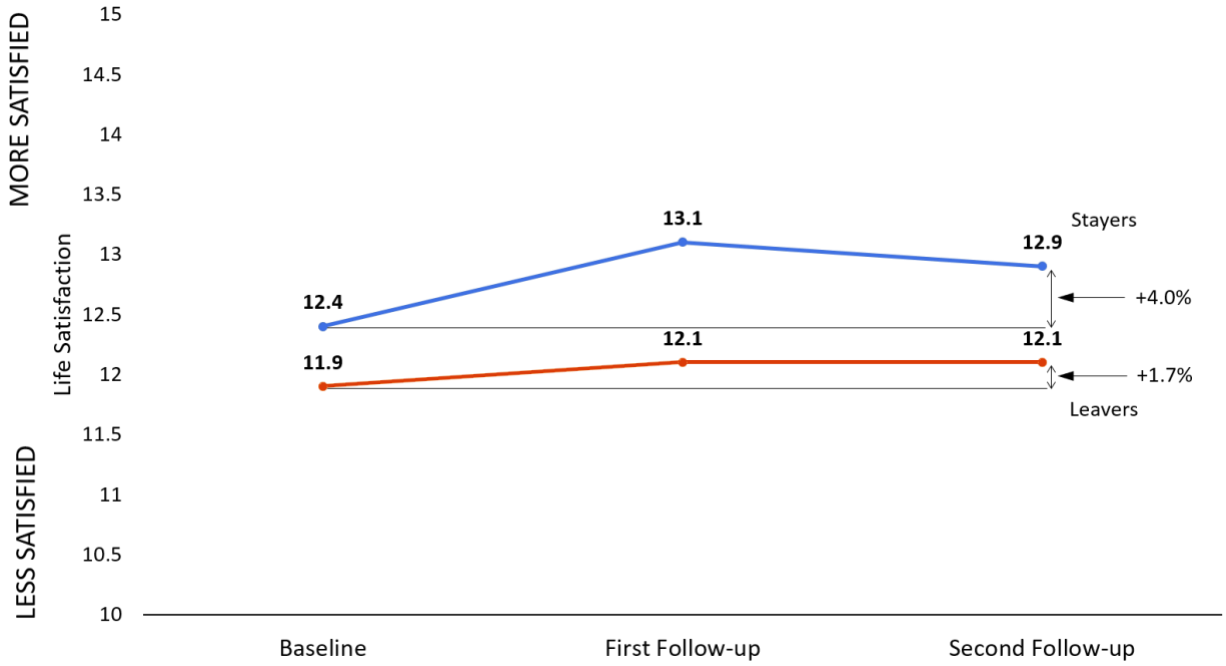
	Stayers			Leavers			Effect size	
Variable	**N**	**Mean**	**Std Dev**	**N**	**Mean**	**Std Dev**	**d**	**95% CI**
Baseline	545	2.2	0.71	256	2.2	0.69	0.01	-0.14 – 0.15
First follow-up	545	2.4	0.70	256	2.2	0.77	0.24	0.09 – 0.39
Second follow-up	545	2.3	0.73	256	2.0	0.77	0.31	0.16 – 0.46

Life Satisfaction

Life satisfaction was measured from five items asking participants about their satisfaction with the city/town they live in, daily life and leisure activities, family life, financial situation, and life as a whole. The response categories ranged from 1 (“completely satisfied”) to 5 (“not at all satisfied”). These categories were collapsed then reverse-coded so higher scores would indicate greater satisfaction (1 = “not at all satisfied,” 2 = “not very or somewhat satisfied,” and 3 = “very

or completely satisfied"). The responses were then summed to create a life satisfaction score for each participant, ranging from 5 to 15. The maximum score of 15 means that the respondent was "very or completely satisfied" on all five life satisfaction items. A score of 12 frequently occurred for respondents who reported "not very or somewhat satisfied" on three of the five items (city or town they live in, daily life and leisure activities, and present financial situation) and "very or completely satisfied" on two of the items (family life and life as a whole). A score of 11 frequently occurred for respondents who reported "not very or somewhat satisfied" on four of the five items (life and leisure activities, family life, present financial situation, and life as a whole) and "very or completely satisfied" on one of the items (city or town they live in). The average life satisfaction score increased over time for those who remained in service (Figure 27). Among stayers, there was a significant change in the life satisfaction score from baseline to the first follow-up (*p*-value < .0001); the average score changed from 12 to 13. There was no significant change from first follow-up to the second follow-up (*p*-value = .08). Overall, among stayers, there was an increase in life satisfaction from baseline to the second follow-up (*p*-value < .0001), increasing from an average score of 12 to 13. Among leavers, the average score on life satisfaction was relatively lower at an average of 12, and it remained flat across the three time points (*p*-value = .15). The percent increase from baseline to second follow-up was 4 percent for stayers and 2 percent for leavers.

Figure 27 Average Life Satisfaction Score, Stayers and Leavers



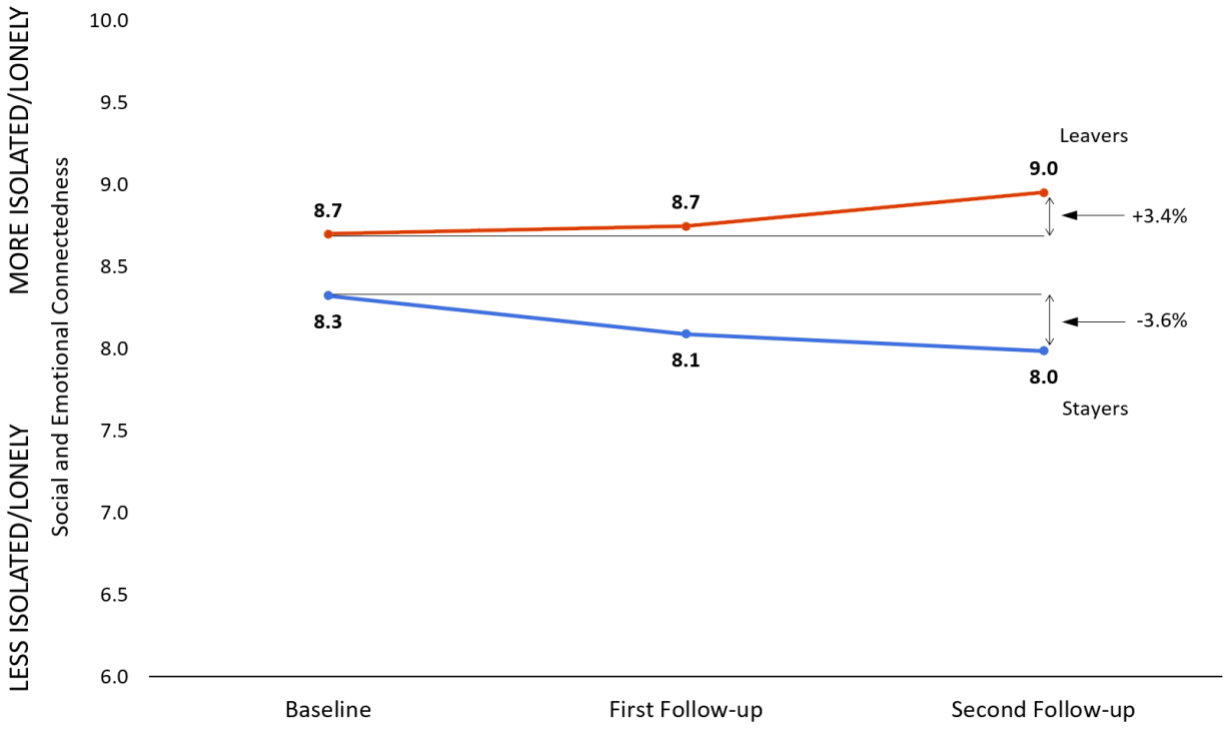
Change in the life satisfaction score differed between stayers and leavers. At baseline, stayers reported, on average, a significantly higher life satisfaction score than leavers. At each time point, on average, stayers' average life satisfaction score was higher (baseline *p*-value = .001, first follow-up *p*-value < .0001, second follow-up *p*-value < .0001) than leavers' average life

satisfaction score. The difference in percent increase between stayers and leavers at the second follow-up reflects an effect size of 0.45, which is approximately the 68th percentile, or 18 percentiles higher for stayers than leavers.

Social Isolation and Loneliness

Social isolation and loneliness are important parts of health. The survey included six items assessing participants' perception of being socially isolated or their perceived loneliness. The six items were: How much of the time do you feel "that you are alone," "that you lack companionship," "left out," "isolated from others," "there are people you feel close to," and "there are people you can turn to." Each item was based on a scale of 1 ("hardly ever or never") to 3 ("often"). They were summed to obtain a social isolation/loneliness score, where a higher number indicated a higher degree of self-reported isolation/loneliness. The maximum score of 18 indicated the respondent "often" felt disconnected, isolated, or lonely. An average score of 9 was most frequent among respondents who reported "some of the time" on three of the six items (felt alone, lacked companionship, and felt left out), reported "hardly ever or never" for one of the items (felt isolated from others), and reported "often" for two of the items (felt there are people they feel close to and felt there are people they can turn to). An average score of 8 was frequent among respondents who reported "hardly ever or never" on four of the items (felt alone, lacked companionship, felt left out, and felt isolated from others) and reported "some of the time" on two of the items (felt there are people they feel close to and felt there are people they can turn to). Stayers' social isolation/loneliness scale decreased over time, whereas it increased for leavers (see Figure 28). For example, stayers reported lower degrees of loneliness than leavers at the first follow-up (p-value = .003) and second follow-up (p-value < .0001). The reduction in the loneliness score among stayers reflects that this group perceived an improvement in their level of social and emotional connection to their community, whereas leavers did not perceive any change in their connection to their community. The percent difference between stayers and leavers at the second follow-up reflects an effect size of 0.39, or 16 percentiles lower for stayers than leavers.

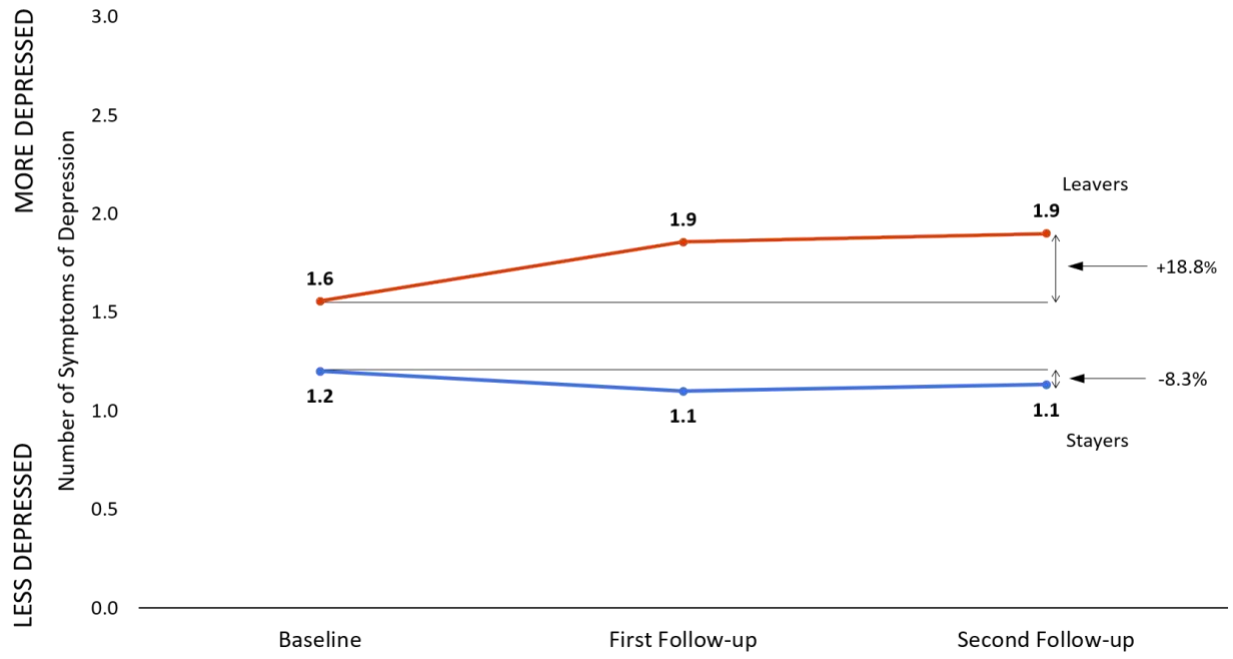
Figure 28 Average Social Isolation/Loneliness Score, Stayers and Leavers



Symptoms of Depression

Symptoms of depression are indicative of challenges to health and well-being. The survey included the nine-item version of the Center for Epidemiologic Studies Depression Scale (CES-D) from the HRS to measure change in symptoms of depression or anxiety. The participants reported whether they experienced any of nine symptoms in the past week: "I felt depressed," "I felt that everything I did was an effort," "My sleep was restless," "I was happy," "I felt lonely," "I enjoyed life," "I felt sad," "I could not get going," "I had a lot of energy." Some items were reverse-coded so that a higher score indicated the symptom was present. The nine items were summed to create a single score for each participant. The maximum score of 9 indicates the respondent experienced all nine symptoms. Figure 29 shows the average number of symptoms of depression for stayers and leavers. Leavers, on average, reported more symptoms from baseline to the second follow-up (p-value = .03). Stayers reported significantly fewer symptoms of depression at all three time points (baseline p-value = .01, first follow-up p-value < .0001, second follow-up p-value < .0001). The percentage difference between stayers and leavers at the second follow-up in the number of symptoms reflects an effect size of 0.44.

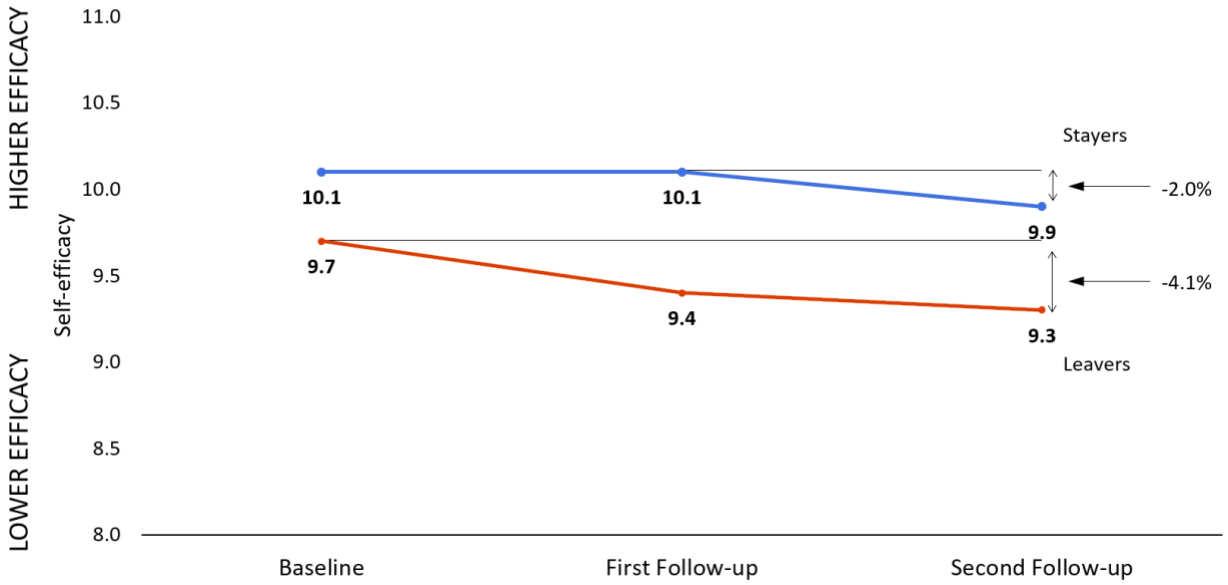
Figure 29 Average Number of Symptoms of Depression, Stayers and Leavers



Self-efficacy

There were two items that measured self-efficacy: "I can do just about anything I really set my mind to," and "I can do the things that I want to do." Each item was based on a scale of 1 ("strongly disagree") to 6 ("strongly agree"). The items were summed to create a self-efficacy score, with a range of 2 to 12. Self-efficacy, as measured, declined for stayers and leavers. However, though the change across the three time points within each group was not statistically significant (stayers *p*-value = .25, leavers *p*-value = .11; see Figure 30) there was a smaller decrease for stayers than for leavers. At each of the follow-ups, stayers reported higher levels of self-efficacy (*p*-value < 0.01) than leavers. The percentage difference between stayers and leavers at the second follow-up reflects an effect size of 0.23.

Figure 30 Average Self-efficacy Score, Stayers and Leavers



Comparison to the General Population

The results in the previous section showed self-rated health and symptoms of depression of stayers continuously improved over time. This subsection compares self-rated health and symptoms of depression of FGP/SCP stayers to a matched sample of similar low-income earning adult volunteers and non-volunteers in the general population who participated in the HRS. The comparison to a national sample helps ascertain whether over a two-year period the first-time FGP/SCP volunteers benefited more from volunteering compared to a similar group of adults in the general population. The comparison in self-rated health and symptoms of depression between FGP/SCP volunteers and the HRS used independent samples *t*-tests to test for differences. Logistic regression was conducted to examine factors associated with a change in self-rated health; linear regression was conducted to examine factors associated with a change in the number of symptoms of depression.

Propensity score matching (PSM) was used to obtain a matched sample of Senior Corps volunteers and HRS volunteers and non-volunteers. The propensity score was estimated by accounting for factors that might affect the probability of being in the intervention group, in this case FGP/SCP volunteers, and the outcomes of interest. Two basic criteria were necessary to implement the PSM with the HRS. The questions in the Senior Corps survey of first-time FGP and SCP volunteers were adopted from the HRS, making it possible to compare these volunteers with a national sample of adults who participated in the HRS. The sample that was used to conduct the match consisted of participants of similar income eligibility criteria as the FGP/SCP respondents. The HRS sample used for the match consisted of respondents whose household

income was at or below 200 percent of the national federal poverty level, who were age 55 and older, who were not in a nursing home, and who completed the survey on their own. The analysis used the 2012 and 2014 HRS data, which are the most recent available data at the time of this report, and this two-year time frame is comparable to the FGP/SCP baseline and two-year follow-up. Two separate matches were conducted: FGP/SCP stayers with a matched sample of HRS volunteers and FGP/SCP stayers with a matched sample of HRS non-volunteers. The final matched sample of HRS and FGP/SCP stayers consisted of 360 pairs of volunteers (180 HRS volunteers and 180 FGP/SCP stayers). The final matched HRS non-volunteers and FGP/SCP stayers consisted of 534 pairs of participants (267 HRS non-volunteers and 267 FGP/SCP stayers). To determine how well the HRS and FGP/SCP samples were matched, we examined the distribution of propensity scores before and after matching. The distribution of propensity scores was similar and overlapped after matching. Furthermore, there were no significant differences in observed demographic characteristics between the HRS and FGP/SCP samples after matching. Appendix A describes the steps to implement the PSM.

Self-rated Health

Figure 31 and Table 11 show the average self-rated health score at baseline and second follow-up for the matched sample of HRS volunteers and FGP/SCP stayers. FGP/SCP stayers have similar perceptions about their general health as other low-income adult volunteers in the HRS. For the comparative analysis to the HRS, the five response categories of the self-rated health item (1 = excellent, to 5 = poor) were collapsed into three categories then reverse-coded so that higher scores indicated better health (1 = fair or poor, 2 = good, and 3 = excellent or very good). As shown in Figure 32 the comparison of the average score showed there were no significant differences in self-rated health between FGP/SCP stayers and HRS volunteers. There were also no significant changes in average scores from baseline to second follow-up among FGP/SCP stayers (*p*-value = 0.58) and HRS volunteers (*p*-value = 0.42). The effect size between FGP/SCP stayers and HRS volunteers were -0.02 at baseline and 0.08 second follow-up.

Figure 31 Average Self-rated Health, FGP/SCP Stayers and HRS Volunteers

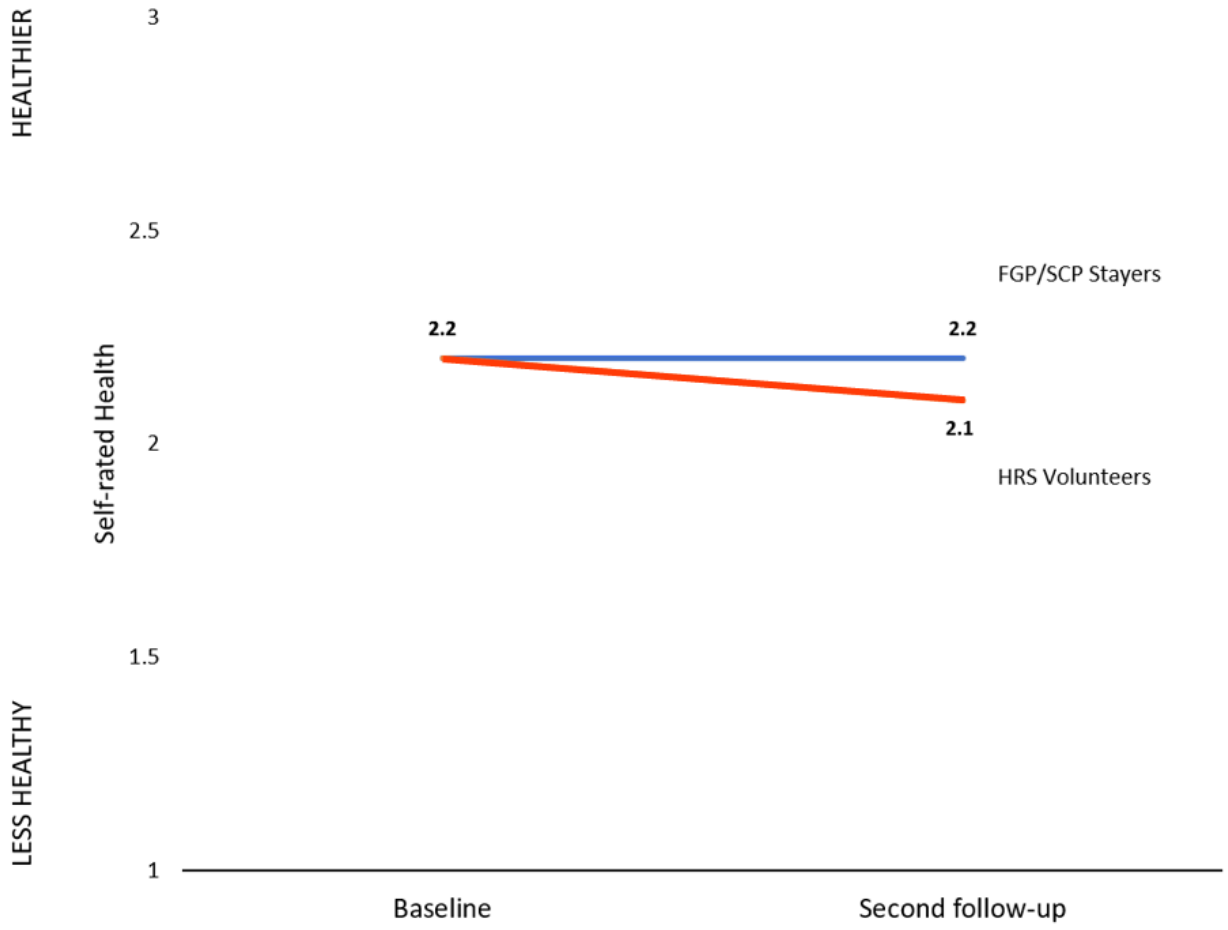


Table 11 Differences in Self-rated Health, FGP/SCP Stayers and HRS Volunteers

Wave	FGP/SCP Stayers	HRS Volunteers	FGP/SCP vs. HRS Volunteers *p*-value	Effect Size D	95% CI
Baseline	2.2	2.2	0.83	-0.02	-0.23 – 0.18
Second follow-up	2.2	2.1	0.47	0.08	-0.14 – 0.30

Note: Analysis was conducted using a matched sample of FGP/SCP stayers and HRS volunteers. The sample consisted of 360 pairs of respondents (180 FGP/SCP stayers and 180 HRS volunteers).

Figure 32 shows the average score in self-rated health at baseline and second follow-up with the matched sample of HRS non-volunteers. Both FGP/SCP stayers and HRS volunteers had significantly higher average scores in self-rated health compared to HRS non-volunteers at both baseline and second follow-up (Table 12). At baseline, the percent difference between FGP/SCP stayers and HRS non-volunteers was 11 percent, which increased to 22 percent at second follow-

up. The increase in average self-rated health scores was due to both an increase in the average score among FGP/SCP stayers and a decrease among HRS non-volunteers.

Figure 32 Average Self-rated Health, FGP/SCP and HRS Non-volunteers

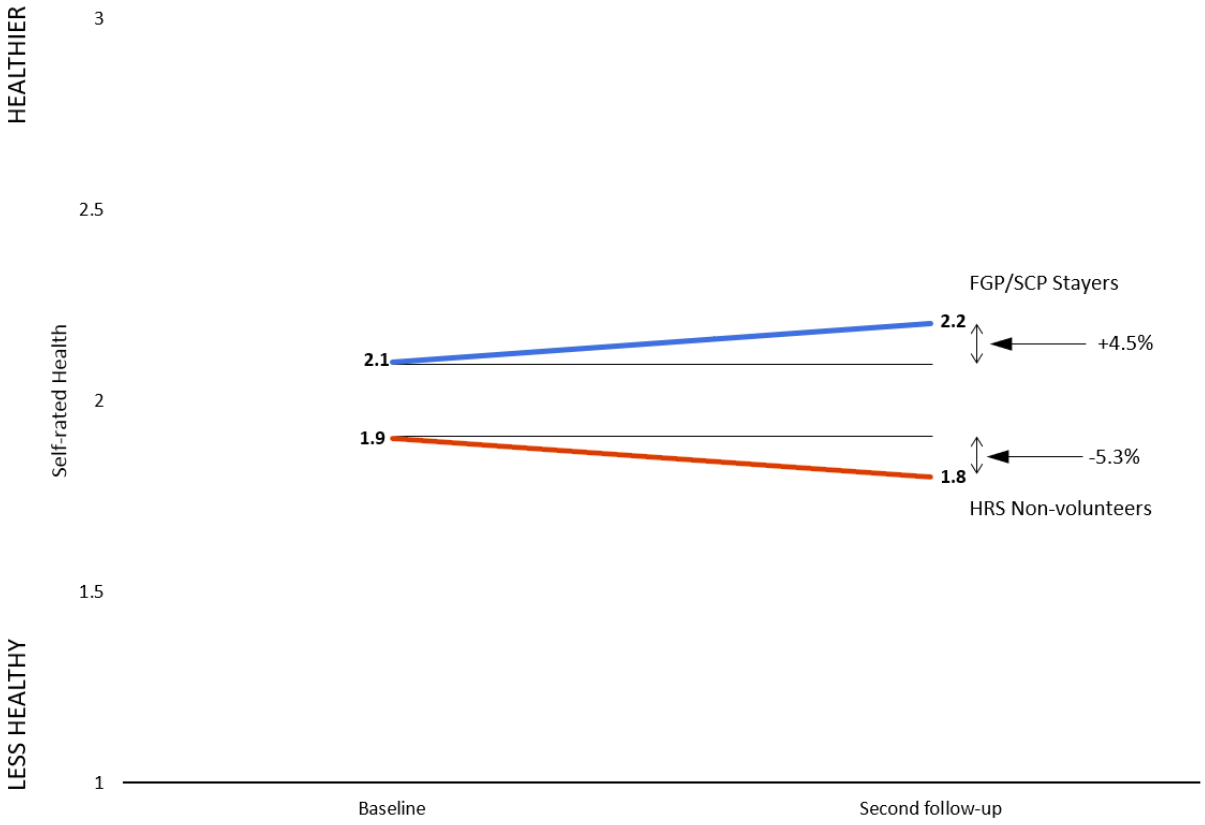


Table 12 Differences in Self-rated Health, FGP/SCP and HRS Non-volunteers

Wave	FGP/SCP Stayers	HRS Non-volunteers	FGP/SCP vs. HRS Non-volunteers *p*-value	Effect Size D	95% CI
Baseline	2.1	1.9	<.0001	0.37	0.19 – 0.54
Second follow-up	2.2	1.8	<.0001	0.55	0.37– 0.74

Note: Analysis was conducted using a matched sample of FGP/SCP stayers and HRS non-volunteers. The sample consisted of 534 pairs of respondents (267 FGP/SCP stayers and 267 HRS non-volunteers).

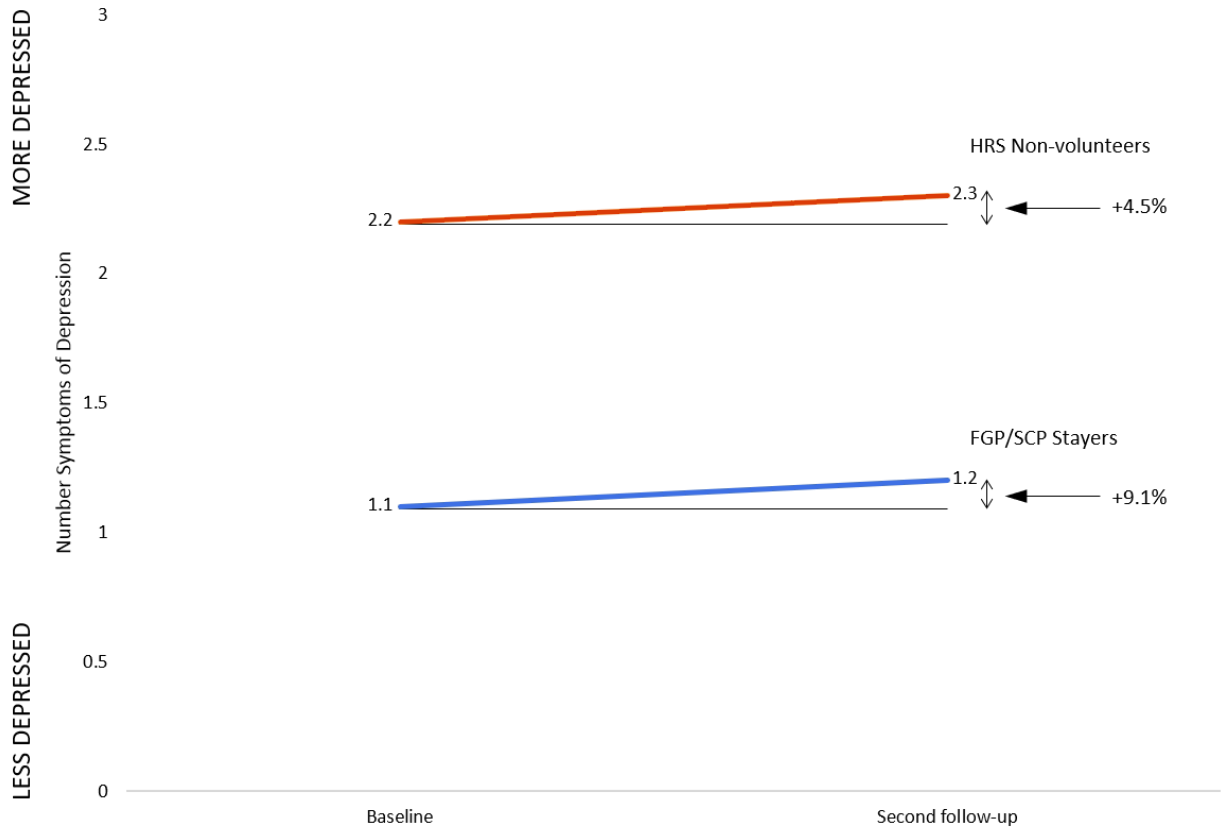
A logistic regression model was estimated to examine the odds that self-rated health improved for FGP/SCP stayers compared to HRS non-volunteers. The model controlled for an average self-rated health score at baseline because volunteers and non-volunteers differed in how they perceived their health at baseline. Compared to HRS non-volunteers, the odds that self-rated health improved were 52 percent higher for FGP/SCP stayers (OR = 1.52, *p*-value <.0001). Further, stayers who initially rated their health as fair/poor had 55 percent higher odds of

improving compared to HRS non-volunteers (OR = 1.55, *p*-value = 0.004). Appendix H shows all regression results.

Symptoms of Depression

The items for symptoms of depression were summed to create a scale, representing the number of reported symptoms. The total score was 8 because one of the items ("you had a lot of energy") was not asked in the 2014 HRS. Figure 33 shows there were no significant differences in the average number of symptoms of depression between FGP/SCP stayers and HRS non-volunteers.

Figure 33 Average Number of Symptoms of Depression, FGP/SCP Stayers and HRS Non-volunteers



FGP/SCP stayers and HRS volunteers both reported significantly fewer symptoms compared to HRS non-volunteers (Figure 33, Table 13). The HRS non-volunteers reported one additional symptom compared to the volunteers, and the gap in number of symptoms did not change over time (Table 13). Over time, the average number of reported symptoms increased 10 percent for FGP/SCP stayers, increased 36 percent for HRS volunteers, and increased 5 percent for HRS non-volunteers (Table 13).

Table 13 Number of Reported Symptoms of Depression, FGP/SCP Stayers and HRS Volunteers/Non-volunteers

Wave	FGP/SCP Stayers (Matched with HRS Volunteers)	HRS Volunteers	FGP/SCP Stayers (Matched with HRS Non-volunteers)	HRS Non-volunteers	FGP/SCP vs. HRS Volunteers *p*-value	FGP/SCP vs. HRS Non-volunteers *p*-value
Baseline	1.0	1.1	1.1	2.2	0.48	<.0001
Second follow-up	1.1	1.5	1.2	2.3	0.09	<.0001

Note: Analysis was conducted using a matched sample of FGP/SCP stayers and HRS volunteers (180 FGP/SCP stayers and 180 HRS volunteers), and a matched sample of FGP/SCP stayers and HRS non-volunteers (267 FGP/SCP stayers and 267 HRS non-volunteers). Significant differences between FGP/SCP and HRS (i.e., *p*-values less than 0.05) are in bold.

Factors Affecting Health and Well-being

This subsection presents findings related to the third research question: Do service activities, service hours, and motivation for volunteering contribute to the health and well-being outcomes of volunteers who remain in service? The previous analysis examined the health and well-being outcomes among stayers and leavers, and it compared stayers to similar adult volunteers in the HRS. These results replicated previous studies on the health benefits associated with volunteering. The analysis showed marked improvement in health and well-being for FGP/SCP stayers and adult volunteers in the HRS compared to similar adults in the general population who were not volunteers.[41] The health benefits for stayers was not due to differences in perceived health at the start of the volunteers' service. The fact that their self-reporting on health is much more positive than their risk factors suggests more in-depth analysis of the factors that contribute to this positive outcome.

Although the health benefits of volunteering are well-documented, the specific characteristics of volunteering that promote these benefits are not yet well understood. Recent studies have tested some hypotheses of what factors contribute most to these health benefits. For example, intensity of volunteering – how much time should a volunteer spend in service, and how much time is enough, or could there be a threshold that no longer yields benefits? Some studies suggest as little as 100 hours of service will yield benefits; others suggest at least 200 hours per year. Types of activities have been examined as potential contributors to health benefits of volunteering. Activities such as tutoring and reading are assumed to be more beneficial for mental health outcomes, whereas physical activities are thought to be more helpful for physical health. Studies have also examined motivation as a source of volunteering characteristics that yield health

[41] Self-rated health is a measure of the individual's perception of their general health; it is not a measure of the presence or absence of medical health conditions.

benefits. These studies seem to suggest being purely altruistic yielded greater health benefits to the volunteer.[42]

The analysis examined whether service activities, service hours, and motivation for volunteering contributed to change in self-rated health, life satisfaction, and social isolation/loneliness of stayers. Self-rated health was measured as a dichotomous variable to indicate whether there was improvement from baseline to second follow-up. A value of 1 was defined as either a change from a rating of "good" to "excellent/very good" health, or a rating of "fair/poor" to "good" or "excellent/very good." Ratings that remained at "good" or "excellent/very good" health were coded as zero. Both life satisfaction and social isolation/loneliness were measured as continuous variables. Higher values for the life satisfaction score indicated greater satisfaction with life; higher values for the social isolation/loneliness indicated higher degree of feeling isolated or loneliness. Appendix G shows full regression results for all three outcomes.

Self-rated Health

Three quarters (75 percent) of volunteers reported no change or rated their health as having improved from baseline to the second follow-up. FGP volunteers who remained in service were more likely to report improvement in self-rated health than SCP volunteers. The odds of a report of improvement in self-rated health were 11 percent higher for the FGP than for SCP volunteers (OR = 0.89, *p*-value = 0.62). This is consistent with previous studies that suggest activities involving tutoring or reading could be beneficial for mental health outcomes, and FGP volunteers are fully engaged in those activities. Self-rated health, being a subjective perception of general health, seems to be impacted more for FGP volunteers than SCP volunteers. Unlike previous studies that showed a decreasing return in health benefits as hours of service increased, the data from the current study showed that additional hours of service increased the odds of reporting improvement in self-rated health by about 4 percent. The volunteers whose motives were personal growth (e.g., to learn, get more experience) and those whose motives were intertwined with self-oriented (e.g., keeping busy, feeling better, having a sense of accomplishment), personal growth, and financial incentives had higher odds of improvement in self-rated health. The odds that self-rated health improved were 68 percent higher for volunteers with personal growth motives than for other volunteers. The odds self-rated health improved were 10 percent higher for volunteers who expressed a combination of self-oriented, personal growth and financial incentives motives than for other volunteers.

Life Satisfaction

Life satisfaction scores were not significantly different between FGP and SCP volunteers, though the average was slightly higher among SCP volunteers. Volunteers who had both self-oriented

[42] Konrath, S., Fuhrel-Forbis, A., Lou, A., & Brown, S. (2012). Motives for volunteering are associated with mortality risk in older adults. *Health Psychology, 31*(1), 87-96.

and personal growth motives had higher life satisfaction scores than other volunteers. An additional hour of service per week was also negatively associated with life satisfaction.

Social Isolation/Loneliness

SCP volunteers and those who served more hours scored lower on the social isolation/loneliness scale, indicating that volunteers with these characteristics reported a lower degree of social isolation/loneliness. The difference in perception of isolation/loneliness was about half a point lower for SCP volunteers. The volunteers who had both self-oriented and personal growth motives also had lower scores on the social isolation/loneliness scale compared to other volunteers.

Discussion

CNCS launched the longitudinal evaluation of its Foster Grandparent and Senior Companion programs to build the evidence base of these programs' effectiveness as well as to assess how to strengthen and expand national service programs to support the overall health and well-being of adults. Data were collected over two years from more than 1,200 first-time Foster Grandparent and Senior Companion volunteers on their social, demographic, and economic backgrounds; their interest and motivation for volunteering; their experience with the program's training and support to serve successfully; and their health and well-being outcomes.

The final report used data from three time points of data collection (baseline and two follow-ups) to describe the demographic profile, knowledge of national service, and motivation for volunteering; to assess differences in retention, satisfaction, and engagement in service; and to examine the health benefits of volunteering as well as the characteristics of volunteering that contribute to health benefits.

First-time Foster Grandparents and Senior Companions were primarily female and racially and ethnically diverse; many were retired, but remained active in the labor force by either looking for work or working. Consistent with prior literature, they were highly motivated by altruistic reasons in their decision; however, their motives went beyond impacting and making a difference in their community. The volunteers were also motivated to achieve personal growth (e.g., learning something new) and had other motives such as self-oriented (e.g., having a sense of accomplishment, keeping busy/filling time) and being able to earn extra money. Once they began their service, most of them remained in service. Retention among these volunteers was higher than the estimated national average. The most frequently reported reasons for leaving national service were personal health problems or health problems of a family member/friend, lack of time to fulfill service obligations, and insufficient financial incentives for volunteering.

Flexibility to manage time and overall satisfaction emerged as the two primary barriers to retention. The importance of flexibility and satisfaction might come into play at different times than factors like declining health. The volunteers who ended their service in the first year were

also generally more dissatisfied with their experience compared to stayers. They might have left because they realized their service activities and the necessary commitment did not permit them enough flexibility. Though these barriers contributed to retention, those who left reported the volunteering experience was interesting and would recommend it to a friend. Beyond the first year, retention could be affected by declining personal health or having to help a family member.

Volunteers reported that their experience with the training and support they received from their respective program was positive. A successful volunteering experience, even among leavers, can be beneficial for recruitment of future volunteers. Most of the volunteers who left reported they would continue to recommend the program, which again is a boost for future recruitment because eligible adults typically learned about FGP and SCP service opportunities through a friend or by word of mouth.

FGP and SCP offer service opportunities for low-income earning adults. The income eligibility is currently set at or below 200 percent of the national federal poverty level guidelines. Retention was higher among FGP, volunteers with the lowest income (reported income under $20,000), those who had a disability, and those who had attained at most a high school diploma or had not graduated high school. Stayers possess the characteristics known to be associated with greater risk for health disparities, yet FGP and SCP stayers reported improved self-rated health, a decrease in perception of social isolation/loneliness, and fewer number of symptoms of depression in their first two years of service. The size of the difference in perception of health, life satisfaction, social isolation/loneliness, and symptoms of depression between stayers and leavers, and between stayers and other volunteers and non-volunteers falls within the moderate range. Health and well-being outcomes of stayers were comparable to those of similar low-income earning adult volunteers in the general population. There were no differences in self-rated health and symptoms of depression between FGP/SCP stayers and the HRS volunteers; the changes in average score between both groups were similar and remained unchanged for the period examined. Both FGP/SCP stayers and HRS volunteers reported higher average self-rated health scores compared to HRS non-volunteers, who showed both a decrease in self-rated health and an increase in the number of symptoms of depression.

Leavers generally felt worse about their health, felt socially isolated/lonely, were less satisfied with their life, and indicated an increase in number of symptoms of depression. As previously stated, there are myriad and heterogeneous reasons that may have contributed to the decline in health and well-being among leavers. For some leavers, the end of service coincided with a possible decline in personal health or the need to care for a sick family member or friend. However, not all leavers exit national service due to health issues. Some organizational barriers could also be contributing to the decision to end their service. Leavers were overall less satisfied with their program and felt they had insufficient flexibility to manage their time. Some leavers may have entered national service during a transition phase of their life and may return to national service as that transition stabilizes. The study was unable to address these complex and multifaceted contributors to leavers' health and well-being.

To inform policy decisions that strengthen these programs, it is also important to understand and identify the characteristics of the volunteer experience that contribute to improve health and well-being. Previous research that examined this issue has focused on service activities, service hours, and motivation as important sources of volunteering characteristics that yield health benefits. Of the two types of service activities studied here, FGP volunteers who remained in service were more likely to report improvement in self-rated health compared to SCP volunteers, but SCP volunteers reported higher life satisfaction scores and scored lower on the social isolation/loneliness scale compared to FGP volunteers. Service hours were not a significant contributor to health outcomes. Contrary to previous studies' findings, there was a positive association between hours in service and health. The possible explanation is that there is an expectation of service hour commitment upon joining FGP and SCP. Individuals who persist in the program through the first two years have clearly made this commitment in the number of hours they will serve. In this context, once a volunteer commits to service, changes in hours do not affect retention or contribute to health outcomes. Motivation contributed to the health benefits associated with volunteering. The volunteers who were motivated by personal growth (e.g., to learn, get more experience), self-oriented goals (e.g., keeping busy, feeling better, having a sense of accomplishment), and financial incentives had higher odds of improvement in self-rated health. The odds that self-rated health improved were 68 percent higher for volunteers motivated by personal growth. The odds that self-rated health improved were 10 percent higher for volunteers who had self-oriented, personal growth, and financial incentive motives than for other volunteers. There was a positive association between life satisfaction and self-oriented and personal growth motives. At the same time, altruistic and financial motives were negatively associated with life satisfaction.

There are some limitations with the analysis to understanding how volunteer characteristics contribute to change in health and well-being. Specifically, the analysis could not examine how these characteristics or their interaction with change in employment status might have affected the poorer health outcomes among leavers. The analysis could not shed light on the reverse causation of poor health on the ability to continue to volunteer. In other words, we did not learn how poor physical and mental health might impede an individual's ability to engage in volunteer activities.

The Senior Corps research agenda incorporated three goals from the 2011–2015 CNCS Strategic Plan. The findings from this evaluation provide insights for advancing these goals.

Goal 1: *Increase the impact of national service on community needs in communities served by CNCS-supported programs.*

- Senior Corps has met its goal to provide opportunities to low-income earning adults who would otherwise not have the opportunity to serve their community. The volunteers were overwhelmingly low-income earners, educated, and unmarried females, many of whom were still active in the labor force either working or looking for work. The volunteers

must meet the program's income eligibility criteria set at 200 percent of the federal poverty guidelines. In practice, the volunteers who serve had an average income that was closer to 100 percent of the national poverty level guideline. The majority (80 percent) reported total annual household income of less than $20,000; 15 percent reported household income of between $20,000 and $29,999; and 5 percent reported income of $30,000 and higher. Many of the volunteers had attained at least some college, associate degree or bachelor's degree, with 43 percent having some college or an associate degree, but not attaining a bachelor's degree, and 16 percent having graduated from college or earned an advanced degree. Another 30 percent graduated from high school, and 11 percent did not have a high school diploma.

- About one-third (34 percent) reported a disability such as a long-lasting condition like severe vision or hearing impairment, or a condition that limited basic physical activities.
- More than half of the volunteers who were retired continued to be active in the labor force, either working or looking for work. Less than one-fifth (14 percent) were unemployed and looking for work, 9 percent were currently working, more than one-fourth (28 percent) reported they were disabled, and 43 percent were fully retired (neither working nor looking for work).

Goal 2: *Strengthen national service so that participants engaged in CNCS-supported programs consistently find satisfaction, meaning, and opportunity.*

- The volunteers found their service to the community to be satisfying and meaningful, and they reported having opportunities for personal growth and feeling a sense of accomplishment. They also reported making friends, keeping busy, and earning extra money. Overall satisfaction and perception of the volunteer experience, such as feeling that their assignment was a match for their skills and that the assignment was interesting, were positive. In fact, 85 percent of those who left reported they would continue to recommend the program, which could boost future recruitment given that eligible adults who joined the program do so based on information obtained from their friends. The volunteers had complex and multifaceted motives for volunteering; altruism was not their sole motive. More than three-fourths had reasons beyond altruism in deciding to serve. About 30 percent expressed personal growth and self-oriented goals as motivating factors in their decision; 12 percent were motivated by the stipend; and, notably, an additional 20 percent who expressed personal growth and self-oriented goals were also motivated by the stipend. In all, close to one-third had an underlying financial reason, due to the stipend, for volunteering. Retention among the volunteers was not significantly associated with motives, suggesting that, on average, the volunteers fulfilled their altruistic expectations of serving their community. Senior Corps, through the FGP and SCP programs, provides service opportunities intended to offer professional, educational, and life benefits to participants. Persisting in service is associated with health benefits. Stayers reported improvement in their health and well-being. The health and well-being

outcomes of FGP/SCP stayers were comparable to a matched sample of adult volunteers and non-volunteers with similar income levels in the general population who participated in the Health and Retirement Study (HRS). It is also the case that FGP/SCP stayers reported significant improvement in how they perceived their health compared to adult non-volunteers in the general population.

Goal 4: *Fortify management operations and sustain a capable, responsive, and accountable organization.*

- The programmatic structure of FGP and SCP incorporates several management practices found to promote retention. Specifically, volunteers receive training before they begin their assignment; they are matched to a beneficiary in their community; and they attend monthly in-service meetings for active volunteers. The overall retention rate was higher among FGP/SCP volunteers compared with national estimates. More than three-fourths (78 percent) of the volunteers remained in service through the first year. The most recent national estimate showed 66 percent of volunteers remain in service through their first year. Among FGP/SCP volunteers who remained for a second year, the retention rate was 68 percent; approximately 12 percent left national service in the second year.
- Another effective management practice for promoting retention is to rely on volunteers as recruiters for the organization. The primary mode for recruitment is through informal networks where volunteers serve as the primary ambassadors for recruiting new volunteers. The findings demonstrate that more than two-thirds of the first-time volunteers learned about FGP and SCP from a friend. The volunteers who left the program were satisfied with their experience and had a strong willingness to be an ambassador for the program – 85 percent of leavers reported they were "extremely likely or very likely" to recommend FGP/SCP to a friend. Almost all stayers (95 percent) reported they were "extremely likely or very likely" to recommend the program to a friend. This finding is consistent with the high overall satisfaction with volunteering in FGP and SCP among both stayers and leavers, and it bodes well for future recruiting.
- There were no statistically significant differences between FGP and SCP in overall satisfaction, willingness to recommend the program, the overall experience with volunteering, and the training and support received to serve. Although not statistically significant, there were some notable differences between FGP and SCP volunteers. Lower proportions of SCP leavers reported they would recommend the program to a friend, agreed that their supervisor provided them with the support and information they needed to serve successfully, indicated that the support from the people in the program was helpful, and mentioned that the flexibility to manage their time was helpful. These perceptions of their satisfaction and experience would tend to weaken SCP volunteers' retention, relative to FGP, if, as the research suggests, those factors matter for volunteer retention.

- Flexibility to manage time and overall satisfaction emerged as the two factors contributing to retention. Volunteers who were "completely/very/somewhat satisfied" with the overall volunteer experience were almost three times more likely to remain in service than those who were less satisfied. Volunteers who reported the flexibility to manage their time as being "extremely/very/somewhat helpful" were almost three times more likely to stay compared to those who reported flexibility to manage their time as "little/not at all helpful."

Recommendations

While this study examined Senior Corps' effect on self-perception of physical health and well-being of its FGP and SCP volunteers, two additional areas for research can guide future policy directions and strengthen management practices. Specifically, research efforts could examine whether volunteering with national service leads to improved physical health through self-reporting and biometric screening, and they could examine the characteristics of volunteering that promote mental and physical health. This research could strongly position Senior Corps to promote its national service program as a public health intervention leading to healthier lifestyles for low-income adults and those with little education, who generally have poorer health and lower participation in volunteering.

Physical Health Benefits of Volunteers

- The research on mental health benefits are well-documented among Senior Corps and adult volunteers in general. There is limited research on the effects of volunteering on physical health. The current study did not examine the volunteers' physical health, only their self-rated health. A future study could address this limitation and examine how Senior Corps national service participation might promote better physical health measured through self-report *and* biometric screening. These physical health measures might include, for example, blood pressure, blood cholesterol, blood glucose, aerobic fitness test, weight, height, and body mass index. Longevity is another physical health measure that has been examined in the literature. An integrated mixed methods approach of both quantitative and qualitative data from volunteers could more deeply explore the complex and multiple ways that volunteering activities promote better physical health.

Characteristics of Volunteering That Lead to Improved Health and Well-being

- Volunteering might lead to improvement in mental and physical health. An emerging focus of research is to understand which characteristics of volunteering lead to improved physical and mental health. The current study began to explore these characteristics of volunteering in a limited way. A future mixed methods study should more explicitly measure and analyze characteristics of volunteering and how they impact mental and physical health. Characteristics of volunteering that could be examined in future research

might include hours in service, types of service activities, volunteer training prior to service and continued support through the term of service, and motivation for volunteering.

- Future research could examine how length of service, consistency and amount of service hours impact on organizational capacity and volunteers' mental and physical health. A unique characteristic of FGP and SCP is the commitment to a minimum number of service hours. FGP and SCP do not impose a minimum length of service for their volunteers, however it is reasonable to assume each sponsoring organization seeks to maximize volunteers' length of service to reduce recruitment and training costs and minimize service gaps to the community. Besides costs to the sponsoring organization, the current study's findings suggest potential personal costs to the volunteers themselves in that a reduction in time commitment or ending volunteer service could reduce the health benefits associated with volunteering. Future research could directly assess this policy to minimize organizational costs in building capacity with a stable volunteer corps and whether length of service and stability of service hours maximize health benefits for the volunteers.
- Given the health benefits associated with volunteering, a follow-up mixed methods study could delve deeper into the complex factors contributing to leaving. For example, the results showed that volunteers who reported they did not have enough flexibility to manage time were three times more likely to leave national service. A future study might examine how policy and practice around service commitment might be adjusted to allow those volunteers to continue to meet the required hours of service with enough flexibility that would allow them to remain in service and thereby attain the health benefits associated with service.
- A future study could examine the effect of the stipend on recruitment, retention, and health outcomes. Senior Corps makes provision to remove economic barriers to serve through a modest stipend of $2.65 per hour intended to defray the cost of volunteering. The study design did not set out to test the impact or effectiveness of the stipend. However, the questionnaire included two questions to begin to understand whether the stipend was a factor in the decision to volunteer. One question asked whether earning extra money was an important consideration in deciding to volunteer. Another question asked whether the stipend was helpful or not. The exploratory analysis of both questions suggests that the financial aspect of the decision to volunteer should be more closely examined in future research. Close to one-third of the first-time volunteers reported the stipend was "extremely helpful" and more than 80 percent of first-time volunteers reported the stipend was either "extremely or very helpful."

Appendix A: Propensity Score Matching

Propensity score matching (PSM) is one possible statistical method of reducing bias in estimates when the intervention and control samples occurred naturally, and random assignment was not possible.[43] Reduced bias in estimates are achieved by matching individuals in the intervention sample with similar individuals in the control sample using a propensity score. The propensity score is estimated by accounting for factors that might affect probability of being in the intervention group and the outcomes of interest. PSM was used to obtain a matched sample of FGP/SCP (intervention) and Health and Retirement Study (HRS) volunteers and non-volunteers (control). The steps in implementation of PSM are described below.

Overview

The questions in the volunteer survey were adopted from the HRS, making it possible to compare the health and well-being of FGP and SCP volunteers with a national sample of adults who participated in the HRS. The sample identified from the HRS consisted of participants whose household income was at or below the 200 percent of the national federal poverty level, who were age 55 and older, were not in a nursing home, and who completed the survey on their own. The analysis used the 2012 and 2014 HRS data, which were the most recent available data at the time of this report. To reduce bias in estimates due to confounding variables, propensity score matching (PSM) was used to identify a matched sample of HRS and FGP and SCP volunteers. First, a logistic regression was conducted to estimate each HRS and FGP/SCP participant's propensity score. The covariates in the model included age, gender, race/ethnicity, veteran status, education, marital status, income, employment status, and functional limitation (difficulty getting up from a chair after sitting for long periods). The model also included interactions between gender, race, and veteran status. The final matched sample of HRS and FGP/SCP volunteers consisted of 360 pairs of volunteers (180 HRS volunteers and 180 FGP/SCP volunteers). The final matched HRS non-volunteers and FGP/SCP volunteers consisted of 534 pairs of participants (267 HRS non-volunteers and 267 FGP/SCP volunteers). To determine how well the HRS and Senior Corps samples were matched, we examined the distribution of propensity scores before and after matching. The distribution of propensity scores was similar and overlapped after matching. Furthermore, there were no significant differences in observed demographic characteristics between the HRS and FG/SC samples after matching.

Data Cleaning

We identified covariates that might be related to the outcomes of interest. These included age, gender, race/ethnicity, veteran status, education, marital status, income, employment status, and functional limitation (e.g. difficulty getting up from a chair after sitting for long periods). All

[43] Brewer, D. J., & Picus, L. O. (Eds.). (2014). *Encyclopedia of education economics and finance (Vol. 2).* Sage Publications.

covariates were recoded so they were measured in the same way across both HRS and FGP/SCP samples. For example, race/ethnicity was coded White, African American, Latino, and Other for both HRS and FGP/SCP samples. Dummy variables were created for each level of all covariates (except reference levels), which were entered in the next step as covariates in the logistic regression model to estimate each individual's propensity score. Finally, a subset of the HRS sample was obtained by retaining only individuals whose household income was at or below the 200 percent of the national federal poverty level, who were age 55 and older, who were not in a nursing home, and who completed the survey on their own. This sample of HRS individuals was further divided into volunteers (N = 1,170) and non-volunteers (N = 3,351) using the HRS survey item, "Have you spent any time in the past 12 months doing volunteer work for religious, educational, health-related or other charitable organizations?"

Estimating the Propensity Score

We performed logistic regression to estimate each individual's propensity score. The covariates included in the model were age, gender, race/ethnicity, veteran status, education, marital status, income, employment status, and functional limitation. The interactions between gender, race/ethnicity, education, and marital status were also included in the model.

Performing the Match

We used the one-to-one matching method to match individuals in the HRS volunteer and non-volunteer samples to individuals in the FGP/SCP sample. The algorithm makes a best match first (i.e., the highest number of digits on propensity score), then the next best match (the next highest number of digits on propensity scores), in a hierarchical sequence. For example, in the first iteration, individuals were matched using eight digits of their propensity score. Individuals who did not match go through the second iteration, where they are matched using seven digits, and so on until the fifth iteration (matched using four digits of their propensity score). We did not match using three digits or lower because examination of the descriptive statistics of the matched samples revealed these were not ideal matches. See Parsons (2004)[44] for a detailed explanation of the matching algorithm and the macro.

Evaluating the Quality of the Match

The matching procedure resulted in 360 pairs of volunteers (180 HRS volunteers and 180 FGP/SCP volunteers) and 534 pairs of non-volunteers (267 HRS non-volunteers and 267 FGP/SCP volunteers). Several steps were taken to assess the quality of the matches. Comparison of the distribution of propensity scores of the HRS and FGP/SCP samples before and after matching using means, variances, and histograms showed that the propensity scores were

[44] Parsons, L. S. (2004, May). Performing a 1:N case-control match on propensity score. *Proceedings of the 29th Annual SAS Users Group International Conference*. SAS Institute.

similar. Furthermore, there were no significant differences between HRS and FGP/SCP samples in observed demographic characteristics after matching (all $p > .05$). Similarity in the distribution of propensity across the samples and non-significant differences in the covariates across the samples indicate high-quality matches. [45, 46]

[45] Lanehart, R. E., de Gil, P. R., Kim, E. S., Bellara, A. P., Kromrey, J. D., & Lee, R. S. (2012, April). Propensity score analysis and assessment of propensity score approaches using SAS procedures. In *SAS Global Forum: Statistics and Data Analysis.*

[46] Ibid.

Appendix B: Multiple Imputation

The questions on annual household income and service hours had the highest percentage of non-response, where 13 percent of volunteers did not respond to the question about their household income and 52 percent did not respond to the question about the number of service hours. These missing data may lead to bias estimates, improper inferences, and misinterpretations of the results.

Multiple imputation is a series of statistical techniques to analyze missing data and impute (i.e., fill in) the missing information using the distribution of non-missing data of the same variable and other available information in the dataset. The purpose of using multiple imputation is to reduce bias, which will result in more accurate results and inferences.

Multiple imputation consists of three general steps: (1) imputation, (2) analysis, and (3) pooling. The imputation step involves filling in the missing data with estimated values. This process is repeated multiple times, creating multiple datasets of imputed values. The analysis step involves analyzing each set of data using typical statistical methods, such as logistic regression or multiple regression. The pooling step involves combining the results (i.e., parameter estimates) from the previous step into one set of results.

Different algorithms are used for imputation depending on the distribution of the variables and missing data patterns. For multiple regression models, missing values for service hours were imputed using the Markov Chain Monte Carlo (MCMC) multiple imputation method. For the logistic regression model predicting the odds of retention, missing values were imputed using the fully conditional specification (FCS) method, which uses a separate conditional distribution for each imputed variable. The FCS assumes a separate conditional distribution for each imputed variable and is used to impute a variable that takes specific values such as a binary or ordinal variable for a logistic model.

The PROC MI procedure in SAS was used. The following variables were included in the imputation model: age, gender, race, ethnicity, education, living arrangement, has children or not, functional limitations, number of medical conditions, disability, motivation, satisfaction and experience, employment status, program type (FGP or SCP), program status (leaver or stayer), income, volunteer activities, number of days of service in the past month, service hours per day, and self-rated health. The literature provides a rule of thumb for determining the number of imputed datasets to produce. These recommendations range from 5 to 20 datasets when the fraction of missing values is low, and as many as 50 datasets when the fraction of missing values

is high.[47] Thirteen percent of the respondents did not respond to the income question. We reviewed the results for different numbers of imputed datasets when imputing income. We imputed 15 datasets for the logistic regression model because we found that higher values of imputed values beyond 15 did not improve the efficiency and parameter estimates. We imputed 45 datasets for the multiple regression models. In these models, one of the important predictors was hours of service, which had 52 percent of the respondents with missing values. The table below shows the variables before and after imputations.

The multiple datasets generated by the imputation process represent a range of possible values for the missing data. Each dataset was analyzed using logistic regression and multiple regression depending on the outcome of interest. The results represent a range of possible results had there been no missing values. The results using multiple datasets were then pooled into a single set of results using the PROC MIANALYZE procedure.

[47] UCLA, Statistical Consulting Group. Multiple imputation in SAS Part 1. Retrieved from https://stats.idre.ucla.edu/sas/seminars/multiple-imputation-in-sas/mi_new_1/

Table B-1: Comparison of Key Variables Before and After Imputation

	Before imputation	Before imputation	After imputation (FCS)	After imputation (MCMC)
	N	Percent	Percent	Percent
Gender				
Male	75	8.9	8.9	8.2
Female	766	91.1	91.1	91.8
Race				
Native American Alaska Native	13	1.6	2.1	1.5
Asian	24	3.0	3.0	3.1
Black or African American	364	45.1	43.7	43.0
Native Hawaiian Pacific Islander	2	0.3	2.0	1.5
White	382	47.3	46.1	48.0
More than one race	22	2.7	3.2	2.9
Ethnicity				
Not Hispanic	716	90.1	90.1	88.8
Hispanic	79	9.9	9.9	11.2
Education				
Less than high school	86	10.5	11.0	11.9
High school or GED	248	30.3	30.1	32.0
Less than BA	353	43.1	42.9	40.9
BA or higher	132	16.1	16.0	15.2
Marital Status				
Married/Partner	203	25.1	24.8	25.3
Separated/Divorced	324	40.1	39.9	39.1
Widowed	189	23.4	23.3	24.9
Never married/Other	93	11.5	12.0	10.7
Living Arrangement				
Live alone	477	60.2	59.8	59.7
Live with others	315	39.8	40.2	40.3
Children				
Have no children	107	13.4	13.7	14.1
Have children	691	86.6	86.3	85.9
Self-rated Health (Baseline)				
Excellent	58	7.0	7.0	6.5
Very good	252	30.3	30.2	29.8
Good	384	46.2	45.8	47.3
Fair	130	15.6	15.5	15.7
Poor	7	0.8	1.5	0.6

Note: After imputation N = 841.

	Before imputation	Before imputation	After imputation (FCS)	After imputation (MCMC)
	N	Percent	Percent	Percent
Difficulty walking one block				
No	724	88.3	87.8	88.5
Yes	96	11.7	12.2	11.5
Difficulty getting up from a chair after sitting for long periods				
No	620	76.3	75.8	75.5
Yes	193	23.7	24.2	24.5
Difficulty climbing several flights of stairs without resting				
No	434	54.9	54.9	55.5
Yes	357	45.1	45.1	44.5
Long-lasting conditions like blindness, deafness, or a severe vision or hearing impairment?				
No	767	93.7	93.0	93.3
Yes	52	6.4	7.0	6.7
Condition that substantially limits basic physical activities like walking, climbing stairs, reaching, lifting, or carrying?				
No	544	68.1	67.8	67.1
Yes	255	31.9	32.2	32.9
Motivation				
Altruistic only	95	11.3	11.3	10.6
Self-oriented	90	10.7	10.7	10.2
Personal growth	59	7.0	7.0	7.3
Self-oriented, personal growth	245	29.1	29.1	29.4
Self-oriented, personal growth, financial	162	19.3	19.3	20.0
Financial	102	12.1	12.1	12.3
No primary motivation	88	10.5	10.5	10.2
Overall Satisfaction				
Not very or not at all satisfied	17	2.1	3.4	0.1
Somewhat satisfied	74	9.1	9.4	7.1
Completely or very satisfied	725	88.9	87.2	92.7

Note: After imputation N = 841.

	Before imputation	Before imputation	After imputation (FCS)	After imputation (MCMC)
	N	Percent	Percent	Percent
Experience – Good match for my skills				
Disagree	73	9.0	9.9	7.2
Agree	741	91.0	90.1	92.8
Experience – Interesting				
Disagree	52	6.4	7.4	5.6
Agree	763	93.6	92.6	94.4
Experience – Supervisor provides support and information				
Disagree	72	8.9	9.8	6.9
Agree	739	91.1	90.2	93.1
Experience – Training				
Not at all helpful	9	1.1	1.9	0.6
Somewhat or a little helpful	88	10.6	10.7	9.1
Extremely or very helpful	731	88.3	87.4	90.3
Experience – Helpfulness of people in the program				
Not at all helpful	12	1.4	2.0	0.7
Somewhat or a little helpful	91	10.9	10.9	8.7
Extremely or very helpful	729	87.6	87.1	90.6
Experience – Flexibility to manage time				
Not at all helpful	10	1.2	2.6	0.6
Somewhat or a little helpful	88	10.7	10.8	7.1
Extremely or very helpful	722	88.1	86.6	92.3
Experience – Helpfulness of the stipend				
Not at all helpful	9	1.1	3.2	0.2
Somewhat or a little helpful	187	23.2	23.0	21.6
Extremely or very helpful	610	75.7	73.7	78.2
Employment Status				
Working now	75	9.2	9.4	8.3
Unemployed	117	14.3	14.3	13.0
Disabled	229	28.0	27.9	28.8
Retired	351	43.0	42.7	44.1
Homemaker	45	5.5	5.8	5.9

Note: After imputation N = 841.

	Before imputation	Before imputation	After imputation (FCS)	After imputation (MCMC)
	N	Percent	Percent	Percent
Program Type				
SCP	231	27.5	27.5	26.5
FGP	610	72.5	72.5	73.5
Leavers				
Not leaver	567	67.7	67.6	85.1
Leaver	271	32.3	32.4	14.9
Income				
Less than $20,000	582	69.2	71.1	78.0
$20,000–$29,999	112	13.3	14.1	17.4
$30,000–$39,999	13	1.6	4.2	2.2
$40,000 and higher	20	2.4	4.7	2.1
$20,000 – Amount not specified	2	0.2	5.9	0.3
Not specified	112	13.3	---	---
Age (Mean)	817	65.8	65.8	65.8
Number of Medical Conditions (Mean)	835	1.7	1.7	1.7
Hours per Day	320	4.9	---	4.9

Note: After imputation N = 841.

Appendix C: Retention Rate by Program Type

	All FGP		FGP						All SCP		SCP					
			Stayers		Leavers		*p*-value	Retention rate			Stayers		Leavers		*p*-value	Retention rate
	N	%	N	%	N	%		%	N	%	N	%	N	%		%
Age																
55–65 years	299	50.3	218	51.9	81	46.3	0.21	72.9%	119	54.1	71	51.1	48	59.3	0.24	59.7%
66–75 years	242	40.7	170	40.5	72	41.1	0.88	70.2%	82	37.3	57	41.0	25	30.9	0.13	69.5%
76 years or older	54	9.1	32	7.6	22	12.6	0.06	59.3%	19	8.6	11	7.9	8	9.9	0.62	57.9%
Gender																
Male	50	8.2	33	7.8	17	9.2	0.56	66.0%	25	10.9	14	9.8	11	12.8	0.48	56.0%
Female	559	91.8	391	92.2	168	90.8	0.56	69.9%	204	89.1	129	90.2	75	87.2	0.48	63.2%
Race																
Native American Alaska Native	9	1.5	6	1.5	3	1.7	-	66.7%	4	1.8	4	2.9	-	-	-	100.0 %
Asian	17	2.9	14	3.4	3	1.7	0.25	82.4%	7	3.2	5	3.7	2	2.4	0.71	71.4%
Black or African American	270	46.2	192	47.2	78	43.8	0.45	71.1%	92	42.0	54	39.4	38	46.3	0.31	58.7%
Native Hawaiian Pacific Islander	-	-	-	-	-	-	-	-	2	0.9	0	0	2	2.4	-	0.0%
White	269	46.0	182	44.7	87	48.9	0.35	67.7%	112	51.1	73	53.3	39	47.6	0.41	65.2%
More than one race	20	3.4	13	3.2	7	3.9	0.65	65.0%	2	0.9	1	0.7	1	1.2	-	50.0%
Ethnicity																
Not Hispanic	519	90.9	358	90.4	161	92.0	0.54	69.0%	194	87.8	119	85.6	75	91.5	0.20	61.3%
Hispanic	52	9.1	38	9.6	14	8.0	0.54	73.1%	27	12.2	20	14.4	7	8.5	0.20	74.1%
Education																
Less than HS	62	10.4	51	12.3	11	6.2	0.03	82.3%	24	10.8	17	12.2	7	8.4	0.38	70.8%
HS or GED	178	30.0	133	32.0	45	25.3	0.10	74.7%	69	31.1	46	33.1	23	27.7	0.40	66.7%
Less than BA	255	42.9	166	39.9	89	50.0	0.02	65.1%	96	43.2	58	41.7	38	45.8	0.56	60.4%
BA or higher	99	16.7	66	15.9	33	18.5	0.42	66.7%	33	14.9	18	13.0	15	18.1	0.30	54.5%

	All FGP		FGP						All SCP		SCP					
			Stayers		Leavers		*p*-value	Retention rate			Stayers		Leavers		*p*-value	Retention rate
Income																
Less than $20,000	469	77.3	333	78.5	136	74.3	0.25	71.0%	198	87.2	120	85.1	78	90.7	0.22	60.6%
$20,000–$29,999	106	17.5	72	17.0	34	18.6	0.63	67.9%	23	10.1	18	12.8	5	5.8	0.09	78.3%
$30,000 and higher	32	5.3	19	4.5	13	7.1	0.18	59.4%	6	2.6	3	2.1	3	2.1	0.68	50.0%
Marital Status																
Married/Partner	161	27.6	117	28.7	44	25.1	0.38	72.7%	42	18.8	23	16.4	19	22.6	0.25	54.8%
Separated/Divorced	216	37.0	149	36.5	67	38.3	0.69	69.0%	107	47.8	63	45.0	44	52.4	0.28	58.9%
Widowed	138	23.7	101	24.8	37	21.1	0.35	73.2%	50	22.3	40	28.6	10	11.9	0.004	80.0%
Never Married/Other	68	11.7	41	10.1	27	15.4	0.06	60.3%	25	11.2	14	10.0	11	13.1	0.48	56.0%
Veteran Status																
Active duty or veteran	18	3.2	13	3.4	5	2.9	0.77	72.2%	8	3.7	4	3.0	4	4.9	0.47	50.0%
Military family or family of veteran	98	17.5	66	17.1	32	18.5	0.69	67.3%	36	16.8	25	18.8	11	13.6	0.32	69.4%
Not a veteran	419	75.0	288	74.6	131	75.7	0.78	68.7%	161	75.2	99	74.4	62	76.5	0.73	61.5%
More than one answer	24	4.3	19	4.9	5	2.9	0.27	79.2%	9	4.2	5	3.8	4	4.9	0.73	55.6%
Disability																
Condition that limits basic physical activities	203	33.9	140	33.6	63	34.6	0.80	69.0%	77	33.9	45	31.7	32	37.7	0.36	58.4%

Note: Significant differences between stayers and leavers (i.e., *p*-values less than 0.05) are in bold.

Appendix D: Reasons for Leaving National Service

	Not at all	Not at all	A little	A little	Somewhat	Somewhat	A lot	A lot	A great deal	A great deal	Did not respond	Did not respond
	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent	n	Percent
A. I developed some health problems	36	13.3	120	44.3	11	4.1	25	9.2	25	9.2	54	19.9
B. I moved	43	15.9	209	77.1	2	0.7	4	1.5	3	1.1	10	3.7
C. I did not feel I was helping others	35	12.9	206	76.0	5	1.8	8	3.0	9	3.3	8	3.0
D. I was not earning extra money	35	12.9	194	71.6	12	4.4	21	7.7	4	1.5	5	1.8
E. I did not have enough time	39	14.4	187	69.0	14	5.2	13	4.8	6	2.2	12	4.4
F. I was not learning	38	14.0	216	79.7	3	1.1	10	3.7	2	0.7	2	0.7
G. I was not meeting new friends	34	12.5	225	83.0	5	1.8	2	0.7	4	1.5	1	0.4
H. I was not getting the experience	37	13.7	199	73.4	6	2.2	13	4.8	7	2.6	9	3.3
I. I was not making a difference	44	16.2	196	72.3	6	2.2	12	4.4	4	1.5	9	3.3
J. I need to care for a sick/frail family member	44	16.2	176	64.9	5	1.8	11	4.1	11	4.1	24	8.9

Appendix E. Factors Associated with Retention

	Model 1B	Model 1B	Model 1B	Model 1B	Model 2B	Model 2B	Model 2B	Model 2B	Odds of staying (% change)	Odds of staying (% change)
Predictor	**B**	**SE**	**Odds ratio**	***p*-value**	**B**	**SE**	**Odds ratio**	**p-value**	**Model 1B**	**Model 2B**
Age	-0.10	1.24	0.91	0.94	0.20	1.56	1.22	0.90	-9%	22%
Gender (Ref = Male)	0.26	0.28	1.30	0.34	0.09	0.31	1.10	0.76	30%	10%
African American (Ref = White)	-0.05	0.17	0.95	0.78	0.00	0.19	1.00	0.99	-5%	0%
Other race (Ref = White)	0.05	0.28	1.05	0.85	0.24	0.30	1.28	0.42	5%	28%
Hispanic/Latino (Ref = Non-Hispanic/Latino)	0.09	0.29	1.10	0.75	-0.02	0.31	0.98	0.94	10%	-2%
Education - Less than high school (Ref = Less than BA or BA)	0.60	0.29	1.83	0.04	0.32	0.30	1.37	0.30	83%	37%
Education - High school (Ref = Less than BA or BA)	0.37	0.18	1.44	0.04	0.22	0.19	1.24	0.25	44%	24%
Married (Ref = Not married)	0.02	0.24	1.02	0.94	-0.08	0.26	0.92	0.76	2%	-8%
Live alone (Ref = Live with Others)	0.00	0.21	1.00	0.98	-0.03	0.23	0.97	0.91	0%	-3%
Have children (Ref = Does not have children)	-0.03	0.23	0.97	0.91	-0.20	0.25	0.82	0.43	-3%	-18%
Income $20,000-39,000 (Ref = Less than $20,000)	0.10	0.21	1.11	0.64	0.30	0.24	1.36	0.20	11%	36%
Income more than $40,000 (Ref = Less than $20,000)	-0.29	0.50	0.75	0.57	-0.17	0.52	0.85	0.75	-25%	-15%
Self-rated health – Good (Ref = Excellent/very good)	-0.05	0.18	0.95	0.79	0.00	0.20	1.00	0.99	-5%	0%
Self-rated health – Fair or poor (Ref = Excellent/very good)	0.18	0.27	1.20	0.51	0.20	0.29	1.22	0.50	20%	22%

Disability (Ref = Does not have disability)	0.14	0.21	1.16	0.48	0.17	0.22	1.19	0.44	16%	19%
Difficulty walking one block (Ref = No difficulty)	-0.37	0.26	0.69	0.16	-0.30	0.29	0.74	0.30	-31%	-26%
Difficulty getting up from a chair after sitting for long periods (Ref = No difficulty)	-0.04	0.22	0.96	0.85	-0.01	0.23	0.99	0.97	-4%	-1%
Difficulty climbing several flights of stairs without resting (Ref = No difficulty)	-0.38	0.20	0.69	0.06	-0.38	0.22	0.68	0.08	-31%	-32%
Number of medical conditions	0.04	0.07	1.04	0.53	0.02	0.07	1.02	0.75	4%	2%
Motivation – Altruistic (Ref = Self-oriented and personal growth)	-0.15	0.27	0.86	0.59	-0.10	0.29	0.90	0.73	-14%	-10%
Motivation – Self-oriented (Ref = Self-oriented and personal growth)	-0.38	0.27	0.69	0.16	-0.25	0.29	0.78	0.39	-31%	-22%
Motivation – Personal growth (Ref = Self-oriented and personal growth)	0.22	0.34	1.24	0.53	0.26	0.37	1.30	0.48	24%	30%
Motivation – Self-oriented, personal growth, financial (Ref = Self-oriented and personal growth)	0.11	0.23	1.11	0.65	0.13	0.25	1.14	0.60	11%	14%
Motivation – Financial (Ref = Self-oriented and personal growth)	-0.32	0.26	0.73	0.22	-0.05	0.29	0.96	0.88	-27%	-4%
Motivation – No primary motivation (Ref = Self-oriented and personal growth)	-0.43	0.27	0.65	0.11	-0.24	0.30	0.79	0.42	-35%	-21%
Program type – SCP (Ref = FGP)	-0.32	0.17	0.73	0.06	-0.25	0.19	0.78	0.18	-27%	-22%

Employment status – Working (Ref = Retired)		-0.56	0.31	0.57	0.07	-43%
Employment status – Unemployed (Ref = Retired)		-0.41	0.26	0.66	0.11	-34%
Employment status – Disabled (Ref = Retired)		0.00	0.26	1.00	0.99	0%
Employment status – Homemaker (Ref = Retired)		-0.17	0.40	0.84	0.67	-16%
Overall satisfaction – Completely/very/somewhat satisfied (Ref = Not at all satisfied)		1.08	0.28	2.94	0.0001	194%
Experience – Good match for my skills (Ref = Disagree)		0.35	0.45	1.42	0.44	42%
Experience – Interesting (Ref = Disagree)		-0.36	0.56	0.69	0.51	-31%
Experience – Supervisor provides support and information (Ref = Disagree)		0.54	0.45	1.71	0.23	71%
Experience – Training (Ref = Not at all/somewhat/a little helpful)		0.26	0.28	1.30	0.35	30%
Experience – Helpfulness of people in the program (Ref = Not at all/somewhat/a little helpful)		0.33	0.29	1.39	0.25	39%
Experience – Flexibility to manage time (Ref = Not at all/somewhat/a little helpful)		0.99	0.26	2.68	0.0002	168%

Experience – Helpfulness of the stipend (Ref = Not at all/somewhat/a little helpful)		0.34	0.20	1.40	0.09	40%

Note: Significant predictors (i.e., *p*-values less than 0.05) are in bold. Ref = Reference category.

Appendix F: Hours of Service and Retention

Predictor	B	SE	Odds ratio	*p*-value	Odds of staying (% change)
Hours per day	0.30	0.16	1.35	0.06	35%
Age	-2.21	2.33	0.11	0.34	-89%
Gender (Ref = Male)	-0.61	0.50	0.54	0.22	-46%
African American (Ref = White)	0.19	0.28	1.21	0.50	21%
Other race (Ref = White)	1.20	0.67	3.32	0.07	232%
Hispanic/Latino (Ref = Non-Hispanic/Latino)	-0.24	0.41	0.79	0.56	-21%
Education – Less than high school (Ref = Less than BA or BA)	-0.09	0.41	0.92	0.84	-8%
Education – High school (Ref = Less than BA or BA)	0.10	0.28	1.11	0.72	11%
Married (Ref = Not married)	-0.67	0.39	0.51	0.08	-49%
Live alone (Ref = Live with Others)	-0.27	0.35	0.76	0.43	-24%
Have children (Ref = Does not have children)	0.26	0.34	1.29	0.46	29%
Income $20,000-39,000 (Ref = Less than $20,000)	0.56	0.41	1.76	0.17	76%
Income more than $40,000 (Ref = Less than $20,000)	-0.58	0.75	0.56	0.44	-44%
Self-rated health – Good (Ref = Excellent/very good)	-0.60	0.29	0.55	0.04	-45%
Self-rated health – Fair or Poor (Ref = Excellent/very good)	-0.01	0.44	0.99	0.98	-1%
Disability (Ref = Does not have disability)	0.05	0.32	1.05	0.88	5%
Difficulty walking one block (Ref = No difficulty)	-0.28	0.40	0.76	0.49	-24%
Difficulty getting up from a chair after sitting for long periods (Ref = No difficulty)	-0.18	0.33	0.83	0.58	-17%
Difficulty climbing several flights of stairs without resting (Ref = No difficulty)	-0.08	0.32	0.93	0.81	-7%
Number of medical conditions	0.02	0.11	1.02	0.83	2%
Motivation – Altruistic (Ref = Self-oriented and personal growth)	0.11	0.47	1.12	0.82	12%
Motivation – Self-oriented (Ref = Self-oriented and personal growth)	-0.37	0.42	0.69	0.38	-31%
Motivation – Personal growth (Ref = Self-oriented and personal growth)	-0.08	0.56	0.93	0.89	-7%
Motivation – Self-oriented, personal growth, financial (Ref = Self-oriented and personal growth)	-0.04	0.38	0.96	0.92	-4%

Predictor	B	SE	Odds ratio	*p*-value	Odds of staying (% change)
Motivation – Financial (Ref = Self-oriented and personal growth)	-0.68	0.40	0.51	0.09	-49%
Motivation - No primary motivation (Ref = Self-oriented and personal growth)	-0.73	0.41	0.48	0.08	-52%
Program type – SCP (Ref = FGP)	-0.18	0.27	0.83	0.50	-17%
Employment status – Working (Ref = Retired)	-0.11	0.49	0.90	0.83	-10%
Employment status – Unemployed (Ref = Retired)	-0.04	0.40	0.96	0.91	-4%
Employment status – Disabled (Ref = Retired)	-0.20	0.36	0.82	0.58	-18%
Employment status – Homemaker (Ref = Retired)	0.22	0.64	1.25	0.73	25%
Overall satisfaction – Completely/very/somewhat satisfied (Ref = Not at all satisfied)	0.82	0.45	2.26	0.07	126%
Experience – Good match for my skills (Ref = Disagree)	0.02	0.78	1.02	0.98	2%
Experience – Interesting (Ref = Disagree)	-0.92	1.10	0.40	0.40	-60%
Experience – Supervisor provides support and information (Ref = Disagree)	0.48	0.78	1.61	0.54	61%
Experience – Training (Ref = Not at all/somewhat/a little helpful)	0.53	0.41	1.70	0.20	70%
Experience – Helpfulness of people in the program (Ref = Not at all/somewhat/a little helpful)	0.30	0.41	1.35	0.46	35%
Experience – Flexibility to manage time (Ref = Not at all/somewhat/a little helpful)	-0.08	0.47	0.92	0.87	-8%
Experience – Helpfulness of the stipend (Ref = Not at all/somewhat/a little helpful)	0.26	0.31	1.30	0.39	30%

Note. Significant predictors (i.e., *p*-values less than 0.05) are in bold. Ref = Reference category.

Appendix G: Regression Results for Health and Well-being Outcomes, FGP and SCP Volunteers

Self-rated Health – Unchanged or Improved from Baseline to Second Follow-up

Predictor	B	SE	Odds ratio	*p*-value	Percent change
Program type - SCP (Ref = FGP)	-0.12	0.23	0.89	0.62	-11%
Hours of service per day	0.04	0.12	1.04	0.72	4%
Motivation – Altruistic (Ref = Self-oriented and personal growth)	-0.39	0.34	0.68	0.25	-32%
Motivation – Self-oriented (Ref = Self-oriented and personal growth)	-0.07	0.36	0.93	0.84	-7%
Motivation – Personal growth (Ref = Self-oriented and personal growth)	0.52	0.45	1.68	0.25	68%
Motivation – Self-oriented, personal growth, financial (Ref = Self-oriented and personal growth)	0.10	0.29	1.10	0.74	10%
Motivation – Financial (Ref = Self-oriented and personal growth)	-0.52	0.33	0.59	0.11	-41%
Motivation – No primary motivation (Ref = Self-oriented and personal growth)	-0.02	0.37	0.98	0.96	-2%

Ref = Reference category

Life Satisfaction at Second Follow-up

Predictor	B	SE	*p*-value
Life satisfaction (baseline)	0.45	0.04	<.0001
Program type – SCP (Ref = FGP)	0.07	0.16	0.64
Hours of service per day	-0.03	0.09	0.72
Motivation – Altruistic (Ref = Self-oriented and personal growth)	-0.57	0.24	0.02
Motivation – Self-oriented (Ref = Self-oriented and personal growth)	-0.45	0.24	0.06
Motivation – Personal growth (Ref = Self-oriented and personal growth)	-0.06	0.27	0.82
Motivation – Self-oriented, personal growth, financial (Ref = Self-oriented and personal growth)	-0.28	0.19	0.14
Motivation – Financial (Ref = Self-oriented and personal growth)	-0.54	0.24	0.02
Motivation – No primary motivation (Ref = Self-oriented and personal growth)	-0.38	0.25	0.13

Note. Significant predictors (i.e., *p*-values less than 0.05) are in bold. Ref = Reference category.

Social Isolation/Loneliness at Second Follow-up

Predictor	B	SE	*p*-value
Social isolation/loneliness (Baseline)	0.51	0.04	<.0001
Program type – SCP (Ref = FGP)	-0.43	0.20	0.03
Hours of service per day	-0.02	0.11	0.84
Motivation – Altruistic (Ref = Self-oriented and personal growth)	0.71	0.30	0.02
Motivation – Self-oriented (Ref = Self-oriented and personal growth)	1.10	0.31	0.00
Motivation – Personal growth (Ref = Self-oriented and personal growth)	0.57	0.35	0.10
Motivation – Self-oriented, personal growth, financial (Ref = Self-oriented and personal growth)	0.88	0.24	0.00
Motivation – Financial (Ref = Self-oriented and personal growth)	0.68	0.30	0.02
Motivation – No primary motivation (Ref = Self-oriented and personal growth)	0.39	0.32	0.23

Note. Significant predictors (i.e., *p*-values less than 0.05) are in bold. Ref = Reference category.

Appendix H: Regression Results for Health and Well-being Outcomes, FGP/SCP and HRS Non-volunteers

Predictor	B	SE	Odds ratio	*p*-value	Odds of improved self-rated health
Entire sample					
Senior Corps volunteers vs. HRS non-volunteers	0.42	0.08	1.52	<.0001	52%
Self-rated health (baseline)	0.78	0.00	2.17	<.0001	55%
Senior Corps volunteers who rated their health as fair/poor at baseline					
Senior Corps volunteers vs. HRS non-volunteers	0.44	0.15	1.55	0.004	55%

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