



## Article

## The 2013–2014 Senior Corps Study: Foster Grandparents and Senior Companions

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### Introduction

Volunteering has been associated with better health outcomes, such as lower mortality, better self-rated health, lower disability, and greater life satisfaction. The observed beneficial health outcomes may be because older adults who volunteer are often better educated, wealthier, and less likely to identify as a racial or ethnic minority than nonvolunteers (Choi & Kim, 2011; Lee, Steinman, & Tan, 2011; Luoh & Herzog, 2002; Morrow-Howell, Hinterlong, Rozario, & Tang, 2003; Musick, Herzog, & House, 1999). There is evidence from one analysis that “individuals with lower income systematically reported more benefit from volunteering” (Morrow-Howell, Hong, & Tang, 2009). Yet, there is also evidence that “those with low human capital are excluded from volunteering and consequently do not gain potential health and social benefits. This exclusion may lead to greater disparities in later life” (McNamara & Gonzales, 2011). This supports the need for volunteer programs that are designed to be both attractive and accessible to low-income minority older adults.

The Corporation for National and Community Service (CNCS) administers Senior Corps, which engages adults 55 and older in national service with incomes at or below 200% of the poverty level. The Foster Grandparent Program (FGP) and Senior Companion Program (SCP) require 15 to

40 hr a week of service (780 to 2,080 hr of service a year). By contrast volunteers age 55 to 64 years report a median 52 hr of service a year and volunteers age 65 and older report a median 86 hr a year of service (USDL-14-0314, 2014). FGP is an intergenerational national service model that began in 1965 (Reagan & Wilkie, 1982) and provided over \$103.8 million in fiscal year 2013 to support Foster Grandparents serving primarily in school readiness, K–12 academic achievement, and school engagement. SCP is an intragenerational national service model that began in 1974 (Lee & Gray, 1992) and provided over \$43.6 million in fiscal year 2013 to support Senior Companions serving adults through instrumental activities of daily living, companionship, and caregiver respite. Research has also shown that few retirees are willing to serve more than 10 hr/week without financial support (Fried et al., 2004; Morrow-Howell et al., 2003). Both programs provide a small stipend of \$2.65/hr of service, which defrays the cost of volunteering and may address the concerns about volunteer expenses. Gonzales, Matz-Costa, and Morrow-Howell (2015) have hypothesized that “Senior Companion and Foster Grandparents are important as they are specifically geared for lower socioeconomic status older adults.” However, until now, there has been no data to test whether these programs have achieved the goal of providing access

to a diverse group of low-income adults to volunteers or how the self-reported health, functional status, and life satisfaction of Foster Grandparents or Senior Companions compare with other volunteers and nonvolunteers.

The 2013–2014 Senior Corps Study (Senior Corps Study) provides, for the first time ever, a census of Foster Grandparents and Senior Companions. First, the paper examines the income, race, and ethnic composition of Foster Grandparents and Senior Companions to test whether both FGP and SCP have successfully recruited and retained a diverse group of low-income volunteers. Second, the paper compares the demographic and socioeconomic characteristics between volunteers in FGP and SCP. Third, the instrument used in the Senior Corps Study replicated survey questions from the Health and Retirement Study (HRS) making it possible to compare the self-reported health, functional status, and life satisfaction of Foster Grandparents and Senior Companions to similar adult volunteers and nonvolunteers in the general population.

## Method

The Senior Corps Study was a census of all FGP and SCP grantees with active grants during the data collection period. This study included an FGP or an SCP grantee in every state, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. JBS International (JBS) provided data collection activities and technical assistance to grantees to administer the survey (JBS IRB protocol number SG13-01). CNCS cleared the volunteer survey on January 23, 2013, in accordance with the Paperwork Reduction Act of 1980 (Office of Management and Budget control # 3045-0146).

Grantees instructed individual Foster Grandparents and Senior Companions that their “participation is voluntary and will not affect their involvement with the program.” Technical assistance included step-by-step instructions for collecting the survey. All surveys were anonymous; respondents did not include any personal identifying information when returning their survey. The last survey was received on September 17, 2013.

There were 334 FGP and 214 SCP active grants when data collection began. Grantees that were in the process of relinquishing their grants were excluded from the study. Of the 330 eligible FGP grantees, 328 (99%) administered the survey to their volunteers. Of the 210 eligible SCP grantees, 202 (96%) administered the survey to their volunteers. There were 30,860 respondents, for an 84% response rate for both Foster Grandparents and Senior Companions serving at the time of the study (see Figure 1).

An initial descriptive analysis was conducted using data from all FGP and SCP respondents ( $N = 30,860$ ). For the comparative analysis between FGP and SCP, we excluded 144 respondents who could not be identified as either a Foster Grandparent or a Senior Companion. For the comparative analysis between FGP and SCP respondents and HRS respondents, we excluded an additional 1,897 respondents who completed the questionnaire in languages other than English or Spanish.

For the comparative analysis of Senior Corps and HRS respondents, we used data from the 2010 HRS Core. The HRS sample consisted of respondents aged 55 years and older with annual income at or below 200% of the federal poverty level. Consequently, of the 22,039 HRS respondents, 17,243 respondents were excluded because their income was above 200% of the federal poverty level or information about whether they volunteered in the past year had missing values. We further excluded an additional 503 HRS respondents who were younger than 55 years of age, in nursing homes or whose survey was completed by a proxy. The final HRS sample for the analysis consisted of 4,136 respondents: 3,122 non-volunteers and 1,014 volunteers (see Figure 1).

## Measures

The survey for the Senior Corps Study was identical to the English or Spanish versions of the 2010 HRS instruments with the exception of the question regarding veteran status. In the HRS data, volunteer status was ascertained from the question “Have you spent any time in the past 12 months doing volunteer work for religious, educational, health-related, or other charitable organizations?” HRS respondents who answered “yes” were coded as volunteers.

**Outcome Variables**—Our comparative analysis of Senior Corps and HRS respondents consisted of three outcome variables: self-rated health, mobility-associated disability, and life satisfaction. Respondents of the Senior Corps Study and the HRS were asked “Would you say your health is excellent, very good, good, fair, or poor?” Self-rated health was recoded to take on three values: (1) excellent or very good health, (2) good health, and (3) fair or poor health.

For mobility-associated disability, the following question was asked: “Because of a health problem do you have any difficulty with walking one block?” The response categories included “yes,” “no,” “can’t do,” “don’t do,” and “I don’t know.” Mobility-associated disability was recoded to take on three values: (1) “yes,” “can’t do,” and “don’t do,” (2) “no,” and (3) “I don’t know.”

For life satisfaction, the following question was asked: “Please think about your life-as-a-whole. How satisfied are you with it? Are you satisfied or not satisfied?” The response categories were “not satisfied,” “not very satisfied,” “somewhat satisfied,” “very satisfied,” and “completely satisfied.” Life satisfaction was recoded to take on three values: (1) “not satisfied,” (2) “somewhat satisfied” and “not very satisfied,” and (3) “completely satisfied” and “very satisfied.”

**Covariates**—The questions from which these variables were derived were identical in the Senior Corps Study and the HRS surveys. The exception was in determining veteran status. The demographic variables were: sex, age, race, ethnicity, educational status (less than high school, high school diploma or General Educational Development certificate [GED], associate degree or some college but not a bachelor’s degree, bachelor’s degree or higher), and marital

status (married or have a partner, separated or divorced, widowed, and never married or other).

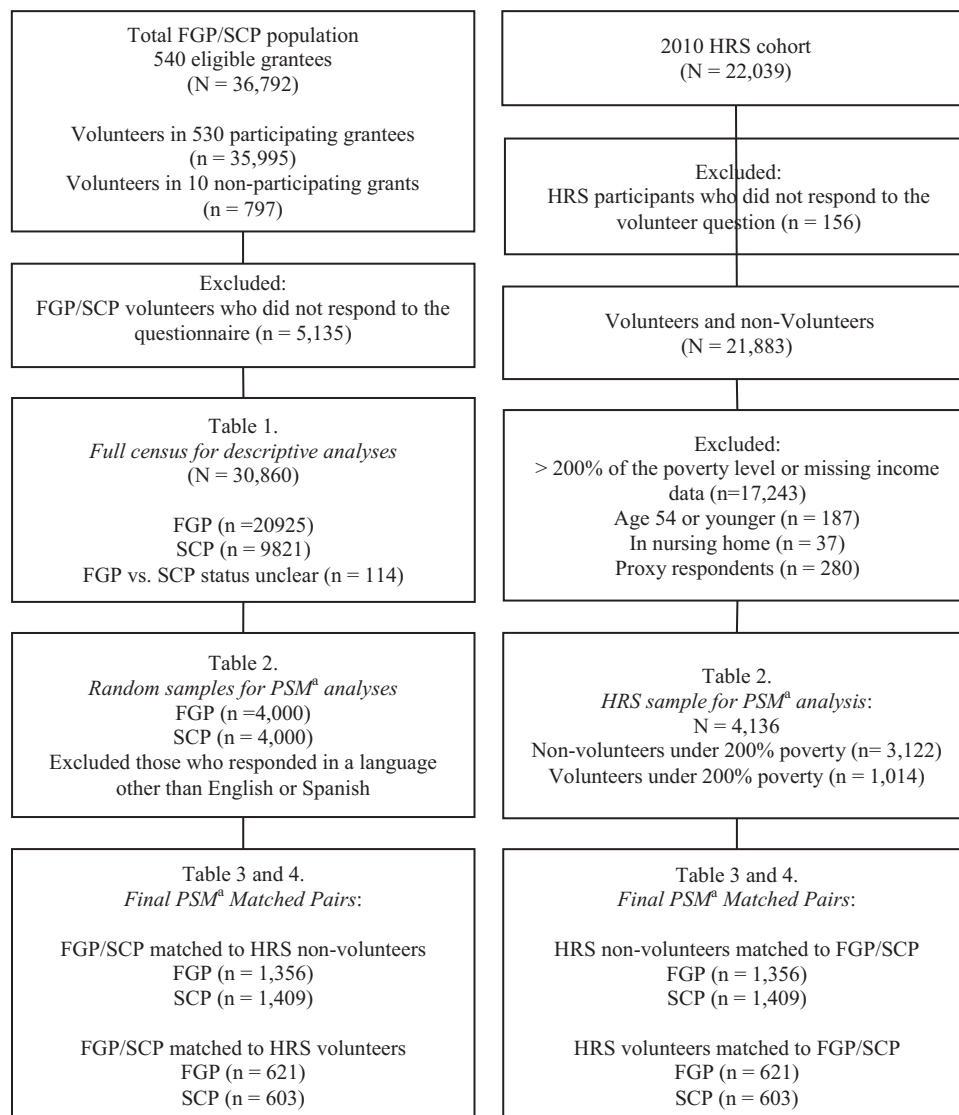
## Analyses

A descriptive analysis describing the Foster Grandparents and Senior Companions and a comparative analysis of the two programs were conducted using data from all respondents in the Senior Corps Study (see Figure 1). The first two objectives were to examine characteristics of Foster Grandparents and Senior Companions and to compare differences between participants in the two programs. To achieve these two objectives, we examined whether the demographic characteristics of the Foster Grandparents differed significantly from the Senior Companions using Wilcoxon–Mann–Whitney rank-sum test for continuous

variables (e.g., age and years volunteering) and chi-squared test for the binary data.

The third objective was to compare the health status of Foster Grandparent and Senior Companion volunteers with similar adult volunteers and nonvolunteers in the HRS. This analysis utilized propensity score matching (PSM) to determine whether Foster Grandparents and Senior Companions differed in self-rated health, mobility-associated disability, or life satisfaction, when compared with HRS respondents with similar characteristics. This analysis was not designed to determine causality; rather the analysis sought to compare Foster Grandparents and Senior Companions to a similar group of volunteers and nonvolunteers using observational data.

PSM is designed to reduce inherent bias due to confounding variables that could be found in an estimate that simply compares the health status of Foster Grandparents



<sup>a</sup> PSM = Propensity Score Matching

Figure 1. Sample selection for the FGP/SCP & HRS cohorts.

and Senior Companions with similar HRS respondents (who are assumed not to be participating in FGP or SCP). It is especially important to account for confounding factors given that previous research has observed differences in self-rated health across gender, race, and ethnicity (Case & Paxson, 2005; Su, Wen, & Markides, 2013). For the comparative analysis with the HRS, differences between matched pairs were evaluated using the McNemar's test for binary variables.

Since the number of respondents in the Senior Corps Study was substantially larger than the HRS sample, we drew a random sample of 4,000 Foster Grandparents and 4,000 Senior Companions. We did this to ensure that samples used in the comparative analysis had a sufficient number of observations with characteristics similar to each other so that adequate matches were possible even if the average unmatched characteristics are very different (Heinrich, Maffoli, & Vazquez, 2010).

We performed a logistic regression to estimate each participant's propensity score (the probability of being a Foster Grandparent or Senior Companion given observed covariates). The covariates used in the logistic regression model included sex, age, race/ethnicity, education, marital status, and veteran status. The model also included interaction terms between the covariates. Once the propensity score was calculated for each participant, the second step was to implement the matching method. We used a one-to-one nearest neighbor matching which is based on the smallest distance in propensity score. To avoid poor matches, we used comparison cases that are the best match based on the propensity score values within a 5 years age range. Using this approach, we improved the likelihood of finding exact matches. The drawback is that fewer observations are matched that could lead to reduced power. However, the research suggests that the likely reduction in power is minimal (Stuart, 2010). This approach avoided poor matches, which might have biased the estimates of the potential effect size of FGP or SCP participation. We performed the one-to-one matching without replacement, meaning for each Foster Grandparent or Senior Companion, we found the closest comparison case in the HRS. If there were more than one possible match cases, one match was selected at random.

We performed several steps to assess whether the propensity score balanced the characteristics across each of the groups that were matched. We examined the distribution of the propensity scores using histograms, mean, and variance of the propensity scores, before and after matching. This analysis showed the distributions for each of the matched pairs overlapped and were similar after matching. We also compared differences in mean value of each covariate, before and after matching. After matching, the differences between each covariate were not statistically significant. A joint test for equality of mean values for all covariates showed that balance was achieved across all covariates.

We formed matched pairs of Foster Grandparents and Senior Companions to respective HRS volunteers and nonvolunteers. The matched pairs for Foster Grandparents consisted of 621 respondents for the comparative analysis with HRS volunteers and 1,356 respondents for the comparative analysis with HRS nonvolunteers. The matched pairs for Senior Companions consisted of 603 respondents for the comparative analysis with HRS volunteers, and 1,409 respondents for the comparative analysis with HRS nonvolunteers (See Figure 1).

## Results

Table 1A and Supplementary Table 1B present the results for the first two objectives to examine the characteristics of the Foster Grandparents and Senior Companions and to compare differences between the two groups of participants. The Senior Corps Study respondents were 55–104 years of age, with a mean age of 72 years. The Senior Corps Study respondents were 45% white, 40% African American, 2% Native American or Alaskan Native, 3% Asian American, Native Hawaiian, or Pacific Islander, and 6% other or more than one race selected.

Foster Grandparent and Senior Companion participants differ in the proportion of women, African American, length of service, and educational attainment. About 90% of Foster Grandparents and 83% of Senior Companions ( $p \leq .0001$ ) were women. About 41% of Foster Grandparents were African American compared with 38% of Senior Companions ( $p \leq .0001$ ). About 21% of Foster Grandparents did not graduate from high school or did not have a GED compared with 26% of Senior Companions ( $p \leq 0.0001$ ). Foster Grandparents reported an average of 6.4 years in service compared with 6.1 years for Senior Companions ( $p \leq 0.0001$ ). Foster Grandparents and Senior Companions were similar in terms of marital status, self-rated health, and mobility-associated disability.

Table 2 shows the demographic variables used in the logistic regression to create the propensity score and the outcome variables to compare Foster Grandparents and Senior Companions, to HRS nonvolunteers and volunteers. There were significant demographic differences between the Senior Corps Study respondents and the HRS respondents (both volunteers and nonvolunteers) before matching using the propensity score. The HRS volunteers and nonvolunteers reported mean ages of 71 and 73 years, respectively, which were similar to the mean age of 72 reported by both Foster Grandparents and Senior Companions. Foster Grandparents and Senior Companions were 42% and 38% African American (non-Latino), respectively, compared with 26% of HRS volunteers and 22% of HRS nonvolunteers ( $p \leq 0.0001$  for all comparisons). Foster Grandparents and Senior Companions were 11% and 14% Latino (of all races), respectively, compared with 9% among HRS volunteers and 20% among the HRS nonvolunteers ( $p \leq 0.0001$  for all comparisons).

**Table 1A:** Characteristics of Foster Grandparents and Senior Companions

	FGP/SCP <sup>a</sup> (N = 30860)		FGP (N = 20925)		SCP (N = 9821)		FGP vs SCP p Value <sup>b</sup>
	n	Percent unless specified as years	n	Percent unless specified as years	N	Percent unless specified as years	
Age in years							
Mean (SE <sup>c</sup> )	29476	71.9 (.05)	19959	71.9 (.05)	9413	71.9 (.08)	0.40
Range		55 to 104		55 to 101		55 to 104	–
Age - missing	1384	4.70	966	4.84	408	4.33	–
Gender							
Female	26954	87.34	18739	89.55	8115	82.63	<.0001
Male	3297	10.68	1789	8.55	1496	15.23	<.0001
Gender - missing	609	1.97	397	1.9	210	2.14	–
Race							
White/ Caucasian	13908	45.07	9333	44.6	4468	45.49	0.23
Black/ African American	12429	40.28	8654	41.36	3774	38.43	<.0001
American Indian or Alaskan Native	583	1.89	398	1.90	184	1.87	0.98
Asian Native Hawaiian, or Pacific Islander	872	2.83	539	2.58	333	3.39	<.0001
Other	1518	4.92	925	4.42	590	6.01	<.0001
More than one race selected	396	1.28	272	1.30	123	1.25	0.71
Race - missing	1154	3.74	804	3.84	349	3.55	–
Ethnicity							
Not Hispanic or Latino	22734	73.67	15523	74.18	7169	73.00	<.0001
Hispanic or Latino	3684	11.94	2316	11.07	1308	13.32	–
Don't know	802	2.60	526	2.51	276	2.81	–
Hispanic or Latino - missing	3640	11.80	2560	12.23	1068	10.87	–
Education							
Less than HS	6934	22.47	4376	20.91	2521	25.67	<.0001
High School or GED	10572	34.26	7474	35.72	3050	31.06	<.0001
Less than BA	8961	29.04	6173	29.50	2769	28.19	0.02
BA Degree or Higher	3858	12.50	2536	12.12	1313	13.37	0.002
Missing Education	535	1.73	366	1.75	168	1.71	–
Marital Status							
Married/Partner	6270	20.32	4271	20.41	1972	20.08	0.52
Separated/Divorced	8764	28.40	5725	27.36	3010	30.65	<.0001
Widowed	12584	40.78	8755	41.84	3786	38.55	<.0001
Single / Other	2638	8.55	1769	8.45	856	8.72	0.43
Missing Marital Status	604	1.96	405	1.94	197	2.01	–

<sup>a</sup> full census for descriptive analyses<sup>b</sup> p Values for Wilcoxon-Mann-Whitney rank-sum test and chi-squared test<sup>c</sup> SE = Standard Error<sup>d</sup> there were no responses using the Arabic, German, Hindi, Italian, Polish or Portuguese language versions of the survey<sup>e</sup> values between 1–4 respondents were censored

**Table 2.** Characteristics of Foster Grandparents and Senior Companions and the HRS Comparison Group (all variables used in the logistic regression)

	Volunteers in the HRS sample for PSM <sup>a</sup> analysis	Nonvolunteers in the HRS sample for PSM <sup>a</sup> analysis	FGP random sample for PSM <sup>a</sup> analysis	SCP random sample for PSM <sup>a</sup> analysis	FGP to HRS volunteers	FGP to HRS nonvolunteers	SCP to HRS volunteers	SCP to HRS non-volunteers
<i>n</i>			4,000	4,000	<i>p</i> Value <sup>b</sup>			
<i>Age in years</i>								
Mean (SE)	71.4 (0.29)	72.7 (0.17)	71.8 (0.12)	71.8 (0.12)	.09	.0004	.10	.0002
Range	55–98	55–101	55–98	55–104				
<i>Gender</i>								
Female	71.34	66.17	92.05	84.98	<0.0001	<0.0001	<0.0001	<0.0001
Male	28.66	33.83	7.95	15.03	<0.0001	<0.0001	<0.0001	<0.0001
<i>Race and ethnicity</i>								
White/Caucasian (non-Latino)	61.36	55.90	41.35	39.90	<0.0001	<0.0001	<0.0001	<0.0001
Black/African American (non-Latino)	26.28	21.78	41.8	38.35	<0.0001	<0.0001	<0.0001	<0.0001
Latino (any race)	8.89	19.56	10.75	14.48	.08	<0.0001	<0.0001	<0.0001
Other race (non-Latino)	3.46	2.67	6.10	7.28	.001	<0.0001	<0.0001	<0.0001
<i>Education</i>								
Less than high school	21.84	42.27	20.95	26.33	.54	<0.0001	.0034	<0.0001
High school or GED	39.72	35.69	37.60	32.25	.21	.0973	<0.0001	.002
Less than BA	24.41	16.09	29.60	28.28	.00	<0.0001	.0138	<0.0001
BA or higher	14.03	5.94	11.85	13.15	.06	<0.0001	.4610	<0.0001
Veteran	12.75	15.16	5.40	6.98	<0.0001	<0.0001	<0.0001	<0.0001
<i>Marital status</i>								
Married/partner	40.02	39.03	20.73	19.13	<0.0001	<0.0001	<0.0001	<0.0001
Separated/divorced	21.25	20.46	28.30	32.30	<0.0001	<0.0001	<0.0001	<0.0001
Widowed	34.78	35.01	41.93	39.30	<0.0001	<0.0001	.0083	.0002
Single/other	3.95	5.49	9.05	9.28	<0.0001	<0.0001	<0.0001	<0.0001

**Supplementary Table 3** compares health status of Foster Grandparents and Senior Companions to HRS volunteers. Foster Grandparents have a 14% prevalence of fair/poor health compared with a 24% prevalence of fair/poor health among matched HRS volunteers ( $p < 0.0001$ ). Similarly, Senior Companions have a 13% prevalence of fair/poor health compared with a 25% prevalence of fair/poor health among matched HRS volunteers ( $p < 0.0001$ ). There was no statistical difference between the prevalence of excellent/very good health between the matched pairs for the Foster Grandparents ( $p = .36$ ) and the Senior Companions ( $p = .77$ ) compared with matched HRS volunteers. Foster Grandparents and Senior Companions reported a higher prevalence of problems walking or inability to walk one-block compared with matched HRS volunteers ( $p < 0.0001$ ). Foster Grandparents and Senior Companions reported higher life satisfaction (completely/very satisfied with their life) compared with matched HRS volunteers ( $p < 0.0001$ ).

**Supplementary Table 4** compares the health status of Foster Grandparents and Senior Companions to HRS nonvolunteers. Foster Grandparents compared with matched HRS nonvolunteers shows a 16% prevalence of fair/poor health for the Foster Grandparents compared with a 46% prevalence of fair/poor health for the matched HRS nonvolunteers ( $p < 0.0001$ ). Similarly, the matched pairs for the Senior Companions reported a 16% prevalence of fair/poor health compared with a 49% prevalence of fair/poor health among HRS nonvolunteers ( $p < 0.0001$ ). Foster Grandparents reported a 40% prevalence of excellent/very good health and a 43% prevalence of good health compared with a 22% prevalence of excellent/very good health and a 32% prevalence of good health for the matched HRS nonvolunteers ( $p < 0.0001$ ). The analysis similarly shows that the Senior Companions reported a 41% prevalence of excellent/very good health and a 43% prevalence of good health compared with a 21% prevalence of excellent/very good health and a 30% prevalence of good health for the matched HRS nonvolunteers ( $p < 0.0001$ ). Foster Grandparents and Senior Companions reported a lower prevalence of problems walking or inability to walk one-block (mobility-associated disability) compared with matched HRS nonvolunteers ( $p < 0.0001$ ). Foster Grandparents and Senior Companions also reported higher life satisfaction (completely/very satisfied with their life) compared with matched HRS nonvolunteers ( $p < 0.0001$ ).

## Discussion

The Foster Grandparent Program and the Senior Companion Program engage a diverse corps of low-income adults age 55 and older in high-intensity volunteer activity; this supports the hypothesis that FGP and SCP are important as they are specifically geared for lower socioeconomic status older adults (Gonzales, Matz-Costa, & Morrow-Howell, 2015). The representation of African American and Latino participants in both FGP and SCP further demonstrate the broad

appeal of both intergenerational and intragenerational national service models. Men were underrepresented in both

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FGP and SCP; further program development and research will be required to ensure the accessibility and appeal of national service opportunities for low-income older men.

Although the differences found between the health status of Foster Grandparent and Senior Companions compared with matched nonvolunteers in the HRS were expected given the results of previous studies (Choi, 2003; Lee, Steinman, & Tan, 2011; Musick et al., 1999), the differences observed between Foster Grandparent and Senior Companions compared with matched volunteers in the HRS are notable. A lower proportion of Foster Grandparent and Senior Companions reported fair/poor self-rated health compared with matched volunteers in the HRS. It is possible that the lower prevalence of fair/poor health among Foster Grandparents and Senior Companions is due to a possible health benefit associated with national service. At least one prior analysis of the Experience Corps model suggested that AmeriCorps members with fair or poor health experienced greater health benefits from service than other volunteers (Barron et al., 2009). An alternative explanation is that the lower prevalence of fair/poor health is due to additional selection bias not accounted for by the analysis, in that individuals with fair/poor self-rated health are either not recruited or not retained in either the Foster Grandparent or Senior Companion program.

**It is possible that the lower prevalence of fair/poor health among Foster Grandparents and Senior Companions is due to a possible health benefit associated with national service.**

The Foster Grandparent and the Senior Companion Programs are able to engage individuals with mobility-associated disability. While it is possible that national service is a risk factor for mobility-associated disability, we propose two alternate explanations. First, it is possible that the physical requirements of national service may make individuals more aware that they may have “difficulty with walking one block.” Second, the prevalence of mobility-associated disability among

Foster Grandparents and Senior Companions (which is higher than the prevalence among volunteers and lower than the prevalence in nonvolunteers in the comparison group) may provide initial evidence that the FGP and SCP are able to accommodate participants with mobility-associated disability.

A higher proportion of Foster Grandparent and the Senior Companion reported higher levels of life satisfaction compared with a similar population of volunteers and nonvolunteers in the HRS comparison group. This contrasts to a prior analysis that showed a decrease in life satisfaction among those volunteering more than 140 hr a year (Van Willigen, 2000).

This study has several limitations. The information was obtained from self-report. Although the questions asked of the Senior Corps Study and HRS respondents were similar, the methodology for collecting the data was different. It is possible that the observed differences in health status are due to programmatic requirements, such as a criminal background check and the minimum of 15 hr a week service requirement, which may appeal to individuals with lower risk factors. The current analysis does not differentiate the national service activity and the monetary benefits of being a Foster Grandparent and Senior Companion, such as the \$2.65 an hour stipend (which can amount to between \$2,000 and \$5,500 a year).

Foster Grandparents and Senior Companions represent a distinctly diverse group of low-income adults age 55 and older that differ from a comparison group of volunteers from the HRS in terms of the self-rated health, mobility disability, and life satisfaction. Future studies should explore whether the observed differences in health status may be due to unmeasured volunteer characteristics or if there is a health benefit associated with national service. The Senior Corps Study data are available to researchers for further analyses. The CNCS invites independent research to conduct additional analyses on the Senior Corps Study data that were collected but not analyzed; this includes additional psychosocial questions in the HRS.

## Supplementary Material

Please visit the article online at <http://ppar.oxfordjournals.org/> to view supplementary material.

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