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Perceived family impact of volunteering among reintegrating Post-9/11 veterans

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Abstract

Family issues are common among returned Post-9/11 veterans. Traumatic brain injury (TBI), posttraumatic stress disorder (PTSD), and depression are each independently related to divorce while community ties and social support are protective factors for the family during reintegration. Evidence from elders on the benefits of one intervention, community volunteering, may indicate “spillover effects” of these benefits into the family. Few measures exist to assess the impact of military veteran volunteering on the family. We report: (1) an adaption of a benefits measure from elders to veterans, (2) its preliminary reliability and validity, and (3) differences among subgroups. Reintegrating Post-9/11 veterans ($N = 346$) who completed a 6-month, stipended volunteer program were surveyed. Perceived impact of volunteering on the family was assessed after completion of the program using an 11-item self-report measure. Rank-based nonparametric tests were used to detect significant differences among subgroups. Preliminary findings support the scale’s adaptation to veterans, internal consistency, and construct validity. At least one perceived family impact indicator differed significantly ($p < .05$) between subgroups based on demographic and psychological factors. Veterans in this civic service program perceived that their volunteering may have impacted their families.

Keywords

Operation Enduring Freedom; Operation Iraqi Freedom; veterans; health; volunteer; mental health; depression; brain injury; stress disorders; post-traumatic; reintegration

Relative to prior conflicts, military service members in the Post-9/11 era tend to be older (George & Ferraro, 2015, p. 240; US Department of Defense, 2013) and are, therefore, more likely to be married and/or to have children, making family functioning an important consideration when caring for this generation of veterans. As one transition impacting family functioning, reintegration into civilian life following completion of military service can be a challenging time for veterans and their families. Exemplifying this, a study of

recently returned Post-9/11 veterans who had been referred for a behavioral health evaluation found that 78% reported family issues and 60% reported some form of domestic abuse (Sayers, Farrow, Ross, & Oslin, 2009). Prevalent family issues included discord in spousal/partner relationships, disagreements around family responsibilities, and children seeming afraid of or unwarm in relation to the veteran parent (Sayers et al., 2009). The transition back to civilian life upon completion of military service has also been associated with financial, professional, and personal difficulties including unemployment, development of new social networks and supports, and changes in family roles and dynamics (Denning, Meisnere, & Warner, 2014; Savitsky, Illingworth, & DuLaney, 2009; Sherman, Larsen, & Borden, 2015).

The health and mental health of returning veterans also impacts their marriages and families. In Post-9/11 veterans, diagnoses of posttraumatic stress disorder (PTSD), depression, or both occur at a rate of 22% (Vaughan, Schell, Tanielian, Jaycox, & Marshall, 2014) and rates of traumatic brain injury (TBI) range from 19–23% in the United States (U.S.) Armed Forces (Okie, 2005; Tanielian, Jaycox, & Rand Corporation., 2008; Terrio et al., 2009). TBI, PTSD, and depression are each independently related to divorce (Tanielian et al., 2008). Readjustment problems regarding family roles have been associated with PTSD and depression in veterans who have returned within the last year to two years (Sayers et al., 2009). Finally, in addition to interpersonal issues within the family, a national study of 754 randomly sampled Iraq and Afghanistan combat veterans, ages 22 to 62, who had used Veterans' Health Administration (VHA) services at least once within the three year, nine month study window, revealed that approximately 25% - 56% reported "some" to "extreme" reintegration difficulty with problems in domains such as community involvement, social functioning, productivity, and self-care and nearly all (96%) indicated they would like services supporting the transition back into civilian life (Sayer et al., 2010). Therefore, communication with family, employment, financial concerns, social involvement, and community integration are important and challenging aspects of the process of transition back to civilian life, for both the veteran as well as his/her family.

While veterans and their families face challenges, protective factors have been associated with military families during the various phases of deployment; some of these may apply to veteran families as well. Family systems (Cox & Paley, 1997) and social ecological perspectives (Bronfenbrenner & Morris, 1998) have been used to better understand the impacts and dynamics of all phases of the deployment cycle on military families at transactional dyadic, family, community, and society levels (Paley, Lester, & Mogil, 2013). In this manuscript, we extend the use of these perspectives to another military affiliated group, that is to families of veterans who have completed military service.

Community ties and social support are key protective factors for families of military service members during the deployment process (Wiens & Boss, 2006). Within families, social support can start among the friends and families in the military and extend to those outside of the military; additionally, the marital relationship is considered one of the strongest protective factors to family health (Ponder, Aguirre, Smith-Osborne, & Granvold, 2012). While some of these factors may be applicable to reintegrating veteran families, such as the marital relationship and extra-military supports, it is important to note that, unlike families

of active duty military service members, veteran families as well as those of National Guard and Reserve members, are not situated within a traditional military community, therefore, non-military social and community relationships must be established. While scant research has focused on veteran families in their communities and the role of community following military service completion, one in-depth qualitative study of 48 Post-9/11 veterans synthesized key recommendations based on their findings which included recommendation of the development of social support and transition groups following completion of military service, at a time when identity must revert from military to civilian (Demers, 2011). As many veterans are reintegrating back into civilian life and separating from the military following the most recent conflicts in Iraq and Afghanistan, engagement within, and connection to their home communities and families has become increasingly important.

Volunteering among veterans, civic service, and the potential for family impact

According to the 2015 Veterans Civic Health Index (Tivald & Kawashima-Ginsberg, 2015), more veterans than non-veterans volunteer in the U.S. As such, volunteering may derive many positive social benefits for veterans and their families. The nature of the social phenomenon of volunteering is quite varied, ranging from providing care or service within informal networks of support to intensive, structured volunteering delivered through formal programs that require significant time commitments (Salamon & Sokolowski, 2001). The latter, more intensive type of volunteering is also known as civic service (McBride, Benítez, & Sherraden, 2003). Over the past decade, researchers have begun to examine the impact of volunteering on the volunteer's physical and psychosocial health (Jenkinson et al., 2013). However, few studies exist on the more formal, structured form of civic service (McBride et al., 2003), and even fewer still, assess the impact of civic service on the family members of the volunteer.

To our knowledge, only one study has focused on the effects of volunteering on the volunteers' family members. Morrow-Howell and colleagues (2009) explored the perceived benefits of volunteering on volunteers' families, from the perspective of the elders who served as volunteers. Results indicated that the elders perceived that the benefits of volunteering had "spillover effects" onto their family members (Morrow-Howell, Hong, & Tang, 2009). Due to this finding that volunteering not only benefited the volunteer, but also had secondary benefits for the volunteers' family members, the authors concluded that the effects of volunteering cannot be fully understood without directly studying its' impact on the family members of volunteers. This finding is consistent with what would be hypothesized from a family systems perspective which emphasizes the transactional or bidirectional nature of influence between and among family members. Such transactional dynamics have been identified in the dynamics of the military family throughout the deployment process. Here, we are interested in whether veterans' participation in civic service within their communities may have similar "spillover effects" onto the family. The present study is unique in that it includes a sample of veterans with both a distinguished history of volunteer military service in the US armed forces and participation in a formal volunteering program upon completion of their military service.

Study aims

Here we build upon the Morrow-Howell et al., 2009 study by utilizing their items on perceived family benefits of volunteering which were derived from a content analysis of open-ended questions with elders. With some modification of the original items, we adapted the measure with the addition of a five-point Likert response scale and a reverse-scored item on the cost of volunteering, to measure veterans' perceptions of the family impact of volunteering. We then assessed the self-perceived family impact of civic service among reintegrating Post-9/11 veterans as well as variation in those perceptions by demographic and mental health subgroups. Thus, this study also serves as a field test of a Perceived Family Impact of Volunteering measure. Expert panel discussion, Cronbach's alpha, factor analysis, and subgroup comparisons were used to discern construct validity, internal consistency, relationships between indicators, and important subgroups, respectively. This study is novel in that it examines how an innovative, veteran-focused civic service experience, during the period of reintegration after separation from the military, may have affected the family members of the participants. This has implications for increasing our understanding of how civic service affects volunteers in general and also to inform social workers and other clinical professionals working specifically with veterans on the potential impact of such programs and services on the veteran's family.

Methods

Study design

This observationally designed research study consisted of a self-report survey that was administered via the internet to a prospective cohort of participants (N=346) before and after completion of a veteran-focused civic service program in the U.S. Ethical approval for this study was obtained from the Saint Louis University Institutional Review Board (IRB). The description of the program, sample, data collection procedures, and measures for this study have been described previously (Matthieu, 2016; Matthieu, Lawrence, & Robertson-Blackmore, 2017), therefore a brief overview will be provided here.

The Mission Continues: A veteran-focused civic service program

The Mission Continues, is a national nonprofit organization serving military veterans. This organization administers a civic service program, called The Fellowship Program, which offers a 6-month, 20-hour per week, stipended volunteer opportunity for returning Post-9/11 veterans. In this program, the duration of the 6-month civic service hours are carried out at a nonprofit organization within or proximal to the veteran's hometown at an agency of the veteran's choosing, often with veteran, youth, conservation, or social service-focused community organizations. The host agency must be a nonprofit, however faith-based institutions, government/public service organizations and foundations may be considered and approved.

Agency staff recruit participants by email, in person, or via their website which has a portal for application materials. Eligibility for the program includes honorably discharged veterans who served a minimum of two years in one of the branches of the U.S. Armed Forces during

the Post-9/11/01 era, to include the wars or conflicts in Iraq and Afghanistan, Operation Enduring Freedom, Operation Iraqi Freedom, Operation New Dawn, and the Global War on Terror. Therefore, eligibility included military service during this time period and was not solely defined by deployment in support of 9/11/01 to Iraq or Afghanistan but also included completion of active, reserve, or National Guard duty. It is important to note that the sample was not limited to Iraq/Afghanistan veterans. Veterans who may have suffered an accident, injury, or illness that required a medical discharge may also be eligible for an exception to the minimum service requirement. Upon acceptance into the program, enrolled veterans complete an orientation, a civic service and leadership curriculum, and online surveys before and after they volunteer for a total of 520 hours in their local communities. A cost of living stipend, adjusted based on locality, was awarded monthly in accordance with the veteran's successful completion of program benchmarks.

Data Collection

Characteristics of the participants reported here are from the survey data obtained before the start of the program, while the family measure described in the next section uses data obtained upon completion of the program. The sample for this study consisted of 346 veteran participants of the civic service program who completed the Fellowship Program between February 2011 and March 2014 and who provided both pre- and post-surveys. From 2011 through 2014, the average completion rate of the Fellowship Program was 78%. Of completers, 60% responded to both pre- and post-surveys (346/580).

Participant Characteristics.—Demographics were assessed before the start of the program using questions related to individual characteristics, such as age, gender, race, ethnicity, marital status, employment, and education. Additionally, health and mental health characteristics of the sample to include the percent with probable depression, PTSD, TBI, and a history of mental health treatment were included in this analysis and are described below.

Depressive symptoms were measured using the Patient Health Questionnaire-2 (PHQ-2) (Kroenke, Spitzer, & Williams, 2003), a 2-item screener based on the frequency of anhedonia and depressed mood. Each item was rated on a four-point Likert scale assessing symptom frequency: *0 = Not at all*, *1 = Few or several days*, *2 = More than half the days*, and *3 = Nearly every day*, with a score range of 0 to 6. A cut-off score of 3 is considered clinically significant for screening purposes ($\alpha = .89$).

The Primary Care PTSD Screen (PC-PTSD) (Prins et al., 2003) is a 4-item measure assessing the presence of the following PTSD symptoms in the past month: re-experiencing, avoidance, numbness, and arousal. Respondents indicate 'yes' or 'no' to each item and scores range from 0 to 4. A cut-off score of 2 designates PTSD symptoms of clinical significance ($\alpha = .88$).

TBI history was ascertained through a single question on the pre-survey where participants responded (yes or no) to the question: "Have you ever been diagnosed with/treated for a Traumatic Brain Injury (TBI)?" Although TBI severity was not directly assessed, veterans with polytrauma injuries and severe TBI who previously underwent extensive rehabilitation

and therapy as well as veterans who experienced mild to moderate TBI also participated in the program.

An additional categorical item was included to assess mental health treatment history: “Are you currently seeking professional help for emotional problems (such as feeling depressed or anxious?” (yes/no).

Instrumentation and adaptation process

As noted previously, few measures exist to assess the impact of veterans’ volunteering on their family members. Therefore, in this section, we describe the process used to adapt an existing benefits measure from elders to veterans. Later, we report the analytic procedures for testing the measure’s preliminary reliability and validity, and differences among subgroups. The survey items used to assess volunteers’ perceptions of the family impact of volunteering were adapted from previously published work that used a sample of 401 elders who participated in 13 different volunteer programs (Morrow-Howell et al. 2009). From this study, nine items were derived from a content analysis of open-ended questions on the benefits of volunteering, specifically related to family. A panel of experts comprised of the senior author of this study (MMM), the author of the original study (Morrow-Howell et al. 2009), and the program and research directors of the civic service program met to examine the items for construct validity. In order to determine the appropriateness of this measure to veterans, each item was examined, discussed, and for some, reworded. As a result of this meeting, one item was determined to contain two disparate concepts and was therefore split into two separate items resulting in a total of ten items. One additional item was then added for the current study, based on concerns from the agency, *I had less time to spend with my family because of my involvement with the fellowship*, to assess whether volunteering resulted in less time to spend with family. This item was also designed to decrease response acquiescence to the overall response set, broaden the scale to include consequences of volunteering as it conveys a negative response about family involvement. As such, this item is reverse scored. Given this inclusion, we refer to the overall scale as assessing family *impact* as opposed to exclusively family *benefits*.

In the survey, the following prompt was placed before the survey items and worded as follows: “The following set of statements deals with the impact of your participation in The Mission Continues Fellowship Program on your family and children. Read each statement and choose the answer that appears most appropriate for you.” The resulting Perceived Family Impact of Volunteering Scale adapted for use in this study consisted of 11 items, followed by agreement responses on a five-point Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. After reverse-scoring item 5, all 11 scale items can be summed for a composite score. Higher scores indicate more favorable responses to the impact of volunteering upon the family.

Statistical analyses

Internal consistency was calculated using Cronbach’s alpha and a preliminary exploratory factor analysis was conducted using principal components analysis. In order to detect significant differences among subgroups, computations include descriptive analyses and

rank-based nonparametric tests. Due to non-normally distributed data, significant differences between subgroups of demographic and psychological categories (independent variables) regarding volunteers' perception of family impact (dependent variables) were detected using rank-based nonparametric tests. Mann-Whitney U was conducted for independent variables with two groups and Kruskal-Wallis was used when the independent variable had three or more groups. In both cases, pairwise exclusion was used and asymptotic significance is reported.

For Mann-Whitney U analyses, distributions of dependent variables were not similarly shaped, therefore, mean rank was used to test for statistical significance. With the Kruskal-Wallis tests, for a given independent variable, visual inspection of box plots for each of the eleven dependent variables indicated that distributions were not similar for all groups of age, racial groups, and employment types, therefore, mean ranks were used to discern significant differences. Subsequent to Kruskal-Wallis tests, pairwise comparisons were performed using Dunn's (1964) procedure with a Bonferroni correction for multiple comparisons; adjusted p-values are presented. SPSS version 22 was used for all analyses.

Results

As noted in Table 1, participants ranged in age from 22–55 years old with the majority, 63.9% being between 26–35 years old. The sample was 68.8% male, with females comprising 31.2% of the sample. White/Caucasian, at 56.7%, was the most common racial category. Less than half of the sample were married (44.5%), and 51.5% reported being a parent to at least one child. Over half of participants were not employed upon entering the civic service program (58.6%). Before the start of the civic service program, 23.5% of veteran participants screened positive for a probable diagnosis of depression, 50.6% for probable PTSD, 19.7% reported a history of or being treated for TBI, and 43.5% reported seeking mental health treatment.

Descriptive results on volunteers' perceptions of family impact of volunteering

Eleven items related to beneficial or costly impact that volunteering may have on the family of the volunteer were used to assess the volunteers' perception of the family impact of volunteering after completion of the 6-month civic service program (see Table 3). The majority of volunteers indicated with responses of "agree/strongly agree" that *My family is pleased about my involvement in the fellowship* (83%), that *My family is proud of me* (86.8%), that *I have set an example for my family and children* (77.3%), and *I have earned extra money to contribute to my family* (71.1%). Well over half of volunteers reported that *volunteering resulted in their families being more aware of social and community issues* (69.8%) and that *volunteering resulted in bringing resources, information, and new skills back to the family* (65%). Just under half of volunteers reported *I have better relationships or communicate better with my family* (49.1%) and that *My fellowship has led to my family getting involved in volunteering* (48.2%). Notably, responses were more diverse regarding the volunteers' perception that their family is less concerned about them with a majority responding "neutral," 31% indicating "agree/strongly agree," and 23.9% indicating "disagree/strongly disagree." Similarly, while the majority of volunteers indicated that they

“disagreed/strongly disagreed” *that I had less time to spend with my family because of my involvement with the fellowship* (41.7%), these responses were also relatively wide-ranging across the scale with 32% responding “neutral,” and 26.2% indicating “agree/strongly agree.” In summary, these descriptive results indicate that, of the 11 items, the majority of veterans who participated in the civic service program reported a high degree of agreement with items indicating a benefit to the family while a more diverse representation of scores occurred for those denoting concern/negative impact (i.e., family being less concerned, less time to spend with family due to volunteering).

Reliability and validity of the Perceived Family Impact of Volunteering Scale

Given this was a new measure adapted for use in this study, we tested the scale’s psychometric properties. Internal consistency was first calculated using Cronbach’s alpha. Statistics are based on all cases with valid data for all variables in the procedure ($n = 325$), thus 21 cases were deleted using list-wise deletion due to missing data on some items. For the entire 11-item scale, alpha was 0.85, which is considered to be excellent (Rubin & Babbie, 2008). The mean score for all 11 items was 3.802, which is above the midpoint of 3 on the 1 to 5 scale. The variance for all 11 items of 0.944 reflects considerable variability in how the participants responded. Consistent with the excellent alpha, the majority (8/11) of the items had item-total correlations above 0.50. Our preliminary results identified only two items, #2 and #5 (see Table 2 for numbered items) that would improve alpha if deleted. However, they improved the alpha only slightly, and thus, they were retained. These items included: (a) *My family is less concerned about me* and (b) *I had less time to spend with my family because of my involvement with the fellowship*.

An exploratory principal components factor analysis was then computed using all 11 items. The negatively worded item about having less time with family as a result of the fellowship was reverse scored and included in the analysis. Both Kaiser-Meyer-Olkin (KMO) and Bartlett’s Test of Sphericity supported the appropriateness of the factor analysis (KMO = .899; Bartlett’s $\chi^2 = 1547.928$ $p = .000$). Varimax rotations were explored to identify the solution with the greatest theoretical meaning and consistency. The exploratory factor analysis loadings resulted in a total of two factors using Kaiser’s (1960) eigenvalue-greater-than-one rule, explaining a total of 56.257% of the variance, noted in Table 4. Nine items loaded highest on one factor independent of other items, with all loadings between 0.57 and 0.82; this factor was labeled *benefits to family due to veteran volunteering*. All but 2 of the 11 items, the item related to the family being less concerned about the veteran and the item related to having less time to spend with family due to the fellowship, loaded together on a second factor. This second factor was labeled *family concern/time away from family due to veteran volunteering*. The communalities of 9 of the 11 items range from 50.6% to 67.3% with two variables on Factor 1 having smaller amounts of variance, 32.6% and 42.1% in common with the other items indicating that these two items are relatively more weakly related to the other Factor 1 items. However, the KMO and Bartlett’s Test of Sphericity both indicated that the set of variables were adequately related for factor analysis. In summary, we have identified two clear patterns of response options to the impact items, one pattern related to benefits to the family members as a result of veteran volunteering and the other pattern related to the amount of concern the family members have for the veteran and the

amount of time the veteran has to spend with the family as a result of volunteering. In summary, these preliminary findings all support the scale's adaptation to veterans, internal consistency, and construct validity.

Demographic and subgroup differences in volunteers' perceived family impact of volunteering

In order to determine whether veteran volunteers' perceptions of family impact differed among subgroups of demographic categories, rank-based nonparametric tests including Mann-Whitney U and Kruskal-Wallis, were used to discern differences within subgroups of age, race, gender, and marital, child, and employment statuses. Results indicate that, as a result of completion of the civic service program, being married rather than single conferred stronger agreement with the following five items: *My family is more aware of social and community issues* (married mean rank = 182.81, single mean rank = 153.72, $U = 11,353$, $Z = -2.899$, $p = 0.004$), *I have set an example for my family and children* (married mean rank = 178.93, single mean rank = 156.98, $U = 11,942.5$, $Z = -2.223$, $p = 0.026$), *I have earned extra money to contribute to my family* (married mean rank = 186.98, single mean rank = 149.62, $U = 10,578$, $Z = -3.725$, $p = 0.000$), *I brought resources, information, and new skills back to my family* (married mean rank = 183.42, single mean rank = 154.21, $U = 11,412.5$, $Z = -2.890$, $p = 0.004$) and *My fellowship has led to my family getting involved in volunteering* (married mean rank = 183.42, single mean rank = 154.20, $U = 11,412$, $Z = -2.886$, $p = 0.004$).

A Mann-Whitney U test revealed differences between subgroups who do or do not have children, where those veterans with children showed stronger agreement in 8 items of the impact of volunteering on family members : *My family members are more socially active* (have children mean rank = 183.38, no children mean rank = 146.97, $U = 16,674.5$, $Z = 3.715$, $p = 0.000$), *My family is more aware of social and community issues* (have children mean rank = 183.97, no children mean rank = 146.33, $U = 16,775$, $Z = 3.773$, $p = 0.000$), *I have set an example for my family and children* (have children mean rank = 190.26, no children mean rank = 139.43, $U = 17,864.5$, $Z = 5.174$, $p = 0.000$), *My family is pleased about my involvement in the fellowship* (have children mean rank = 178.19, no children mean rank = 152.65, $U = 15,776$, $Z = 2.645$, $p = 0.008$), *I have earned extra money to contribute to my family* (have children mean rank = 183.56, no children mean rank = 146.07, $U = 16,683.5$, $Z = 3.764$, $p = 0.000$), *I have better relationships or communicate better with my family* (have children mean rank = 177.40, no children mean rank = 154.64, $U = 15,639$, $Z = 2.291$, $p = 0.022$), *I brought resources, information, and new skills back to my family* (have children mean rank = 186.60, no children mean rank = 144.63, $U = 17,230.5$, $Z = 4.178$, $p = 0.000$) and *My fellowship has led to my family getting involved in volunteering* (have children mean rank = 182.62, no children mean rank = 148.96, $U = 16,542.5$, $Z = 3.347$, $p = 0.001$).

Regarding gender, a Mann-Whitney U test revealed that females relative to males indicated stronger agreement in 5 items that there was an impact due to participation in the civic service program: *My family is more aware of social and community issues* (female mean rank = 180.74, male mean rank = 158.88, $U = 13,023.5$, $Z = 2.019$, $p = 0.043$), *I have set an*

example for my family and children (female mean rank = 191.83, male mean rank = 153.72, $U = 14,313.5$, $Z = 3.595$, $p = 0.000$), *My family is pleased about my involvement in the fellowship* (female mean rank = 180.08, male mean rank = 158.98, $U = 13,115.5$, $Z = 2.025$, $p = 0.043$), *My family is proud of me* (female mean rank = 180.35, male mean rank = 160.36, $U = 13,142.5$, $Z = 1.997$, $p = 0.046$), and *My fellowship has led to my family getting involved in volunteering* (female mean rank = 187.67, male mean rank = 156.48, $U = 13,803.5$, $Z = 2.861$, $p = 0.004$).

A Kruskal-Wallis test was performed to detect whether responses to any of the family impact items differed among the seven age groups: 22 – 25 ($n = 29$), 26 – 30 ($n = 126$), 31 – 35 ($n = 89$), 36 – 40 ($n = 31$), 41 – 45 ($n = 29$), 46 – 50 ($n = 23$), and 51 – 55 ($n = 6$). One item, *My family is less concerned about me*, showed a significant difference in response by age group ($X^2(6) = 22.430$, $p = 0.001$). Subsequent pairwise comparisons revealed that veterans ages 46 – 50 (mean rank = 93.89) showed more disagreement with the statement *My family is less concerned about me* relative to the four other age groups, 22 – 25 (mean rank = 205.64, $p = 0.000$), 26 – 30 (mean rank = 170.71, $p = .004$), 31 – 35 (mean rank = 172.94, $p = .004$), and 41 – 45 (mean rank = 175.10, $p = 0.030$).

Perceived family impact was also assessed, using a Kruskal-Wallis test, to discern differences among six racial group designations: White/Caucasian ($n = 189$), Black/African American ($n = 81$), Asian/Pacific Islander ($n = 13$), Native American/Alaskan Native ($n = 4$), Multi-racial or Bi-racial ($n = 23$), and Other race ($n = 19$). Four items showed a significant difference in response by racial group: *My family is less concerned about me*, ($X^2(5) = 14.306$, $p = .014$), *My family is more aware of social and community issues* ($X^2(5) = 14.480$, $p = .013$), *I have set an example for my family and children* ($X^2(5) = 18.114$, $p = 0.003$), and *I have earned extra money to contribute to my family* ($X^2(5) = 12.004$, $p = 0.034$). Subsequent pairwise comparisons revealed that Black/African Americans (mean rank = 197.50) agreed more strongly that *My family is more aware of social and community issues* relative to White/Caucasians (mean rank = 155.91, $p = 0.008$), that Black/African Americans (mean rank = 199.99) more strongly agreed that *I have set an example for my family and children* than White/Caucasians (mean rank = 150.85, $p = 0.000$), and that Black/African Americans (mean rank = 193.02) more strongly agree that *I have earned extra money to contribute to my family* relative to White/Caucasians (mean rank = 153.39, $p = .015$). Finally, individuals identifying as Other Race (mean rank = 212.05) more strongly agreed that *My family is less concerned about me* relative to individuals identifying as Black/African Americans (mean rank = 142.04, $p = 0.034$).

Designations of employment status included: not employed ($n = 174$), part-time ($n = 73$), and full-time ($n = 50$). A Kruskal-Wallis test revealed that one family impact item, *I have set an example for my family and children*, resulted in a significant difference in response by employment category ($X^2(2) = 9.294$, $p = .010$) with subsequent pairwise comparisons indicating that those employed full-time (mean rank = 178.83) more strongly agreed with the statement relative to those not employed (mean rank = 139.72, $p = .007$).

Finally, a Kruskal-Wallis H test was run to determine if there were differences in the 11 family impact item scores among six groups of participants with different educational levels

including: High School/GED ($n = 73$), Trade, Technical, or Vocational School after High School ($n = 28$), Associates Degree ($n = 62$), Undergraduate Degree ($n = 220$), Graduate Degree ($n = 53$), and Doctoral Degree ($n = 5$) groups. Distributions of family impact item scores were not similar for all groups, as assessed by visual inspection of a boxplot. The distributions of family impact item scores were statistically significantly different for two items: *My family is less concerned about me* ($X^2(5) = 12.541$, $p = 0.028$) and *I have better relationships or communicate better with my family* ($X^2(5) = 14.838$, $p = 0.011$; Table 4). Using unadjusted p-values with an alpha = 0.0083 (for six-level comparison), *post hoc* analyses revealed statistically significant differences between Graduate Degree (mean rank = 138.35; $p = 0.004$) and High School/GED (mean rank = 186.01) for *My family is less concerned about me* and between Graduate Degree (mean rank = 141.09; $p = 0.004$) and Associates Degree (mean rank = 189.08) for *I have better relationships or communicate better with my family*.

In summary, as presented in Table 4, demographic characteristics significantly associated with the strongest agreement of items related to benefits to family members included being married, having children, being female, and being Black/African American rather than White/Caucasian. In addition, those veteran participants who were employed full-time relative to those not employed, more strongly agreed that *I have set an example for my family and children*. Veteran participants who were younger (under 46 years of age) and/or less educated were significantly more likely to agree that *My family is less concerned about me* due to participation in the program. Finally, similarly, participants with a lower level of education relative to graduate level more strongly agreed with *I have better relationships or communicate better with my family* as a results of participation in the civic service program.

Psychological health differences in volunteers' perceived family impact

Individuals who screened positive for a probable depression diagnosis before participating in the civic service program indicated significantly less agreement that *My family members are more socially active* ($U = 8,519.5$, $Z = -1.972$, $p = 0.049$), less agreement that they had *set an example for family and children* ($U = 8,336$, $Z = -2.189$, $p = 0.029$), and less agreement that *My family is proud of me* ($U = 8,551$, $Z = -2.107$, $p = 0.035$). The latter result was also shared by individuals with TBI ($U = 7,108$, $Z = -2.134$, $p = 0.033$) who did not differ from counterparts on any of the other family measures. Finally, individuals who screened positive for a probable PTSD diagnosis before beginning the program, did not differ significantly from counterparts on any of the eleven family impact items at program completion.

Discussion

To our knowledge, this is only the second study to examine the perceived impact of volunteering on a volunteer's family members and the first study to do so in a veteran population. We have adapted an existing measure and demonstrated strong internal consistency and validity of the Perceived Family Impact of Volunteering Scale. Finally, we have determined that differences exist for particular subgroups of veterans who may be more likely to perceive benefits to their family members after completing the civic service program. While the psychometric analysis here is a first step, a validated instrument capable

of assessing the impact of veteran-focused volunteering on family members will enhance our ability to compare future studies, and begin to describe the secondary effects of volunteering on volunteers' family members.

Volunteers' perceived family impact of volunteering: Items with strongest agreement

The descriptive results indicate that the majority of veterans who participated in the civic service program responded with a high level of agreement with the nine items denoting a benefit to the family while responses were more varied for the two items denoting concern/negative impact. Items with the strongest agreement, overall, were *My family is proud of me* and *My family is pleased about my involvement in the fellowship*. Morrow-Howell et al. 2009 found the latter item to be the most frequently mentioned benefit, however, it was grouped with family is less concerned which got relatively little agreement in our study. Rather, the majority of responses to that statement were neutral, with veteran participants over the age of 45 more likely to disagree with the statement. Clearly, the comparison between the two study samples has confounders, as family concerns for older adult civilian family members will differ from those of family members of recently returned veterans. At the same time, there seems to be some degree of convergence with respect to volunteers in both studies having perceived that their families felt good about their involvement in volunteering. *My family is proud of me* was an item that was within the top 50% of the 9 statements that Morrow-Howell and colleagues identified from their content analysis of older adult participants' responses to open-ended questions about volunteering benefits to family so this may also be a generalizable perceived effect on family. While the items, *I have set an example for my family and children* and *I have earned extra money to contribute to my family* were only mentioned by a few volunteers in the study of elders, these statements had high agreement among veteran volunteers as the third and fourth most agreed upon statements, respectively. In addition, the majority of veterans indicated a high level of agreement that volunteering resulted in their families being more aware of social and community issues and that volunteering resulted in bringing resources, information, and new skills back to the family. Finally, nearly half of the sample of veterans reported that they felt they had better relationships or communication with their families. However, it is important to note that veterans may or may not have had a family of intent.

Of the demographic characteristics, whether a veteran had children and whether they were single or married was most significant to the greatest number of family impact items. This was followed by gender, race, age, and then employment status. Strongest agreement with items denoting benefit to the family was associated with being married, having children, being female, and being Black/African American. In addition, being employed full-time relative to not having a job affected the perception that the veteran had *set an example for their family and children*. Veterans under the age of 46 years old were significantly more likely to agree that their *family is less concerned* about them due to participation in the program while those over 46 years were more likely to disagree. This finding may be related to life stressors specifically related to military families that note the long-term impact of deployment and separation upon parental stress, parenting practices, and parent-child satisfaction (Creech, Hadley, & Borsari, 2014). Finally, regarding education, participants with less than a graduate degree most strongly agreed that their family was *less concerned*

about them and that *relationships and communication with family improved* as a result of participating in the civic service program. It is possible that individuals with a graduate degree would be less likely to have and perceive families that are more concerned about them due to the competencies - such as communication, ability to explain, self-motivation, planning, professionalism, and ability to synthesize information - associated with successful completion of a graduate degree (Enright & Gitomer, 1989).

Lastly, in terms of psychological impacts, depression affected perception of three items: *My family is proud of me*, *I have set an example for my family and children*, and *My family members are more socially active*. Conversely, PTSD had no significant effect on any of the perceived family impact items. Finally, having a TBI history affected only one item, *My family is proud of me*. While *My family is proud of me* was one of the most agreed upon items overall, veteran participants with a positive depression screening score or report of a TBI history at entry into the program were significantly less likely to agree with this statement. Given the rates of untreated mental and physical health conditions such as depression and TBI in this veteran population as well as the high rates of family issues in both military and veteran families, these findings may represent a group of veterans who have not, as of yet, benefited from veteran- or family-focused services, or who have yet to fully and holistically reintegrate back into their families and communities.

At the individual level, volunteering has been shown to positively impact a variety of health and psychosocial outcomes in Post-9/11 veterans (Matthieu, Lawrence, & Robertson-Blackmore, 2017). Here we report that volunteering in a stipended civic service program may also provide beneficial “spillover effects” to veterans’ families, specifically by improving family relationships and communication, ameliorating financial concerns, increasing awareness and involvement around social and community issues, and even leading to other family members becoming involved in volunteering in their communities. Within the context of the family systems and social ecological perspectives, our findings indicate that volunteering positively impacts veterans at an individual level as well as through transactional interactions with family, community, and society.

Implications

Social workers who engage Post-9/11 veterans in clinical or community services are recommended to consider the following recommendations. Specifically, the definition and shape of “family” should not be assumed, with clinical assessments more broadly inquiring as to who are important individuals in the veterans’ social context. This approach should be thoughtful and inclusive of family of origin, family of intent, and also those veteran, comrades, and “battle buddies” who provide much needed peer support. Additionally, our larger body of research on volunteering indicates that veterans who seek volunteer opportunities can provide meaningful contributions to the non-profit community, while also conferring beneficial individual and family impacts. Agencies are encouraged to expand volunteer programs, specifically recruit veterans and their families, and to work with the VHA to provide accommodations for disabled veterans to succeed in administrative, outreach, and leadership roles in the community.

Limitations

This study provided preliminary evidence of the adaptation, reliability and validity of the measure, and key differences among subgroups as to the impact of volunteering on family members. However, it has limitations. First, the uncontrolled study design restricted conclusions regarding program impacts due to the historical passage of time, the potential treatment impacts, and other unmeasured factors. Therefore, the lack of a comparison group significantly restricts conclusions that can be made about the program's impact. Next, there was a lack of specificity with regard to concept of family as the family measure prompt did not specify family of origin or family of intent, or neither. Given that the veterans were asked how his/her family feels about them and that veterans may or may not have had a family of intent, self-presentation bias may skew results in a more positive fashion than if the family members were asked or included as dyads. Also, selection bias inhibited our ability to generalize findings beyond the veterans who participated in this program, and therefore results cannot be applied to all Post-9/11 veterans. It is unfortunate that the program does not collect a similar battery of data on those who do not enroll or do not complete the program. Therefore, preliminary study results here cannot be attributed solely to the program and results can only be generalized to these veteran participants. Finally, the results of the factor analysis can only be interpreted as preliminary, as further confirmatory studies with broader samples are needed to establish the psychometric integrity and validity of the measure. Nevertheless, our results are important for veterans, their families, and for again, noting the secondary or "spillover effects" that volunteering has on family members, now with veteran volunteers.

Conclusion

Veteran-focused programs are often designed and delivered to veterans without the family context being considered. The Mission Continues is a national nonprofit organization that administers a civic service program that provides volunteer opportunities to Post-9/11 veterans that may garner positive secondary gains for their family members. More veteran and family focused interventions and measures specific to volunteering such as the Perceived Family Impact of Volunteering Scale here are needed to study and to improve the outcomes of family functioning and marital satisfaction within the larger veteran population.

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Table 1.

Characteristics of The Mission Continues fellowship program participants.

Demographics		N	Frequency	Percent
Age	22–25 years old	346	31	9.0
	26–30 years old	346	129	37.3
	31–35 years old	346	92	26.6
	36–40 years old	346	34	9.8
	41–45 years old	346	30	8.7
	46–50 years old	346	24	6.9
	50–55 years old	346	6	1.7
Gender	Male	343	236	68.8
	Female	343	107	31.2
Race	White/ Caucasian	346	194	56.7
	Black/African American	346	87	25.4
	Asian Pacific Islander	346	13	3.8
	Native American/Alaskan	346	4	1.2
	Multi-racial/Bi-racial	346	24	7.0
	Other race	346	20	5.8
Ethnicity	No, not of Hispanic or Latino Origin	342	291	85.1
	Yes, of Hispanic or Latino Origin	342	51	14.9
Marital Status	Married	346	154	44.5
	Divorced	346	74	21.4
	Single, Never Been Married	346	116	33.5
	Widowed	346	2	0.6
Children	No, do not have children	344	167	48.5
	Yes, have children	344	177	51.5
Urbanicity*	Rural	346	54	15.6
	Suburban	346	167	48.3
	Urban	346	125	36.1
Employment	Employed	341	122	35.8
	Unemployed	341	153	44.9
	Disabled	341	38	11.1
	Retired	341	28	8.2
Employment Status	Not employed	309	181	58.6
	Part time	309	76	24.6
	Full time	309	52	16.8
Highest Degree	High School or GED	343	75	21.9
	Trade, Technical or Vocational School after high school	343	29	8.5
	Associates degree	343	67	19.5
	Bachelors degree	343	113	32.9
	Graduate degree	343	54	15.7
	Doctorate degree	343	5	1.5

Demographics	N	Frequency	Percent
Mental Health			
Traumatic Brain Injury History	342	67	19.7
Mental Health Treatment History	346	147	43.5
Positive PC-PTSD Screen	340	171	50.6
Positive PHQ-2 Depression Screen	338	80	23.5

Note: Primary Care-PTSD Screener (PC-PTSD), Patient Health Questionnaire-2 (PHQ-2).

* Urbanicity is defined as the location of participants' residence in an urban, suburban, or rural area.

Table 2.

Factor analysis table for perceived family impact of volunteering

Items	Factor 1 Loadings: benefits to family	Factor 2 Loadings: family concern/time away from family	Communality
1. I brought resources , information and new skills back to my family	.760	002D.069	.583
2. My family is less concerned about me	.244/.233	-.739/.743	.606
3. My family is pleased about my involvement in the fellowship	.742	.075	.556
4. My fellowship has led to my family getting involved in volunteering	.571	.019	.326
5. I had less time to spend with my family because of my involvement with the fellowship	.202/.213	.714/- .710	.550
6. My family is proud of me	.704	.098	.506
7. My family is more aware of social and community issues	.811	.035	.659
8. I have better relationships or communicate better with my family	.801	-.055	.645
9. I have set an example for my family and children	.820	-.004	.673
10. My family members are more socially active	.814	-.026	.664
11. I have earned extra money to contribute to my family	.649	-.012	.421
Eigenvalue	5.106	1.082	
% of Total Variance	46.420	9.836	
Total Variance		56.257	

Note: Component loading value is shown for all items. For items 2 and 6, the component loading value is followed by the rotated component loading value.

Table 3.

Volunteers' perceived family impact of their participation in a formal civic service program (N=346)

Items	n	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %
1. I brought resources , information and new skills back to my family	332	2.1	4.8	28.0	35.5	29.5
2. My family is less concerned about me	331	12.7	11.2	45.0	19.3	11.8
3. My family is pleased about my involvement in the fellowship	331	1.2	0.3	15.4	34.4	48.6
4. My fellowship has led to my family getting involved in volunteering	332	3.9	9.0	38.9	28.6	19.6
5. I had less time to spend with my family because of my involvement with the fellowship	331	19.3	22.4	32.0	19.3	6.9
6. My family is proud of me	333	1.2	0.0	12.0	27.3	59.5
7. My family is more aware of social and community issues	331	1.5	3.0	25.7	36.9	32.9
8. I have better relationships or communicate better with my family	332	2.1	5.1	43.7	24.7	24.4
9. I have set an example for my family and children	331	1.5	1.2	19.9	33.5	43.8
10. My family members are more socially active	331	2.4	6.0	48.3	22.4	20.8
11. I have earned extra money to contribute to my family	330	3.6	4.8	19.4	35.6	35.5

Note: Responses to agreement items were scored on a 5 point Likert scale ranging from Strongly Disagree, Disagree, Neutral, Agree, to Strongly Agree.

Table 4.

Demographic and subgroup differences on the veteran volunteers' perceived family impact of volunteering items (N=346).

	1. I brought resources, information and new skills back to my family	2. My family is less concerned about me	3. My family is pleased about my involvement in the fellowship	4. My fellowship has led to my family getting involved in volunteering	5. I had less time to spend with my family because of involvement with the fellowship	6. My family is proud of me	7. My family is more aware of social and community issues	8. I have better relationships or communicate better with my family	9. I have set an example for my family and children	10. My family members are more socially active	11. I have earned extra money to contribute to my family
Demographic Characteristics											
Age											
n	334	333	333	334	333	335	333	334	333	333	332
X ²	6.389	22.430	4.024	11.837	9.384	2.522	8.346	5.149	10.324	3.108	2.739
(df)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)	(6)
p	0.381	.001*	0.673	0.066	0.153	0.866	0.214	0.525	0.112	0.795	0.841
Race											
n	330	329	329	330	329	331	329	330	329	329	328
X ²	7.555	14.306	7.680	4.652	9.74	7.771	14.480	7.616	18.114	9.806	12.044
(df)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
p	0.183	.014*	0.175	0.460	0.083	0.169	.013*	0.179	.003*	0.081	.034*
Male vs. Female											
n	331	330	330	331	330	332	330	331	330	330	329
U	12,859	10,945	13,115.5	13,803.5	11,355.5	13,142.5	13,023.5	12,240	14,313.5	12,747	12,468.5
Z	1.629	-0.735	2.025	2.861	-0.187	1.997	2.019	0.828	3.595	1.59	1.265
p	0.103	0.462	.043*	.004*	0.852	0.046*	.043*	0.408	.000*	0.112	0.206
Married vs. Single											
n	334	333	333	334	333	335	333	334	333	333	332
U	11,412.5	14,072	12,760	11,412	12,603.5	13,368	11,353	12,742.5	11,942.5	12,585	10,578
Z	-2.890	0.381	-1.243	-2.886	-1.358	-0.699	-2.899	-1.316	-2.223	-1.419	-3.725
p	.004*	0.703	0.214	.004*	0.175	0.484	.004*	0.188	.026*	0.156	.000*
Children vs. No Children											
n	332	331	331	332	331	333	331	332	331	331	330
U	17,230.5	13,071.5	15,776	16,542.5	13,186	14,714	16,755	15,639	17,864.5	16,674.5	16,683.5
Z	4.178	-0.732	2.645	3.347	-0.570	1.136	3.773	2.291	5.174	3.715	3.764

	1. I brought resources, information and new skills back to my family	2. My family is less concerned about me	3. My family is pleased about my involvement in the fellowship	4. My fellowship has led to my family getting involved in volunteering	5. I had less time to spend with my family because of my involvement with the fellowship	6. My family is proud of me	7. My family is more aware of social and community issues	8. I have better relationships or communicate better with my family	9. I have set an example for my family and children	10. My family members are more socially active	11. I have earned extra money to contribute to my family
Demographic Characteristics											
p	.000*	0.464	.008*	.001*	0.569	0.256	.000*	.022*	.000*	.000*	.000*
Employment											
n	298	297	297	298	297	299	297	298	297	297	296
X²	2.373	5.466	3.599	.587	.520	2.790	3.601	.893	9.294	4.267	.615
(df)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)	(2)
p	.305	.065	.165	.746	.771	.248	.165	.640	.010*	.118	.735
Education											
n	331	330	330	331	330	332	330	331	330	330	329
X²	9.633	12.541	3.584	8.123	1.560	0.871	5.470	14.838	2.186	9.038	10.228
(df)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
p	.086	.028*	.611	.906	.083	.972	.361	.011*	.823	.108	.069
Psychological Characteristics											
Depression											
n	330	329	328	330	329	330	329	330	328	329	327
U	9,070.5	10,010	8,935.5	8,535	10,559	8,551	9,230	8,585	8,336	8,519.5	8,632
Z	-1.198	.193	-1.338	-1.955	.957	-2.107	-.924	-1.909	-2.189	-1.972	-1.444
p	.231	.847	.181	.051	.339	.035*	.355	.056	.029*	.049*	.149
PTSD											
n	327	326	325	327	326	327	326	327	325	326	324
U	14,299	14,099	12,641.5	13,425.5	13,238	12,754	12,582.5	13,557.5	12,977	13,122	12,602
Z	1.149	1.017	-.719	.077	-.054	-.812	-.868	.242	-.282	-.199	-.648
p	.251	.309	.472	.939	.957	.417	.385	.809	.778	.842	.517
TBI											
n	329	328	327	329	328	329	328	329	327	328	326
U	8,442	9,233	7,345.5	8,793	8,368	7,108	7,895.5	8,120	7,313.5	7,965.5	7,072.5

Demographic Characteristics	1. I brought resources, information and new skills back to my family	2. My family is less concerned about me	3. My family is pleased about my involvement in the fellowship	4. My fellowship has led to my family getting involved in volunteering	5. I had less time to spend with my family because of my involvement with the fellowship	6. My family is proud of me	7. My family is more aware of social and community issues	8. I have better relationships or communicate better with my family	9. I have set an example for my family and children	10. My family members are more socially active	11. I have earned extra money to contribute to my family
Z	.097	1.384	-1.569	.639	.031	-2.134	-.705	-.406	-1.441	-.447	-1.755
p	.922	.166	.117	.523	.975	.033*	.481	.685	.149	.655	.079

Notes: The 11 items from the Perceived Family Impact of Volunteering are displayed in vertical columns. Horizontal rows contain: n denoting the number of veteran participants who responded to the item and were thus included in the analysis; U denoting the test statistic and Z denoting the standardized test statistic from the Mann-Whitney U analyses; X^2 denoting the chi-squared statistic from the Kruskal-Wallis tests along with degrees of freedom (df), and p denotes the statistical significance of the tests.