
Research and Applications

Online peer support groups for family caregivers: are they reaching the caregivers with the greatest needs?

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ABSTRACT

Background: Online peer support groups are an increasingly common venue for caregivers supporting disabled family members to exchange informational, emotional, and instrumental support. We know very little, however, about who uses these groups and whether they are reaching those with the greatest needs.

Objective: To examine whether caregiving factors (ie, caregiving demands and strain, competing demands, access to support and services, and other caregiving characteristics) are related to online community support use and intensity of use.

Method: This study used data from a new survey of family caregivers who provide care to disabled military veterans. We used logistic regression models to examine the likelihood of online community support group usage and intensity of use as a function of a variety of caregiving factors.

Results: Those with greater caregiving demands were more likely to use online peer support. Specifically, helping the care recipient with more activities was associated with a statistically significantly greater likelihood of visiting an online community support group. Caring for a veteran with a neurological or psychological condition, which, in prior work, suggests more complex care needs, was also positively and significantly related to visiting an online community support group. Hours of care and several other caregiving factors were related to intensity of use.

Conclusions: We show that family caregivers with the most caregiving demands are most engaged with online support communities. This suggests that online communities could be used to support the most vulnerable family caregivers. The implications of this work for online support systems are discussed.

Key words: internet-based interventions, online peer support groups, social support, caregiving, veterans

BACKGROUND AND SIGNIFICANCE

At least 17.7 million individuals in the United States are providing care and support to an older parent, spouse, friend, or neighbor who needs help because of a limitation in their physical, mental, or cognitive functioning,¹ and this figure will likely increase as the population ages. Unpaid family caregivers provide a significant amount of the care for the disabled and military veteran populations in the United States, and they provide the vast majority of long-term care for the elderly.^{2,3} This “free” care comes at a price, however, with costs to both the physical and mental wellbeing of

caregivers.⁴ Caregivers are also at risk of unmet social support and social isolation.⁵

To improve the social support available to caregivers, a variety of interventions aim to strengthen existing social ties and/or help develop new ones.⁶ But many caregivers find it difficult to take advantage of traditional, in-person interventions because of either care responsibilities or other personal, family, or employment responsibilities.⁷ Online social support groups are an affordable and accessible alternative for family caregivers, and are becoming an increasingly common venue for exchanging informational, emotional, and

instrumental support through bulletin boards, email, instant messaging, video, and other interfaces.⁸ Many caregivers already seek information and support online: among unpaid caregivers who use the internet, 26% say they have looked online for someone with similar health concerns, compared with 15% of non-caregiver internet users.⁹

Evaluations of social networking sites that encourage health behavior change have generally shown positive results.¹⁰ Similarly, evaluations of online social support interventions for caregivers are mixed, but promising. A recent review of social support interventions for dementia caregivers⁶ found several positive effects for outcomes such as companionship, social isolation, and relationship quality with the care recipient. Another recent systematic review found that internet interventions reduced depressive symptoms, anxiety, and stress among informal caregivers of adults with chronic conditions.¹¹

Despite the potential benefits of online interventions for caregivers, we know very little about the characteristics of caregivers who use them. In addition, the literature on internet forums is inconsistent as to whether individuals with the greatest needs are more or less likely to utilize online support resources,^{12,13} although recent work on online health support group use¹⁴ found that individuals with more depression and less social support were more likely than others to use the peer support group. This suggests that caregivers with greater demands and fewer resources might also be more likely to engage in an online community support group.

We focus on one subset of the caregiving community: family and friends who provide unpaid, or informal, care to service members or veterans (ie, military caregivers). We do so for several reasons. First, military caregivers account for almost a quarter of the total population of caregivers to adults in the United States.¹⁵ Second, several new programs designed specifically for military caregivers use web-based technologies (eg, the Hidden Heroes community; free training from the PsychArmor Institute; and virtual forums from the Department of Defense). Finally, military caregivers may have difficulty finding local support groups that focus on military caregiving and its unique challenges [eg, care recipients with post-traumatic stress disorder (PTSD), traumatic brain injury (TBI), or other traumatic injuries; negotiating the military health care system]. Online groups may provide targeted and easily accessible contact with like caregivers.

OBJECTIVES

We examine a variety of factors related to caregiving (ie, caregiving demands and strain, other competing demands, access to caregiving support and services, and other caregiving characteristics) and their associations with online community support group use and intensity of use. Building on prior work showing that those with a greater need for online support are the users of such services,¹⁴ we hypothesize that greater caregiving demands and strain will be associated with more use and more intense use, whereas access to other forms of support and services will be associated with lower levels of community support group utilization.

MATERIALS AND METHODS

Study setting, population, and design

This study uses data collected as part of an evaluation of the Military Veteran Caregiver Network (MVCN), an online peer support

program established in 2016 for military caregivers. Data were collected from two groups of military caregivers enrolled in online peer support programs: new members of MVCN and a second (comparison) group of members of similar online military caregiver organizations. A screener survey verified that the participant was a caregiver, aged 18 or older, caring for a current or former member of the U.S. military, National Guard, or Reserves with an illness, injury, or condition that requires outside support. Participants who successfully screened into the study were provided with a consent form, and upon consent, received an email directing them to the survey. All procedures were conducted in compliance with the RAND Human Subjects Protection Committee. Eligible participants were surveyed three times: at baseline, 3 months after baseline, and 6 months after baseline.

Participants in the MVCN group were recruited when they joined MVCN. Comparison group participants were recruited based on their membership in military caregiver organizations that were similar to MVCN. All had organized forums for members to interact with each other online, either through social media platforms hosted by the organization (Hidden Heroes) or through private Facebook groups (Operation Family Caregiver, the Caregiver Action Network, Blue Star Families, and the American Legion Auxiliary). Comparison group participants were recruited either through an email from their member organization or an invitation posted on the group's private Facebook page.

Because this paper examines who engages with online community support groups rather than tests differences between groups, we pooled both MVCN and comparison groups in our analyses. Bivariate analyses comparing MVCN and comparison group members on a variety of characteristics found that the groups were remarkably similar with the exception of age — comparison group respondents were about 5 years older at baseline than MVCN participants on average. Thus, we controlled for participant age and MVCN group membership in our analyses.

The focus of this paper is the 6-month follow-up, which includes detailed information on online support group use and engagement and had more respondents than the 3-month survey. In addition, we expected 6 months would provide enough time for MVCN participants to establish community support group use. Of the 575 participants who took the screener survey, 411 (71%) qualified for the study. Of those who qualified, 345 (84%) participants completed the baseline survey, which was required for continued participation in the study. Of those who completed the baseline survey, 15 were no longer military caregivers at 6 months, leaving 266 (77%) participants who completed the 6-month survey. Eight individuals (3%) were excluded because they did not answer a question assessing whether they had visited an online community support website at least one time since joining the community (the main outcome). An additional 16 (6%) were excluded due to missing data on model covariates, for a final sample of 242 participants.

Study variables

Dependent variables

Any and frequent online community support use. Our primary outcome was online peer support group use, which we defined as at least one visit to a peer support website since joining the online community, as reported by respondents. Specifically, participants were asked to report the frequency of their online visits to the MVCN or comparison group community. Response options included every day; almost every day; two or three times a week; once a week; two

or three times a month; once a month or less; or, no visits since joining this group. Consistent with other work examining online usage and postings, we dichotomize our outcome measures.^{14,16} Our primary outcome was coded 0 if participants said they had not visited the website (nonusers), and 1 (users) otherwise. We examined several measures of engagement for users. We captured *frequent usage* based on the same question, with responses coded 1 if the participant visits weekly or more, and 0 if less than weekly. *Time spent online* was measured for respondents who visited at least once. Response options were less than 10 minutes; between 10 and 20 minutes; 20 to 30 minutes; 30 minutes to an hour; or an hour or more. To capture the heavy users, we dichotomized this measure, coding it 1 if 20 minutes or more were spent online, and 0 otherwise. Finally, we asked whether users *posted anything online*: responses were coded 1 if yes, and 0 if no.

Caregiving demands and strain

The first set of measures captured caregiving demands and strain. *Total number of activities with which caregiver assists veteran* was assessed based on participants' reports about whether or not they helped with 19 possible activities. This measure simply sums each activity for a range of 1 to 19. In sensitivity analyses, we explored a weighted measure accounting for the frequency of each type of help reported (sometimes vs. often), and results were consistent with those reported here. We also asked about *time spent caregiving* in a typical week. Responses could range from less than 1 hour to 80 hours or more. Because we are most interested in intensive caregiving, we dichotomized this measure to capture those providing the higher levels of care, namely, individuals who typically spent 60 hours a week caregiving or more (coded 1) as compared to those who spent less than 60 hours a week (coded 0). We also examined perceived caregiving burden, which was based on the sum of all 21 items from the emotional burden subscale of the Caregiver Burden Inventory¹⁷ (range: 0-21), with higher scores suggesting a greater perceived burden of care.

Competing demands

For this set of measures, we included information on work and family demands. We calculated a three-category measure of *employment status* based on reported number of hours worked in the past week (response options: none; 1-10; 11-20; 21-30; 31-40; and 41 or more). Because working over 40 hours a week was uncommon in this sample (less than 12%), we treat 30 hours per week as approximately full-time employment and recoded the measure of employment into three categories to capture: (1) employed about full-time (ie, employed >30 hours per week), (2) employed part time (employed <30 hours per week), and (3) not currently employed. As a measure of family demands, we assessed whether the caregiver had at least one child under age 18.

Access to support and services

We examined several supports and services that could potentially foster use of online networks. We asked about the number of other *informal helpers* — family members, friends, or neighbors who provide unpaid care and assistance — with response options ranging from 0 to 3+ (coded 0, 1, 2, or 3). We also assessed *ease of help with caregiving* with the following question: "If you ever felt you needed to take a break from providing care for [name], how easy or difficult would it be for you to get someone else to take on your caregiving responsibilities?" Response options included: very

difficult, somewhat difficult, somewhat easy, or very easy. Scores range from 1 to 4, with higher scores suggesting greater ease of obtaining help. Since those living in metropolitan areas typically have greater access to in-person health and long-term care services and supports and may therefore have less need for online support, we included an indicator variable for whether the caregiver resided in a *metropolitan area* or not.

Other caregiving information

We examined other caregiving-related factors, including whether the respondent was caring for someone who served before 9/11 only (coded 1), or for someone who either served after 9/11, or served both before and after (both coded 0), which could be related to access to additional federal supports for caregivers. Using information on *time spent caregiving*, we coded an indicator variable capturing newer caregivers, or those who started providing care in the last 5 years (coded 1) vs. those who had been providing care for more than 5 years (coded 0). We included a dichotomous variable for whether the caregiver reported that a veteran had one or more *neurological or psychological conditions*, including, PTSD, substance use, TBI, Parkinson's disease, or dementia (coded 1), or not (coded 0). This was based on a response to a question listing 20 possible conditions and asking participants to choose all that apply. About 81% of veterans had PTSD, and as found in other research,¹⁸ PTSD, TBI, and depression were comorbid with other neurological or psychological conditions.

Other covariates

Our analyses controlled for several demographic covariates, including whether a caregiver was 50 or older; was non-Hispanic white; and had a college degree or higher. Models controlled for reported income in the last 12 months, measured in the following categories: less than \$25 000; \$25 000 to \$34 999; \$35 000 to \$49 999; \$50 000 to \$74 999; \$75 000 to \$99 999; \$100 000 to \$149 999; and \$150 000 or more. Income in thousands of dollars was calculated using the midpoint for each income range. We also controlled for whether participants were members of MVCN or the comparison groups. We did not control for gender, since 93% of the sample was female.

Data analysis

To examine the relationship between a variety of caregiving factors (ie, caregiving demands and strain, competing demands, access to support and services, and other caregiving characteristics) and use of online community support, we used a logistic regression model that predicts our dichotomized version of use (any vs. none) as a function of the measures described above. Our second set of analyses used logistic regression models to examine the intensity and frequency of usage measures, among online community support group users. All models controlled for demographic characteristics of the caregiver and MVCN membership. As discussed above, outcomes were captured from the final survey, 6 months after baseline. Covariates were captured at 6 months as well, except for demographic characteristics of the caregiver (ie, age, race, education, and income), which were collected only at baseline. We tested goodness of fit for all models using the area under the ROC (receiver operating characteristic) curve, which is a frequently used measure of model discrimination for logistic regression models. This ranged from 0.72 to 0.80 for our models, which indicates acceptable discrimination.¹⁹

RESULTS

Descriptive information on usage

Everyone in our analytic sample was enrolled in at least one military community peer support group, but less than three-quarters of enrollees visited the online community at least once since enrolling. About 40 percent of users went online weekly, just over 40 percent spent at least 20 minutes online at each visit, and only 20 percent had ever posted anything online (Table 1).

Descriptive characteristics of community support group users and nonusers

Table 2 shows descriptive information on our model variables for online community support group users and nonusers. None of the demographic differences between the users and nonusers was statistically significant based on bivariate tests, but there were several noticeable differences between users and nonusers in terms of caregiving characteristics. Two caregiving factors showed statistically significant differences at $P < 0.05$, both capturing access to support and services. Users reported more ease of help with caregiving ($t[240] = -2.69, P = 0.01$) and more informal caregivers ($t[240]$

$= -4.55, P < 0.01$) than nonusers. Eighteen percent of users were pre-9/11 caregivers, vs. 9 percent of nonusers ($\chi^2 [1] = 3.19, P = 0.07$). Most caregivers were providing help for a neurological or psychological condition, although this is slightly more pronounced among users: 96 percent of users were providing care to a veteran with one or more neurological or psychological conditions, vs. about 90 percent of nonusers ($\chi^2 [1] = 3.70, P = 0.06$). Although the other caregiving characteristics do not show significant differences for the bivariate tests, some differences are worth noting. Users and nonusers differ, for instance, in terms of caregiving demands and strain. Just under 39 percent of nonusers provide care 60 hours per week or more, vs. about 31 percent of users ($\chi^2 [1] = 1.18, P = 0.28$). Users and nonusers are similar in terms of the total number of activities with which they help the veteran and perceived caregiving burden. About 64 percent of both users and nonusers have children under age 18.

Caregiving and online community support use

Table 3 shows odds ratios and standard errors from a logistic regression model predicting online community support use as a function of caregiving factors. This model controls for caregiver demographic characteristics and MVCN membership. Helping with more activities is associated with a statistically significantly greater likelihood of visiting an online community support group. A higher perceived caregiving burden score is also related to a greater likelihood of usage, though this is only marginally statistically significant at $P < 0.10$. Having more informal caregivers available to help is significantly related to a greater likelihood of online community support usage. Caring for a veteran with a neurological or psychological condition is a factor that is positively and significantly related to visiting an online community support group. We did not

Table 1. Descriptive information on online community support group usage

	%
Online support group usage (n = 242)	72.31
Users only (n = 175)	
Weekly usage	39.43
Spends at least 20 minutes online	40.57
Posts online	20.00

Table 2. Descriptive characteristics of community support users and nonusers

	Percent or mean (sd)		Chi-square/t test (P-value)
	Users (n = 175)	Nonusers (n = 67)	
Sample characteristics			
Caregiver over age 50	21.14	13.43	1.87 (0.17)
Caregiver is white	72.57	80.60	1.66 (0.20)
Caregiver has BA degree or more	40.57	40.30	0.002 (0.97)
Caregiver income (in dollars)	71 308 (37 320)	64 118 (34 700)	-1.37 (0.17)
MVCN group participant	80.57	83.58	0.29 (0.59)
Caregiving demands and strain			
# of activities with which caregiver helps (range: 1-19)	12.61 (3.81)	11.76 (4.21)	-1.50 (0.14)
60 hours per week or more spent caregiving	31.43	38.81	1.18 (0.28)
Perceived caregiving burden (range: 4-20)	8.76 (3.76)	8.00 (3.36)	-1.48 (0.14)
Competing demands			
At least one child <age 18	64.57	64.18	0.003 (0.96)
Employment			1.95 (0.38)
Employed more than 30 hours per week	30.86	23.88	
Employed less than 30 hours per week	22.29	19.40	
Not employed	46.86	56.72	
Access to support and services			
Number of other informal caregivers (range: 0-3)	1 (1.00)	0.31 (0.78)	-4.55 (<0.01)**
Ease of help with caregiving (range: 1-4)	1.83 (0.91)	1.49 (0.77)	-2.69 (0.01)**
Resides in metropolitan area	83.43	85.07	0.10 (0.76)
Other caregiving information			
Recent caregiver	20.57	19.40	0.04 (0.84)
Pre-9/11 caregiver	18.29	8.96	3.19 (0.07) ⁺
Veteran has one or more neuro/psych conditions	96.00	89.55	3.70 (0.06) ⁺

Abbreviations: SD=standard deviation; ⁺ $P < .10$, * $P < .05$, ** $P < .01$.

Table 3. Odds ratios and standard errors from a logistic regression model predicting online community support usage (n = 242)

		Exp(β)	S.E.
Caregiving demands and strain	# of activities with which caregiver helps	3.127**	0.049
	60 hours per week of more spent caregiving	0.562	0.390
	Perceived caregiving burden	1.093 ⁺	0.047
Competing demands	At least one child <age 18	0.892	0.383
	Employed part time (ref: not currently employed)	1.540	0.432
	Employed full time (ref: not currently employed)	1.058	0.455
Access to support and services	Number of other informal caregivers	2.032**	0.222
	Ease of getting help with caregiving	1.372	0.235
	Resides in metropolitan area	0.969	0.447
Other caregiving information	Recent caregiver	1.402	0.411
	Pre-9/11 caregiver	2.812	0.736
	Veteran has one or more neuro/psych conditions	8.440*	0.862
Demographic characteristics	Caregiver over age 50	1.446	0.580
	Caregiver is white	1.018	-0.397
	Caregiver has BA degree or more	0.843	0.354
	Caregiver income (in dollars)	1.003	0.018

Abbreviations: S.E.=standard error. Model also controls for whether participant is in MVCN or control group.

⁺ $P < .10$, * $P < .05$, ** $P < .01$.

find statistically significant associations for the other factors explored here.

Caregiving and intensity of use

For the 175 caregivers who visited an online community support website (users), we assessed whether caregiving context is related to visiting the online support group weekly, spending 20 minutes or more online during a typical visit, and posting online (see Table 4). Across all outcomes, our most consistent finding was that caregivers of pre-9/11 veterans have higher levels of engagement than caregivers of post-9/11 veterans: pre-9/11 caregivers are more likely than post-9/11 caregivers to visit weekly, spend 20 minutes or more online, and post online. Assisting a veteran for 60 or more hours per week is also associated with a greater likelihood of posting online and of weekly use (although this is only marginally statistically significant). Employment is related to visiting weekly but not the other outcomes, with 30 hours a week or more of employment related to a significantly greater likelihood of visiting at least weekly. The number of informal caregivers is positively related to spending 20 minutes or more online. Residing in a metropolitan area is negatively associated with spending 20 minutes or more online.

DISCUSSION

A recent report by the National Academies of Sciences, Engineering, and Medicine on family caregiving¹ points to caregiver interventions such as counseling, self-care, and relaxation training programs as a means for improving both the family caregiver's and care recipient's quality of life, but notes that few caregivers have access to such interventions. Internet-based interventions are a cost-effective and efficient way to provide this support to family caregivers. This paper examines one such internet-based intervention designed to provide social support and information to military caregivers. We ask: are the caregivers in greatest need of social support and services, as measured by their caregiving demands and strain, social resources available, and other competing demands, the ones using this online resource? Consistent with other work showing that individuals with the greatest needs are most likely to use online support systems¹⁵,

we find that military caregivers with the greatest caregiving demands are the ones most likely to use online community groups. Caregivers who assist with more tasks are more likely than others to take advantage of online peer support groups. Helping veterans for 60 hours a week or more is related to posting online and, to a lesser extent, visiting an online support group weekly or more.

Our findings also highlight the special burden to caregivers of loved ones with neurological and psychological problems, who have been shown to face unique caregiving challenges^{20,21} and experience worse psychological outcomes.^{22,23} We add to this body of work by showing that caregivers of family and friends with neurological and psychological conditions are more likely to seek support online than are others. Online programs may be a compelling option for supporting this high-risk group of caregivers. It is important to note that the vast majority of caregivers in our sample were caring for individuals with neuro-psychological conditions. Future work could see if these findings hold up for the general population for whom this condition may be less prevalent.

Among online community group users, caregiving for pre-9/11 veterans was positively associated with all intensity measures: visiting weekly, spending 20 minutes or more online, and posting online. This group may be particularly disadvantaged when it comes to access to caregiving benefits, at least for the period examined here. The Caregivers and Veterans Omnibus Health Services Act of 2010 allows the office of Veteran Affairs (VA) to provide a variety of benefits to eligible family caregivers who support a post-9/11 veteran, including monthly stipends, travel expenses, access to health insurance, mental health services and counseling, comprehensive VA caregiver training, and respite care. This again suggests that the most vulnerable caregivers — here, those with the fewest resources from the VA — are most engaged in online support communities. It is worth noting that caregivers of pre-9/11 veterans may be eligible for more in-person services through county- and state-based policies; thus, specific gaps in services or an inability to access in-person services may drive them to use peer-support services.

Residing in a metropolitan area was negatively related to spending 20 minutes or more online, possibly because individuals in metropolitan areas are likely to have greater access to in-person services and thus less need for online groups, whereas rural residents may

Table 4. Odds ratios and standard errors from logistic regression models predicting intensive and active online community support use, users only (n = 175)

	Weekly use		Spends 20 minutes or more online		Posts online	
	Exp(β)	S.E.	Exp(β)	S.E.	Exp(β)	S.E.
Caregiving demands and strain						
# of activities providing help	1.033	0.052	1.071	0.055	0.990	0.061
60 hours per week caregiving	2.125 ⁺	0.418	1.464	0.434	2.855*	0.467
Perceived caregiving burden	0.951	0.050	0.982	0.052	1.035	0.059
Competing demands						
At least one child <age 18	1.606	0.449	1.452	0.454	1.565	0.554
Employed part time (ref: not currently employed)	2.199	0.472	1.241	0.486	1.994	0.549
Employed full time (ref: not currently employed)	3.158*	0.512	1.060	0.521	2.136	0.616
Access to support and services						
# of other informal caregivers	0.936	0.200	2.028**	0.212	0.864	0.248
Ease of getting help with caregiving	1.306	0.243	1.192	0.262	1.406	0.280
Resides in metropolitan area	0.877	0.484	0.335*	0.488	1.320	0.626
Other caregiving information						
Recent caregiver	1.589	0.440	0.287	0.461	-0.003	0.545
Pre-9/11 caregiver	9.161**	0.593	1.675**	0.599	1.328*	0.639
Veteran has one or more neuro/psych conditions	1.866	0.981	0.086	1.051	1.044	1.240
Demographics						
Caregiver over age 50	1.141	0.591	0.982	0.582	1.210	0.718
Caregiver is white	1.120	0.427	0.516	0.417	1.023	0.523
Caregiver has BA degree or more	0.628	0.398	0.735	0.398	0.634	0.494
Caregiver income (in dollars)	0.997	0.005	0.994	0.006	1.002	0.006

Abbreviations: S.E.=standard error. models also controls for whether participant is in MVCN or control group.

⁺ $P < .10$, * $P < .05$, ** $P < .01$.

feel more socially isolated, and online peer support may help fill this gap. Employment was significantly associated with visiting weekly. This could, once again, be picking up those with greater demands — individuals balancing work with caregiving obligations, may be using online services to learn new methods for managing these dual obligations. Another explanation could be that employment might pick up on relative ease of access to the internet (for instance, if office jobs provide computer access).

While other work suggests that individuals with the least social support are most likely to seek online support,¹⁵ we found that having more informal support was related to a greater likelihood of visiting a support group and spending more time online. This could be because informal caregivers free up the time needed to go online. In sensitivity analyses not shown here, we ran the same models described above but with the total number of close friends instead of the number of other informal caregivers. Importantly, number of friends was not significantly related to community support use, suggesting that there is something unique about having more informal caregivers that is not captured by friends more generally.

Taken together, these findings suggest that the most disadvantaged caregivers are the ones using these online support groups. There are several implications of these findings for online support programs and system design. First, our results suggest that online communities are an important tool for supporting caregivers who are at greatest risk of the adverse outcomes associated with family care.⁴ Social networking sites have been found to help people change health-related behaviors,¹⁰ which suggests that online support programs could also be a tool to improve the health of at-risk caregivers. This work also suggests that the content of online military caregiver peer-support networks could be targeted to meet the needs of the profile of caregivers most likely to use these services. For instance, it could be modified to address the needs specific to

caregivers who provide extensive amounts of care or those who provide care for neuro-psychological conditions. Conversely, other program features may be necessary to reach the caregivers who are less likely to engage with peer-support programs, such as those providing less intense caregiving. Finally, given that caregivers using these support groups are also the ones with the highest caregiving load, systems tailored to support adaptive processes, such as interruptions and multitasking due to caregiving demands, might have even greater reach and impact.

This study has several limitations. First, we test many variables here, and some might be significant due to chance. However, even if a more stringent P -value of $P < 0.01$ were used, results would be consistent with those reported here. Second, as with all observational studies, we cannot determine whether the observed relationships are causal. It is possible that caregiving demands, strain, and resources affect online use, but online use could also alter one's caregiving situation. In addition, we focus on caregivers who are already enrolled in a support group, which might capture individuals more likely to use or more intensely use such a resource. Finally, our focus was on the military caregiving community, and it is not clear whether these results translate to programs for other groups of caregivers with different caregiving demands and needs.

CONCLUSIONS

This work is important for understanding how caregiving factors are related to use of online peer-support communities. We show that caregivers who potentially have the greatest needs for peer support — those with more caregiving demands and strain, fewer resources, and caring for individuals with more complex conditions — are most engaged with online support communities. This suggests that online

communities are a potentially powerful way to support the most vulnerable caregivers and may be an important mechanism for providing information, access to services, and social support to the growing number of caregivers anticipated in the future as the population ages.

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CONTRIBUTORS

All authors contributed to the conception and design of the project and interpretation of results. EMF performed the statistical analyses and wrote the first draft of the manuscript. Other authors provided feedback on the manuscript and approved the manuscript.

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