

Evaluation of a Psychological Health and Resilience Intervention for Military Spouses: A Pilot Study

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The decade long conflicts in Iraq and Afghanistan have placed considerable strain on military families. Given robust data showing high rates of deployment-related psychological health problems in spouses and children, and the near absence of evidence-based psychological health programs for military families in the community, interventions are urgently needed to support and strengthen spouses as they adjust to deployment transitions and military life experiences. This Phase 1 pilot study evaluated the feasibility and acceptability of a resiliency intervention for military spouses in civilian communities (HomeFront Strong; HFS), and generated preliminary efficacy data regarding impacts on psychological health and adjustment. Through two group cohorts, 14 women completed the intervention, with 10 women providing pre- and postgroup assessment data. Findings support feasibility of the intervention and high rates of program satisfaction. Participants reported learning new strategies and feeling more knowledgeable in their ability to use effective coping skills for managing deployment and military-related stressors. Participation in HFS was also associated with reduction in levels of anxiety and perceived stress, and improvements in life satisfaction and life engagement. HFS is a promising community-based intervention for military spouses designed to enhance resiliency, reduce negative psychological health symptoms, and improve coping.

Keywords: military spouses, resilience, intervention, anxiety

Since the terrorist events of 9/11, nearly 675,000 Reserve Component troops from the National Guard and Reserves have deployed to Iraq and Afghanistan (Office of the Deputy Assistant Secretary of Defense, 2014). This is the largest number of United States Reserve Component troops ever deployed to high-risk war zones, often with multiple and lengthy deployment periods (U.S. Department of Defense, 2010). Embedded in our civilian communities, Reserve Component (RC) military families are also cycling through these deployments and often experiencing significant distress and untreated psychological health symptoms, including depression, anxiety, and posttraumatic stress (Blow et al., 2013; Gorman, Blow, Ames, & Reed, 2011). Nearly 48% of National Guard and Reserve members are married, representing more than 300,000 RC spouses (Office of the Deputy Assistant Secretary of

Defense, 2014). The decade-long tempo of war and recurrent deployments has threatened the strength and stability of many military families (Blow et al., 2013; Gorman et al., 2011).

Robust evidence shows that a growing number of military spouses experience heightened levels of depression, anxiety, adjustment difficulties, and stress before, during, and after deployment (Mansfield et al., 2010; Renshaw, Rodriques, & Jones, 2008). These issues may be more prominent for RC spouses as they face unique challenges of balancing the competing demands of the civilian and military worlds, while also navigating the challenges inherent to deployment and family role transitions (Blow et al., 2012; Dalack et al., 2010; Gorman et al., 2011). In paired analyses with postdeployment National Guard couples ($N = 525$), 21% of spouses reported symptoms consistent with depression, 13% with posttraumatic stress, and 11% with hazardous alcohol use (Gorman et al., 2014). In comparison, service members in this same sample reported comparable levels of mental health symptoms, with 21% depression, 13% posttraumatic stress, and 27% hazardous alcohol use. These data indicate that military spouses are at psychological risk, and at nearly the same rates as service members. However, the struggle of spouses receives markedly less attention, and there are fewer psychological health resources available that are tailored for the military-spouse experience. In a survey of 212 National Guard spouses postdeployment, 1 in 3 spouses reported clinically significant symptoms of posttraumatic stress, depression, or anxiety; while 1 in 10 reported suicidal thoughts (Gorman et al., 2011). Indeed suicide in military spouses may be a silent epidemic, with concerns about tracking military family suicide recently reaching national attention (American Forces Press Service, Department of Defense, 2010; NBC News, 2013). The rise in rates of child abuse, divorce, and domes-

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tic violence associated with deployment further speaks to the jeopardy for military children and families (Karney & Crown, 2007; Rentz et al., 2007).

Despite the clear risk and overwhelming need, very few evidence-based programs are available to support military spouses. Existing military psychological health programs often focus primarily on the needs of service members or of veterans. The Department of Veterans Affairs (VA) has high quality, evidence-based mental health services for veterans, with recent legislation mandating the availability of services for families in relation to needs of the care-seeking veteran (Department of Veterans Affairs, 2008). However, not all veterans are eligible for or choose to seek services through the VA, and families are only eligible for VA services if the need is in direct relation to the veteran in care. Moreover, while these family services are mandated in legislation, the implementation of family services at each VA can vary. For Active Duty families, mental health services are often available on-base or through their local military installation; however, nearly 70% of military families live in civilian communities, not on base or installation (National Military Family Association, 2011). Moreover, for National Guard and Reserve families who permanently reside in civilian communities and do not have access to a military installation, they must seek mental health services in the community. Taken together, these findings support the limited availability of community-based mental health services for military and veteran families.

The American Psychological Association Task Force Report, *The Psychological Needs of U.S. Military Service Members and Their Families* (2007), documented a virtual absence of interventions for military families. Since then, a number of psychological health programs for families have been developed and show promising empirical support, including parenting interventions for young children (Paris, DeVoe, Ross, & Acker, 2010; Rosenblum & Muzik, 2014) and older children (Gewirtz, Erbes, Polusny, Forgatch, & DeGarmo, 2011; Gurwitch, Lopez, Pearl Messer, & Chung, 2014), and interventions for military couples (Allen, Rhoades, Stanley, Loew, & Markman, 2012; Fischer, Sherman, Han, & Owen, 2013; Johnson, 2002; Monson et al., 2012; Rotunda, O'Farrell, Murphy, & Babey, 2008). There remains, however, a paucity of evidence-based interventions that specifically address psychological health and adjustment in military spouses. The current study addresses this critical gap by evaluating the pilot implementation of HomeFront Strong, an 8-week group intervention for military or veteran spouses/romantic partners in civilian communities, with the goal of improving psychological health and enhancing individual resilience.

Resiliency Model of Family Stress, Adjustment, and Adaptation

Application to Military Spouses

Drawing from McCubbin and McCubbin's Resiliency Model of Family Stress, Adjustment, and Adaptation (McCubbin & McCubbin, 1993), HomeFront Strong (HFS) is a group intervention for military spouses¹ designed to promote positive psychological health, augment individual resiliency, and support family adjustment across the transitions of deployment and military life. As

depicted in Figure 1, the Resiliency Model assumes a relational perspective of individual and family adaptation with recursive effects such that overall Adaptation (X) is influenced by the interaction of the Stressor Event (A), the potential Pile-up of Demands (AA), Family Resources (BB), Situational Appraisal and Schema (CC), and Family Problem Solving and Coping (PSC). Deployment of the service member is identified as the primary stressor event (A). The pileup of demands (AA) can occur from stressors related to the deployment or other life experiences (e.g., financial strain, intermittent single parenting, an illness, or the loss of a loved one). Existing resources (BB) are conceptualized as formal supports (e.g., the use of organized educational, medical, or counseling services) and informal supports (e.g., the spousal relationship, extended family and friendship networks, and other community social resources). Cognitive Perception (CC) refers to the attribution spouses have about their deployment experience, including the sense of coherence about the situation, benefit finding, and meaning making (Antonovsky & Sourani, 1988). Problem Solving and Coping (PSC) include individual coping skills and the ability to regulate difficult emotions during stressful times. Finally, Adaptation (X) represents the individual and family's level of adaptation to stressors and demands, and includes individual psychological health, marital adjustment, parenting satisfaction, and children's behavioral, social, and emotional health.

HomeFront Strong

The HFS group intervention was developed by the first author and is grounded in McCubbin and McCubbin's resiliency theory (McCubbin & McCubbin, 1993), with evidence-based strategies from positive psychology (Seligman, 1998; Seligman, Steen, Park, & Peterson, 2005), cognitive-behavioral therapy (Ellis, 1975; Hayes, Villatte, Levin, & Hildebrandt, 2011), and dialectical behavior therapy (Linehan & Dimeff, 2001). As illustrated in Figure 1, the six HFS core modules map directly onto the McCubbin and McCubbin Resiliency Model (McCubbin & McCubbin, 1993): (a) Grounding (self-care), (b) Build Community, (c) Manage Stress, (d) Allow Emotions, (e) Rethink Thinking, and (f) Cultivate Optimism. Within each module, the content, examples, group activities, and in-session practice opportunities are tailored for military spouses managing deployment-related transitions and balancing civilian/military life. For example, in Manage Stress, discussion about common stress triggers focus on those specific to military life (e.g., an extra drill weekend was scheduled; rucksack on the living room floor; delay in scheduling a VA appointment). In Rethink Thinking, the link between thoughts-feelings-actions is demonstrated and practiced using military life situations, such as seeing a black car in front of one's house or a disrupted Skype call. The HFS curriculum includes a structured group facilitator's manual for each of the 8-week sessions and a weekly workbook for HFS participants with activities and homework to supplement the group experience. See Table 1 for an overview of HFS sessions and content.

Our program of research seeks to validate HomeFront Strong as a psychological health and resiliency intervention for military and

¹ The use of the term "spouse" throughout this article also includes any intimate partner or significant other of a military service member or veteran.

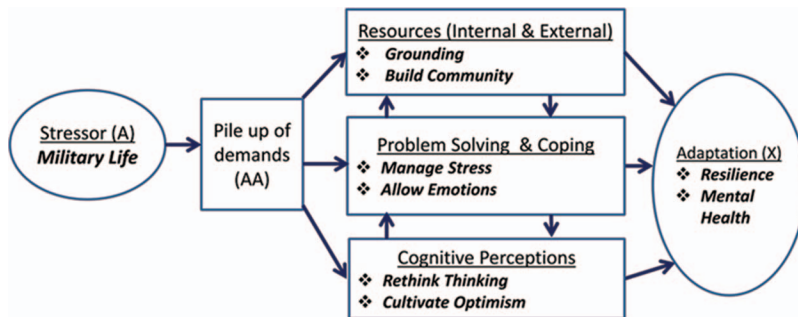


Figure 1. McCubbin and McCubbin's Resiliency Model applied to HomeFront Strong.

veteran spouses in civilian communities, with the goal of community training and dissemination to public sector providers. The current study describes the Phase 1 pilot implementation of HFS in two group cycles with a small sample of military spouses in civilian communities ($N = 10$). The current study addresses four primary questions: (a) What is the feasibility of delivering HFS with military spouses? (b) Do HFS participants report perceived knowledge change in the core curriculum areas? (c) Can HFS improve psychological adjustment? and (d) Can HFS enhance characteristics of resilience?

Table 1
HomeFront Strong Curriculum

Session	Title	Main content
1	Foster Resilience	Resilience and gratitude Normalization of military experience Introduce personal narrative Introduce Workbook
2	Manage Stress	Individual styles of stress management Psycho-education on stress physiology Stress Level Rating Scale Breathing techniques
3	Cultivate Optimism	Building positive coping skills Cognitive loop Optimism, pessimism, and realism Affirmations, mantras, and mottos
4	Re-Think Thinking	Thinking Strategies of dispute and discover Re-authoring one's personal narrative Progressive muscle relaxation
5	Re-Think Thinking	Cognitive flexibility and perspective Distraction techniques Thought swapping Visualization
6	Build Community	Being a friend Types of social support "Job openings" and expectations Guided imagery
7	Allow Emotions	Observe, experiences and allow feelings Acceptance Mindfulness techniques
8	Stay Strong	Lessons learned Re-define resilience Wishes for the future

Method

Research approvals were obtained from the Institutional Review Board at the University of Michigan.

Participants

Information about the HFS program was distributed through partnerships with military and civilian providers in the local geographical area, including the National Guard State Family Programs Office, Family Readiness Groups, National Guard armories, community events for military and veterans, the VA Health care System, Veteran Service Organizations, social media, and word of mouth from key stakeholders. Interested participants were instructed to contact the program by telephone and were deemed eligible to participate in the study if they were: (a) a spouse or intimate partner of a service member or veteran who has deployed, is deployed, or is preparing to deploy in support of Post 9/11 Conflict; and (b) could commit to attend a minimum of 6 of 8 scheduled groups. To assess feasibility and palatability of the intervention with the broadest population of military spouses, other inclusion or exclusion criteria were not imposed. Of note, no male spouses contacted the program so all participants were female spouses or partners, including one same-sex partner.

Over the course of two group cycles, 16 female participants were screened and 15 enrolled in the program (one participant declined because she was also initiating individual therapy and could not manage two weekly appointments). One participant dropped out after attending two sessions because she was diagnosed with a serious medical condition. Of the remaining 14 participants, 10 completed the postgroup assessment. Multiple attempts were made to collect postgroup assessments with the remaining four participants, two from each group cycle. In comparing participants who completed the postassessment to those who did not, there were no differences in demographic variables, deployment experiences, pregroup outcome measures, or number of group sessions attended ($M = 7$ for both groups). Thus, data analyses for this pilot study are based on the 10 participants who completed both the pre- and postgroup assessments.

Participants ranged in age from 22–50, with 50% of the sample in the 25- to 30-year-old range. The majority of participants were White ($n = 9$), with 1 Black participant. The majority of participants were married ($n = 7$), and half had children ($n = 5$). Participants were generally well educated, with all having at least some college, and most having a bachelor's degree ($n = 7$). With

regards to military life experience, six spouses participated in the group while their partner was deployed, and four were considered postdeployment. Four spouses had experienced a single deployment, two had experienced two deployments, and four had experienced four or more deployments.

Study Procedures

Within 3 weeks before starting the group, participants met with a group facilitator to complete a pregroup assessment and interview. The pregroup assessment included a standard informed consent process, a semistructured qualitative interview, and a battery of self-report measures assessing psychological health and resilience. At the completion of the 8-session group, participants received a packet of self-report survey measures comprising the postgroup assessment and a preaddressed stamped envelope. Participants were asked to mail their completed materials back to the program within 2 weeks. Participants received a \$40 gift card (\$30 remuneration + \$10 for fuel costs) for completing the preassessment, and a \$30 gift card for the postassessment.

HFS Intervention

To address possible barriers to attendance, group sessions were held in the evening, with a meal provided, and a \$10 gift card was provided to participants at each session to off-set fuel costs. At the time of the study, gas prices approached \$4.00 + per gallon, and participants traveled between 20 min to 2.5 hr to attend group session. For participants with children ($N = 5$), a concurrent children's program was also offered. Each of the group sessions started with a 30-min shared meal between participants, children, and staff members. Children then went to a child-focused program, while the adult participants attended the HFS spouse group for 90 min. A clinical psychologist (first author) and a licensed clinical social worker led the HFS groups following a structured curriculum manual developed specifically for this pilot study by the first author. The curriculum manual describes each group topic in detail, with specific instructions for group set-up, directions for the activities, and suggested word choice for all material. Before the launch of the group, the first author trained the cofacilitator in the HomeFront Strong model through a series of relevant readings and structured training curriculum, including instruction in the relevant theoretical models, the content and activities for each session, general strategies for group facilitation, and military family cultural competence. Before each session, the group facilitators individually reviewed the session content, then met together to discuss the content, prepare activities, and assign primary leadership for specific sections in each session. After each session, the group facilitators debriefed, reviewed pertinent information about the session implementation, and began planning the next session. Sessions were audio-recorded with participant consent. An undergraduate research assistant listened to each session, and reviewed a checklist for presence/absence of key topics and activities described in the intervention manual, with 100% fidelity for both group cycles.

Each of the eight group sessions opened with a word of the day to foster participant discussion, followed by (a) a review of the previous week's workbook materials; (b) didactic information and facilitated discussion on the session topic; (c) interactive activities

and demonstrations of new skills and strategies, with opportunity for in-session practice; and (d) introduction and in-session practice of a self-care strategy. At the end of each session, participants received a workbook chapter with additional resources and home-based practice activities specific to the session topic, including psycho-education materials, an overview of the session's self-care strategy, and fill-in-the-blank worksheets (FIBs) designed to elicit individual narratives about one's experience with deployment or military-related stressors. Between Sessions 5–7, each participant also attended one individual session with a group facilitator to discuss how the group was going and to coordinate any necessary community referrals or connection to resources.

Measures

HFS Fidelity Checklist. The HFS Fidelity Checklist was developed for this study to independently assess the degree to which the group facilitators were consistent with the HFS curriculum manual. Individual Fidelity Checklists exist for each of the 8 sessions, and include a list of topics and activities to be covered in that session, with a Yes/No response. An undergraduate RA reviewed the audiotaped recordings of each session, and completed the Fidelity Checklists, indicating 100% adherence across all sessions in both group cycles.

Demographic questionnaire. Participants responded to a series of questions on general demographics and military life experience.

Program satisfaction. At the postgroup assessment, participants provided written response to a series of open-ended questions assessing their satisfaction with the program (e.g., What were your favorite/least favorite things about HFS; Would you recommend this group to other military spouses? Why/Why not).

Program Impact Survey (HFS-PIS). The HFS-Program Impact Survey (HFS-PIS) was developed to assess participants' perspective of change associated with group participation. The HFS-PIS uses a retrospective pretest methodology where participants are asked in the postassessment to rate their knowledge, confidence, and skills across a series of domain areas before and after the group (e.g., "How much did you know about rating your stress level before the group?" and "How much do you know about rating your stress level after the group?"). The retrospective pretest methodology is an established approach to assess training outcomes (Howard et al., 1979; Pratt, McGuigan, & Katzev, 2000) and was chosen to maximize the ability to detect change. Prior evaluation research has demonstrated that individuals often overrate their knowledge about a topic before training or learning about it (Howard & Dailey, 1979; Howard et al., 1979). For example, a participant might perceive they know a great deal about stress management before the intervention, not fully recognizing the depth of new information to be learned. Using a traditional pre- to posttest design in these cases can mask the true learning effects of the group (Howard & Dailey, 1979; Howard et al., 1979; Siebert, Siebert, & Spaulding-Givens, 2006). A retrospective design, however, allows a more sensitive assessment of participants' perception of change over time (Hill & Betz, 2005). Internal consistency of the HFS-PIS was acceptable, with Cronbach's α for the overall measure at .71.

Generalized Anxiety Disorder Screener (GAD-7). The GAD-7 is a brief screening tool used as a broad measure of anxiety

symptoms. Studies report that the GAD-7 is sufficiently sensitive to detect GAD, panic disorder, social phobia, and posttraumatic stress disorder. Total scores range from 0 to 21 with higher scores indicating greater severity of anxiety, and cut-off scores of 5, 10, and 15 corresponding to mild, moderate, and severe levels of anxiety (Spitzer, Kroenke, Williams, & Lowe, 2006). In the current sample, the range of scores was 1–14, with mild ($n = 3$), moderate ($n = 3$), and severe ($n = 4$) represented at pregroup assessment. The total score was used to measure the level of anxiety symptoms in participants. The GAD-7 has well-established psychometrics, including high levels of internal consistency ($\alpha = .89-.92$; Löwe et al., 2008); the Cronbach's α for this study was .90.

Perceived Stress Scale-4 (PSS-4). The PSS is a 14-item measure that assesses the degree of control or predictability people perceive they have over life events (Cohen, Kamarck, & Mermelstein, 1983). A briefer version of the PSS with only 4 items has been well validated (Cohen & Williamson, 1988; Warttig, Forshaw, South, & White, 2013) and was used in the current study. The PSS-4 has 4 items, two negatively stated and two positively stated items that are rated on a scale from 0 (*never*) to 4 (*very often*). The positively stated items are reverse coded, then items summed, with higher scores indicating more perceived stress. Scores range from 0 to 16, with a range of 3 to 12 in the current study. Cronbach's α coefficient for the 4-item version is .60 (Cohen & Williamson, 1988) and .84 for the current study.

Patient Health Questionnaire (PHQ-9). The PHQ-9 consists of nine items that correspond to the *Diagnostic and Statistical Manual for Mental Disorders-Fourth Edition (DSM-IV)* criteria for major depression. Originally developed and tested in primary care and obstetrics-gynecology clinics, the PHQ-9 has demonstrated good reliability and validity in general populations (Gilbody, Richards, Brealey, & Hewitt, 2007; Kroenke, Spitzer, & Williams, 2001) and in military populations (Everson, Darling, & Herzog, 2013; Warner, Appenzeller, Warner, & Grieger, 2009). PHQ-9 scores greater than 10 had a sensitivity of 88% and a specificity of 88% for Major Depressive Disorder (Kroenke et al., 2001). Total scores range from 0 to 27 with higher scores indicating greater severity of depression, and cut-off scores of 5, 10, and 15 corresponding to mild, moderate, and severe levels of depression (Kroenke et al., 2001). In the current sample, the range of scores was 1–18, with mild ($n = 3$), moderate ($n = 5$), and severe ($n = 2$) represented at pregroup assessment. The total score was used to measure the level of depressive symptoms in participants. Internal consistency of the PHQ-9 is high, with the Cronbach's α for this study at .86.

Satisfaction With Life Scale (SWLS). The SWLS is a five-item measure that assess participants' satisfaction with life via questions such as "I am satisfied with my life" and "In most ways my life is close to ideal" on a scale from 1–7. A score of 5–35 is possible, with higher numbers indicating higher levels of personal satisfaction with life. The scale has been used in large community and clinical samples with excellent internal consistency, convergent validity, test-retest reliability, and sensitivity to life events (Barile et al., 2013; Diener, Emmons, Larsen, & Griffin, 1985; Kobau, Sniezek, Zack, Lucas, & Burns, 2010; Pavot, Diener, Colvin, & Sandvik, 1991). Cronbach's α for the current study was .66.

Life Engagement Test (LET). The LET is a 6 item self-report measure that assesses one's purpose in life and engagement in meaningful activities. Participants are asked to respond to statements such as, "There is not enough purpose in my life" and "I value my activities a lot, on a scale from 1 (*strongly disagree*) to 5 (*strongly agree*). After reverse coding of 3 items, higher scores indicate greater life engagement and sense of purpose. The LET is psychometrically strong with high internal consistency (.72-.87), test-retest (.61 to .76), and acceptable convergent validity across multiple samples (Scheier et al., 2006). Cronbach's α for the current study was .55.

Life Orientation Test-R (LOT-R). The LOT-R is a 10 item measure that assesses pessimistic versus optimistic expectations of future occurrences. Participants are asked to indicate to what extent they agree with statements such as, "In uncertain times, I usually expect the best" and "I am always optimistic about my future," on a scale from 0 (*strongly disagree*) to 4 (*strongly agree*). A continuous score of optimism is calculated by excluding the 4-filler items and reverse coding 3 items. Internal consistency and validity have been well-established and the measure has been used in diverse study populations (Carver, 2014; Scheier, Carver, & Bridges, 1994). Cronbach's α for the current study was .70.

Results

Program Satisfaction and Knowledge Change

Program satisfaction. In open-ended questions at the post-group assessment, each participant provided positive feedback in response to questions assessing satisfaction with the program (e.g., "During deployment I felt lost. HomeFront Strong gave me direction." "HomeFront Strong changed my life"). Participants also described improvements in their psychological health and interpersonal relationships (e.g., "I am happier and not constantly just surviving." "I know I am not alone"). They also noted changes in their attributions about deployment (e.g., "My beliefs about deployment and relationships have changed in such a positive way.") and growth in coping skills (e.g., "HomeFront Strong taught me the deployment life skills I needed to help myself, my husband, and my family"). When asked if they would recommend HFS to other military spouses, all participants reported that yes, they would recommend HFS to other military spouses (e.g., "Wish it was required!" "Absolutely! It lessens the sense of isolation").

Perceived knowledge change. *t* test analyses were conducted on the 11 "before HFS" and "after HFS" items from the HFS-PIS, representing participant perspective on change in their knowledge and skills as a result of HFS participation. As seen in Table 2, results indicated significant perceived change on all of the 11 domains assessed. Taken together, these results indicate that participants were satisfied with the group, would recommend it to other military spouses, and felt more knowledgeable in a myriad of coping and stress management strategies after participation in the HFS program.

Psychological Health and Resilience

Table 3 presents the means, *SDs*, and *t*-statistics for the psychological health and resilience outcome measures.

Table 2
Perceived Changes in Knowledge After HFS Intervention ($N = 10$)

Content/skill	Before	After	t	p
	M (SD)	M (SD)		
Confidence in my ability to be resilient	3.1 (1.2)	4.5 (.53)	-3.28	.010
Knew how to rate my level of stress	1.9 (.74)	4.4 (.52)	-8.135	.000
Knew how to use grounding (self-care) techniques	2.0 (.82)	4.3 (.48)	-7.67	.000
Knew how to identify my negative thoughts	2.5 (.71)	4.1 (.74)	-5.24	.001
Knew how to dispute negative thoughts	1.8 (.79)	4.2 (.63)	-7.06	.000
Knew how to discover other perspectives	2.7 (1.2)	4.3 (.48)	-4.31	.002
Knew how to distract from negative thoughts	2.3 (1.3)	4.2 (.63)	-4.39	.002
Knew how to identify good social supports	3.0 (1.1)	4.3 (.67)	-3.28	.009
Knew what kind of social support I needed	1.9 (.99)	4.6 (.52)	-7.36	.000
Knew how to practice gratitude	2.2 (1.4)	4.4 (.52)	-4.71	.001
Knew how to identify and tolerate distressing emotions	2.1 (1.3)	4.3 (.67)	-4.71	.001

Psychological health. Results of t tests indicated significant reductions on symptoms of anxiety from pre- ($M = 7.6$, $SD = 4.9$) to the postgroup assessment ($M = 3.5$, $SD = 3.6$), [$t(9) = 2.51$, $p = .04$]. Using categorical cut-offs on the GAD-7, participants reported pregroup anxiety symptoms across the range of mild ($n = 3$), moderate ($n = 3$), and severe ($n = 4$) levels. At the postgroup assessment, categorical improvement was noted with mild ($n = 7$), moderate ($n = 2$), and severe ($n = 1$) level.

Participants reported an elevated level of stress at pregroup assessment ($M = 7.2$), in comparison to normative data from a United States probability sample ($M = 4.5$; Cohen & Williamson, 1988). Results of t tests indicated a significant reduction in perceived stress level from pre ($M = 7.2$, $SD = 2.6$) to the postgroup assessment ($M = 3.3$, $SD = 2.4$), [$t(9) = 3.76$, $p = .004$].

There were no significant changes in overall depressive symptoms from pre- to postgroup ($M = 7.9$, $SD = 5.7$; $M = 6.6$, $SD = 4.5$, respectively). Using categorical cut-offs on the PHQ-9, participants reported pregroup depressive symptoms across the range of mild ($n = 3$), moderate ($n = 5$), and severe ($n = 2$) levels. At the postgroup assessment, minimal categorical improvement was noted between mild ($n = 4$), moderate ($n = 4$), and severe ($n = 1$) levels. There were no reports of recent suicidal thoughts or behaviors from any of the participants at pre- or postassessment.

Characteristics of resilience. Results of t tests comparing pre- and postgroup assessments indicated an increase in characteristics associated with resilience. More specifically, t tests showed a significant increase in life engagement from pre ($M = 20.2$, $SD = 2.2$) to post ($M = 21.3$, $SD = 2.8$), [$t(9) = -2.38$, $p = .05$] and in life satisfaction from pre ($M = 23.9$, $SD = 4.3$) to post

($M = 28.6$, $SD = 2.6$), [$t(9) = -3.97$, $p = .003$]. Results of t tests for changes in optimism showed a nonsignificant trend in the expected direction from the pre- ($M = 14.7$, $SD = 3.6$) to postgroup assessment ($M = 17.7$, $SD = 2.8$), [$t(9) = -2.11$, $p = .06$].

Discussion

Data from this Phase 1 pilot study suggests that HomeFront Strong is both a feasible and acceptable intervention for supporting military spouses. Ninety-four percent of participants screened for the study enrolled in the intervention, with only one drop-out for reasons not related to the program. Participants also gave universally favorable feedback about the program. As a result of participating in HFS, spouses reported learning new strategies and feeling more knowledgeable in their ability to use effective coping skills for managing deployment and military-related stressors.

As hypothesized, participation in HomeFront Strong was associated with a significant reduction in symptoms of anxiety and perceived levels of stress. Symptoms of depression, however, did not decrease. The postassessment was conducted within 1–2 weeks after the end of the group. It is possible that the newly learned strategies from HFS had an immediate impact on coping skills, which reduced anxiety and stress; perhaps these skills take longer to impact depressive symptoms. Future studies will include a longer term follow-up of 3- and 6-months to investigate sustained effects of group participation on stress, anxiety, and depression. Longitudinal follow-up of HFS participants will be critical to track

Table 3
Changes in Outcome Measures From Pre- to Posttreatment After HFS Intervention ($N = 10$)

Construct (measure)	Pregroup	Postgroup	t	p	Pre- to post- Hedge's g
	M (SD)	M (SD)			
Anxiety (GAD7)	7.6 (4.9)	3.5 (3.6)	2.506	.04	.91
Stress (PSS)	7.2 (2.6)	3.3 (2.4)	3.759	.004	1.50
Depression (PHQ-9)	7.9 (5.7)	6.6 (4.5)	1.073	.311	.24
Life satisfaction (SWLS)	23.9 (4.3)	28.6 (2.6)	-3.971	.003	-1.27
Life engagement (LET)	20.2 (2.2)	21.3 (2.8)	-2.38	.05	-.42
Optimism (LOT-R)	14.7 (3.6)	17.7 (2.8)	-2.110	.064	-.90

trajectories of psychological health and response to subsequent stressors.

Participants reported a significant increase in life satisfaction and life engagement, with a trend for an increase in optimism, factors that are considered at the core of individual-level resilience (Meredith et al., 2011; Seligman, 1998). The military community has adopted resilience as an important component of psychological fitness in service members, with recent attention being directed toward military family members (Gottman, Gottman, & Atkins, 2011). To our knowledge, this is the first published study of a community-based, group intervention specifically targeting individual resilience and psychological health in military spouses.

As military family programs are developed, the Rand Corporation (Meredith et al., 2011) and Department of Defense Military Family Readiness Council (2012) recommend that all new programs include an evaluation component with identified and meaningful outcome measures. Similarly, Verdelli and colleagues (2011) emphasize that new military family programs should be evidence-based, tailored specifically for the needs of military families, and evaluated in military populations before dissemination. HFS fits each of these criteria with a structured curriculum that is grounded in established theories of resiliency and family stress, and applies evidence-based strategies tailored for the unique experience of military life. Moreover, these pilot evaluation findings support the feasibility, acceptability, and preliminary efficacy of the intervention in improving psychological health and boosting characteristics of resilience in military spouses.

There are a number of sample characteristics that may limit generalizability of the findings. Participants were all females, the majority of whom were well-educated and primarily White. As such, the applicability of this program with male spouses or with female spouses from more diverse educational and ethnic background is untested.

The group composition was diverse in military life experiences, including history of previous deployments (range of none to 5+), partner's current deployment status (deployed, postdeployment), partner's current or past rank, and partner's current military involvement (Veteran, Active Duty, and National Guard or Reserve). Group composition was a particular point of interest in this Phase I implementation of HFS, and participants were queried via open-ended question in the postassessment as to the degree that these factors mattered. Participants reported significant benefits to including group members with a mixture of military life experiences, expressing that they each "have something to share and something to learn" from one another. The small sample size prevented further exploration into the influence of these military life factors on participant outcomes. For example, it might be the case that HFS is more effective for spouses at a specific deployment stage.

It is also of note that severity of mental health symptoms was not an inclusion criterion, and as such, there was heterogeneity in the presenting levels of stress, depression, and anxiety. HFS is designed to support spouses with military life stressors, across the continuum of adjustment and psychological functioning. However, it is possible that the effectiveness of HFS varies as a function of initial mental health functioning. Subsequent research will investigate for whom HFS is most beneficial.

There are nearly 700,000 military spouses and an additional 300,000 Reserve Component spouses (POTUS, 2011). Fewer than 30% of military families live on military installations; the remain-

ing 70% of military families live in over 4,000 communities nationwide (National Military Family Association, 2011). With the current military draw-down, reductions in force are actively being implemented (Feickert, 2014). The number of service members moving into veteran status and shifting their families into the civilian community is also increasing. Thus, it is a priority to develop psychological health programs for military families that can be embedded in the community (Department of Defense Task Force on Mental Health, 2007). With the challenges inherent for the Department of Veterans Affairs in serving military spouses, programs that can also be delivered by public sector providers are critical to meeting the need of this population (POTUS, 2011). Unfortunately, the majority of public sector providers lack familiarity with military culture and lifestyle, which can hamper their ability to provide effective services (Blow et al., 2012). HFS has been developed specifically with the intention of large-scale dissemination to public-sector providers in civilian settings. The curriculum is structured, manualized and detailed. The content and activities are consistent with established clinical practices that are highly amenable and teachable to public sector providers. Moreover, an extensive training curriculum has been developed and is currently being offered through an existing platform for training community-based, public-sector providers in the use of evidence-based practices with military and veteran populations.

There are notable limitations to the current study, including a small exclusively female primarily White sample, absence of a control group, and lack of longer term follow-up data to ascertain whether participant gains were maintained over time. However, given the dearth of empirically supported military family psychological health interventions in the face of a vital public health need, these limitations are viewed relatively. This initial study was successful as Phase I pilot trial with the primary goal of determining feasibility and acceptability of the intervention. The impact of HFS on military spouse mental health and resilience, paired with changes in knowledge and high participant satisfaction, are promising and warrant further attention.

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