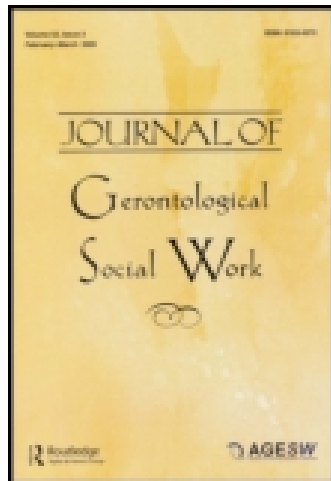


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Veterans' Informal Caregivers in the "Sandwich Generation": A Systematic Review Toward a Resilience Model

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Veterans' Informal Caregivers in the “Sandwich Generation”: A Systematic Review Toward a Resilience Model

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Social work theory advanced the formulation of the construct of the sandwich generation to apply to the emerging generational cohort of caregivers, most often middle-aged women, who were caring for maturing children and aging parents simultaneously. This systematic review extends that focus by synthesizing the literature on sandwich generation caregivers for the general aging population with dementia and for veterans with dementia and polytrauma. It develops potential protective mechanisms based on empirical literature to support an intervention resilience model for social work practitioners. This theoretical model addresses adaptive coping of sandwich-generation families facing ongoing challenges related to caregiving demands.

KEYWORDS *caregiving, veterans, sandwich generation, resilience*

When the National Association of Social Workers (NASW) launched a public education campaign on the profession of social work in 2004, it stated that a particular focus for the campaign would be women between the ages of 35 and 54, whom it identified as the *sandwich generation*, defined as “working to raise their own children while also taking care of elderly parents and other aging relatives” (NASW, n.d.). At that time, to our knowledge, there had been one published study of a resilience intervention model aimed to reduce risk for sandwich generation caregivers, thereby increasing resilience among

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their children under age 18 (Tebes & Irish, 2000). The professional association targeted this group as an increasing vulnerable population in need of enhanced societal support, which nevertheless remained unaware of the capacity of the social work profession to serve them effectively. In support of this goal, this article extends that focus by considering risk and resilience for the segment of this population, which acts as simultaneous caregivers for two generations of family members including a veteran with disabilities who may be a younger adult spouse/child instead of an aging parent/relative. Specifically, this article seeks to examine the protective mechanisms that have been identified in the empirical literature relevant to veterans' informal caregivers, including the psychosocial rehabilitation literature for adults with psychiatric disabilities, informed by generational cohort theory. We discuss the implications for a resilience model for the sandwich generation of caregivers of veterans. Resilience is defined as relative resistance to adversity or risk (Rutter, 1999).

Increased longevity and increased survival rates of both children and adults with disabilities, such as returning combat veterans (Smith-Osborne, 2009), are likely to increase the numbers of informal caregivers, especially spousal, who are caring simultaneously for these young adult veterans with disabilities and either elderly parents, children, or both (Spillman & Pezzin, 2000). The current conflicts have been characterized specifically by the increased survivability of previously mortal combat injuries and increased prevalence of the invisible signature injuries of traumatic brain injury (TBI) and posttraumatic stress disorder (PTSD), which in severe cases can constitute psychiatric disabilities (Tanelian & Jaycox, 2008). The Veterans Administration (VA) has defined the presence of injuries (originally blast-related) to multiple body parts and organs, including these signature injuries, as polytrauma (Butcher & Balogh, 2009).

The service branches have been active in providing resilience-building prevention services for active duty service members (Castro, 2009; Castro & Adler, 2011; Cornum, Matthews, & Seligman, 2011; Jonas et al., 2010), and for military families in pre- and postdeployment phases (Saltzman et al., 2011), but not for wounded warriors in transition units or veterans with disabilities and their caregivers. These active duty models have used resilience theory's definition of resilience as relative resistance to adversity or risk (Rutter, 1999), but have not uniformly applied the theory's empirically tested protective mechanisms and cumulative risk/resilience trajectories (e.g., Luthar, Sawyer, & Brown, 2006; Luthar & Zelazo, 2003), instead drawing from coping theory, moral philosophy, positive psychology, and others. The combat survival rates predict a growing population of those with long-term disabilities and, therefore, the need for adapting these active duty models for informal veteran caregivers. This approach would permit incorporation of resilience theory-based empirical evidence into a prevention model already familiar to wounded warriors/veterans from their active duty service, but targeted

more consistently to support the unaddressed element: sandwich generation caregiver resilience. Resilience theory postulates that protective mechanisms operate by reducing risk impact, reducing negative chain reactions to risk factors, promoting resiliency traits (i.e., the opposite of vulnerability factors), and setting up new opportunities for success (Rutter, 1987). Hence, such a model would be defined by protective factor-based interventions to reduce the impact of cumulative risk and promote cumulative resilience in veterans' informal caregivers.

Recent national survey data suggest that veteran caregivers are more likely to be spouses, living in the same household, and slightly younger than caregivers in the general population (National Alliance for Caregiving, 2010), although a recent VA survey found parents more likely to be caregivers of recent combat-era veterans with TBI (Griffin et al., 2012). Further, the size, increased longevity, female workforce participation, and delayed marriage and child-bearing characteristics of the baby boomer cohort are likely to lengthen their tenure as a sandwich generation for Vietnam and post-Vietnam era veterans (Hammer & Neal, 2008; Seaward, 1999; Spillman & Pezzin, 2000) and lead to expansion of the sandwich generation construct to include their nondisabled adult children as cocaregivers for their veteran parent, siblings, and grandparents with disabilities (Smith, Greenberg, & Seltzer, 2007). The nation officially recognized the unprecedented increase and needs of disabled veterans and their family caregivers by passing the Caregivers and Veterans Omnibus Health Services Act of 2010 (Public Law: 111-163), the largest direct benefit to veteran family members in American history (Van Houtven et al., 2012). This especially vulnerable subgroup of the sandwich generation and their family type has received limited attention in the literature. Social workers face with these families the challenge of identifying and cultivating resources and services to enhance resilience in this caregiving population. This article seeks to review the literature on general population and veterans' caregivers and develop a resilience model based on this literature which may be helpful to social workers in working with this segment of the sandwich generation.

THEORETICAL APPLICATION

Generational cohort theory has addressed a macro-level view of shared, common developmental characteristics which characterize an age cohort with defined ranges of birth dates and historical/cultural periods of primary influence on development (Strauss & Howe, 1991). Social work theory advanced the formulation of the construct of the sandwich generation (Miller, 1981; Raphael & Schlesinger, 1994) to apply to the emerging generational cohort of caregivers, most often middle-aged women, who were caring for maturing children and aging parents simultaneously. Heightened family stress

levels and associated increases in symptoms of psychopathology have been found in this family type (Greene, 1995; Neal, Chapman, Ingersoll-Dayton, & Emlen, 1993; Schlesinger, 1989; Singer & Irvin, 1991; Tebes & Irish, 2000). As predicted during the period in which these theories were formulated (Riche, 1991), increasing numbers of American families have been faced with the demands of caring for family members in multiple generations across health status and disability conditions (Seaward, 1999). The purpose of this study is to synthesize the evidence for models of resilience for informal caregivers of veterans, particularly caregivers of multiple generations, also known as sandwich generation caregivers. The research question that guided the study was: What protective mechanisms relevant to veterans' informal caregivers are identified in the empirical literature, and what are the implications for a resilience model for sandwich generation caregivers of veterans?

METHODS

This systematic review follows the standards established by the PRISMA Group for systematic reviews and meta-analyses (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009). Searches in electronic databases were done in ProQuest, PubMed, Social Work Abstracts, Academic Search Complete, CINAHL, PsycArticles, Military and Government Collection, and GoogleScholar, using the keywords *caregiving*, *geriatric*, *family caregivers*, *resilience*, *sandwich generation*, *multigenerational families*, *veteran**, *disabled veteran*, *disabilities*, *Caregivers and Veterans Omnibus Health Services Act of 2010 (PL 111-163)*, and *Program of Comprehensive Assistance for Family Caregivers*. Inclusion criteria were peer-reviewed empirical journal articles, dissertations, and theses published in English from 1981 (date of the emergence of sandwich generation construct) to 2013 addressing family caregiving in veteran and multigenerational families. The included articles, the Council on Social Work Education's Suggested Readings on Caregiving, and legislative testimonies on PL 111-163 were scanned for references, and any additional sources were procured. Abstracts were reviewed, eligible full-text articles retrieved and rereviewed, and data from included studies extracted by two independent co-raters, with consensus resolution of decisions. A total of 7,866 articles were found in the initial searches, resulting in 35 nonduplicated empirical articles meeting inclusion criteria; five were part of the gray literature in the form of theses and dissertations. See Figure 1 for description of the retrieval process and included studies and the Appendix for details of the veteran studies (a table for general population studies is available from Alexa Smith-Osborne upon request).

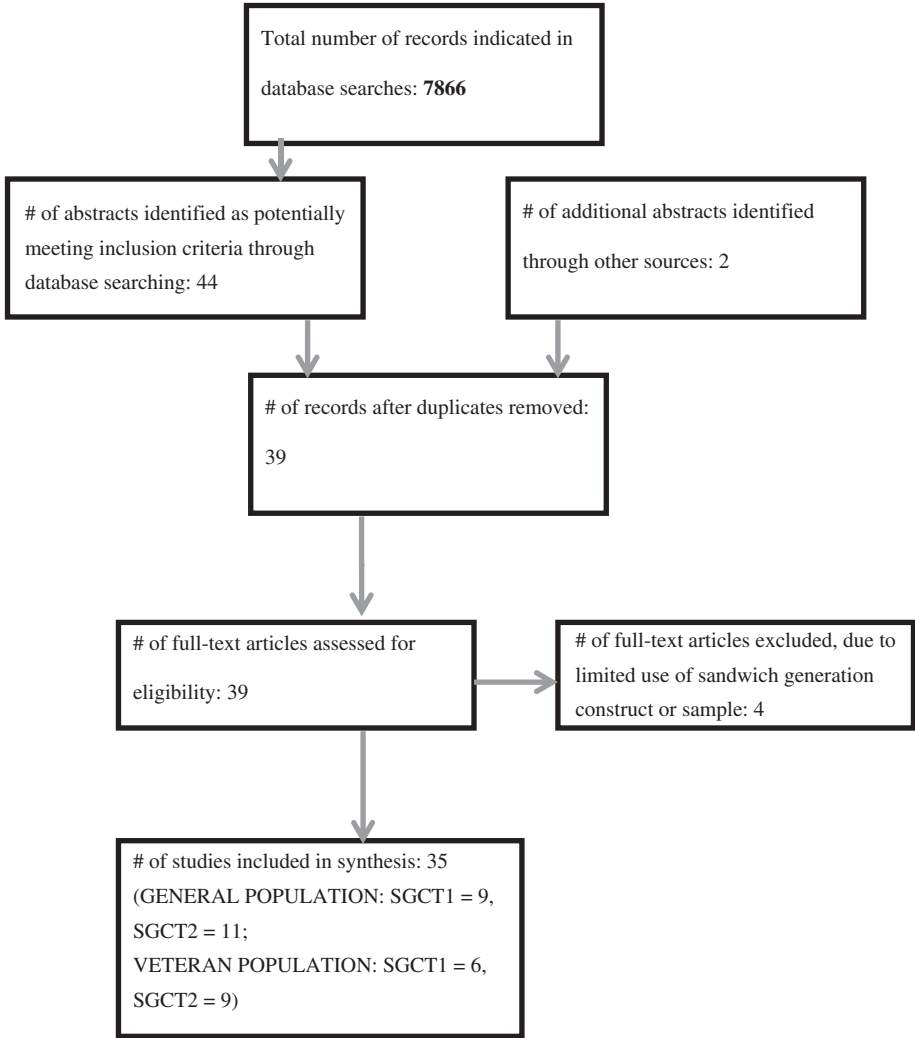


FIGURE 1 PRISMA standard systematic review flow chart.

RESULTS

Literature on Family Sandwich Generation Caregiving in the General Population

Scant literature is available on informal caregiving by spouses of younger adults or adult children of aging parents who have severe and persistent mental illness (SPMI) and other earlier onset chronic health conditions and disabilities. This knowledge gap may be associated with the relative rarity of these subpopulations due to decreased longevity, marriage rates, and child-bearing associated with such early onset conditions. Thus, the literature on

caregiving for parents and spouses has focused on the dementias, particularly Alzheimer's disease (Cuijpers, 2005). To maintain consistency throughout, those caregivers, whether spouses, adult children, parents or other relatives, caregiving for a younger adult (18–55 at time of onset of need for caregiver) or child with disability/injury will be classified as a Sandwich Generation Caregiver Type 1 (SGCT1); those caregiving for an older adult (over 55) will be categorized as a Sandwich Generation Caregiver Type 2 (SGCT2).

Dementia and the other cognitive disorders pose special problems in managing daily life on an ongoing, and usually increasing, basis, due to the degenerative nature of most of these diagnoses. As communicative and executive functions become increasingly compromised, provision of formal and informal caregiving becomes critical. Caregiving imposes additional risk for depression and physical illness among caregivers, especially family members of any type (as contrasted with paid non-relative caregivers) who care for persons with dementia more than 4 hr a day (Cuijpers, 2005; Mittelman, Roth, Clay, & Haley, 2007; Raphael & Schlesinger, 1994; Schlesinger, 1989; Takahashi, Tanaka, & Miyaoka, 2005). Safety issues for both the SGCT2 and the person with dementia must be assessed on an ongoing basis, particularly when behavioral disturbance is a feature of the disorder (Pusey & Richards, 2001). Adequate, specific, and early preparation and social support, including religious community support, regarding end of life processes and managing bereavement are critical issues for caregivers of elderly parents and spouses with dementia (Schulz et al., 2003; Seaward, 1999; Stueve, Vine, & Struening, 1997; Tebes & Irish, 2000).

Interventions for SGCT2 to prevent or ameliorate the stress and damage of caregiving are receiving increasing attention (Hamill, 1994). However, many of the interventions being used have not been evaluated. One which has been evaluated is REACH II, a multisite study that tested a 12-session (9 in-home and 3 telephone intervention) plus 5 telephone support group sessions lasting 6 months, which included individualized psychoeducational interventions, health education, cognitive behavioral therapy interventions, and creation of technology-supported telephone peer support groups. Communications technology included computer-integrated telephones with display screens to facilitate support group conference calls. One trial of this intervention found that caregivers who participated in this intervention experienced significantly increased quality of life (Belle et al., 2006).

Thus, caregiver health (Cuijpers, 2005; Mittelman et al., 2007; Pinquart & Sorenson, 2007; Raphael & Schlesinger, 1994; Schlesinger, 1989; Takahashi et al., 2005), social support and networks (Schulz et al., 2003; Seaward, 1999; Spillman & Pezzin, 2000; Tebes & Irish, 2000), and religiosity (Stueve et al., 1997) have been identified as protective factors for sandwich generation caregivers of elders in the general population. This literature is helpful in suggesting that these may be protective factors for sandwich caregivers of older veterans, SGCT2, as well.

A larger body of literature addresses the experiences and needs of parents who are caregivers for infants and young children with disabilities, but less is known about SGCT1 caregiving for adolescent and young adult children with disabilities (Greenberg, Seltzer, & Greenley, 1993).

Grandparents are often an important support system and caregiving resource for parents of young children with disabilities, thus posing a potential support system gap in the care of the older or adult child with disabilities. In caregiving for a person with childhood or young adult onset disabilities, long-term financial, physical, and emotional well-being of both their parent (i.e., the grandparent) and this older/adult child who are disabled are likely to become the responsibility of SGCT1 (Hammer & Neal, 2008; Spillman & Pezzin, 2000). The following discussion focuses on the literature on caregiving of older/adult children; the reviewed literature addresses care recipients with psychiatric disabilities.

Caregiving parents and siblings of adults, SGCT1, and elderly, SGCT2, with psychotic disorders face a number of sources of stress that can be disruptive of their marriages, careers, and health. These include the effects of socially inappropriate actions of the ill relative (which risk incarceration as legal offenses), the effects of *off-timedness* (i.e., delayed or missed developmental trajectories) of their life transitions, and the lack of community-based care alternatives other than long-term care, for which many may be unable to pay or may be unable to qualify (Bartels, Mueser, & Miles, 1997; Pickett, Cook, & Cohler, 1994). Additionally, caregiver burden for parents of offspring with psychiatric illness appears to differ from those with developmentally delayed offspring (both of which are considered SGCT1; Pickett et al., 1994). These differences may be due to the later onset and often the suddenness, and crisis factors, of onset and subsequent relapses and rehospitalizations, especially as the offspring age. Parents, SGCT1, of adult and aging children with mental retardation have usually had a lifetime to learn coping mechanisms and acquire resources (including formal and informal support systems) for caregiving, in contrast to parents, SGCT1, of adult and aging children with psychotic and other mental disorders which have had typical onset in late adolescence. Studies suggest that parents of older offspring who have mental illness experience greater burden and lowered morale than parents of older adults who have developmental challenges. These outcomes may be exacerbated by the deinstitutionalization of those with mental illness, as compared with those with mental retardation, because deinstitutionalization has led to increasing disruption of family life course when the family is increasingly expected to be the primary caregiver, and offspring with mental illness remain at home until parents die or are incapacitated. On the other hand, a recent study of correlates of outpatient commitment with caregiver strain (Groff et al., 2004) found a negative association between patient age and caregiver strain (i.e., less strain experienced when caring for older persons). Nonaffected siblings of elderly persons with Alzheimer's disease, SGCT2,

are willing to accept responsibility for caregiving and get personal satisfaction and enhanced personal integrity from fulfilling an obligation consistent with family values; it is unclear whether siblings of elderly with SPMI have the same willingness and experiences (Greenberg, Kim, & Greenley, 1997; Smith et al., 2007).

Studies suggest that European American parents with adult children with psychotic disorders, SGCT1, have more parental disappointment in offspring's inability to accomplish expected role transitions and functions on time than African American parents do (Stueve et al., 1997). This role-related disappointment may be accentuated after repeated relapses by aging offspring, which lead to continued off-timedness (e.g., developmental delays, missing or late expected life trajectories) for age-related role transitions and independent living. African American parents appear to estimate more accurately offspring's personal strengths and weaknesses, and those who use more kinship support and direct caregiving help from family tend to have better outcomes than their European American counterparts. However, caregiver burden self-reports are similar (i.e., regardless of ethnic group), but characteristics of burden and parental disappointment differ (Pickett et al., 1994).

Literature on Family Sandwich Generation Caregiving in the Veteran Population

The majority of the included studies on family sandwich generation caregiving for veterans addressed the typical or most prevalent caregiving situation in the general population: a female spouse, parent, or adult child caring for an aging male veteran with dementia, SGCT2, while being in the workforce and/or caring for a dependent child or other family member. As in the general population, these caregivers experienced more mental health and physical health problems than their age-matched peers. REACH II has been implemented as REACH-VA for SGCT2 of veterans with dementia, with similar positive outcomes as for the general population, noted previously (Nichols, Martindale-Adams, Burns, Graney, & Zuber, 2011). In these situations, findings suggested that larger informal caregiving networks (e.g., older children, caregiver/veteran siblings, other extended family), lower perceived burden, higher levels of caregiver social support, higher religiosity/spirituality, higher levels of caregiver physical health/vitality, higher caregiver age, higher levels of veteran function, and longer period of caregiving since disability onset were protective factors for both caregiver and veteran resilience (Chopin, 2012; Czepiel, 2012; Daniel et al., 2011; Ford, Linde, Gigliotti, & Kim, 2012; Liu et al., 2012; McCormack, Hagger, & Joseph, 2011; Nichols et al., 2011; Shrestha et al., 2011).

The remaining included studies on family sandwich generation caregiving for veterans used samples which partially or entirely consisted of younger recent era veterans living with female spouse/parent caregivers (SGCT1) and dependent children or another relative with a disability. In this population, the SGCT1 was more likely to cease or reduce employment upon entering the caregiver role for the veteran, whereas the more typically situated caregiver discussed above was more likely to be retired or maintain prior employment. Fewer children, higher marital satisfaction, larger informal caregiving networks (e.g., older children, caregiver/veteran siblings, other extended family), lower perceived burden, more nonlabor sources of income (e.g., disability benefits, food stamps, utility assistance), lower debt, higher levels of veteran function (especially related to PTSD), and higher levels of caregiver social support were protective factors for both caregiver and veteran resilience (Ebrahimzadeh et al., 2013; Evans, 2011; Griffin et al., 2012; Kern, 2011; Perrin, 2011; Van Houtven et al., 2012; Wakefield, Hayes, Boren, Pak, & Davis, 2012).

IMPLICATIONS FOR A RESILIENCE MODEL FOR SANDWICH
GENERATION VETERAN CAREGIVERS

This literature suggests a possible intervention model, building on resilience theory, of protective mechanisms for sandwich generation veteran families, both type 1 and type 2, facing ongoing challenges related to caregiving demands (see Figure 2). The caregiving literature addressing aging parents, spouses, and children with disabilities in the general and veteran groups provides useful evidence on best practices which can inform social work practice with those discrete populations. The addition of the sandwich

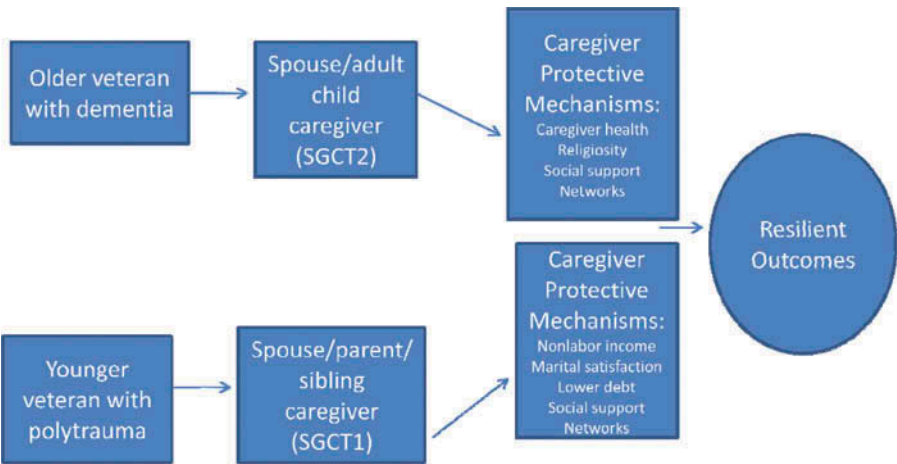


FIGURE 2 Veterans' caregiver resilience model.

generation construct considered as related to generational cohort theory further suggests ways in which to conceptualize and understand the situations of clients providing care for both these populations across disability conditions. The overlay of resilience theory (Smith-Osborne, 2007) as a unifying framework may guide social workers in collaborating with this type of family to deal with adversity and overcome the odds to achieve more positive family outcomes.

In the typical case in which a wife/adult daughter is caring for an aging veteran with dementia or other degenerative cognitive impairment, SGCT2, the caregiving literature suggests that the caregiver needs to plan, with the daily help of older children and other extended family, for the veteran's comfort and safety while maintaining whole family involvement with life roles that are life-stage congruent and support self-efficacy. As a member of the sandwich generation, and of the baby boomer generation, the family caregiver is likely to have experienced meaningful, career-related work and independent functioning outside the home earlier in life, and either to be retired or to be advanced enough in her career that she has options for maintaining employment.

On the other hand, the SGCT1 of a younger veteran spouse with a mental illness, dual diagnoses, spinal cord injury, or brain injury (as examples) needs to support appropriate peer relationships and activities for the whole family over a longer term while utilizing formal respite care when needed, because younger children are less able to provide concrete daily help and require more personal dependent care themselves. As a member of the sandwich generation, and of the Gen X or millennial generation, the family caregiver is likely to value meaningful, career-related work and independent functioning outside the home, but may be likely to have limited accumulated career experience and to experience role stress and resource deficit in meeting her valued roles as a daughter/spouse/ mother. The mother/caregiver in this generation may be likely to value having material comforts and a life, and have a flexible perspective on role interchangeability in fulfilling her responsibilities to all the generations represented in her family. This flexibility could function as a protective mechanism when applied with foresight and reflectivity. Resilience theory (Rutter, 1987) suggests that protective mechanisms may moderate or mediate the effect of risk factors for populations facing adversity. The social worker could support the family in using a structured style and future planning orientation (Howard, Dryden, & Johnson, 1999; Masten & Coatsworth, 1998) for maximizing the strengths of each member so as to allow participation in developmentally appropriate, socially valued activities for each of them. Stueve et al. (1997), and more recently Morano and King, (2005), Gwyther (2006), and Wasserman, Weisman, and Suro (2013), found that religiosity and faith community support were protective, especially for African American caregivers, suggesting that faith-based activities are one type to be considered. For example, if the mother has an

opportunity to volunteer at her church or work temporarily or part-time in a career-enhancing project (and add to the family's precarious income), but the hours conflict with children's activities/needs, the social worker could assist the family in developing a resilience-based strategy to reach these goals, which may seem mutually exclusive. Resilience-based strategies target key protective mechanisms associated with resilient outcomes for the family as a unit or for subsystems within the family unit. Three examples of such strategies that build the protective factors of social resources, structured style, and future planning orientation are:

- Social worker guidance to develop a mutual aid network with other caregivers/respite programs and other parents whose children attend the same activities. The network participation would allow the children to continue their activities during their caregiver-parent's work period.
- Social worker guidance in family future planning for caregiver employment at a time when the veteran is in remission/responding well to treatment or when a paid, formal caregiver is available to take over some of the parenting duties or support the veteran-parent in doing so.
- Social worker support in locating and setting up appointments/schedules with transportation sources which will allow the veteran-parent to transport and accompany the children to their activities in cases in which driving limitations are a primary risk factor to family resilience.

Conversely, the mother may need to shift back into single-head-of-household mode when the veteran is more symptomatic or relapses, while supporting recovery. The social worker would need to help her plan and rehearse ways to articulate and interpret these shifts honestly and appropriately to the children, and to maintain her energy and effort in meeting the developmental needs of her children in both phases. The social worker could help the mother/caregiver anticipate and locate additional nonlabor sources of income and support resources, such as respite services and co-op child care. The social worker's referral and assistance to all the adults in initiating and maintaining involvement in targeted mutual aid groups, another protective mechanism, could be essential to their resiliency. Equally important would be the social worker's engagement in the family structure to collaborate with them in substituting open dialogue and the planned shifting of roles for the unreflective pattern of dysfunctional triangulation, with the goal of supporting marital satisfaction and reduced conflict. Note that these same approaches could be applied when the caregiver is the parent of a veteran who is also assisting in the care of their spouse or their grandchildren (e.g., the veteran's children when the veteran is a single parent or is a non-custodial parent with periodic visitation rights).

IMPLICATIONS FOR FUTURE RESEARCH

Additional research is needed to test the application of these theoretical constructs through systematic intervention trials with both the SGCT1 and SGCT2 across disabling conditions and types of protective factors. As has been the case in prior resiliency research (Fraser, Randolph, & Bennett, 2000; Howard et al., 1999; Masten & Coatsworth, 1998; Werner, 1992), it would be anticipated that such research would clarify the specific risk and protective mechanisms that operate in different combinations of generational cohorts, care recipient, and types of disabilities, and at different points in the life span of caregivers and of their spouses, parents, and children.

A prerequisite to this field of study is further intervention research for reduction of caregiver burden among caregivers for those veterans with the signature invisible injuries: psychiatric and neurological disabilities. Such research should aim to establish evidence of best practices targeted on aging spouse, sibling, and adult child caregivers of veterans with SPMI and with persistent conditions affecting cognition, mood, and executive function (Chen, Johnston, Petrides, & Ptitto, 2008; Schneiderman, Braver, & Kang, 2008). An interesting finding of this systematic review was that none of the studies on the SPMI population that met inclusion criteria addressed caregiver intervention. This gap, in addition to the reasons for dearth of caregivers' literature cited, may be because the psychosocial rehabilitation literature focuses on prevention of relapse and vocational rehabilitation and, to a lesser extent, on supported education, among adults with SPMI (Mowbray, Bybee, & Collins, 2004; Paul, 2000; Smith-Osborne, 2005; Unger, 1994). With the exception of respite care services, family interventions tend to be psychoeducational in nature and to address the family's and person with disability's experience of disruption of expected/expectable times for adult role transitions, rather than addressing caregiver burden directly. These interventions assist the caregiver in meeting the older offspring's needs for help in talking with peers, current and future employers, landlords, etc., about the off-time role transitions and functional impairments stemming from the illness (e.g., late college entry or reentry, inability to drive, work impairment/underemployment, social isolation, inappropriate social interaction/withdrawal). An example is the brief psychoeducational intervention, NAMI Basics, offered by the advocacy organization, National Alliance for Mental Illness (NAMI) through its Family to Family program, which includes information on coping and self-care for caregivers of children, youth, and adults with mental illness (NAMI, n.d.).

The implications of this literature for parental caregiving, and hence psychosocial rehabilitation, of maturing adolescents and young adults with psychiatric disabilities may include the need to focus on leisure, recreation, spirituality, academic survival, peer relationships, and identity formation (Cohler, Pickett, & Cook, 1991; Longo & Peterson, 2002; Rudnick, 2005),

as well as continued support for housing, health care, and avoidance of involvement with the criminal justice system (Power, 2007). The rehabilitation literature also suggests that empowerment continues to be a theoretical focus for this population, to assist in postponement of institutional placement and to support continued involvement with siblings, offspring, spouses, and other support networks (Greene, 1995). However, the caregiving and psychosocial rehabilitation knowledge bases remain largely disconnected. One important step in future research that could benefit both civilian and veteran caregivers would be to review systematically the psychosocial rehabilitation literature to draw implications for future caregiving research with this growing population.

CONCLUSION

In seeking to examine the protective mechanisms relevant to veterans' informal caregivers currently identified in the empirical literature, it is evident that few empirical studies have been conducted to identify protective factors for both SGCT1 and SGCT2. Most studies that address caregivers focus on adverse caregiver outcomes and do not address sandwich generation caregivers, as opposed to identifying the mediators and moderators of resilient outcomes, if there is a focus on the caregiver at all. Although there has been a proliferation of well-intentioned services efforts by veterans' advocacy groups, delivery systems, and funders, service impact is unclear due to a lack of grounding in evidence-based practice in their origin and a lack of evaluation in their implementation (Institute of Medicine, 2013). With the transition of baby boomers into retirement, and the growing number of active and veteran military returning from the most recent combat and war zones, not only will the care recipient population continue to grow, but the needs of caregivers in the sandwich generation will continue to grow, as well. Resilience research as a foundation for developing protective environments and practices, and then establishing their effectiveness with both the SGCT1 and SGCT2 populations, should be of high priority not only to social workers, but to policy makers, funders, and veterans' advocacy groups.

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APPENDIX

TABLE A1 Summary of Included Studies

Study Design	Sample	Hypotheses	Intervention/Comparison	Measures	Outcome
Chopin (2012): Secondary analysis of a nonexperimental cross-sectional self-report survey <i>Sandwich Generation Caregiver Type 1 (SGCT1)</i>	N = 70 caregivers of veterans who served in a war other than Operation Enduring Freedom/ Operation Iraqi Freedom and were treated at one of four Polytrauma Rehabilitation Centers of the US Department of Veterans Affairs for Traumatic Brain Injury between 2001 and 2008. Ages 40-67 years. 82% Caucasian; 7 men; 63 women.	1. Caregivers (CGs) with increased self-efficacy will report better physical functioning and better physical health. 2. Personal gain will be inversely associated with depression and anxiety in CGs. 3. CGs with increased personal gain and spirituality will report care recipients are better emotionally adjusted 4. Non-Caucasian CGs will report decreased physical functioning and subjective health versus Caucasian CGs; and non-Caucasian CGs will provide more hours of care but lower burden. 5. Parental CGs will report less depression, anxiety and burden than nonparental CGs.	No intervention. Comparing to existing data/literature.	Demographic data; Key Behavior Change Inventory – modified; Pearlin's Personal Gain and Spirituality Scale – modified; Preparedness for Caregiving Scale – modified; PROMIS Anxiety – Short Form; PROMIS Depression – Short Form; Promis Physical Functioning – Short Form; Promis Global Item – Subjective Health; Zarit Burden Interview – Short Form	1. Self-efficacy for CG was not associated physical functioning or subjective health. 2. There is no total effect of personal gain on depression or on anxiety. 3. CGs reported high levels of personal gain and spirituality. 4. Chronic stress is not associated with increased wear and tear on the body; CGs are less likely to rate their subjective health as worse than non-CGs. 5. Depression and anxiety are not associated with personal gain. As personal gain increases, depression and anxiety decreases through an associated decrease in perceived burden. No support was found for a total effect of personal gain on depression or anxiety. Overall result: CG depression and anxiety will decrease as personal gain increases, influencing CG burden.

Czepiel (2012): Multiple-case study design utilizing qualitative description and content analysis Sandwich Generation Caregiver Type 2 (SGCT2)	<i>N</i> = 4 wives/primary caregivers of veterans with combat exposure and now dementia	Describe experiences of wives of veterans with combat-related trauma and currently suffering from symptoms of dementia, to increase the understanding of the intersections of combat-related trauma and dementia	No intervention. Descriptive study examining experiences of caregivers	None.	Suggests a sense of alienation experienced by women in this cohort. Special attention should be given to caregivers' levels of experience and perceptions of their relationships and abilities in treatment interventions
Daniel et al. (2011): Intervention evaluation SGCT2	<i>N</i> = 47 caregivers	Evaluate the efficacy of the SCORE program and the experiences identifying, recruiting and interacting with caregivers of older veterans	Educational curriculum delivered in 10 to 15 min per day, 3 times per week over 26 weeks, in the home	None	Intervention strategies identified to increase likelihood of caregiver participation: flexible responding, strategic contact and relationship building.
Ebrahimzadeh et al. (2013): Nonexperimental, cross-sectional survey SGCT1	<i>N</i> = 72, 100% women. 44 women were less than or exactly 44 years of age; 28 women were over the age of 44.	1. Lower quality of life among caregivers of individuals with spinal cord injuries 2. Age leads to decrease in physical function 3. Higher education and better knowledge of different life circumstances leads to better life situation	Exploratory	Short Form-36 Health Survey	1. Compared to normal Iranian women, caregivers in this study reported lower SF-36 scores 2. Increase in caregivers' age leads to reduction in physical component of the quality of life 3. Higher level of education results in rise in level of quality of life. Sum: Chronicity of problem can negatively affect quality of life. Better support and more education can lead to better quality of life.

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TABLE A1 (Continued)

Study Design	Sample	Hypotheses	Intervention/Comparison	Measures	Outcome
Evans (2011): Exploratory investigation <i>SGCTI</i>	N = 95 caregivers of persons who sustained/acquired TBI; of caregivers, 91.7% over age 50, 86.3% were family members with 38.9% being spouse and 30.6% parents, 83.2% Caucasian, 76.8% females.	No hypotheses – ad hoc analyses were conducted once data collection was complete	None.	Zarit Burden Interview (ZBI); General Functioning Subscale of the Family Assessment Device (Family Assessment Device); Multidimensional Scale of Perceived Social Support; Social Connectedness & Social Assurance Scales; Perceived Stress Scale-4 Item; Glasgow Outcome Scale; Service Obstacle Scale; Awareness Questionnaire – Caregiver version; Depression Anxiety Stress Scale-21 Item; Satisfaction with Life Scale.	Caregiver burden is significantly related to general symptoms of mental health, negative evaluations of social functioning, poor social connectedness and assurance, satisfaction with life, perceptions of service obstacles and family dysfunction.

Ford et al. (2012): Mixed-method case study & survey SGCT2	$N = 3$ wives of veterans with dementia. Veterans were age 51, 71 and 82 at time of study.	To present lived experiences of caregiving wives, meanings attributed to caregiving are investigated, variations in caregiving and grieving experiences are explored.	None.	Marwit-Meuser Caregiver Grief Inventory	Qualitative findings: Emotional coping and social support, importance of family and friends as well as support groups and grief at loss of independence and changes in partner were all identified as important. Quantitative findings: Suggest the younger wife appeared to experience "normal grief" while the older caregivers indicate a "higher than average" grief response related to sadness and longing for "the way things used to be."
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TABLE A1 (Continued)

Study Design	Sample	Hypotheses	Intervention/Comparison	Measures	Outcome
Griffin et al. (2012): Nonexperimental, cross-sectional survey <i>SGCTI</i>	<i>N</i> = 564 caregivers of individuals with TBI. 62 % were parents, 32 % were spouses/partners, 6% identified as other. 112 respondents were male, 432 were women (20 missing data). 81% White, 10% African American, 4% identified more than one race, 6% identified as other and 71 participants' racial status is unknown.	1. To identify informal caregivers to injured US service members following acute rehabilitation for polytraumatic injuries, principally TBI, and 2. Describe the prevalence and variation of care recipient and caregiver experiences	None.	35-page self-report questionnaire regarding caregiver experiences.	1. Parents are more likely to be caregivers. 2. Perceived intensity of care recipient needs does not vary by time since injury. 59% had little to no help with caregiving responsibilities

Kern (2011): Nonexperimental cross-sectional survey SGCTT	<p>$N = 30$ women ranging in age from 18 to 55.</p>	<ol style="list-style-type: none">1. Couples where veteran displays PTSD symptoms will show higher rates of couple conflict.2. Female partners of veterans with PTSD symptoms will report lower relationship satisfaction3. Female partners showing higher levels of separation-individuation will show greater resilience4. High relationship satisfaction will increase resilience5. Higher levels of resilience will decrease the perception of caregiver burden6. Female partners of veterans exhibiting PTSD symptoms will perceive more caregiver burden7. Female partners showing more separation-individuation will show fewer STS symptoms8. Higher incidence of previous trauma in female partner will increase STS symptoms9. Higher levels of resilience will decrease the level of STS	None.	Kansas Marital Satisfaction Scale; Family Crisis Oriented Personal Evaluation Scale; Conflict Tactics Scale RC; Couples Form; PTSD Checklist; Caregiver Strain Index; Separation-Individuation Process Inventory; Traumatic Events Questionnaire	PTSD symptoms might lead to greater levels of couple conflict. Couple conflict increased amount of STS symptoms seen in female partners. Women who reported higher levels of caregiver burden also reported higher STS. Higher levels of relationship satisfaction buffered the development of STS in female partners.
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TABLE A1 (Continued)

Study Design	Sample	Hypotheses	Intervention/Comparison	Measures	Outcome
Liu et al. (2012): Experimental comparison SGCT2	<i>N</i> = 180 randomly selected caregivers (CG; 90 of dementia patients and 90 of nondementia patients) from 24 military communities in Beijing.	10. Female partners engaging in couple conflict will display more STS symptoms	Measure results for caregivers of dementia patients were compared to measure results of nondementia patients	Clinical Dementia Rating Scale, Caregiver Burden Inventory, Self-Rating Depression Scale (SDS), and SAS	Elderly spouses primarily served as CGs (53.3%). A majority of primary CGs rated the involvement of general practitioners as insufficient. Despite additional supports in military communities, CGs rated burden equally as heavy as those in nonmilitary communities. Average daily care time was positively correlated to CGs burden. SDS and SAS scores were significantly lower in military community than general community.
		11. Higher levels of perceived caregiver burden will increase STS symptoms			
		12. Female partners of veterans exhibiting PTSD symptoms will display more STS symptoms			
		13. High relationship satisfaction will decrease the level of STS			
		To evaluate the burden, anxiety and depression of caregivers of Chinese veterans within the military community in Beijing.			

McCormack et al. (2011): Idiographic phenomenological investigation SGCT2	<p><i>N</i> = 4 women, wives of Australian Vietnam era veteran. Ages ranged from 56 to 65.</p>	<p>Explore phenomenological experiences of wives of Vietnam veterans exposed to vicarious combat trauma over decades.</p>	<p>None.</p>	<p>Shows vicarious growth following adversity in wives of veterans diagnosed with PTSD but extends the observation to ways that growth is experienced, through humility, love and empathy. Positive change arose gradually over "time" and consisted of increases in humility, love, gratitude and empathy.</p>
Nichols et al. (2011): Observational pre-posttest comparison SGCT2	<p><i>N</i> = 127 caregivers; Mean age = 71 years. 93.7% of caregivers were women; 78%, Caucasian. 80.3% of caregivers are a spouse to veteran, and 15% a child.</p>	<p>Replication of REACH II randomized controlled trial results, translated into the Veteran's Administration.</p>	<p>6-month intervention including nine 1-hr individual home sessions; three .5-hr individual telephone sessions and five 1-hr monthly telephone support group sessions. Includes education, support and skills training to address five caregiving risk areas: safety, social support, problem behaviors, depression and caregiver health.</p>	<p>Mini-Mental State Examination; ZBI; Patient Health Questionnaire; Medical Outcomes Study Short-Form 36; REACH II - adapted</p> <p>Caregivers showed significant improvements in burden, depression, impact of depression on daily lives, and caregiving frustrations. Caregivers also reported 1 fewer troubling behavior exhibited by the veteran.</p>

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TABLE A1 (Continued)

Study Design	Sample	Hypotheses	Intervention/Comparison	Measures	Outcome
Perrin (2011): Qualitative posttest comparison SGCT2	N = 248 (124 dyads). Of the caregivers, 45 identified as White, 28 as Black, 2 as Asian and 49 as Latino/Puerto Rican.	<p>1. Black CGs will have better mental health than White CGs, who will have better mental health than Latino/Puerto Rican CGs across measures of burden, depression and coping.</p> <p>2. Black and Latino/Puerto Rican veterans with stroke will have poorer functioning than White veterans across measures of depression, activities of daily living and quality of life.</p> <p>3. The mental health of Black CGs will improve at a more rapid rate than that of White CGs, which will improve more quickly than that of Latino/Puerto Rican CGs.</p> <p>4. The functioning of Black and Latino/Puerto Rican veterans with stroke will improve more slowly than that of White veterans.</p> <p>5. The broad correlations between these two sets of variables at 1, 6, and 12 months postdischarge will be larger for dyads with a White CG than for dyads with a Black or Latino/Puerto Rican CG.</p>	1-, 6-, and 12-month posthospital-discharge in-home assessments that collected information through in-depth face-to-face interviews, observations, questionnaires, and medical record abstraction.	(For caregivers): Geriatric Depression Scale; Sense of Competence Questionnaire; Sense of Coherence	<p>1. Not supported</p> <p>2. Not supported</p> <p>3. Not supported</p> <p>4. Not supported</p> <p>5. Not fully supported, however suggests that caregiver mental health and veteran functioning are closely associated.</p> <p>Overall results: Latino/Puerto Rican veterans with stroke showed lowest functioning and their CGs showed the poorest mental health. Patterns evident in relationships between CG mental health and functioning of individuals with stroke.</p>

Shrestha et al. (2011): Content analysis SGCT2	<p>$N = 93$ dyads VAs. 92.2% of CGs) were women. 66.7% of female spouses were CGs and 20% of daughters. 84.4% of CGs were Caucasian. All veterans had a dementia diagnosis.</p>	Describes reported need and services provided regarding legal and financial assistance of both persons with dementia and their primary caregivers within the Partners in Dementia Care project.	None.	None	People with dementia and their families report a high need for legal and financial services.
Van Houtven et al. (2012): Secondary analysis of cross-sectional survey SGCT1	<p>$N = 564$ CGs of individuals with TBI. For CGs, 62 % were parents, 32 % were spouses/romantic partners, 6% identified as other. 112 respondents were men, 432 were women (20 missing data). 81% were White, 10% African American, 4% identified more than one race, 6% identified as other and 71 participants racial status is unknown.</p>	<p>1. Examine factors associated with two primary strategies that CGs use to cope with new CG responsibilities: leaving the labor force; and depleting assets and/or accumulating debt.</p> <p>2. CGs of those with intensive needs, spouses, long-duration CGs and CGs of veterans injured in Iraq, Afghanistan, or the Middle East face higher financial strain than CGs of those with less intensive needs, nonspousal CGs, shorter duration CGs and CGs of veterans injured while serving in the United States.</p>	None.	35-page self-report questionnaire including questions about personal, family and financial strain associated with caregiving.	<p>62% depleted assets and/or accumulated debt and 41% left the labor force. Men depleted assets/accumulated debt at higher rates than women. Higher acuity is associated with greater financial strain. Duration of caregiving is not associated with outcomes.</p>

(Continued)

TABLE A1 (Continued)

Study Design	Sample	Hypotheses	Intervention/Comparison	Measures	Outcome
Wakefield et al. (2012): Gross sectional design and survey SGCT2	<i>N</i> = 240 (120 GCs, 120 care receivers). Of GCs, 109 were women and 112 Caucasian.	Examine: 1. The prevalence of strain and satisfaction in GCs 2. The relationship between care receiver and CG characteristics and CG strain and satisfaction; and 3. The relationship of CG resources with strain and satisfaction in GCs of veteran care receivers with chronic illness.	None.	Survey designed including CG and care receiver characteristics, CG context, resources and the outcomes of CG strain and CG satisfaction	CGs were having less support, use of paid help and depressive symptoms. Predictors of lower CG satisfaction included poor care receiver health status and CG social support, older age and depressive symptoms.

Note. TBI = traumatic brain injury. PTSD = posttraumatic stress disorder. STS = secondary traumatic stress.