Systematic Review of Veterans' Coping Strategies:
How Can Rural Veterans Improve Their Quality of Life?

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Abstract. This systematic review examines the empirical literature on an emerging body of coping strategies (CS), both civilian readjustment and health-risk related, experienced by United States military veterans exposed to combat stress and other military lifestyle stressors. Studies that met inclusion criteria were selected among quantitative, qualitative, and mixed-methods studies published in peer-reviewed journals. Population, Intervention, Comparison, and Outcome (PICO) criteria and Grades of Recommendation, Assessment, Development, and Evaluation (GRADE) were applied to all studies. Seventeen reports meeting *a priori* inclusion criteria were extracted from 107 studies accessed through 9 electronic databases. Data were synthesized to investigate two research questions informing evidence-based practice. What coping strategies do veterans use to deal with past military experience(s)? What are the health-risk coping strategies that veterans employ to adjust to past military life? There were five types of coping strategies (CS) that occurred most frequently including cognitive, religious/spiritual methods, drug and alcohol sedation, avoidance, and behavioral approaches. Veterans learn multiple coping strategies and techniques for overcoming and adapting to the demands of war during their military service. However, some behavioral coping strategies are associated with negative health-risks and some may not be as effective in the civilian world as they once were during active duty. Thus, these findings may assist social workers in collaborating with rurally located veterans in selecting optimal strategies to protect their health and advance their post-military service life goals.

Key words: veterans, trauma, cope, adjust, stress, community reintegration, rural

Military service has been recognized as an important, positive turning point in young adult life trajectories (Sampson & Laub, 1996). Service members are trained to adapt and overcome challenges to their mission and adopt coping strategies (CS) that often serve them well in their military occupation; however these CS may not always be beneficial in civilian life and over the long term (Wells, 2000). Research conducted by Romero, Riggs, and Ruggero (2015) purport that negative coping strategies, such as alcohol and drug abuse, can lead to higher incidences of Post Traumatic Stress Disorder (PTSD) symptoms within the veteran population. According to Lazarus and Folkman (1984), when attempts are made to reduce a stressor, this can be defined as coping. Additionally, Folkman and Lazarus (1980) further explained that coping strategies are used when one employs particular techniques, including psychological and behavioral, to overcome, minimize, or handle stressful life occurrences. Veterans employ numerous methods of coping such as cognitive techniques, religious and spiritual methods, cannabis use, avoidance, and behavioral

strategies to manage previous military stressors (Trevino, Archambault, Schuster, Hilgeman, & Moye, 2011).

According to Gale and Heady (2013), approximately 20% of America's population resides in rural areas. Furthermore, more than 44% from this demographic have chosen to provide their service to the military. This means that rural Americans constitute a large percentage of the veteran population. However, it is not always an easy feat to meet their diverse needs. Succinctly 30% of veterans reside in rural habitats, and these numbers are expected to rise in the future. Keeping this in mind, it is imperative that social workers begin to look at the unique needs for this group while seeking proactive measures to embrace each one (Gale & Heady, 2013).

Before examining the CS of rural veterans, it is beneficial to take a quick glance at the numerous issues faced by this population. For example, Gale and Heady (2013) reported that many veterans have issues related to health care access due to their proximity to facilities such as local U.S. Department of Veterans Affairs (VA) offices. Additionally, they are limited in their accessibility to specialists. Furthermore, the limited number of specialists which are present often lack the necessary cultural awareness to deal with the critical issues faced by rural veterans. Gale and Heady further explain that approximately 70% of rural veterans over the age of 55 are males and 30% are female. Racial diversity is scant among rural veterans. Most rural veterans are identified as White (91%), while 5.7% report as Black, and 2.7% are of Hispanic descent. The demographic information is quite relevant as social workers must effectively use this background knowledge to best meet the needs of their clients. Additionally, it was reported that 10% of rural veterans did not finish high school, and approximately 67% work for a living while 6.4% do not work. The remaining 27.1% are not in America's workforce (Gale & Heady, 2013).

Although it has been established that rural veterans face many issues on a daily basis in relation to stress (Gale & Heady, 2013; Wallace et al., 2010), it is imperative to understand how veterans coped with issues of daily life prior to military service. It is no secret that premature attrition is a growing concern among the military population. Research conducted by Wolfe et al. (2005) purported that the Department of Defense unknowingly enlisted about 33% of new recruits with personal deficiencies who failed to complete initial service agreements. This alarming statistic has undoubtedly contributed to concern in relation to recruitment goals. The authors posit the importance of identifying pre-military experiences to ascertain additional areas worthy of exploration. The work performed by Wolfe et al. is important to the featured systematic review as pre-military service coping strategies may serve as predictors in post-service life. Research has shown that early exposure to stress can directly impact one's vulnerability later in life (Wolfe et al., 2005). Therefore, it is inherently important to examine the issue of pre-military stress and coping strategies in an effort to better serve rural veterans as they seek to re-acclimate into society (Wolfe et al., 2005). Keeping in mind the aforementioned issues, it is beneficial to thoroughly examine the literature in relation to coping strategies so that social workers who work with rurally located veterans can gain more knowledge to help their clients.

As previously established, specialists are not always conveniently present due to geographic constraints, and therefore, the social worker must become knowledgeable in multiple arenas (Gale & Heady, 2013; Vaisman-Tzachor, 2004). Reintegration is an arduous task and much can be gleaned from existing research. Social workers must remain proactive by seeking effective coping techniques that will further assist their clients. By working with the primary clients, and

often their caregivers, social workers can slowly address the primary and secondary traumas that are often present with military veterans and their caregivers, particularly those in rural areas (Bride & Figley, 2009). For the purpose of this study, Lazarus and Folkman's (1984) Transactional Model of Stress and Coping is used as the theoretical framework. This model identifies the key concepts as stress, appraisal (primary and secondary), coping, person and environment antecedents of stress and coping, and short- and long-term adaptational outcomes. This model locates the conceptual construct of coping at the psychological level of analysis within a three-level schema which includes the social, psychological, and physiological. Along with appraisal/reappraisal and perceived social support, coping is defined as a mediating process which can have the functions of problem-focused, emotion-focused, and the cultivating, seeking, and using of social support, referred to in this study as coping strategies/methods. The availability and proffering of social support is located at the social level of analysis. The model does not include a construct of coping process style, but identifies personal cognitive coping style as one causal antecedent of the coping process, in the same domain as personal beliefs-assumptions and values-commitments.

Propensities in cognitive coping style, along with beliefs and values, are antecedents which can influence the coping process at the psychological level just as genetic endowments can influence illness risk factors at the physiological level. Similarly, at the social level of analysis, socioeconomic status and group-defined role patterns are identified as causal antecedents of the availability and proffering of social support. Coping process is viewed in terms of its functions, whereas stress adaptation outcomes can be evaluated as positive or negative. Confrontational coping is defined as a problem-focused coping method/strategy, not a style, for example (Folkman & Lazarus, 1988). Within this theoretical model, the coping process can be operationalized as engaging in planning behaviors/thoughts (problem-focused), drinking alcohol or taking a tranquilizer (emotion-focused), or accepting sympathy and understanding from someone (seeking and using social support). An underlying assumption of the model is that any behavior or thought "can have more than one coping function depending on the psychological context in which it occurs" (Folkman & Lazarus, 1988, p. 468).

Cognitive Coping Strategies

When veterans are able to cope independently with stress and trauma, it provides them with an individual sense of power and hope (U.S. Department of Veteran Affairs (VA), 2007). Whether realized or not, one will often employ a variety of CS to deal with pain and/or trauma. The cognitive coping strategy is cited as an effective tool for those who are dealing with Post Traumatic Stress (Borders, Mc Andrew, Quigley, & Chandler, 2012). For instance, narratives can be utilized as a cognitive coping strategy to help veterans retell events while giving them the opportunity to cognitively reconcile the disparities that were experienced during their trauma (Burnell, Hunt, & Coleman, 2009). Additionally, Holloway (2010) argues that another diverse cognitive coping strategy can be embraced that includes spiritually-based language when using medical and therapeutic settings; this would encompass a more holistic approach to therapy. Consequently, researchers (Koss, Figueredo, & Prince, 2002; Reynolds & Wells, 1999) have noted that when an individual engages in excessive worry, anxiety, fear, and low social support (Pietrzak, Morgan, & Southwick, 2010), he or she will often employ negative cognitive coping strategies. Social workers can keep this critical knowledge in mind while assisting clients. Many studies reveal that female veterans use many cognitive coping resources and process strategies to manage their stress (Mattocks et al., 2012). Armed with this knowledge, it becomes imperative that social workers are

equipped to help their clients adopt positive techniques. By embracing the research by Borders et al. (2012) and Burnell and colleagues (2009), social workers can utilize innovative techniques as they lead their clients to embrace more affirmative cognitive processing.

Religious and Spiritual Coping Strategies

Religious and spiritual CS are often used by veterans, especially those located in rural areas; these techniques are often associated with enhanced health-related quality of life (Canada, Murphy, Fitchett, Peterman, & Schover, 2008; Holloway, 2010), improved mental health status (Purnell, Andersen, & Wilmot, 2009), and lower levels of depression (Canada et al., 2008). Not only does religion factor into the veteran's coping style, but one's faith also determines his/her mental well-being. In a study conducted by Fontana and Rosenheck (2004), it was discovered that many veterans feel guilty and question their faith and religious beliefs after enduring much guilt from acts committed during service. The authors reported that veterans sought continued help with mental health functioning due to their decreased faith. In essence, they wanted to realize the deeper meaning behind the issues that they had endured while in service. The researchers argue that spirituality could play a critical role in treating various post-service issues (Fontana & Rosenheck, 2004). This is critical research that the social worker can adopt when working with clients as religious houses of worship are in abundance in most rural locales. It is imperative to embrace the resources which are readily available that can help this demographic (Canada et al., 2008; Holloway, 2010).

Drugs and Alcohol Coping Strategies

Previous research (Abbey, Smith, & Scott, 1993) found that people will often consume alcohol when they are trying to avoid or escape unpleasant emotions and this can lead to alcohol-related problems (Grunberg, Moore, Anderson-Connolly, & Greenberg, 1999). The VA (2007) defined substance abuse as consuming too much alcohol or drugs to alleviate pain. According to Fuehrlein et al. (2016) more than 40% of United States veterans have abused alcohol. The usage of alcohol as a coping strategy often leads to additional comorbid issues including psychiatric traumas, suicidal thoughts, and sometimes actual attempts (Fuehrlein et al., 2016). Additional studies have stated that exposure to trauma and other PTSD related symptoms are attributed to cannabis use (Bonn-Miller, Vujanovic, & Drescher, 2011), which is the most widely used prohibited substance in the U.S. (Substance Abuse Mental Health Services Administration, 2009). Within the past few years, data indicated an increase in cannabis abuse and dependence among vulnerable populations including veterans (Bonn-Miller, Harris, & Trafton, 2012). It was discovered that young U.S. Army personnel who served in combat areas are more likely to binge drink (Lande, Marin, Chang, & Lande, 2008). Research has found that alcohol use, depression, and obesity are interrelated conditions for women (McCarty et al., 2009); these factors can ultimately result in negative health outcomes. Workers can take this knowledge and help redirect clients towards positive behaviors.

Avoidance Coping Strategies

When one denies or attempts to minimize the seriousness of a previous crisis, this is an example of an avoidant CS (Mattocks et al., 2012). Cross-sectional studies (Cooper, Russell, Skinner, Frone, & Mudar, 1992; Moos, Finney, & Cronkite, 1990) have shown an association

between avoidant styles of coping and emotional distress. Freeman and Gil (2004) found that binge eating was an avoidant type of coping that was more likely to occur in women who respond poorly to stress, and this type of eating can have a negative impact on cardiovascular health outcomes. Research performed by McCarty and colleagues (2009) established the groundwork for the significance of avoidance in women and this only reinforces the need for more examination in this area. According to Higgins et al. (2013), out of approximately 45,000 obese or overweight veterans who participated in a survey administered by the Veterans Health Administration, almost 75% of them self-reported to binge eating. This condition lead to additional concerns including increased body mass index (BMI), anxiety, depression, and diabetes. Binge eating was considered to serve as a formal type of passive aggression. Studies reveal that veterans have displayed a tendency to passively deal with stress and trauma by using avoidant coping strategies (Marx & Sloan, 2005; Morina, 2007). In addition to this, previous research (Pineles et al., 2011; Street, Gibson, & Holohan, 2005) found that veterans who have been diagnosed with PTSD tend to embrace avoidant coping strategies. Social workers must proactively keep this knowledge at the forefront when working with veterans, particularly women, in order to help them face known obstacles during treatment efforts (Higgins et al., 2013; Holloway, 2010; McCarty et al., 2009).

Behavioral Coping Strategies

Since the beginning of the Iraq (Operation Iraqi Freedom, OIF) and Afghanistan (Operation Enduring Freedom, OEF) Wars, approximately 150,000 United States female service members have deployed overseas (U.S. Department of Defense, 2010). As a result of OEF/OIF deployments, numerous women have been killed (Department of Defense, 2010), and thousands suffer from mental health problems due to exposure to violence (Mulhall, 2009). As a method of coping with such violent exposures, female veterans have been employing behavioral CS such as running and yoga (Mattocks et al., 2012). When physical activity is used as a CS, one will begin to notice improvements in their overall cardiovascular health that will ultimately lower the risk of negative health outcomes. Physical activity is a positive coping strategy that has little to no associated costs that even those living in rural locations can easily participate in (Barry et al., 2004).

Research Aims

The purpose of this systematic review was to synthesize the evidence based literature of health-risk related CS used by veterans and identify implications for those residing in rural communities. In order to examine the most prevalent coping strategies used by veterans, the following questions were examined:

What coping strategies do veterans use when attempting to cope with past military experience(s)?

What are the negative health-risk coping strategies that veterans use when attempting to cope with past military life?

Method

The methodology for this systematic review followed the current systematic methods and standards established by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) Group for systematic reviews and meta-analyses (Moher, Liberati, Tetzlaff, Altman,

& The PRSIMA Group, 2009). PRISMA consists of a 27-item checklist that aims to help authors improve the reporting of systematic reviews and meta-analyses. Generally, PRISMA focuses on randomized controlled trials, but it can also be used as a basis for reporting other types of research as was done in the present review. The quality of each study was assessed using Grading of Recommendations, Assessment, Development, and Evaluation (GRADE) a criterion which was developed by the GRADE Working Group in association with the World Health Organization (GRADE Working Group, 2004; Oxman, Schünemann, & Fretheim, 2006). Unlike quantitative, qualitative, and mixed methods that are used in single studies, research synthesis is different because it does not use communities, groups, organizations or people as the sample, but the studies themselves (Cooper & Hedges, 1994).

Literature Search and Retrieval Process

The studies selected for this review were obtained from electronic searches of the following databases starting in the year 2003 and through 2013 (inclusion dates were chosen to reflect the 10 year timeframe of post 9/11 giving studies enough time to be written, published, and then released for public viewing)**:** Academic Search Complete, Business Source Complete, CINAHL Plus with Full Text, ERIC, PsycINFO, Criminal Justice Abstracts with Full Text, PsycARTICLES, Psychology and Behavioral Sciences Collection, and SPORTDiscus with Full Text. The keywords used in the literature searches were: *veterans, coping, cope, coping strategies, health behaviors, military, PTSD, adjustment, stress,* and *trauma.*
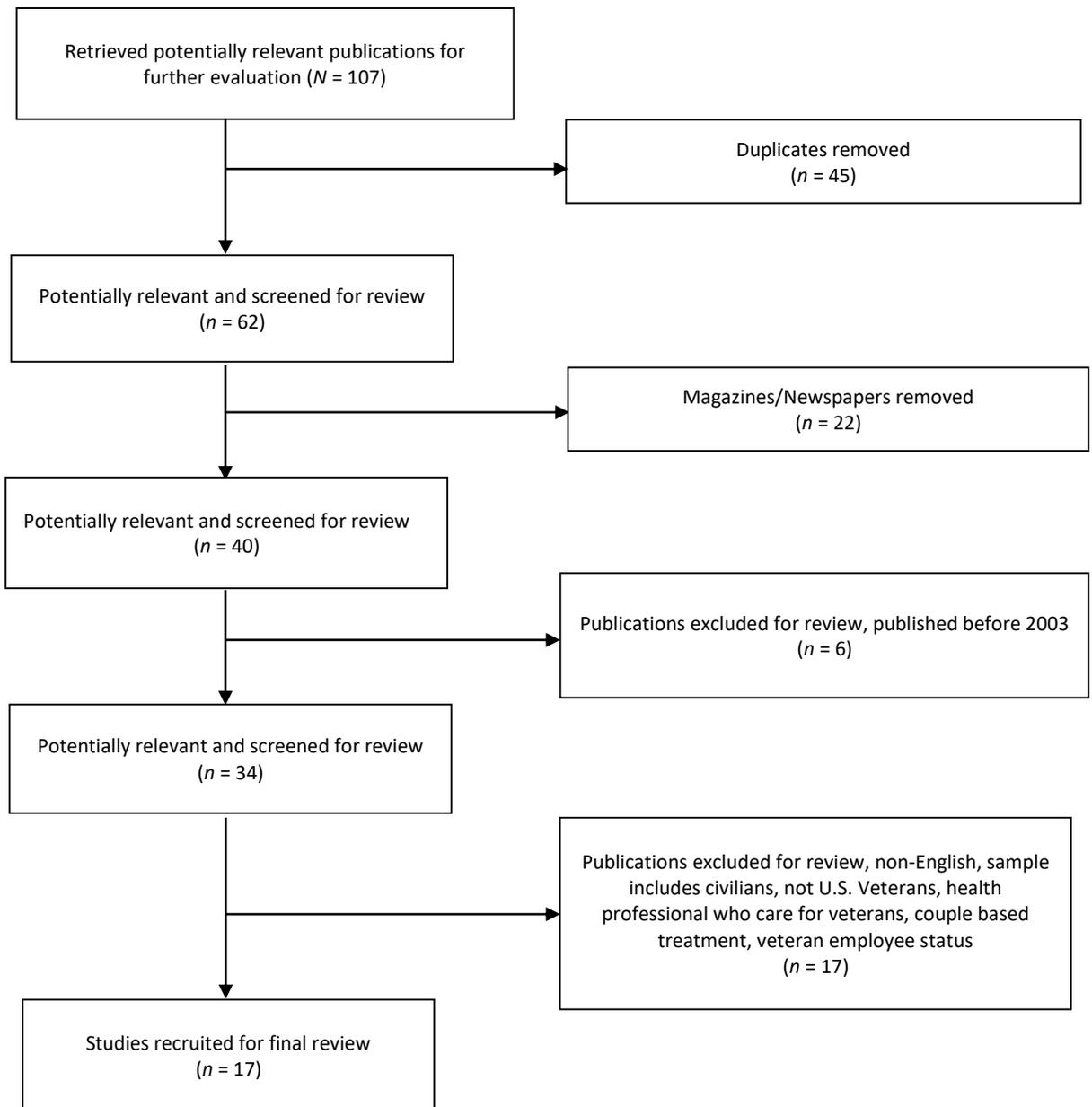
When doing systematic reviews, current methodological guidelines suggest that by excluding gray literature, it disadvantages meta-analyses and systematically overestimates effects (Wilson, 2009). It has been questioned whether or not peer-reviewed, published articles truly represent rigorous quality of evidence (Torgerson, 2006). The PRISMA group (Moher et al., 2009), and other scholars (Littell, 2008; Moher, Tetzlaff, Tricco, Sampson, & Altman, 2007) have discouraged inclusion of only peer-reviewed publications in systematic reviews and meta-analysis as well as meta-analyses. Therefore, for this systematic review, the gray literature, ProQuest Dissertations and Theses, white papers, and magazines were reviewed; however, none met the inclusion criteria.

Inclusion Criteria and Study Quality Assessment

Gambrill (2006) suggested determining a study's eligibility by using Population, Intervention, Comparison, and Outcome (PICO) criteria. Answering PICO questions will define the population under study, the intervention that is specified, the comparison, and outcomes. What are the ages of the participants? How long is the treatment protocol? When was the outcome measured? The typical study included in this review had U.S. veterans as research participants without any intervention or comparison groups. Most studies were designed cross-sectionally, and

Figure 1

Flowchart of the Literature Retrieval Process

Retrieved potentially relevant publications for further evaluation (*N* = 107)

Duplicates removed (*n* = 45)

Potentially relevant and screened for review (*n* = 62)

Magazines/Newspapers removed (*n* = 22)

Potentially relevant and screened for review (*n* = 40)

Publications excluded for review, published before 2003 (*n* = 6)

Potentially relevant and screened for review (*n* = 34)

Publications excluded for review, non-English, sample includes civilians, not U.S. Veterans, health professional who care for veterans, couple based treatment, veteran employee status (*n* = 17)

Studies recruited for final review (*n* = 17)

the outcomes of interest were behaviors that were interpreted as possible health risks. Review criteria excluded the sole article not written in English (Monfort & Tréhel, 2012). Studies reporting on CS of wives and/or spouses of military veterans, and those that also included a sample of civilians were excluded. Medical professionals who worked with veterans were excluded as well as couple-based treatments. A few articles emerged on the topic of veterans, but some of the information was misleading as those in the sample were simply labeled as a veteran due to long-term civilian, employee status. Models of coping, guides for professionals who work with coping veterans, duplicates, and non-peer-reviewed scholarly studies were further excluded.

Three researchers, working independently, reviewed the abstracts of papers retrieved through the search processes, determined whether inclusion criteria were met, and compared their results. Differences were discussed and recorded until consensus was reached. Full text articles were retrieved for those remaining abstracts, and the same independent review process was followed. From the initial search, 107 articles were retrieved. Exclusion of duplicates, non-peer-reviewed studies, articles published prior to 2003, produced 34 articles for consideration of inclusion in this systematic review. Another 17 were excluded because they included civilians, health professionals, or were not written in English Seventeen studies that met inclusion criteria were identified from the literature. See Figure 1 for a summary of the retrieval process.

Studies that met inclusion criteria were cross-sectional ($n = 12$), quasi-experimental ($n = 1$), semi-structured interviews nestled in two phase longitudinal studies ($n = 1$), focus groups ($n = 2$), and posttest non-experimental between subjects design ($n = 1$). GRADE (GRADE Working Group, 2004; Oxman et al., 2006) was used to evaluate the quality of each study. Quality GRADES may be found in Table 1.

Data Extraction and Synthesis

The first author entered all relevant information into the prepared tables. Next, the second and third authors checked each abstracted study for precision and comprehensiveness against the original articles. Additionally, the second and third authors settled all discrepancies regarding information reported in the tables. Lastly, GRADE methods were used to catalog interventions as having positive, negative, or no effect as determined by whether significant differences were achieved in regard to desired outcomes (see Appendix).

Table 1
Results of Articles Reviewed: GRADE Criteria

Study	Study Design	Quality of Evidence	Directness	Higher if strong association	GRADE
Barry et al., 2004	Cross-sectional	Low	b = -2	d= -1	Low
Boden et al., (2013)	Cross-sectional	Low	b = -2	d= -1	Low
Borders et al., (2012)	Cross-sectional	Low	b = -2	d= -1	Low
Cucciare et al., (2011)	Cross-sectional	Low	b = -2	d= -1	Low
Hassija et al.,(2012)	Cross-sectional	Low	b = -2	d= -1	Low
Jones et al., (2008)	Cross-sectional	Low	b = -2	d= -1	Low
Kibler & Lyons, (2004)	Cross-sectional	Low	b = -2	d= -1	Low
LePage et al., (2006)	Quasi-experimental design	Low	a = -1	c = -1	Low
Mattocks et al., (2012)	Semi structured interviews nestled in a two phase longitudinal study	Low	a = -1	c = -1	Low
Paukert et al., (2009)	Cross-sectional	Low	b = -2	d= -1	Low
Pietrzak et al., (2011)	Cross-sectional	Low	b = -2	d= -1	Low
Pietrzak et al., (2010)	Cross-sectional	Low	b = -2	d= -1	Low
Smith et al., (2009)	Focus Groups	Low	a = -1	c = -1	Low
Trevino et al., (2011)	Focus Groups	Low	a = -1	c = -1	Low
Vaisman-Tzachor, (2004)	Posttest non-experimental between-subjects design	Low	a = -1	c = -1	Low
Wolf & Mori, (2009)	Cross-sectional	Low	a = -1	c = -1	Low
Yehuda et al., (2006)	Cross-sectional	Low	b = -2	d= -1	Low

Note. GRADE = Grading of Recommendations, Assessment, Development, and Evaluation. a = -1 (directness, some uncertainty); b = -2 (major uncertainty); c= -1 (some probability of reporting bias); d= -1 (high probability of reporting bias).

Results

As noted in Table 1, the quality of all studies was low, limiting results generalizability.

Cognitive Ways of Coping

One negative coping strategy that emerged from the review was cognitive techniques. In this review, four studies (Barry et al., 2004; Borders et al., 2012; Kibler & Lyons, 2004; Mattocks et al., 2012; Paukert, LeMaire, & Cully, 2009; Yehuda, Brand, & Yang, 2006) examined cognitive CS as at least one method of coping. After returning from deployment, women were faced with various types of trauma including both combat and sexual. In order to deal with these maladaptive behaviors, cognitive avoidance coping such as substance abuse, overeating, and shopping in isolation were techniques that female veterans used to cope with stress and trauma from military experiences (Mattocks et al., 2012). The embracement of drugs, food, and shopping were actively considered as cognitive strategies as the women purposely rationed in their minds that these tangibles would serve as mental escapes to overcome the real challenges faced in their minds on a regular basis. Consequently, it was discovered that men have greater PTSD symptoms and are more likely to engage in risky behaviors such as physical fights, peer bullying, unsafe-sex, reckless driving, property destruction, verbal harassment, and engaging in acts of revenge (Borders et al., 2012) and afterwards, ruminate on these experiences. All of the aforementioned negative behaviors initially begin with cognitive processing (Pietrzak et al., 2010) and therefore they co-exist in two areas of CS (cognitive and behavioral).

Religious and Spiritual Methods of Coping

Religion and spiritual influences also emerged during this review. Succinctly, four studies were examined to identify the significance of religious and spiritual methods of coping (Barry et al., 2004; Jones et al., 2008; LePage et al., 2006; Trevino et al., 2011). Veterans who have cancer and those who are cancer survivors have used prayer as a coping mechanism. In a nationally representative sample, 68.5% of patients with a history of cancer reported praying for their health (Ross, Hall, Fairley, Tayler, & Howard, 2008). Furthermore, spiritual coping was one of three lifestyle behaviors that were targeted in a homeless rehabilitation retreatment program for veterans (LePage et al., 2006). The articles featured in the review as well as the research performed by Holloway (2010) provide hope for the significant role that religion and faith can hold. Rural veterans often have limited resources at their disposal, and it is imperative to utilize those aides which have shown to provide successful outcomes in the past (Holloway, 2010; Ross et al., 2008).

Table 2
Results of Studies Included for Systematic Review

Study Design	Sample	Hypotheses/ Objective	Intervention	Measures	Outcome
Barry et al., (2004)	245 veterans patients (aged 65–90) with chronic pain	Identify strategies used by older persons to cope with chronic non-cancer pain	Qualitative phone interviews and surveys	Questions regarding the methods used to cope/deal with pain.	There are many pain-related coping strategies. 78% used analgesic medications. 35% reported exercise as a way to cope.
Boden et al., (2013)	94 Cannabis dependent military veterans	Explore links between PTSD and cannabis use characteristics immediately prior to a cannabis quit attempt, including motives, use problems, withdrawal, and craving	Survey	Structured Clinical Interview-Non-Patient Version for DSMIV(SCID-I-N/P) ; The Clinician Administered PTSD Scale (CAPS); Marijuana Motives Measure (MMM); Marijuana Problems Scale (MPS); Marijuana Withdrawal Checklist (MWC); Marijuana Craving Questionnaire (MCQ); timeline follow-back (TLFB)	Compared to participants without PTSD, participants with PTSD reported significantly increased use of cannabis to cope.
Borders et al., (2012)	91 Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) veterans (90%) and the remainder in a previous conflict	Greater PTSD and depressive symptoms would be associated with increased risky behaviors and that these associations would be moderated by rumination	Survey	Risky Behavior Questionnaire for Adolescents Rumination subscale of the Rumination and Reflection Questionnaire - PTSD Checklist -The Patient Health Questionnaire	Rumination significantly interacted with PTSD symptoms and depressive symptoms (both β = .21, $p < .05$). Psychiatric symptoms were associated with risky behaviors only for veterans with moderate to high levels of rumination.
Cucciare et al., (2011)	554 veterans	To better understand the characteristics (e.g., demographic, coping related mental health factors, prior	Brief web-based alcohol interventions (BAI)	Alcohol Use Disorders Identification Test-Consumption Items (AUDIT-C), Peak Blood Alcohol Concentration	BAIs may be a promising approach for addressing binge drinking in veterans.

		exposure to traumatic events, and factors assessing motivation to change alcohol use).		(BAC), Short Index Problems (SIP), Brief wen-based alcohol interventions (BAI)	
Hassija et al., (2012)	209 trauma-exposed Veterans receiving outpatient mental health care at a VA facility	Evaluate the relationship between coping style, dispositional hope, and posttraumatic stress disorder (PTSD) and depression symptom severity in a trauma-exposed veteran sample	Completed life events questionnaire and inventories assessing coping, dispositional hope, and PTSD and depression symptom severity.	Traumatic life events questionnaire, PTSD Checklist, Patient Health Questionnaire, Emotional expression and emotional processing coping, Emotional avoidance coping, Dispositional hope,	Findings highlight the value of emotional coping strategies and perceptions of hope in posttraumatic adjustment.
Jones et al,., (2008)	939 Veterans	Examine the relationships between patient race and pain coping strategies (diverting attention, reinterpreting pain, catastrophizing, ignoring sensations, hoping and praying, coping self statements, and increasing behavior activities)	Survey	Coping Strategies Questionnaire (CSQ) and Western Ontario and McMaster Osteoarthritis Index (WOMAC) Index	Compared to Whites, African Americans had greater use of the hoping and praying method ($\beta = 0.74$, 95% CI 0.50-0.99).
Kibler, & Lyons (2004)	29 Combat veterans	Sustained Heart Rate reactions among combat veterans with greater PTSD severity are reflective of low vagal tone	Psychometric assessment was conducted during session	Mississippi Scale for Combat- Related PTSD, Psychophysiological assessment	Perceived ability to cope with the lab task, but not perceived threat inherent in the task, mediated the HR recovery— PTSD association.
LePage et al., (2006)	35 Veterans	It was hypothesized that both domains would increase with the	Contingency Management Intervention	Performance Reward to Obtain Motivation program (PROMOT); Community Oriented Program Evaluation	Spirituality/coping activities increased from 5.5 (SD = 3.2) to 8.5 (SD = 2.6),

		implementation of the contingency management program		Scales (COPES;	an increase of 54%, , $p = .0001$.
Mattocks et al., (2012)	19 women who served in OEF/OIF	Understand how women veterans cope with these combat and military sexual trauma experiences once they return from deployment	Qualitative interviews	Qualitative interviews	Women had varying abilities to address and manage stressors, and employed various cognitive and behavioral coping resources and processes to manage their stress.
Paukert et al., (2009)	104 older veterans with heart failure (HF)	The purpose of this study was to identify significant factors associated with depressive symptoms in a sample of older HF patients and determine which of these factors independently predict depressive symptoms	Survey	Geriatric Depression Scale and Geriatric Anxiety Inventory, Kansas City Cardiomyopathy Questionnaire, Heart Failure Illness Intrusiveness Rating Scale, Brief-COPE, Multidimensional Health Locus of Control Scale, Chronic Disease Self-Efficacy and Multidimensional Scale of Perceived Social Support.	Depressive symptoms were significantly associated with physical limitations from maladaptive coping.
Pietrzak et al., 2011	167 treatment-seeking Operations Enduring Freedom and Iraqi Freedom (OEF–OIF) veterans	PTSD, depression, and alcohol problems, self-reported pain, and greater engagement, of maladaptive cognitive-behavioral strategies	Survey	Combat exposure, psychopathology, pain, psychological resilience, and social support	1 in 5 treatment seeking OEF-OIF veterans may contemplate suicide.
Pietrzak et al., (2010)	167 treatment-seeking Operations Enduring Freedom and Iraqi Freedom	Thought control strategies of worry and punishment, and	Survey	Thought Control Questionnaire, Cognitive-Behavioral Avoidance Scale, Combat Experiences	Maladaptive thought control and avoidance coping may

	(OEF–OIF) veterans	greater use of avoidant coping strategies, particularly social avoidance strategies, would be associated with both a probable diagnosis and increased severity of PTSD symptoms, even after adjustment for combat exposure, comorbid depression, and alcohol use problems, and level of post-deployment social support		Scale (CES), Posttraumatic Stress Disorder Checklist-Military Version, Patient Health Questionnaire-9, CAGE Questionnaire, Post deployment Social Support Scale (PSSS	partially mediate the relation between post deployment social support and combat-related PTSD symptoms in treatment-seeking OEF–OIF Veterans
Smith et al., (2009)	64 veterans	Investigate eating behavior and food insecurity during military service and examine if it affects post-war eating behavior	Focus groups	Their military experience (when and where they served, experiences in combat situations, length of time in the service, and a typical day in boot camp and in the field), eating conditions during the service, food intake if taken as a prisoner-of-war or if in combat zones or recon units, eating patterns pre-, during, and post-service, weight loss or gain during and after the service, physical activity during and after the service, transition from military to civilian life, and how their military experience has impacted present day dietary and activity behavior and health status outcomes	Military service impacts soldier's food environment, food insecurity influences eating behavior and food choices, military impacts weight status during and post-service, military service has health consequences, and post-service re-adjustment solutions are needed to ease re-entry into civilian life.

Trevino et al., (2011)	14 military veteran cancer survivors	H1: What is the impact of cancer on the religiosity/spirituality of veteran cancer survivors? H2: What is the role of religiosity/spirituality in coping with cancer for veteran cancer survivors?	Focus groups	A structured, goal-driven format and focused on four topic areas: PTSD/anxiety, posttraumatic growth, values/goals, and religious and spiritual issues (R/S).	R/S plays a role in cancer survivorship but that the nature of this role varies in important ways. Relatively few participants discussed how their R/S beliefs and/or practices helped them deal with cancer.
Vaisman-Tzachor (2004)	44 (The entire Israeli terrorism prevention team operating in the western region of the North American continent)	Examines the coping responses to work-related stress in terrorism prevention personnel as they differ between those employees with prior combat exposure and those without	Surveys	Subjective Stress Experience Scale and Revised Ways of Coping Inventory	Stressful life events in general and combat situations in particular can prepare people for future stressful conditions such as terrorism prevention work.
Wolf & Mori (2009)	61 veterans with End-Stage Renal Disease (ESRD)	Investigate the role that personal coping style has on mortality in patients with ESRD	Survey	The Structured Interview for Renal Transplantation (SIRT); The COPE; The Beck Depression Inventory (BDI)	Avoidant coping style significantly increased the risk for mortality.
Yehuda et al., (2006)	11 nonexposed veterans, 11 combat-exposed veterans without posttraumatic stress disorder (PTSD), and 12 veterans with current PTSD	Plasma Neuropeptide Y (NPY) levels would be highest among exposed veterans without PTSD and lowest in PTSD	Survey	Clinician Administered PTSD Scale and the Structured Clinical Interview for DSM-IV	Plasma NPY levels may represent a biologic correlate of resilience to or recovery from the adverse effects of stress.

Drugs and Alcohol as Ways of Coping

Not surprising, drugs and alcohol usage surfaced during this review. Four studies yielded results for the use of drugs and alcohol as ways of coping (Barry et al., 2004; Boden, Babson, Vujanovic, Short, & Bonn-Miller, 2013; Cucciare, Darrow, & Weingardt, 2011; Smith, Klosterbuer, & Levine, 2009). Studies not included in this review reveal that U.S. National Guard soldiers with PTSD symptoms have an increased tendency to binge drink (Ferrier-Auerbach et al., 2009), and similarly, this was also found in the female veteran population as well (Bradley et al., 2001). It has been previously established that the military places enormous strain on veterans'

physical and psychological health. Countless veterans have used drugs and alcohol to cope, and some have even self-reported as recovering alcoholics (Mattocks et al., 2012). Social workers can take these findings and highlight proactive strategies to help rural veterans who may consider this negative coping mechanism.

Avoidance Coping

While several coping studies yielded much data for the previously discussed coping strategies, additional efforts were used to identify the characteristics associated with avoidance coping strategies. This examination produced five studies (Hassija, Luterek, Naragon-Gainey, Moore, & Simpson, 2012; Jones et al., 2008; Pietrzak, Harpaz-Rotem, & Southwick, 2011; Vaisman-Tzachor, 2004; Wolf & Mori, 2009). It is a misnomer to assume that veterans will cope with issues of stress and trauma directly. Veterans without prior combat exposure usually display more palliative modes of coping such as sublimation, intellectualization, and denial (Vaisman-Tzachor, 2004). Those with combat experience scored slightly lower on palliative coping orientation with a mean of 3.94 (SD = 1.59), as compared to their counterpart employee subgroup with no combat background who scored a mean of 3.99 (SD= 1.55); however, this difference was not statistically significant probably because of the small sample size ($N = 44$) in the study (Vaisman-Tzachor, 2004). It is still worthy of noting that social workers should become more proactive in addressing avoidance CS when working this population (Higgins et al., 2013).

Behavioral Approaches to Coping

Lastly, three studies further explored behavioral approaches as coping mechanisms (Barry et al. 2004; Mattocks et al., 2012; Smith et al., 2009). Replacing negative thoughts with behaviors is a tool that veterans use to cope with trauma and stress. A few veterans (35%) have cited exercising as a form of coping (Barry et al., 2004). Some female veterans even prefer to take a concrete approach to deal with trauma, and they will rely on scheduled routines such as running and yoga to help them overcome negative feelings (Mattocks et al., 2012). While some women prefer to isolate themselves, others find it helpful to reach out to other female veterans (Mattocks et al., 2012) who have experienced the same thing. This research is beneficial to social workers who work with rural veterans because inexpensive evidence based interventions can be taught and utilized in rural settings (Gale & Heady, 2013).

Table 3
Summary of Coping Strategies

Cognitive	Religiosity/ Spirituality	Drug/ Alcohol	Avoidance	Behavioral
Cognitive coping (Barry et al., 2004). Risky behaviors moderated by rumination/repeated thoughts (Borders et al., 2012). Cognitive Appraisal (Kibler & Lyons, 2004) Cognitive Avoidance (Mattocks et al., 2012). Cognitive coping (Paukert et al., 2009). Positive and Negative Coping (Yehuda et al., 2006)	Religious activities (Barry et al., 2004). Hoping and Praying (Jones et al., 2008). Coping/Spirituality (Lepage et al., 2006). Religious/Spirituality (Trevino et al., 2011).	Analgesic Medicine (Barry et al., 2004). Cannabis (Boden et al., 2013). Drugs and Alcohol (Cuccair et al., 2011). Alcohol, Drugs and Smoking (Smith et al., 2009).	Emotional avoidance coping (Hassija et al., 2012). Diverting attention/ Ignoring sensations (Jones et al., 2008). Avoidance/Social avoidance (Pietrzak et al., 2010). Palliative coping (Vaisman- Trevino et al., 2004). Avoidant coping (Wolf & Mori, 2009).	Exercise (Barry et al., 2004). Increasing behavior activities (Jones et al., 2008). Behavioral coping/Behavioral Approach (Mattocks et al., 2012). Eating Fast (Smith et al., 2009).

Discussion

The findings from this systematic review are meaningful for rural veterans in multiple ways. Rural veterans may engage in health-risk coping techniques to deal with transitions and trauma from military life (Gale & Heady, 2013). However, positive coping methods can lead to favorable long-term health outcomes and can be promoted as post-deployment interventions if done successfully. It has been established that numerous veterans have multiple mental and physical issues related to service including PTSD and chronic pain for numerous reasons (Vaisman-Tzachor, 2004). Certain strategies should be proactively implemented to diminish self-defeating, health-risk behaviors. As previously shared by the work conducted by Gale and Heady (2013) rural veterans are often limited in their access to appropriate medical facilities, and therefore the social worker's diverse knowledge in relation to local resources is catapulted to extreme importance. In reality, Wells and Davies (1994) suggested that various thought control strategies can often be utilized to help one manage destructive thoughts. Their work is critically important when seeking to address positive cognitive CS. Additionally, social workers can utilize the research shared within this review to proactively address negative CS that often emerge due to other issues. The research uncovered by Holloway (2010) which asserts the importance of faith and religion in the lives of veterans, particularly those living in rural settings, can serve as catalysts when seeking to find low-cost resources to help these clients. Furthermore, drug and alcohol research should remain at the forefront when working with these clients as Fuehrlein et al. (2016) have revealed the prevalence for substance abuse within this population. Programs such as Alcoholics Anonymous (AA) can serve as free and useful tools that can be added to the social worker's arsenal. Support groups can benefit not only the clients, but the families as well (Vaisman-Tzachor, 2004). Finally, the research that relates to avoidance CS that often influence behavioral CS should serve as critical reference information for social workers as they continue on their quest to help this demographic. It is imperative to reflect upon the known issues in relation

to passive aggressiveness and the implications that each one can have on negative behavioral CS for rural veterans (Gale & Heady, 2010; Holloway, 2010). These findings are promising for future research implications in the fact that rural veterans should be taught positive CS to assist in overcoming the negative temptations associated with the previously mentioned health-risk behaviors.

Study Limitations and Conclusions

Due to the dearth of studies and the lack of randomized controlled trials, this review includes methodological weaknesses. Also, the heterogeneity of the included studies and scales, made comparison difficult. The majority of all cross-sectional studies included in this review cited that more longitudinal studies are needed to evaluate mediators and moderators of CS including cognitive coping strategies and perceptions of unit support in reducing sleep difficulties in OEF–OIF veterans and other trauma-exposed samples (Pietrzak et al., 2010). Another major limitation discovered was that when administering surveys, scales, and focus groups, the term *coping* was not defined. Therefore, each person had his/her own idea of the word coping. Some use avoidant CS that can place them at a greater risk for depression. While emotional expression is a task that veterans engage in, they do so in a negative way (Borders et al., 2012). It is important for future research to identify pre-military experiences to ascertain additional areas worthy of exploration, as pre-coping strategies can serve as predictors in post-service life. The low quality of the studies due to uncertainty in directness and to reporting bias risk poses another limitation to these findings. In particular, directness was compromised in several of the studies by not accounting for pre-existing conditions. It is obvious that previous exposure to stress and prior coping strategies warrant further examination (Wolfe et al., 2005).

Future studies should encourage positive emotional expression to help those exposed to trauma cope more effectively (Hassija et al., 2012). Social workers in rural settings can begin to work proactively with veterans by addressing the areas discussed within this systematic review. In order to address cognitive coping strategies, workers can embrace Cognitive Behavioral Therapy (CBT) with their clients by teaching them how to problem-solve issues before negative strategies are cemented fixtures in their daily lives. For instance, small groups can be formed to allow for brain-storming sessions in which the veterans discuss current issues and provide helpful tips for resolving conflict. Once again, narratives can serve as critical elements in the treatment process as these give the vets the opportunity to replay traumatic events in a more meaningful way (Holloway, 2010). People living in rural environments often share common issues. Veterans can benefit from knowing that others are experiencing similar challenges (Hassija et al., 2012).

Religious and spiritual methods of coping can be extended as well by social workers. It is imperative to be knowledgeable of local resources when one is located in a limited, rural setting (Holloway, 2010). Local pastors and clergy can serve as immense tools in helping rural veterans embrace positive coping strategies. Small support groups could be formed within the church environment to integrate Biblical principles in relation to daily stressors that are often felt by veterans and their caregivers. Social workers can facilitate these connections by encouraging faith-based support groups for those who show interest. Additionally, churches can provide relief for caregivers by holding recognition programs to provide homage and relief to the extended family members who are also impacted by combat/service-related stress. Caregivers need to know that they are appreciated, and this small but very important act often goes unnoticed by the loved one.

However, these small acts of recognition can make a tremendous psychological impact in the life of a caregiver. Research has revealed the healing properties that can be realized by embracing one's faith, and this method should be used to further extend positive CS methods (Hamilton, Crandell, Kameron Carter, & Lynn, 2010).

Furthermore, it has been established that many veterans will often seek avoidance tactics as coping methods. Social workers in rural areas should begin to examine their local surroundings for all of the potential advantages that lie just below the surface. For instance, local parks provide physical benefits as well as social settings in which to meet. Quite possibly community gyms could exist which provide free exercise classes for veterans, and these opportunities could benefit this population both mentally and physically. Furthermore, instead of seeking to discourage avoidance methods with their clients, workers can take charge by establishing healthy eating programs. Social workers can create cooking classes in which the veterans and their caregivers come together to share light recipes while having fun learning new food preparation techniques. Rural areas are sprinkled with local farmers markets that could easily provide fresh produce to assist veterans and their families with healthier lifestyle choices (Wolf & Mori, 2009).

Finally, positive behavior techniques should be integrated within the rural social worker's repertoire. Rural areas have numerous walking paths. Social workers should embrace these characteristics by integrating positive behavior techniques. Walking groups could be formed for veterans and their families to help improve cardiovascular health while also providing an outlet for emotional stress. Additionally, yoga classes could be formed to help with meditation techniques while integrating healthy lifestyle choices. Once again, the community gyms previously discussed could serve as free settings in which to hold the yoga classes. The primary focus remains to embrace the resources available at one's disposal in a positive manner (Barry et al., 2004).

In closing, the results of this synthesis can assist social workers in collaborating with rural veterans to develop positive coping strategies within the civilian environment while reducing maladaptive behaviors after military service. Veterans residing in rural areas can take advantage of high quality lifestyles if concerted measures are embraced.

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Appendix

Criteria for GRADE

Type of evidence:
High (randomized, controlled trial)
Low (observational study)
Very low (any other evidence)

Decrease grade if:
Serious (-1) or very serious (-2) limitation to study quality
Important inconsistency (-1)
Some (-1) or major (-2) uncertainty about directness
Imprecise or sparse data (-1)
High probability of reporting bias (-1)

Increase grade if:
Strong evidence of association-significant relative risk of > 2 ($p < .5$)
Based on consistent evidence from $\geq$ observational studies, with no plausible confounders (+1)

Very strong evidence of association-significant relative risk of _> 2 ($p < .2$)
Based on direct evidence with no major threats to validity (+2)
Evidence of dose-response gradient (+1)
All plausible confounders would have reduced effect (+1)

Ratings:
High
Moderate
Low
Very low

Note. GRADE indicates Grading of Recommendations, Assessment, Development, and Evaluation (GRADE Working Group, 2004; Oxman et al., 2006).