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Supported Education for Returning Veterans with PTSD and Other Mental Disorders

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Military service itself has been documented as a positive turning point in enlistees' life trajectories. However, for the veteran population with psychiatric disorders, resources other than the GI Bill, such as supported education psychiatric rehabilitation programs, may be as important or more important to their post-service outcomes. Methods: This paper examines new clinical developments in supported education for veterans with PTSD and related disorders, utilizing systematic literature review methodology. Results: Five reports were retrieved which provide psychiatric rehabilitation practice guidance or examine supported education programs targeted to veterans in the current combat era who are suffering from PTSD or polytrauma. Level of evidence is predominantly descriptive. Conclusions and Implications for Practice: While the extant literature suggests applicability of available supported education models to the prevalent mental disorders in this current veteran population, high quality studies are needed to investigate their effects for this population. Current trends in military mental health programs and the civilian recovery movement suggest that supported education programming for veterans of this current combat era must incorporate resilience theory-based concepts and approaches and avoid diagnostically-driven and restrictive eligibility criteria.

Pursuit of a post-secondary education by a large segment of our society's young adult population is a relatively recent phenomenon that occurred after World War II. It was spurred on by the GI Bill as a funding source to the large population of returning veterans at that time (Angrist, 2011). The recently enacted post 9/11 GI Bill is intended to restore this financial aid mechanism to close to the benefit levels of the original GI Bill (Hall, 2009; McChesney, 2008), with a view to supporting the stated educational goals of the all-volunteer enlistees and the rehabilitation of wounded warriors through educational attainment leading to employability. This paper explores trends in the provision of rehabilitation services to that segment of college-bound veterans who are returning from war with PTSD—declared the signature injury of current conflicts (Tanelian & Jaycox, 2008).

Since the psychiatric deinstitutionalization era of the 1970's, psychosocial rehabilitation programs (PRPs) in this country have focused on the persistently and severely mentally ill population (SPMI). PRPs usually take the form of day programs, clubhouses, residential rehabilitation, and vocational rehabilitation (International Center for Clubhouse Development, 2001; Smith-Osborne, 2005).

A less common form of PRP, but one which may have great salience for today's veterans, is the supported education program, which is designed to assist persons with SPMI in pursuing post-secondary education (Gilbert, R., Heximer, S., Jaxon, D., & Bellamy, C., 2004; Hain & Gioia, 2004; Megivern, Anderson, Wentworth, Barnhart, & Howard, 2004; Megivern, Pellerito, & Mowbray, 2003; Mowbray, Bybee, & Collins, 2004). Supported education programs often begin in self-contained classes and then progress to inclusion settings, or provide mobile advocacy and case management services on-campus (Cook & Solomon, 1993; Sullivan, Nicolellis, Stanley, & MacDonald-Wilson, 1993).

For the SPMI population, supported education has usually been funded and initiated as one component of full-service psychosocial rehabilitation programs, within psychiatric hospitals with large young adult/adolescent caseloads, or by colleges in collaboration with local community mental health agencies and funded by state mental health department grants. Sustaining resilience and recovery-oriented programs like supported education has been difficult within the current managed behavioral health care insurance environment, which maintains the traditional focus on symptom reduction (Hoffman & Mastrianni, 1991;. Mowbray, Brown, Furlong-Norman, & Soydan, 2002).

In developing supported education for current veterans, it is important to consider that the most important incentives to join the U.S. military service under today's All Voluntary Force (AVF) are to secure first, vocational/technical training from the active duty assignment, and second, post-service educational benefits (Angrist, 2011). In fact, veterans' educational benefits are the largest federal program for student financial aid in America (Angrist, 2011). Active duty benefits include academic credits

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awarded for military service, military coursework, military scholarships, and the Active Duty Montgomery GI Bill (All the Benefits of Service, 2005).

Historically, the end of military conscription was associated with lower levels of pre-service education among persons entering active duty military service (Harris, 1976) until the first Gulf War era. Several studies have suggested that, although the use of veteran educational benefits increases AVF veterans' lifetime educational attainment by about 1.4 years, they are experiencing truncation of their work trajectories due to several factors associated with military service (Angrist, 1993; Angrist, 1998; Angrist & Johnson, 2000; Angrist, 2011; Autor, Duggan, & Lyle, 2011). During active duty, their deployment is associated with a reduction in employment rates among their wives due to child care responsibilities. After separation from military service, their added educational increment may simply "cancel out" the effect of lost time from the civilian workforce due to military service. Additionally, AVF veterans are enrolling in disability compensation earlier in their work lives than conscription-era veterans. These effects are sufficiently broad and long-term as to suggest that any gains in educational attainment attributable to veterans' benefits may be purely compensatory in nature, in that they only partially redress negative sequelae of time and functional capacity lost from the civilian labor market due to military service. These results suggest the importance of testing mechanisms such as supported education which may enhance educational attainment for wounded warriors and other veterans beyond what is being accomplished by the post 9/11 GI Bill.

When examining the segment of the veteran population which experiences post-traumatic stress disorder (PTSD), Savoca and Rosenheck (2000) concluded that the effects of mental health on veterans' earning potential in the civilian sector were as important as the non-health effects such as educational attainment and job experience. Subsequent studies of the first Gulf War veteran cohort have found that, particularly for veterans with high ratings of service connected disabilities, resources other than the GI Bill may be important to their post-service outcomes (Smith-Osborne, 2009a, 2009b). Helpful resources have been found to include the level of informational social support, support network density, non-labor sources of income and total family income, non-Veterans Administration (VA) financial aid, level of health insurance coverage, and recent mental health treatment (Smith-Osborne, 2009a, 2009b).

These findings continue to be important to today's conflicts which are characterized by the signature injuries of PTSD, depression, traumatic brain injury, and co-occurring substance use disorders, as well as polytrauma—comorbid physical and psychiatric injuries (Tanelian & Jaycox, 2008). It is too soon to conclude what the impact will be of initiating benefits close to the levels of the original GI Bill, but the increased number of veterans returning to college campuses has already spurred efforts to provide enhanced supportive services for the overall population and specifically for veterans with mental health issues and disabilities (Dole et al., 2007; Hall, 2009). Policymakers anticipated that the post 9/11 GI Bill or VA rehabilitation benefits combined with support from campus Offices for Students with Disabilities would meet the needs of student veterans with psychiatric disabilities (Langbein, 2008). However, civilian studies have found that, without the benefit of a supported education intervention, the psychiatrically-disabled population is the least likely of the disability groups to self-identify and obtain assistive technology and other accommodations on-campus (Becker et al., 2002; Ofiesh, Rice, Long, Merchant, & Gajar, 2002). Hence, supported education psychosocial rehabilitation models tested with civilian and older VA populations need to be adapted for the changing demographics and educational trajectories of current veterans (Crowder et al., 2010; Smith-Osborne, 2009a, b).

This paper will examine recent developments in supported education programs which have been expanded or piloted to enhance post-secondary educational attainment for veterans with PTSD and other mental disorders in the current combat era. Identification of these program trends will help focus future research efforts to investigate their outcomes and their contribution to the evolution of best practices in this rehabilitation counseling field.

Method

Literature search and data sources

This clinical paper utilizes systematic review design and methodology in support of the research aim above. Inclusion criteria and search strategies for this review were selected following the guidelines of Quality of Reporting of Meta-analyses (QUORUM; Moher, Cook, Eastwood, Olkin, Rennie, & Stroup, 1999) in the following electronic databases, first for peer-reviewed journal articles and then for conference proceedings and books published from 2005-2010: Academic Search Complete, PsycINFO, PubMed, Social Work Abstracts, ERIC, EBSCO Military and Government Collection, CINAHL, the, and Proquest (for gray literature), using the keyword phrases supported education and rehabilitation, supported education and veterans, psychiatric/psychosocial rehabilitation and veterans, higher education/postsecondary education/college and veterans, veterans and educational attainment and mental disorders, higher education/postsecondary education/college and PTSD (and variants) and veterans, and PTSD and supported education. Included articles were scanned for references and were entered into forward citation searches in the Web of Science electronic database, Social Science Citation Index. Abstracts for additional references were thus obtained and reviewed. Finally, requests for relevant unpublished papers and conference presentations or proceedings were made to mental health professionals involved in supported education and employment for OIF/OEF veterans, and results were evaluated for inclusion criteria.

Inclusion criteria and study selection

Inclusion criteria specified full text papers, books, and presentations done from 2005-2010, available in English, and reporting on supportive educational services and supported education-type psychosocial rehabilitation programs for veterans with PTSD and common co-morbid mental disorders. Since the literature on supported education has been predominantly descriptive, with

controlled studies emerging primarily in the last decade (Glynn, Drebing, & Penk, 2009), inclusion criteria did not include study quality criteria. Electronic searches yielded no results for the keyword combination "PTSD and supported education" and no results for samples including persons with PTSD for the keywords "supported education and rehabilitation", suggesting a dearth of recent published research in supported education for PTSD in the general population, as well as for veterans. Initial searches and professional contacts yielded 142 results. Abstracts and book précis were reviewed for inclusion criteria. One hundred twelve did not address specialized supported education programs for the target population and were excluded. Full text articles, conference presentations/proceedings and books for the remaining 32 texts appearing to meet inclusion criteria were obtained for further review. Twenty-seven did not address the target population of veterans with PTSD and related conditions and were excluded, leaving five reports which met all inclusion criteria. The flow of the literature retrieval process may be seen in Figure 1.

Results

See Table 1 for a summary of literature which met the paper's inclusion criteria, indicated with an asterisk in the reference list. Key points from each are presented below.

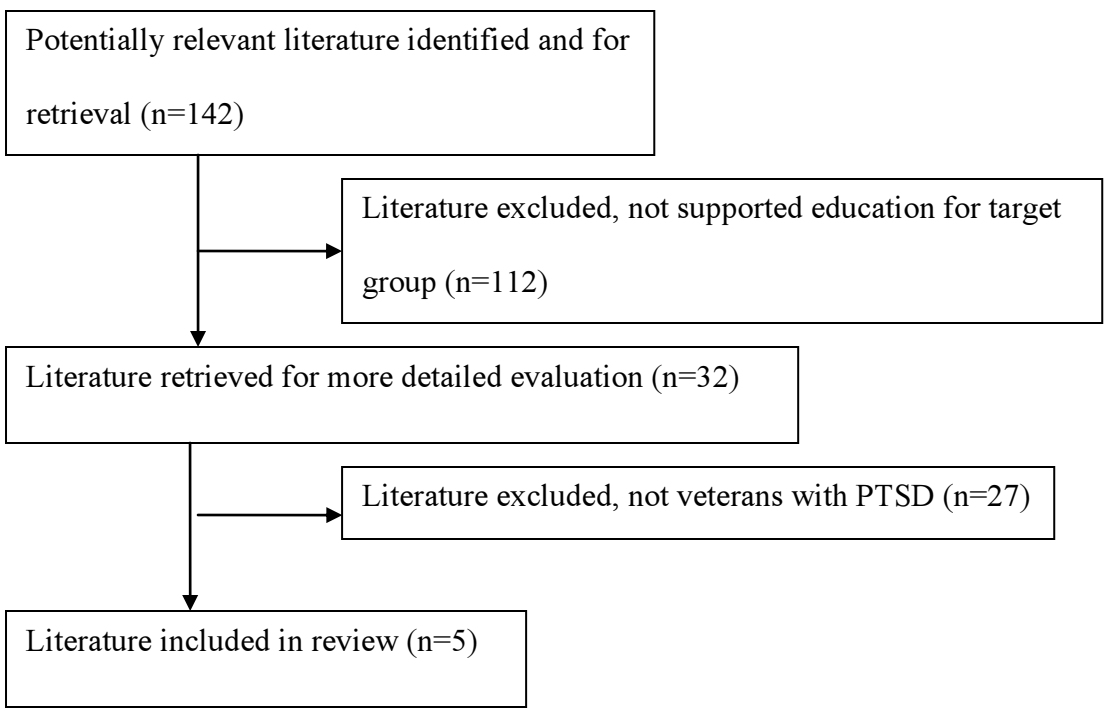
Glynn, Drebing, and Penk (2009), in the context of practice guidelines for treating PTSD, address supported education as one among eight psychiatric rehabilitation techniques which may benefit clients with PTSD, including veterans. They find that current literature does not include studies specific to PTSD, but to mental illness in general (p. 402), and that randomized clinical trials are currently underway which will enhance the quality of the evidence. They identify the need for investigation of comparisons for PRP with other PTSD treatments, PRP cost analyses, reimbursement strategies, criteria for levels of care for each type of PRP (who needs what type, frequency and intensity, when to terminate, when to resume if relapse), and functional measures for referral to each type of PRP technique.

Nevertheless, they point out that current treatment evidence places emphasis on enhancement of quality of life rather than only on symptom reduction, consistent with psychosocial rehabilitation approaches. They attribute this trend to recent changes in the diagnostic criteria for PTSD to include psychosocial functioning, to the growth of the recovery movement, and to increased patient access to information and resources via the internet. Their review of the supported education literature covers several different formats, including group support, classroom support, and individual support. In recommending the inclusion of supported education in PTSD practice guidelines despite limited evidence, they note that:

> Many clients with PTSD often wish to return to school to improve their vocational prospects. These clients often benefit from referrals to supported education programs, which can help them not only to navigate school regulations, but also access disability services that can compensate for difficulties in attention, memory, and concentration. (p. 415).

Figure 1

Flow chart of the literature retrieval process following Quality of Reporting of Meta-analyses guidelines.



MacDonald-Wilson, McReynolds, and Accordino (2009) present issues for psychiatric rehabilitation posed by the co-morbid physical and psychiatric conditions experienced by many combat veterans of Operation Iraqi Freedom (OIF), based on reports from the Department of Defense. These include four major areas for future research and practice application. Foremost, they identify the need for research to test the application to veterans with PTSD of rehabilitation techniques which

have previously been found effective with other severe and persistent mental illnesses in civilian and veteran populations. Secondly, they emphasize that researchers will need to keep abreast of emerging neuroscience knowledge about interactions between PTSD and TBI and investigating implications for psychiatric rehabilitation. Thirdly, they advocate for closely coordinating with medical treatment providers when engaging in rehabilitation practice, especially in light of these emerging neuroscience findings. Finally, they recommend integrating supported education with the supported employment models of rehabilitation which have been tested with veteran populations.

Smith-Osborne (2010) reports preliminary findings from pilot supported education projects being implemented by community colleges and universities to reintegrate veterans with disabilities, including mild TBI and PTSD, into academic settings. Arkansas State University has initiated the Beck PRIDE Center for America's Wounded Veterans (Arkansas State University, n.d.). This program provides personal rehabilitation, advocacy, financial assistance, socialization, career counseling, and educational support for OIF/OEF veterans injured in combat. The program's defined scope of rehabilitation does not explicitly include previously tested models of psychiatric rehabilitation, but extends the university's prior infrastructure in physical therapy, speech and language pathology, and mental health counseling to support combat-injured veterans, most of whom are student veterans. Syracuse University has developed the Entrepreneurship Bootcamp for Veterans with Disabilities (Needleman, 2010). This initiative provides a combination online and face to face non-credit training and mentoring program for veterans, family caregivers, and surviving spouses who want to start their own small businesses; this project has now extended to five other campuses across the country (Syracuse University, n.d.). Although it provides one on one mentoring and accommodations, it does not provide certain elements of a supported education program, such as psychoeducation focused on managing symptoms while in the student role, psychosocial skills training, adapted academic skills training, direct therapy, and case management. Colleges which already offered special education services for students with TBI, such as Richland College in Richardson, Texas (Richland College, n.d.) and Virginia Commonwealth University (see Crowder et al., 2010 below), are actively doing outreach to include veterans with TBI.

Smith-Osborne further describes enhanced supportive educational services which some post-secondary institutions have been building on the foundation of existing services to aid veterans with and without disabilities in their transition to the student role on civilian campuses. In the past, most university student veterans were transfer students from community colleges or from credits earned during military service, but the Post 9/11 GI Bill makes it possible for more veterans to go directly to 4-year colleges and universities to seek degrees as freshmen. On most college campuses, Veterans Benefits Coordinators are regular positions within Financial Aid Offices. Some have VA-paid work study student veterans whose role is to help process certifications and degree plans required to award GI Bill benefits and some state aid. For example, some colleges are enhancing financial aid services by creating a veteran advisory committee, creating a veterans' services website, initiating a veteran appreciation day event, and initiating an orientation event just for freshmen and transfer student-veterans (Burnett & Segoria, 2009; Vance & Miller, 2009).

Some colleges now have other services "bundled" to provide targeted or enhanced services for student veterans. Examples include community colleges, such as St. Phillips College in San Antonio, Texas (St. Phillips College, n.d.), and universities, such as the University of Texas-Pan American (University of Texas-Pan American, n.d.), which have added veteran-specific clinical and/or special education staff to their one-stop Veterans Benefits Offices to approach supported education models in providing enhanced supportive services. These approaches typically stop short of providing ongoing direct therapy, personal academic and vocational goal-setting, psychoeducation focused on managing symptoms while in the student role, and assertive case management services which are often incorporated in full PRP models (Mowbray, Brown, Furlong-Norman, & Soydan, 2002).

In California, a Troops to College Program (Burnett & Segoria, 2009; Troops to College, n.d.) has been initiated by the California Governor in all public universities/colleges in the state. The program includes a unified state level website and companion media campaign, initiation of student veteran groups/clubs on each campus, initiation of online student veteran support services, state policy implementation of college fee waivers for veterans, initiation of an orientation event just for student-veterans, and initiation of information provision on tutorial assistance through the Veterans Benefits Coordination Offices.

Several colleges have introduced veteran-only introductory classes or cohort classes for credit, similar to study skills-focused classes for probationary freshmen which have been available for traditional civilian students for decades, with enhanced ancillary services. One example of this supportive services model is the Combat2Classes program at Montgomery College in Maryland (Montgomery College, n.d.).

The University of Texas at Arlington (University of Texas at Arlington, n.d.) has initiated a randomized controlled intervention trial of supportive education models for veterans adapted from the evidence-based civilian models. This clinical trial includes any veteran considering pursuing an undergraduate degree (or already enrolled in college) who will agree to participate in at least 4 contact sessions over a two-semester active service period and complete data collection instruments at pre-test, first post-test, 6 months post-test, and 12 months post-test; participants may be anywhere in the country. Models being tested include an adaptation of a manualized civilian SEd model and a technology-mediated information, referral, and case management model (Smith-Osborne, 2010, in press). Pilot phase participants in the clinical trial included 50% who had PTSD, 33% who reported blast exposure or head injury, 11% who reported pre-service learning disabilities or other conditions affecting cognition, and 10% who required concrete crisis services (e.g., emergency food, housing, transportation, child care) during their period of participation. Pilot phase outcome data suggest that intervention groups com-

pared to control group experienced decreased PTSD symptoms, increased health and mental health treatment engagement, increased grade point averages, and increased scores on measures of social support and resiliency. The majority of these veterans were retained in college during their period of participation in the pilot phase of the study (Smith-Osborne, 2010, in press).

Crowder et al. (2010) presented results of a study conducted by the national VA Supported Education Standards Workgroup to identify and describe pilot supported education projects being implemented by local VA medical centers in coordination with colleges and universities, and directly by VA Compensated Work Therapy programs. Project SERV (Supportive Education for Returning Veterans) has worked with local VA clinicians to develop a non-residential learning community of full-time, general education (for credit), self-contained cohort classes for the first semester, followed by phased-in mainstreamed classes thereafter. This model is analogous to "freshman interest group" learning communities that are becoming increasingly common for traditional college students on 4-year and university campuses (Golde & Pribbenow, 2000). Project SERV, which started at Cleveland University, Ohio, has now expanded to Youngstown State College, Ohio, and the University of Arizona, and involves VA clinicians as adjunct co-instructors with regular college faculty (Cleveland University, n.d.). They report increased retention in college and increased grade point averages among participants (Crowder, 2010).

In addition to these enhancements of supportive services for student veterans, some programs are explicitly building on the evidence base in supported education. They have been initiated within a few VA programs and by universities. Several of the VA programs have been extended from supported employment components of PRPs already available in Veterans Health Administration (VHA) networks, typically within Compensated Work Therapy (CWT) programs and offices of Local Recovery Coordinators. These SEd approaches include the placement of VA CWT staff in local community colleges' veterans benefit offices by the Tampa, Florida VA and the provision of SEd services to local community colleges by Bronx, New York VA clinicians (Crowder, 2010). Others have been funded as research pilot projects by VHA research offices, such as the collaboration between the Edith Nourse Rogers VAMC, Bedford, Massachusets, and Middlesex Community College, designed to explore perceived needs and curricular adaptations of civilian supported education models for veterans (Crowder, 2010). The Wounded Warrior Project has founded Project TRACK in collaboration with Florida State College. This project provides a 12 month residential component of self-contained classes for credit (non-degree), followed by an employment externship. Outcome data are not yet available in published form from these innovative projects.

The Rehabilitation Research and Training Center of Virginia Commonwealth University (Virginia Commonwealth University Rehabilitation Research and Training Center, n.d.) has extended their existing supported education program for adults with sustained TBI and spinal cord injury to include a mobile veterans' component, the Vets in College Program. A Richmond VA representative sits on the board of this program and facilitates VA patient referral and coordination of services to this trust fund supported project (Crowder, 2010).

Discussion

These findings suggest several future trends with implications for rehabilitation counseling practice. Wellness/resiliency-oriented Department of Defense (DoD) behavioral health programs for active-duty (Department of Defense Task Force on Mental Health, 2007; Morales, 2009; Vaughn, 2010), and campus-based supported education programs for veterans, regardless of disability status, are proliferating, although they vary greatly in their rigor and range of impact (Smith-Osborne, 2010). Other supported education initiatives have been recently added to previously existing physical rehabilitation or educational support services in universities and community colleges or are being newly piloted by university-based rehabilitation research centers or the Veterans Health Administration Compensated Work Therapy programs. Such programs refer to and receive referrals from DoD and VA entities as well as providing direct services themselves. Psychiatric rehabilitation programming, particularly the Individual Placement and Support supported employment model, has been tested for prior cohorts of veterans and incorporated into Veterans Health Administration services, and supported education services have sometimes been embedded within these services. While the extant literature suggests applicability of available supported education models to the prevalent mental disorders in this current veteran population, high quality studies are needed to investigate their effects for this population. Current trends in military mental health programs and the civilian recovery movement suggest that supported education programming for veterans of this current combat era must incorporate resilience theory-based concepts and approaches and avoid diagnostically-driven and restrictive eligibility criteria.

This paper identified promising initial results from limited research on supported education and supportive services which are being reported in conference proceedings and through this new VA Workgroup on Supported Education Standards (Crowder, 2010) as well as in descriptive and conceptual journal articles, but published results in peer-reviewed journals are awaited to establish the evidence base in supported education for these new applications. Dissemination of such evidence could lead to increased commitment on the part of higher education and the Veterans Administration to collaborations in implementing ongoing, formal supported education programs, both in newly initiated free-standing models and embedded within existing VA supported employment programs. Free-standing models housed in university settings could prove more effective in reaching the veterans of current conflicts, especially those with higher health status who may not be eligible for, or seeking services from, VA supported employment programs. In such instances, out-placement of VA clinical staff to the free-standing programs and to university health services could provide part of the staffing and facilitate engagement of veterans with VA health and mental health treatment services.

Of interest to rehabilitation counselors, cognitive remediation, integrated as a psychosocial rehabilitation component, is being tested with supported employment services delivered to traditional PRP populations, with promising results (Lindenmayer, et al., 2008; McGurk, Mueser, DeRosa, & Wolfe, 2009), and trials with veterans with PTSD are planned (Bronx VA Medical Center, n.d.). Future research with veterans could utilize the same software to test cognitive remediation with supported education services and compare them, with neuropsychological measures, to investigate and compare its effects with participation in either self-contained or mainstreamed/inclusion college classes only. By using the same software, researchers can compare effects of

Table 1

Details of Included Reports

Author (publication year)	Research Aim, Target Group, Design	Outcomes/Recommendations
Glynn, Drebing, & Penk (2009)	To present standards for psychosocial rehabilitation for veterans with PTSD, including supported education; practice guidelines based on systematic review of the evidence	*Comparisons of PRP with other PTSD treatments *PRP cost analyses and reimbursement strategies *Criteria for levels of care for each type of PRP *Functional measures for referral to each type of PRP technique.
MacDonald-Wilson, McReynolds, & Accordino (2009)	To highlight new issues in psychosocial and physical rehabilitation posed by the needs of OIF/OEF veterans with disabilities; conceptual	*Testing the application of rehabilitation techniques for PTSD which have previously been found effective with other severe and persistent mental illnesses *Integrate neuroscience knowledge about interactions between PTSD and TBI *Closely coordinate with medical treatment providers *Integrate supported education and supported employment models of rehabilitation
Smith-Osborne (2010)	To review efforts by colleges and universities to aid reintegration of current veterans, including veterans with disabilities and conditions, into the student role	*Many colleges are enhancing existing student support services for student veterans as non-traditional students *Some colleges with preexisting TBI SEd programs are adapting them for veterans *One-stop veterans' programs are expanding beyond veterans' financial aid offices in some colleges which include special education and assistive technology services *Self-contained non-credit classes are being offered by two projects (TRACK and Entrepreneurship Boot Camp) *Randomized controlled trial (rct) of a full supported education program for veterans is underway
Smith-Osborne (in press)	To report lessons learned from pilot phase of a randomized controlled trial of supported education for veterans	SEd groups experienced decreased PTSD symptoms, increased health and mental health treatment engagement, increased grade point averages, and increased scores on measures of social support and resilience
Crowder (2010)	To report the findings of a national study of supported education for veterans, particularly those recent veterans with mTBI and PTSD, done by a national VA Supported Education Standards Workgroup; expert panel	*The VA is involved in multiple SEd projects, most embedded within pre-existing compensated work therapy/supported employment programs, and some in joint endeavors placed within local colleges

including this intervention on educational outcomes with employment outcomes, which would be particularly useful since many current domestic and international applications of supported education are being embedded in supported employment programs (Hutchison, Anthony, Massaro, & Rogers, 2007; Murphy, Mullen, & Spagnolo, 2005; Nuechterlein., Subotnik, Turner, Ventura, Becker, & Drake, 2008; Mansbach-Kleinfeld, Sasson, Shvarts, & Grinshpoon, 2007; Ponizovsky, Shvarts, Sasson, & Grinshpoon, 2008; Russell & Strauss, 2004; Waghorn, Still, Chance, & Whiteford, 2007). Higher intensity, specialized services such as this, which can target the signature injuries of recent conflicts, should be investigated for possible applications outside medical and traditional rehabilitation settings, such as within university-based supported education programs.

Meanwhile, increased coordination of existing supportive services and implementation of new services and procedures for veterans appear to be expanding as colleges report (via local media outlets) rapid increases in veterans coming to their campuses (McChesney, 2008). Easily implemented changes, such as adding an item on veteran status to student services' intake forms or setting aside a dedicated space as a student veteran lounge, may have the potential to support veterans' transition to the student role and thus aid reintegration to the civilian community.

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