

J
A
R
R
C

*Journal
Of Applied
Rehabilitation
Counseling*



National Rehabilitation Counseling Association
Volume 48, Number 4
Winter, 2017

Journal of Applied Rehabilitation Counseling

Official Publication of the
National Rehabilitation
Counseling Association
P.O. Box 150235
Alexandria, VA 22315
1-888-258-4295
703-836-0850

Editor Address:

Mary Huber
Associate Professor
Wright State University
College of Educ. & Human Svcs.
Rehab Coun-Chemical Dependency
3640 Colonel Glenn Hwy.
Dayton, OH 45435-0001
mary.huber@wright.edu

Book & Media Review Address:

Chrisann Schiro-Geist, PhD
University of Memphis
103A Ball Hall
Memphis, TN 38152
Chrisann@memphis.edu

Editorial Staff

Editor

Mary J. Huber, PhD, CRC

Associate Editor

Gina Oswald, PhD, CRC

Book & Media Review Editor

Chrisann Schiro-Geist, PhD

Editorial Associate

Leon Russ

Journal of Applied Rehabilitation Counseling (ISSN 0047-2220) is the official publication of the National Rehabilitation Counseling Association. P.O. Box 150235, Alexandria, VA 22315. Telephone (703) 836-0850. The Journal is published quarterly. The Journal is free to NRCA members in either a hard copy printed format or as a PDF or accessible MS Word format. For non-members, the subscription price is \$100.00 per year (Domestic) and \$125.00 (Canadian and Foreign) Single issue copies are \$25.00 each. Special issue copies are \$35.00 each. The NRCA is a non-profit organization dedicated to the professional development of all persons involved in the practice of rehabilitation counseling. Periodical postage paid at Alexandria, Virginia and additional mailing offices. Send all address changes to Journal of Applied Rehabilitation Counseling, P.O. Box 150235, Alexandria, VA 22315. Publication No. 784700.

Board of Directors

Ian Shadrick, President
Chrisann Schiro-Geist,
President-Elect
Angela Price, Past President
Michelle Marme, Secretary-
Treasurer

Board Members

Joi Grier
Cindy Allen

Editorial Board

Quintin Boston, PhD, CRC
Roy Chen, PhD, CRC
Julie Chronister, PhD, CRC
Thomas Dell, EdD, CRC
Glacia Ethridge, PhD, CRC
Juliet Fried, EdD, CRC, CVE
Mary J. Huber, PhD, CRC
Lorie J. McQuade, MEd, CRC
Gina Oswald, PhD, CRC, LPC
Charles Palmer, PhD, CRC
Jenelle Pitt, PhD, CRC
Mona Robinson, PhD, CRC
Roe Rodgers-Bonaccorsy, PhD, CRC
Ian Shadrick, MA, CRC, CVRT
Michael Shahnasarian, PhD, CRC
Molly Tschopp, PhD, CRC
Stephen Zankas, PhD, CRC
Xi (Lisa) Zheng, PhD, CRC

Editorial Consultants

Jacquelyn Dalton, PhD, CRC
Abdoulaye Diallo, PhD, CRC
C. Dilahunt-Aspillaga, PhD, CRC
Mimi Almaz Getachew, PhD, CRC
Kristin Graham, PhD, CRC
Amani Kettaneh, PhD, CRC
Stephanie L. Lusk, PhD, CRC
Paola Premuda-Conti, PhD, CRC
Abbas Husain Quamar, MS, CRC
Michelle Sporer, PhD, CRC
Susan Stuntzner, PhD, CRC

Book & Media Reviews

Martin G Brodwin, PhD, CRC
Sharon Brown, PhD
Chrisann Schiro-Geist, PhD
Quincy R. Smiling, PhD
Stephen Zankas, PhD, CRC

NRCA Webpage

<http://nraca-net.org/>

Journal of Applied Rehabilitation Counseling is a journal of opinion and research in professional rehabilitation counseling and addresses the needs of individuals employed in a wide variety of work settings and with wide-ranging professional interests. Manuscripts of direct practical value to rehabilitation counselors are particularly encouraged. Also welcome are reader comments, book and media reviews, and editorials of significant interest to members of the Association.

Manuscripts must be submitted electronically as an email attachment. Manuscripts must be formatted as a Word document. Submit to Dr. Mary Huber at the following email address: mary.huber@wright.edu. Manuscripts should follow the style adopted by the American Psychological Association, and should include a brief abstract, and biographical information about the author(s).

Permission Copyright held by NRCA. Permission must be requested in writing for reproducing more than 500 words of Journal material. Write NRCA National Office. All rights reserved.

Journal of Applied Rehabilitation Counseling

Volume 48, Number 4

Winter 2017

Contents

Articles

- Introduction to Special Issue on Vocational Rehabilitation Experiences of Vulnerable Racial and Ethnic Populations: A Multi-Site Minority-Serving Institution Peer-Mentor Research Team Approach** 4
Moore, Corey L., Lewis, Allen N. and Rosen-Reynoso, Myra
- Predictors of Medical and Vocational Rehabilitation Treatment Compliance Among African Americans with Chronic Pain Conditions: An Exploratory Study** 7
Janique Washington-Walker, Corey L. Moore, Tyra Turner Whittaker and Miriam L. Wagner
- Lupus in Culturally Diverse Populations: A Transdisciplinary Model for Vocational Rehabilitation Counseling** 18
Kimberly A. Rapoza, Kathleen Kenney-Riley, Shari Salzhauer Berkowitz, Allen N. Lewis, and Myra Rosen Reynoso
- The Use of Employment/Vocational Rehabilitation Services for Persons with HIV/AIDS and Substance Abuse: A Potential Health Benefit** 28
Abdoulaye Diallo, Chia Vang, Belinda Rivas, Antonio Aguirre, Carl Flowers, and Ngai Kwan
- A Preliminary Investigation of a Tribal College’s Educational Supports for Individuals with Disabilities** 38
Cassie Kitcheyan, Priscilla R. Sanderson, Myra Rosen-Reynoso and Paula Sotnik
- The Impact of Disability and Type of Crime on Employment Outcomes of African American and Latino Offenders** 46
Glacia Ethridge, Angel Riddick Dowden, and Michael Brooks
- National Survey of State Vocational Rehabilitation Agency and Veterans Affairs Interagency Collaborations: An Emerging Conceptual Framework for Co-Serving Veterans of Color with Disabilities** 54
Jean E. Johnson, Corey L. Moore, Fariborz Aref, Andre L. Washington, Courtney Ward, and Kelsey Webb
- CEU Study Guides**
- Exams** 65

INVITATION TO SUBMIT

Dear Rehabilitation Colleagues and Friends,

Dr. Mary Huber (Editor) and Dr. Gina Oswald (Associate Editor) are inviting you to submit your scholarly work to *JARC*. In general, we do not accept literature reviews but we do accept qualitative and quantitative original work as well as conceptual papers. We are currently able to have a quick turn around rate and have qualified colleagues that will thoroughly evaluate your work. We hope you consider *JARC* for your next submission.

Sincerely,
Mary and Gina

Journal of Applied Rehabilitation Counseling
Manuscript Submission Guidelines
Submit electronic manuscripts to Dr. Mary Huber, Editor (mary.huber@wright.edu)

REVIEW POLICY

Because reviewers have agreed to participate in a masked reviewing system, authors submitting manuscripts are requested to submit a separate cover sheet which shows the title of the manuscript, all the authors' names, job titles, email addresses, affiliations with employer or institutional affiliations, postal addresses and telephone numbers.

The first page of the manuscript should omit the authors' names and affiliations, but should include the title of the manuscript and the abstract. The second page of that document begins with the content of the article. Every effort should be made to see that the manuscript itself contains no clues to the authors' identities.

MANUSCRIPT PREPARATION

Beginning with submissions received after January 1, 2016, authors should prepare manuscripts according to the Publication Manual of the American Psychological Association (6th ed.). Manuscripts must be formatted as a Word document (version 2007 or later). All manuscripts must follow the criteria below:

1. An abstract containing a maximum of 150 words.
2. APA formatting must be followed including headings, tables, figures, references, and abstracts. See APA Publication Manual.
3. The content portion of the paper excluding the abstract, the references, and any tables cannot exceed 20 double-spaced pages.
4. In general, the journal does not accept literature reviews. Thus, manuscripts with original data are highly encouraged.
5. All manuscripts must avoid terminology that might imply bias against persons on the basis of gender, sexual orientation, racial or ethnic group, disability, or age.
6. Logical flow from liter review through discussion.

Manuscripts submitted to *JARC* should be concisely written in simple, unambiguous language. They should present materials in logical order, starting with a statement of purpose and progressing through an analysis of evidence to conclusions and implications, with the conclusions clearly related to the evidence presented. Manuscripts failing to meet minimally accepted standards will be returned to authors unreviewed.

PUBLICATION POLICY

APA policy prohibits authors from submitting the same manuscript for concurrent consideration by two or more publications. As *JARC* is a primary journal that publishes original material only, APA policy also prohibits publication of any manuscript that has already been published in whole or substantial part elsewhere. Authors have an obligation to consult with the Editor concerning prior publication of any data upon which their manuscript depends. Authors bear the full responsibility for the accuracy of references, tables, quotations, figures, and the overall content of the manuscript. If accepted, the *JARC* Editorial Office will send the primary author a proof of the edited manuscript for his or her final review.

Introduction to Special Issue on Vocational Rehabilitation Experiences of Vulnerable Racial and Ethnic Populations: A Multi-Site Minority-Serving Institution Peer-Mentor Research Team Approach

Guest Editor

Corey L. Moore

Guest Co-Editors

Allen N. Lewis

Myra Rosen-Reynoso

Welcome to this special issue of JARC! This special issue is a compilation of scholarly work that represents a key research capacity building outcome of peer-mentoring, networks, and relationships between early-career faculty members (herein referred to as fellows), mid-level and senior-level researchers accomplished through a Peer-Mentor Research Team Approach (PMRTA) at the Langston University (a historically Black college/university [HBCU]) Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities. The PMRTA addresses the ongoing need for well-trained researchers in the disability and rehabilitation research and development field. This need is addressed by enhancing minority-serving institution-based (i.e., HBCUs, Hispanic serving institutions, and American Indian tribal colleges/universities) fellows' and early-career researchers' *scientific and technical human capital (STHC)*, defined by Bozeman, Dietz, and Gaughan (2010) as the sum of their professional relationships, networks, and their technical skills and resources. The research training involves more than co-authorship, but also serves as a strategy to enhance self-efficacy, motivation, resilience, and persistence in the work of disability and rehabilitation researchers.

The LU-RRTC's peer-mentorship philosophy has a foundation in team science concepts (e.g., Bennett & Gadlin, 2012; Shrum, Genuth, & Chompalov, 2007) and focuses on mentoring functions and behaviors intended to foster STHC and personal development (Moore, Manyibe, Aref, & Washington, 2017). The articles contained in this special issue were developed across multiple sites (i.e., North Carolina Agricultural and Technical State University, Mercy College, University of Texas Rio Grande Valley, Little Priest Tribal College, and Langston University) under one of the following PMRTAs: (a) Peer-to-Peer Mentor Research Team Academy, (b) Disability and Health Research Career Pathway Program, or (c) RRTC Team Science Approach.

The first PMRTA, the Peer-to-Peer Mentor Research Team Academy is a collaborative effort involving the LU-RRTC, the Institute for Community Inclusion (ICI) at the University

of Massachusetts Boston, and South Carolina State University (an HBCU). One of the goals of this partnership is to provide mentorship to early-career researchers based at minority-serving institutions and support their research enterprise. The second PMRTA, the Disability and Health Research Career Pathway Program represents a pilot strategy developed by the LU-RRTC in response to 'action research' findings whereby key informant minority research leaders felt there was a need to develop more early intervention mentorship programs targeting minority undergraduate, master's, and doctoral students. Pre-doctoral (i.e., undergraduate and master's level) and doctoral fellows are mentored and integrated into on-going RRTC research programs; doctoral fellows are also supported in the development of their dissertation research. The third PMRTA, the LU-RRTC's Team Science Approach represents a revolving iteration of engagement among investigators guided by this scientific paradigm's application. In essence, these investigators work together on projects as a team to carry out the LU-RRTC's minority disability research agenda.

This special issue presents a thematic line of inquiry that extensively addresses the mandate of Section 21 of the 1998 Rehabilitation Act Amendments [Public Law 93-112], and thus the unique service needs of individuals with disabilities from traditionally underserved racial and ethnic minority groups and communities. More specifically, the articles provide information and/or new knowledge that advances the science toward improving the vocational rehabilitation experiences among individuals from the following vulnerable target populations: (a) African-Americans experiencing chronic pain, (b) people of color with lupus, (c) African-Americans and Latinos with HIV/AIDS and substance use disorders, (d) Native American college students with disabilities, (e) African-Americans and Latinos with disabilities and criminal histories, and finally (f) United States Armed Forces veterans of color with disabilities (i.e., African-Americans, Native Americans or Alaskan Natives, Latinos, and Asian Americans or Pacific Islanders).

In the opening article, Washington-Walker, Moore, Whitaker, and Wagner present data from a study that explores medical and vocational rehabilitation treatment compliance among African-Americans with chronic pain conditions served by the North Carolina Division of Vocational Rehabilitation Services. The authors discuss and use the Process-Person-Context-Time Model as a lens to better understand how such factors impact compliance. The results reflect an analysis of participants' self-reported demographics, pain condition, pain level, depression, support, and motivation in relation to medical and vocational rehabilitation compliance. Findings indicate that select demographic characteristics (e.g., marital status and age), social support, and health disparities are significant compliance predictors. Implications include the need to understand retention needs of target population members and develop and implement policy driven training initiatives. This article represents a deliverable developed under the LU-RRTC's Disability and Health Research Career Pathway Program.

In the second article, Rapoza, Kenney-Riley, Berkowitz, Lewis, and Rosen-Reynoso discuss the confluence of lupus symptoms and treatments and disability implications that are particularly debilitating for individuals from minority racial/ethnic populations. The authors posit that there is a need for comprehensive multilevel and multidisciplinary interventions to eliminate health disparities in lupus. Furthermore, they propose a new transdisciplinary model of care and the central role that rehabilitation counselors can play in serving members from these diverse populations. As stated by the authors, "minority individuals with lupus are the focus in the model with resulting services facilitated by their Vocational Rehabilitation Counselor, the point from which transdisciplinary service planning can commence". However, in order for the model to be validated, future scaled-up evaluations in the form of randomized controlled trials and/or other scientifically rigorous approaches are needed to develop the evidence base and demonstrate clinical efficacy of the model. This article is an outcome developed under the LU-RRTC's Peer-to-Peer Mentor Research Team Academy.

In the third article, Diallo, Rivas, Aguirre, Vang, Flowers, and Kwan analyze data from the Rehabilitation Services Administration (RSA-911) Case Service Report to identify the relationships between select vocational rehabilitation services and employment among persons with Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome (HIV/AIDS) and substance abuse. Individuals with substance abuse, as argued by the authors, are at a greater risk for HIV/AIDS due to behaviors such as impaired judgment, impulsive sexual encounters, and infected needle use. This situation of co-occurring conditions represents a triple-jeopardy for persons from diverse minority backgrounds, and so there is a need to identify which services show the most promise in assisting them to successfully obtain competitive integrated employment. Findings reveal that non-Hispanic Whites who receive counseling and guidance benefited the most in terms of employment outcomes compared to non-Hispanic Blacks. Discussion points include enabling services (i.e., Social Security Insurance, and Medicare) as disincentives for employment, and the interaction of such services and race within the context of

employment. This article is a deliverable created under the LU-RRTC's Peer-to-Peer Mentor Research Team Academy.

In the fourth article, Kitcheyan, Sanderson, Rosen-Reynoso, and Sotnik examine the perceptions of faculty and staff members employed at a Tribal College in the mid-western United States. In conducting this qualitative study, the authors sought to (a) gain insight into respondents' concepts of disability and types of accommodations requested, and (b) determine respondents' understanding of historical trauma among Native Americans and its role in the students' educational experiences. Emergent novel themes growing out of the analysis include minimal disability knowledge, unidentified mental health issues, limited accommodations, and variation in understanding of historical trauma. In response to these results, the authors call for enhanced collaboration between educators and rehabilitation counselors beginning in high school, and additional counselor outreach to Native American students. They also note the need for future research that will help to identify best practices for supporting such students with disabilities in their educational pursuits. This article grew out of work conducted under the LU-RRTC's Peer-to-Peer Mentor Research Team Academy.

In the fifth article, Etheridge, Dowden, and Brooks review the literature relevant to disability and criminal history as employment barriers experienced by African-American and Latino ex-offenders. As noted by the authors "the growth of the U.S. minority population, combined with a possible increased rate of incarceration, has created numerous challenges for the state-federal vocational rehabilitation system". Moreover, the denial of employment because of a criminal record disproportionately impacts individuals with disabilities from these minority populations. In order to better track and analyze their rehabilitation experiences, the authors argue that the RSA should consider adding a "criminal history" variable to the RSA-911 Case Service Report database. Additionally, they propose a new criminal history service model (i.e., Vocational Rehabilitation Employment Service Delivery Model) that could be assessed by future researchers in terms of its efficacy. This article is an outcome of the LU-RRTC's Peer-to-Peer Mentor Research Team Academy.

In the last article of this special issue, Johnson, Moore, Aref, Washington, Ward and Webb present findings from a national survey of state vocational rehabilitation agency (SVRA) administrators about promising ways they can work together with the United States Department of Veterans Affairs (VA) to co-service veterans of color. The authors deduce that although promising co-service practices between both entities (SVRAs and VA) already exist, they continue to be unknown and have not been identified and described. The authors use the results to inform the development of a new emerging co-service model presented in the article that can be considered by future researchers for subsequent scaled-up evaluations. This article is a deliverable developed under the LU-RRTC's Team Science Approach.

This collection of articles was developed through a grant to Langston University from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR), a center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS)¹. The work

represents a product of NIDILRR's continuous effort to help alleviate differential rehabilitation experiences among people of color with disabilities through empowering and enhancing the research capacity of individual minority-serving institutions that have been historically underrepresented as research participants. The articles provide various strategies and recommendations that rehabilitation practitioners and policy makers might consider in attempting to improve services to these vulnerable disability populations. We would like to sincerely thank all of the authors for their contribution to developing the manuscripts submitted for this special issue. Additionally, we would like to thank the experts in minority disability and rehabilitation research who so graciously donated their time to making this special issue of the highest quality through their peer review efforts. Those individuals are: Drs. Fabricio Balcazar, Elizabeth Cardoso, Yolanda Edwards, Jorge Garcia, Jenelle S. Pitt, Paola Premuda-Conti, Mona Robinson, William Talley, and Cedric Woods.

^aLangston University, Langston, OK, US

NOTE

1. NIDILRR Grant No. 90RT5024-01-00; for further information, please see our website at www.langston.edu/capacitybuilding-RRTC

References

- Bennett, L.M., & Gadlin, H. (2012). Collaboration and team science: From theory to practice. *Journal of Investigative Medicine: The Official Publication of the American Federation for Clinical Research*, 60(5), 768-775. <http://doi.org/10.231/JIM.0b013e318250871d>
- Bozeman, B., Dietz, J., & Gaughan, M. (2001). Scientific and technical human capital: An alternative model for research evaluation. *International Journal of Technology Management*, 22 (8), 616-630.
- Moore, C.L., Manyibe, E.O., Aref, F., & Washington, A. L. (2017). Research capacity Building: A historically Black college/university-based case study of a peer-to-peer mentor research team model. *Rehabilitation Research, Policy, and Education*, 31 (3), 283-308. <http://dx.doi.org/10.189/2168-6653.31.3.283>
- Shrum, W., Genuth, J., & Chompalov, I. (2007). *Structures of science collaboration*. MIT Press.

Dr. Corey L. Moore serves as Principal Investigator and Research Director at the Langston University Rehabilitation Research and Training Center on Research and Capacity Building for Minority Entities. He provides oversight and participates directly in research development, data collection and analysis, and serves as chief methodologist for all on-going LU-RRTC research and research capacity building programs. His research interests are in the areas of research capacity building, rehabilitation outcomes among people of color with disabilities, and disability public policy.

Dr. Allen N. Lewis is Professor and Dean of the College of Health Professions at the State University of New York Downstate Medical Center, Brooklyn, NY. He has 35 years of experience as a clinician, administrator and educator. During the first half of his career, he worked in public mental health, substance abuse services and cancer epidemiology as a clinician and administrator. His second career as an academic spans work at four institutions (Virginia Commonwealth University, University of Pittsburgh, Gallaudet University, and James Madison University) prior to joining the SUNY Downstate Medical Center. His research interests include disability disparities and measuring the effectiveness of disability services. Dr. Lewis also serves as a member of the National Advisory Panel for the Langston University Rehabilitation Research and Training Center on Research and Capacity Building for Minority Entities.

Dr. Myra Rosen-Reynoso is a Senior Research Associate at the Institute for Community Inclusion (ICI) at University of Massachusetts Boston. She leads the efforts of the Peer-to-Peer Mentorship Academy for ICI as part of the collaboration with the Langston University Rehabilitation Research and Training Center. Additionally, she works on a variety of federally funded research projects focused on improving the vocational rehabilitation outcomes of youth and adults with disabilities.

Predictors of Medical and Vocational Rehabilitation Treatment Compliance Among African Americans with Chronic Pain Conditions: An Exploratory Study

Janique Washington-Walker
Corey L. Moore
Tyra Turner Whittaker
Miriam L. Wagner

Abstract: *The purpose of this study was to explore potential predictors of medical and vocational rehabilitation treatment compliance among African Americans receiving chronic pain management and state vocational rehabilitation agency sponsored services. Study participants included 51 African Americans with chronic pain associated with an array of health conditions (i.e., head pain, neck pain, back pain, leg pain, and diabetes) served by the North Carolina Division of Vocational Rehabilitation Services during fiscal years 2014-2016. The results revealed select demographic characteristics, social support, and health disparities as predictors of compliance. Future implications for rehabilitation policy, service, and research are presented. **Keywords:** African Americans, compliance, chronic pain, and state vocational rehabilitation agencies*

Chronic Pain is a medical condition that has gained increased exposure over the past decade (Freburger, Holmes, & Agans, 2009). According to the Institute of Medicine of the National Academies (2011), 100 million Americans are impacted by chronic pain. Chronic pain conditions affect multiple areas of the body, most prevalently manifested as back pain (27%), severe headaches or migraines (15%), neck pain (15%), and facial aches or pain (4%) (Centers for Disease Control, 2016). More specific to the context state where target group members reside (i.e., North Carolina), state level cross-sectional data (i.e., Freburger et al., 2009) document a 6% rise in the prevalence of chronic pain conditions such as lower back pain from 1992 (3.9%, 95% (CI), 3.4%-4.4%) to 2006 (10.2%, 95% (CI), 9.3%-11.0%) among adults age 21 and older; 4,437 households in 1992 and 5,537 households in 2006 (Freburger et al., 2009).

Chronic pain represents a debilitating condition that can reduce an individual's capacity to participate optimally in activities of daily community living (Ilgen et al., 2010). The execution of life roles can become taxing, and often the person's quality of life is diminished (Van Hal, Meershoek, Nijhuis, & Hortsman, 2013). When chronic pain conditions are an impediment to employment and vocational functioning is compromised, the individual will require services from the state vocational rehabilitation (VR) program (D'Amico, Leonardi, Grazz, Curone, & Raggi, 2015). VR service access and provision may be necessary to assist such in-

dividuals in identifying work accommodations to regain or retain employment (Falvo, 2014).

Traditionally, chronic pain patients were treated from a separatist framework in which there was little collaboration between VR and medical providers. However, a growing body of contemporary literature support interdisciplinary treatment models where individuals experiencing a chronic pain condition receive services from a multidisciplinary group of providers (Gagnon, Stanos, van der Ende, Rader, Harden, 2013; Hamer, Ghandi, Wong & Mahomed, 2013; Myher & Augustad, 2013). Pain can be managed successfully with proper medical treatment (Kipping, Maier, Bussemas, & Schwarzer, 2014), and consequently, individuals suffering from such conditions can better function in their work and community contexts. However, client compliance with multidisciplinary team recommendations is necessary to achieve positive medical and vocational outcomes (Gagnon et al., 2013; Hamer et al., 2013; Myher & Augustad, 2013). When pain is managed successfully, individuals experience a reduction in pain. Consequently, they often experience improved daily functioning, report stable moods, have healthy social and community-based interactions, and report improvements in their overall quality of life (Bishop, Chapin & Miller, 2008; Debatey, Halimi, Quesada, Baudrant, Al-lenet, & Benhamou, 2008). With successful medical treatment, many VR consumers living with chronic pain conditions may be

able to engage in work related and community living activities (Frain, Bishop, Tschopp, Ferrin, & Frain, 2008; Morgan, 2010).

While many individuals living with disabilities experience service access and employment equity challenges (Lukyanova, Balcazar, Oberoi, & Suarez-Balcazar, 2014), such restrictions can be further complicated due to secondary racial or ethnic minority status (Lyons, 2011). For example, African Americans with chronic pain conditions may be exposed to additional quality of life challenges (Lyons, 2011). Members of this target racial population tend to experience a greater incidence of health disparities compared to other racial/ethnic groups, particularly those who fall within lower social economic statuses (Walls & Dowler, 2015). Health-related disparities such as affordability of medical treatment, access to health-related resources, and transportation limitations can negatively impact pain management and serve as barriers to successful VR treatment (Davis et al., 2016; Elder et al., 2016; Park, Hirz, Manotas, & Hooyman, 2013; Sheir, Gingsburg, Howell, Volland, & Golden, 2013).

Of particular concern, the literature reflects unequal experiences among African Americans receiving VR services (Moore et al., 2015; Moore & Wang, 2016; Oberoi et al., 2015), which may be impacted by treatment non-compliance issues. Several factors may influence treatment progression among African Americans with chronic pain receiving VR services. First, as Brady, Veljanova, and Chipephase (2015) explained, there are racial and ethnic differences in chronic pain experiences. As such, they may have different needs related to treatment compliance (Brady et al., 2015). Moreover, African Americans may experience unique challenges associated with coping with pain, such challenges could serve as a plausible explanation for limitations in treatment progress within the VR service context (Brady et al., 2015). Non-compliance within VR and medical service contexts impedes medical gains and vocational progress (Gandhi et al., 2014). Although current medical literature supports the notion that compliance is associated with clients' active commitment to follow provider recommendations (Jin, Sklar, Min, Sen Oh, & Li, 2008), caution should be exercised in attributing treatment resistance as a singular reason for consumer non-compliance (Van Hal et al., 2013).

Considering that chronic pain management involves ongoing medical care, compliance factors should be explored from an interdisciplinary perspective (Myhr & Augested, 2013). An investigation of medical and VR compliance predictors is necessary to promote the quality of life for African Americans with chronic pain disabilities. To this end, first, we present information on the Bronfenbrenner's Process-Person-Context-Time Model (PPCT), which served as our theoretical lens for understanding interdisciplinary perspectives and complex treatment compliance phenomena. Second, the literature on compliance relating to chronic pain conditions and the general understanding of issues (i.e., demographic predictors, pain levels, health disparities, secondary conditions, and social and familial factors) in the adult working population were reviewed, as these constructs were used to operationalize compliance levels. The Consumer Medical and Vocational Rehabilitation Compliance Survey (CMVRC-S) was also examined in determining its usefulness as a measure of compliance levels.

Theoretical Framework

The PPCT model facilitates an examination of human behavior and development from the consumer's perspective of the environment (Golden, McLeroy, Green, Earp, & Lieberman, 2015). The theory can be used to explain how a consumer copes with factors that impact compliance with medical treatment and VR services (Rayner, 2009; Wang, McGrath, Burns, & Watts, 2010). Human development, as described in the model, consists of four interrelated systems including a) microsystem, b) mesosystem, c) exosystem, and d) macrosystem. The microsystem represents the environments and relationships closest to the consumer. In addition to the home environment, variables such as age, gender, ethnicity, and socio-economic status are factors that can influence a consumer's worldview (Isobell, Kamaloodien & Savahl, 2015). Factors such as depression, motivation, and perceptions of pain are all influenced by interactions with the elements in the microsystem environment (Lal, 2016). Interactions between microsystems are defined as the mesosystem (Isobell et al., 2015). An example of this is the collaborative care effort between a consumer's VR service provider and medical provider in the coordination of care.

The exosystem is comprised of entities that can indirectly impact a consumer's compliance with treatment. Such entities may include medical administrators, policy makers within state and federal governments, and community resources (Isobell et al., 2015). The decisions made by these entities can indirectly effect the consumer, and issues of compliance can be a response to interactions within the exosystem. The quality of services can be reduced if the provider fails to follow hospital policies and related protocol that can impact the consumer. For example, a disgruntled medical provider may have a poor bedside manner that will affect how the consumer perceives the provider. Compliance issues may arise due to the indirect involvement of hospital policy in service provision (Isobell et al., 2015). Consumer attendance to medical and vocational rehabilitation appointments is hindered when transportation access issues are influenced by exosystem factors (Milfort, Bond, McGurk, & Drake, 2015; Mossey, 2011). Consumer attendance can be reduced if the individual cannot afford public transportation, or if transportation is limited due to the consumers' location (Brenes, Danhauer, Lyles, Hogan, & Miller, 2015; Mossey, 2011). For instance, public transportation is extremely limited in rural areas (Syed, Gerber, & Sharp, 2013). Transportation access can impede progress in vocational placement (Milfort et al., 2015)

The macrosystem is defined as the interaction between two or more exosystems (Wang et al., 2010). Entities such as managed care organizations and Rehabilitation Services Administration (RSA) provide oversight to medical providers and VR service providers respectively (Conroy, Dale, & McCaffrey, 2016; Dean, Pepper, Schmidt, & Stern, 2016). Differences in policies created by these entities can restrict collaborative care efforts between the local medical provider office and the State Vocational Rehabilitation Administration (SVRA) service provider (Penney et al., 2016). The lack of collaboration between microsystem service providers can be related to consumer compliance issues (Wang et al., 2010).

Definition and Interdisciplinary Measures of Compliance

Murphy and Canales (2001) define compliance as “the extent to which the patient’s behavior (in terms of taking medications, following diets, or executing other lifestyle changes, etc...) coincides with medical or advice” (p. 175). Medical and VR service professionals define treatment compliance as the process whereby the patient/consumer meets objectives to manage symptoms associated with a treated condition (Bener, Deefah & Salem, 2013). Treatment for chronic pain conditions can include an array of interventions that require consumer self-management of assigned activities (Lal, 2016). Common treatment approaches include medication, diet, and exercise. Compliance in these areas is measured by consumer self-report and other metrics such as testing. For example, the pharmaceutical community measures patient prescription compliance utilizing dispensing data (Wouters et al., 2016). Physicians can monitor medication adherence through lab work to check medication levels within the patients’ blood streams (Dadic, Ruzic, Medved, MacDonald, & Tatalovic, 2010). Dietary compliance may be measured by monitoring blood glucose levels, body mass index or cholesterol levels. Compliance within the field of rehabilitation counseling can be measured by the number of attended appointments, completion of assigned homework activities and follow through of individualized employment objectives (Holdsworth, Bowen, Brown, & Howat, 2014).

Demographic Predictors

Demographic variables have been found to be associated with compliance issues (Henderson, 2012; Mahfouz & Adwalla, 2011). For example, Henderson (2012) examined gender differences among individuals with chronic diseases and found that men were more likely to engage in prohibited activities such as drinking than their female counterparts. Consumers’ age has also been identified as a predictor of compliance (Mahfouz & Adwalla, 2011); individuals over the age of 60 are less likely to be compliant to dietary self-management activities. Similar findings were reported in a Currie et al. (2012) study identifying age as a predictor of mortality for individuals with diabetes.

Pain Experience

Chronic pain experience is subjective and most often determined through consumer self-report (D’Arcy, 2011). The level of pain a consumer experiences at any given time can impact their compliance to self-management activities. For instance, a consumer may be resistant to participate in self-management activities such as exercise if they feel their pain will be exacerbated while executing the activity (Lal, 2016). Such pain experiences may cause reductions in motivation to complete self-management activities prompting non-compliance (De Souza & Frank, 2011). Individuals with chronic pain conditions have challenges completing everyday independent living and participating in community activities (Amris, Wæhrens, Christensen, Bliddal, & Danneskiold-Samsøe, 2014). If an individual is unable to address his or her personal care and/or household needs due to pain (DeSouza & Frank, 2011), it is unlikely that they will be able to complete task related to their medical and vocational treatment (Lal, 2016). Petrofsky, Laymon, Alshammari, & Lee (2016) studied exercise com-

pliance in individuals with chronic knee pain who used a low-level continuous heat pack for six hours after treatment and those who were provided an ibuprofen after treatment. Their results indicated that individuals provided the heat pack as an intervention experienced greater rates of compliance to at home exercise and reported greater reductions in pain (Petrofsky et al., 2016). These findings reinforce how consumer perceptions of pain may impact compliance with self-management activities such as exercise. Similarly, a qualitative study based on elicited provider opinions of why osteoarthritis patients do not comply with exercise also reported pain as a factor of treatment non-compliance (Karnad & McClean, 2011).

Social and familial factors

Participants with greater support systems in their lives are more likely to comply with treatment recommendations than those without supports. Bener et al. (2013) conducted a study of social factors influencing compliance in consumers with co-occurring depression and diabetes. The study found that consumers who were non-compliant in treatment did not have family supervision (40%). In contrast, compliant consumers reported good family support (49.4%) (Bener et al., 2013). Similar findings were presented in the Morgan (2010) study; VR consumers who were married had higher rates of appointment attendance.

Purpose of the Study

The purpose of this study was to explore potential predictors of medical and VR treatment compliance among African Americans receiving chronic pain management and SVRA sponsored services. The findings generated through this exploratory investigation could inform the development of future scaled-up evaluations and increase the field’s understanding of the following compliance factors within African American VR consumer context: demographic predictors (age, social economic status, and gender), pain condition (head pain, neck pain, back pain, knee pain and diabetes), pain level (mild, moderate, severe), depression, health disparities (affordability and transportation), support (provider support and family support), and motivation. The following research question was addressed: What factors predict consumer compliance in chronic pain treatment and vocational rehabilitation services among African Americans?

Methodology

Participants

The study sample consisted of 51 African Americans with chronic pain associated with an array of health conditions (i.e., head pain, neck pain, back pain, leg pain, and diabetes) served by the North Carolina Division of Vocational Rehabilitation Services (NCDVR) during fiscal years 2014-2016. The majority of participants were women (62.7%), college educated (33.3%), middle-aged adults between 45 and 55 years of age (49%), with a substantial number of participants above 56 years of age (27.5%). Forty-five percent were single (45.1%), 17.6% were divorced and 25.5% were married. The majority met criteria for poverty with an income range

of \$0-\$12,999.00 (59.8%). Lower socioeconomic status was accompanied by higher incidences of unemployment in the sample (66.7%). A typical participant had two or more chronic pain conditions with self-reported moderate pain levels. The average time in service from application status to case closure was 25.7 months.

Instrument

The Consumer Medical and Vocational Rehabilitation Compliance Survey (CMVRC-S) is a 57-item instrument with one open-ended question, was developed by the authors to identify predictors of compliance among individuals who receive chronic pain management and VR services. The scale was comprised of 13 sections. Survey items were formatted as choice questions or formatted with a Likert Scale rating of one through five (1-strongly agree thru 5-strongly disagree). Likert scale items included a selection for not applicable responses. The instrument is self-administered and is printed on a scantron form requiring pencil or dark pen for the completion of the scale. The survey gathers data from six major areas; pain condition, pain level, depression, support (family and provider), motivation, and health disparities (access to resources, affordability, and transportation). The data gathered was selected and defined based on research and information identified in the literature review.

Section I of the survey collects demographic data; age, gender, race, marital status, employment status, and income (Brown, Kirkpatrick, Swanson, & McKenzie, 2011). Sections II through VI collects data on four chronic pain conditions (back pain, head pain, knee pain, and diabetes respectively) (Falvo, 2009, pp 486-488; Ohayon & Stingl, 2012). Each section contains items that were used to evaluate if the consumer meets the criteria of chronic pain for the selected condition. The criteria of chronic pain was met if the consumer self-reports moderate to severe pain levels for three months or more (Falvo, 2009, p 489).

Medical and VR service compliance areas of focus noted in the literature (medication, exercise, diet, appointment attendance, and support) are addressed in Sections VII thru XI (Bener et al., 2013; Falvo, 2009, p. 490). Items within sections VIII through XI explore reasons for non-compliance associated with consumer beliefs and health disparities such as treatment expense and access to resources (Sheir et al., 2013). Section XII contains items which focus on three areas (support, motivation and depression). Within section XII, items 49 through 53 collects data on consumer opinions regarding their current supports either through family, medical providers or VR providers. Item 54 surveys consumer motivation to work and item 55 is a depression indicator. Section XIII has one open ended question (How can your VR counselor and medical provider work together to help you achieve your treatment goals?). The use of an open-ended question on this survey allowed participants to freely express their opinions (Patton, 2014).

Validity and reliability of the instrument. The CMVRC-S was reviewed by a student panel comprised of three doctoral students in rehabilitation counseling and counselor education, and 18 master's level counseling students with specialties in either rehabilitation counseling, school counseling, or community mental health counseling. Panel members were asked to review the survey for content validity by evaluating if the items in the sur-

vey represented the data being measured. They were instructed to identify errors within the tool and to make suggestions regarding the wording of questions or the organization of the form. Content validity of the CMVRC-S was verified by the panel. We also piloted the survey tool prior to data collection using a convenience sample of individuals with disabilities (n = 15) enrolled in a community-based psychosocial rehabilitation program in North Carolina. These participants were asked to complete the survey and provide feedback regarding the content. Test re-test reliability was assessed between two survey administrations, one week apart. A one-week test interval was determined to be enough time to avoid respondents repeating answers by memory at time 2. Pearson's r correlations were calculated between administrations 1 and 2 and ranged from .82 to .96 for six subscales. A reliability coefficient of .70 or above is considered good for survey instruments (Tavakol & Dennick, 2011).

Procedure

The North Carolina Division of Vocational Rehabilitation Services (NCDVRS) mailed out surveys through the U.S. Postal Services to 1,200 consumers on February 22, 2016, across the state soliciting their participation in the study. The sample was identified using randomized sampling without replacement of participants with physical impairments who were enrolled in vocational rehabilitation services for at least 24 months. The principal investigator maintained contact with NCDVRS staff to track the status of the mailings. A reminder postcard was mailed two weeks after the mailing of the initial packet. Completed surveys were returned to a post office box in Greensboro North Carolina managed by the principal investigator. Upon reviewing returned surveys, the researchers only included those for analysis representing participants who met the following criteria: (a) adults 18 years of age and older, (b) enrolled in the NCDVRS as a consumer at least 24 months, (c) possessed a physical health condition listed as a primary impediment to employment, and (d) experienced chronic pain. Returned surveys that did not meet these criteria were excluded from the analysis. An informed consent form was included with each survey packet. A \$100.00 incentive was offered in an effort to improve survey response rates. The sample size for this study was n=51.

Data Analysis

The data analysis included (a) descriptive statistics describing sample participants' demographics and (b) a predictive inferential test of the relationship between select independent variables (i.e., demographics, pain condition, pain level, depression, support and motivation) and two dependent variables; medical compliance (i.e., medication compliance, dietary compliance, and exercise compliance) and VR compliance. A series of stepwise multiple regression analyses (80% CI) were used to answer the research question (*What select factors predict consumer compliance in chronic pain treatment and VR services?*) using a Pearson R Correlation. The results are shown separately for medical compliance and VR compliance.

Results

Participant Chronic Pain Descriptors

Frequency distributions were calculated for each select chronic pain condition (Back Pain, Neck Pain, Head Pain, Knee Pain, Diabetic Pain, and Other Pain Conditions). Results indicated that back pain was the most common pain condition while diabetic related pain was the least reported by study participants. Table 1 presents a detailed description of the frequencies across pain conditions. Pain level data for diabetic pain were only reported by six participants. Similarly, pain duration frequencies for diabetes was underrepresented because of non-response.

Results for the medical compliance dependent variables. As shown in Table 2, a total of seven independent variables was found to predict medical compliance. In terms of the medication forgetfulness (MEDFO) criterion, marital status ($p < .001$), and employment ($p < .006$), were identified as significant predictors. Regarding the dietary compliance dependent variable, education level ($p < .038$), and access to dietary resources ($p < .044$) were shown to be significantly related to the criterion. Moreover, both the exercise pain ($p < .015$), and exercise knowledge ($p < .004$) were demonstrated as significant predictors of exercise compliance.

Results for vocational rehabilitation compliance predictors. As shown in Table 2, three independent variables were found to predict VR service compliance. Of significance, marital status criterion ($p < .015$), and appointment affordability ($p < .008$), were identified as predictors. Additionally, medication expense ($p < .030$) was found to be a predictor.

Discussion

The purpose of this study was to explore potential predictors of medical and VR treatment compliance among African Americans receiving chronic pain management and SVRA sponsored services. Noted within the article is the expressed potential impact of medical treatment and VR compliance on vocational outcomes (Bener et al. 2013; Frain et al., 2008; Morgan, 2010). The findings identified several factors that predict VR or medical compliance. A discussion of the results and its implications for rehabilitation practice, education, and research are presented in the sections that follow.

Table 1
Frequency Distribution Table for Pain Condition Prevalence

Pain Condition Category	Pain Prevalence		Pain Duration 6 months or more		Pain Level Severe	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Back Pain	41	80.4%	39	76.5%	22	43.1%
Neck Pain	31	60.8%	25	49%	10	19.6%
Head Pain	18	35.3%	14	27.5%	6	11.8%
Knee Pain	35	68.6%	32	62.8%	18	35.3%
Diabetic Pain	8	15.7%	0	0%	0	0%
Other Pain Conditions	30	58.8%	30	58.8%	24	47.1%

Medication noncompliance can have a direct effect on the consumers' health by triggering negative health-related consequences (Grenard et al., 2011). In the current study, medication compliance was measured by consumer self-report of adherence to a medication regimen within a 30-day period. Results showed that medication compliance had a significant linear correlation to consumer marital status. The strength of the predictive relationship is considered strong due to the *r* value falling within the range of .5 and .6. These results corroborate previous findings (i.e., Gagnon et al., 2013) on highlighting the importance of family support in helping consumers achieve positive mental health and employment outcomes. The PPCT model is reflected in the results when considering how family interactions within the consumers' microsystem influence consumer medication compliance behaviors (Rayner, 2009; Wang et al., 2010). For example, a consumers' spouse may provide verbal reminders for medication administration, or a spouse may follow up with a consumer to verify the medication was taken. The results suggest the importance of family support in assisting consumers with following physician's orders (Bener et al., 2013). Therefore, it is imperative for consumers to have necessary supports in place to help facilitate their carrying out of self-management activities. Likewise, individuals who are not married may benefit from linkage to such external support systems within their community (Bener et al., 2013). Rehabilitation counselors should consider assisting consumers in building support networks that may include family, friends, neighbors or social organizations such as churches (Henderson, 2012). For those without supports, the use of technology as a means for providing additional reminders to follow medication self-management re-

Table 2
Multiple Regression Analysis Results

Medical Compliance Dependent Variable Regression Results				
Dependent Variables	Independent Variables	<i>R</i>	<i>r</i> ²	<i>sig</i>
MEDFO	Marital Status	.542	.293	.001
MEDFO	Employment	.404	.163	.006
MEDFQ	Age	.314	.098	.038
DT_FQ	Education Level	.396	.157	.007
DT_FQ	Access to Diet Resources	.292	.085	.044
EX_REG	Exercise Pain	.353	.125	.015
EX_REG	Exercise Knowledge	.473	.224	.004
Vocational Rehabilitation Service Compliance Regression Results				
SU_VRPT	Marital Status	.361	.131	.015
SU_VRPT	Appointment Expense	.392	.154	.008
SU_VRPT	Medication Affordability	.327	.107	.030

Note: Medication compliance is measured by the following; MEDFO- Forgetting to take medication, MEDFQ- Medication compliance frequency, DT_FQ- Frequency of following a diet, and EX-REG- Frequency of regular exercise. VR Service Compliance (SU_VRPT) is measured by frequency of compliance to VR directives. Significance shown at $p \leq .05$.

quirements may be useful (Granger & Bosworth, 2011). There are several options available for medication self-management technology. For instance, pill boxes can be equipped with digital reminders, light indicators and noise indicators. Web based applications can be downloaded on a smart phone through the IOS or Android market. These applications can send consumers medication reminders by text message or a phone call. The added support of technology may improve consumer medication compliance rates by reducing instances of missed doses due to forgetfulness (Granger & Bosworth, 2011).

The results also yielded employment status as a predictor of medication compliance measured by forgetfulness in taking medication ($R=.404, p=.006$). Based on this finding, it seems individuals who are employed experience fewer incidences of forgetfulness related to taking their medication. As a result of the consumers' success in maintaining employment, the individual may have greater performance in managing their medication regimen. The relationship between employment and medication compliance implies that consumers may have increased function in carrying out activities of daily living as evidenced by their ability to execute self-management activities such as following a medication regimen when they are employed (Gandhi et al., 2014).

Age was found to be a predictor for medication compliance. Although the r values represent a positive linear relationship, the variable was considered to have moderate predictability (Shaughnessy et al., 2009). This finding suggests that African American consumers with chronic pain may have different behaviors in following medication regimens based upon their age (Mahfouz & Awadalla, 2011). This result is similar to those reported by Mahfouz and Awadalla (2011) who reported that participant age impacted compliance to diabetes care. The finding reinforces the PPCT model's applicability to the person concept of the model. According to the PPCT model, individualized perceptions regarding treatment compliance and disability can be relative to perspectives specific to a consumer's age (Rayner, 2009; Wang et al., 2010). These belief systems guide the behaviors and decision-making practices for groups (Becton, Walker, & Jones-Farmer, 2014). For example, Baby Boomers are individuals who were born between the years 1946 and 1964; and are characterized to be hard working and committed to rules, and regulations (Becton, et al., 2014). Therefore, an assumption can be made that individuals in this generation would have higher rates of medication compliance. The majority of study participants were between the ages 46-55 (49%) and 56 and older (27%). The demographic frequencies suggest that as individuals age they are more compliant in taking medications. VR professionals should consider coordinating additional supports for younger consumers such as educating them about the consequences of medication noncompliance (Frain et al., 2008).

Education was identified as a predictor of dietary compliance (diet frequency). Assumptions can be made regarding the predictive value that education has on diet compliance for the current study's sample. For instance, higher levels of consumer education may indicate an individual has been exposed to information that would positively influence his or her decision to follow a healthy diet (Zhao, Ford, Li, & Mokdad, 2008). Education can

connect people to health related information through school curriculum and by helping individuals develop health literacy, which can later influence lifestyle choices and health behaviors (Zhao, Ford, Li, & Mokdad, 2008). Furthermore, a lower education level may limit the individual's opportunities for exposure to health-related information. An absence of knowledge may indicate that the individual has not been provided the resources necessary to manage a diet which is afforded to those who participate in health-related courses (Mahfouz & Awdalla, 2011). On the contrary, individuals with higher levels of education may have acquired self-advocacy and independent living skills that are necessary to follow a healthy dietary lifestyle (Mahfouz & Awdalla, 2011).

Medical compliance to a dietary regimen (diet frequency) was predicted by access to dietary resources. Although the predictive value was considered weak due to the small directional effect, the linear predictive correlation indicated inferences for the sample. For instance, access to dietary resources may have a greater predictive value on dietary compliance frequency because consumers have the tools necessary to be successful in following a diet consistently. The nutritional care of individuals with disabilities is predicated on the individual adopting healthy eating habits. Therefore, having access to purchase fruits and vegetables within local stores can assist someone in meeting dietary plans (Sheir et al., 2013).

Exercise regimen compliance was a subcategory of the dependent variable medical compliance. Exercise regimen compliance can be predicted by reports of pain experienced during exercise. The results revealed that exercise pain had a small predictive value to exercise compliance ($p=.015$). Applying the PPCT Model to this significant finding provides additional rationalization that having a pain condition is a personal experience (Lal, 2016). When pain is perceived as a personal experience, the individual may use individualized strategies to cope with the lived experience of the chronic pain condition (Rayner, 2009; Wang et al., 2010). Inferences can be made to the sample regarding those who avoid exercise due to experiencing pain during exercise. Karnad and McClean (2011) found that physiotherapist perceptions of patient adherence to home exercises, reported opinions that patients with chronic musculoskeletal conditions failed to exercise at home due to experiencing higher levels of pain while exercising.

VR service compliance was predicted by marital status, affordability of medication, and appointment expense. An important inference that can be drawn from these results is that health disparities may interrupt consumers' vocational and medical compliance efforts (Milfort et al., 2015). Challenges with access to resources such as health care expenses for medical appointment co-pays and prescription co-pays can potentially impact consumer progress (Sheir et al., 2013). The PPCT models speaks to the interactions of systems and how these relationships influence the consumers' compliance in treatment. When there is a lack of provider collaboration across systems consumers' access to necessary resources is stalemated (Gagnon et al., 2013) sometimes resulting in VR service participation declines.

Marital status was related to VR compliance. The PPCT model supports the relationship between the natural support members and their role as a conduit for the consumer's interactions with

mesosystem and exosystem resources (Rayner, 2009; Wang et al., 2010). For instance, marital status may have a greater influence on VR compliance because consumers may have the spousal support that aids VR attendance. A consumer's spouse may be involved in the treatment planning processes that can reinforce a consumer's commitment to participate in the program (Bener et al., 2013).

Implications for Rehabilitation Counseling Policy and Practice

The results of this research may be informative to rehabilitation practitioners and policy makers for several reasons. First, the study identified age as a significant predictor of medical and VR compliance for African American's with chronic pain. Understanding the retention needs of different age groups may assist the field in improving consumer service participation and positive outcomes (Rayner, 2009; Wang et al., 2010). As such, new SVRA policy driven training initiatives may be warranted to train practitioners on culturally specific strategies for more effectively interacting with African American consumers with chronic pain conditions from various age groups; since these groups are uniquely different in how they perceive disability, chronic pain, and work. Additionally, the findings on marital status and medical and VR compliance may also be helpful to practitioners. The current findings indicate participants with greater consistency in attending VR were more than likely to be married. These results promote the importance of spousal influence on VR compliance, and may warrant practitioners to make greater efforts to involve spouses in serving consumers. In addition, the results suggest VR counselors should link consumers who are not married to natural supports.

Implications for Future Research

Marital status was the only predictor variable that was found to be significant in both VR compliance and medical compliance. This finding suggests that future efforts to address compliance issues should focus on strengthening consumers' natural support systems. Information collected from future studies can possibly lead to strategies to assist members in maximizing natural support in meeting VR and medical needs (Maslow, Haydon, McRee, Ford, Halpern, 2011). A consumer's poor health can impact their ability to function at home and work reducing a consumer's quality of life (Bishop et al., 2008; De Souza & Frank, 2011). Continued research in this area may lead to solutions in improving interrelated consumer compliance issues. Such research is necessary to enhance the quality of life of individuals with disabilities in general, but also to examine the needs of chronic pain population which has been previously neglected in VR compliance research (Morgan, 2010; Zhao et al., 2008).

The findings support the need for the field of VR to establish a concrete definition of compliance (Hayes McCahon, Panahi, Hamre, & Pohlman, 2008), although the researchers defined the construct using the VR counseling paradigm and resources from other professional schools of thought (i.e., Hayes et al., 2008). The current literature, nonetheless, is very vague in expressing a definition specific to the field. One future research strategy that can be considered for implementation by researchers is an exploration of practitioner opinions with respect to what behaviors constitute consumer compliance and noncompliance behaviors. Such

research is warranted to derive a definitive compliance definition for the field (Morgan, 2010). Additionally, future qualitative studies may assist the field in gaining a greater understanding of consumer compliance needs (Creswell, 2013; Patton, 2014).

Conclusion

The findings of this study identified predictors for medical and VR compliance among African Americans. By examining these predictors, the researchers attempted to establish a framework from the Bronfenbrenner's PPCT model for enhancing the field's understanding of compliance issues within African American chronic pain population context (Rayner, 2009). Additionally, the researchers attempted to establish a foundation for future research that could explore interventions to address compliance issues among members of the target population. Both professions have a common interest in improving the lives of individuals with disabilities and are obligated to seek a joint remedy to address the factors that can impede or assist compliance in treatment (Myhr & Augsted, 2013).

Limitations

There are two major limitations that must be fully explored in relation to the results. First, the study had a low response rate (12%). This rate is lower than the 50% response rate for a single mailing of surveys in educational or psychological research that some researchers laud as acceptable for the results to be generalized to a target population (Baruch & Holtom, 2009; Van Horn & Green, 2009; Visser, Krosnick, & Lavrakas, 2000 p. 245). One pragmatic factor affecting the response rate was NCDVR's confidentiality policy for external research. Although NCDVR conducted the survey mail-out, this gate-keeping measure helped to secure the confidentiality of respondents. As such, the researchers were not permitted to have contact with consumer identification information and were therefore severely limited in managing the mail out. As a result, a single round of surveys was mailed followed by one reminder postcard delivered one week later. Delays in the initial delivery of the surveys to consumers may have affected consumer response rates. In addition, the researchers were not permitted to use alternative forms of survey distribution such as email surveys.

However, a low response rate does not necessarily mean the survey results are biased (i.e., Massey & Tourangeau, 2013). A school of thought in social science research is that low response rates produce higher rates of non-response bias (National Research Council, 2013; Peytchev, 2013). As expressed by Massey and Tourangeau (2013), "When all is said and done, . . . non-response bias does not depend in any simple way on the non-response rate" (p. 8). Based on the number of participants solicited, nature of the population sought after, and agency confidentiality policy limitations in executing more aggressive survey mailing strategies, it was anticipated that achieving a response rate greater than 30% would be difficult.

Second, the study used data collected from a subsample of 51 African American NCDVR consumers. This study is state

agency specific, and thus again the results cannot be generalized to African Americans with chronic pain conditions served by other SVRAs or across the state-federal VR program. In short, the results should not be generalized to African American experiencing such conditions served by other state VR agencies. Health care systems infrastructure, policies, and foci on minority access to such services to address chronic pain conditions, as well as SVRA state-specific culture may differ from state to state, thus making this one-state case analysis exploratory in nature.

Acknowledgment: The contents of this article were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90RT5024-01-00). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this article do not necessarily represent the policy of NIDILRR, ACL, HHS, and one should not assume endorsement by the federal government.

References

- Amris, K., Waehrens, E. E., Christensen, R., Bliddal, H., & Daneskiold-Samsøe, B. (2014). Interdisciplinary rehabilitation of patients with chronic widespread pain: Primary endpoint of the randomized, nonblinded, parallel-group improve trial. *Pain, 155*(7), 1356-1364. doi:10.1016/j.pain.2014.04.012
- Becton, J. B., Walker, H. J., & Jones-Farmer, A. (2014). Generational differences in workplace behavior. *Journal of Applied Social Psychology, 44*(3), 175-189. doi:10.1111/jasp.12208
- Bener, A., Dafeeah, E. E., & Salem, M. O. (2013). A study of reasons of non-compliance of psychiatric treatment and patients' attitudes towards illness and treatment in Qatar. *Issues in Mental Health Nursing, 34*(4), 273-280. doi:10.3109/01612840.2012.745039
- Bishop, M., Chapin, M. H., & Miller, S. (2008). Quality of life assessment in the measurement of rehabilitation outcome. *Journal of Rehabilitation, 74*(2), 45-55.
- Brady, B., Veljanova, I., & Chipchase, L. (2015). Are culturally and linguistically diverse populations responsive to chronic pain interventions? *Physiotherapy, 101*(SUPP/1), e168. doi:10.1016/j.physio.2015.03.32
- Baruch, Y., & Holtom, B. C. (2009). Survey response rate levels and trends in organizational research. *Human Relations, 61*, (8) 1139-1160. doi:10.1177/0018726708094863
- Brenes, G. A., Danhauer, S. C., Lyles, M. F., Hogan, P. E., & Miller, M. E. (2015). Barriers to mental health treatment in rural older adults. *The American Journal of Geriatric Psychiatry, 23*(11), 1172-1178. doi:10.1016/j.jagp.2015.06.002. Epub 2015
- Brown, S. T., Kirkpatrick, M. K., Swanson, M. S., & McKenzie, I. L. (2011). Pain experience of the elderly. *Pain Management Nursing, 12*(4), 190-196. doi:10.1016/j.pmn.2010.05.004
- Centers for Disease Control. (2016, February 23). *Chronic disease prevention and health promotion: Chronic disease overview*. Retrieved from: <http://www.cdc.gov/chronicdisease/overview/index.htm>
- Conroy, J., Dale, S., & McCaffrey, R. (2016). Current and emerging trends for residential support for persons with intellectual and developmental disabilities and the impact of managed care initiatives. In Rubin, L., & Crocker, A. (Editors): *Medical Care for Children and Adults with Developmental Disabilities*. Brookes Publishing.
- Currie, C. J., Peyrot, M., Morgan, C. L., Poole, C. D., Jenkins-Jones, S., Rubin, R.R., ... Evans, M. (2012). The impact of treatment compliance in mortality rates of people with type 2 diabetes. *Diabetes Care, 35*(6), 1229-1235. doi:10.2337/dc11-1277
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd Ed.). Thousand Oaks, CA: Sage.
- Dadic, H., E, Ruzic, K., Medved, P., MacDonald, E., & Tatalovic, V. S. (2010). Compliance with treatment - a prerequisite for diagnosing and treatment efficacy. *European Psychiatry, 25*(1), 243. doi:10.1016/S0924-9338(10)70242-X
- D'Amico, D., Leonardi, M., Grazz, L., Curone, M., & Raggi, A. (2015). Disability and quality of life in patients with different forms of migraine. *The Journal of Headache and Pain, 16*(1), 636-635. doi:10.1186/1129-2377-16-S1-A4
- D'Arcy, Y. (2011). *Compact clinical guide to chronic pain management: An evidence-based approach for nurses*. New York, NY: Springer Publishing Company.
- Davis, A. M., Taitel, M. S., Jiang, J., Qato, D. M., Peek, M. E., Chou, C. H., & Huang, E. S. (2016). A national assessment of medication adherence to statins by the racial composition of neighborhoods. *Journal of Racial and Ethnic Health Disparities, 1*-10. doi:10.1007/s40615-016-0247-7
- Dean, D., Pepper, J. V., Schmidt, R., & Stern, S. (2016). The effects vocational rehabilitation services for people with mental illness. *Journal of Human Resources, 0114-6111R1*. doi:10.3368/jhr.52.3.0114-6111R1
- Debatey, I., Halimi, S., Quesada, J. L., Baudrant, M., Allenet, B., & Benhamou, P. Y. (2008). A prospective study of quality of life in 77 type 1 diabetic patient 12 months after a hospital therapeutic educational program. *Diabetes & Metabolism, 34*(5), 507-513. doi: 10.1016/j.diabet.2008.03.007
- De Souza, L., & Frank, A. O. (2011). Patients' experiences of the impact of chronic back pain on family life and work. *Disability & Rehabilitation, 33*(4), 310-618. doi:10.3109/09638288.2010.49086
- Elder, N., Penm, M., Pallerla, H., Vonder Meulen, M. B., Short, A. D., Diers, T., Boone, J. M. (2016). Provision of recommended chronic pain assessment and management in primary care: Does patient-centered medical home (PCMH) recognition make a difference? *The Journal of the American Board of Family Medicine, 29*(4), 474-481. doi:10.3122/jabfm.2016.04.160037

- Falvo, D. R. (2009). *Medical and psychosocial aspects of chronic illness and disability* (4th ed.). Burlington, MA: Jones & Bartlett Learning.
- Frain, M. P., Bishop, M., Tschopp, M. K., Ferrin, M. J., & Frain, J. (2008). Adherence to medical regimens. *Rehabilitation Counseling Bulletin, 52*(4), 237-250. doi:10.1177/0034355209333334
- Freburger, J. K., Holmes, G. M., & Agans, R. P. (2009). The Rising prevalence of chronic low back pain. *Arch Intern Med, 169*(3), 251-258. doi:10.1001/archinternmed.2008.543
- Gagnon, C. M., Stanos, S. P., van der Ende, G., Rader, L. R., & Harden, R. N. (2013). Treatment outcomes for worker's compensation patients in a US-based interdisciplinary pain management program. *Pain Practice, 13*(4), 282-288. doi:10.1111/j.1533-2500.2012.00586.x
- Gandhi, S., Pavalur, R., Thanapal, S., Parathasarathy, N. B., Desai, G., Bhola, P., . . . Chaturvedi, S. K. (2014). Medication Adherence, work performance and self-esteem among psychiatric patients attending psychosocial rehabilitation services at Bangalore, India. *Indian Journal of Psychological Medicine, 36*(4), 392-396. doi:10.4103/0253-7176.140724
- Golden, S. D., McLeroy, K. R., Green, L. W., Earp, J. A. L., & Lieberman, L. D. (2015). Upending the social ecological model to guide health promotion efforts toward policy and environmental change. *Health Education & Behavior, 42*(1 suppl), 8S-14S. doi:10.1177/1090198115575098
- Granger, B. B., & Bosworth, H. (2011). Medication adherence: Emerging use of technology. *Current Opinion in Cardiology, 26*(4), 279-287. doi:10.1097/HCO.0b013e328347c150
- Grenard, J. L., Munjas, B. A., Adams, J. L., Suttorp, M., Maglione, M., McGlynn, E. A., & Gellad, W. F. (2011). Depression and medication adherence in the treatment of chronic diseases in the United States: A meta-analysis. *Journal of General Internal Medicine, 26*(10), 1175-1182. doi:10.1007/s11606-011-1704-y
- Hayes, E., McCahon, C., Panahi, M. R., Hamre, T., & Pohlman, K. (2008). Alliance not compliance: Coaching strategies to improve type 2 diabetes outcomes. *Journal of the American Academy of Nurse Practitioners, 20*(3), 155-162. doi:10.1111/j.1745-7599.2007.00297.x
- Hamer, H., Gandhi, R., Wong, S., & Mahomed, N. N. (2013). Predicting return to work following treatment of chronic pain disorder. *Occupational Medicine, 63*(4), 253-259.
- Henderson, J. (2012). Diabetes self-management and social influencers. *Australian Nursing Journal, 20*(5), 44. doi:10.1093/occmed/kqt019
- Holdsworth, E., Bowen, E., Brown, S., & Howat, D. (2014). Client engagement in psychotherapeutic treatment and associations with client characteristics, therapist characteristics and treatment factors. *Clinical Psychology Review, 34*(5), 428-450. doi:10.1016/j.cpr.2014.06.004
- Ilgen, M. A., Zivin, K., Austin, K. L., Bohnert, A. S., Czyz, E. K., Valenstein, M., & Kilbourne, A. M. (2010). Severe pain predicts greater likelihood of subsequent suicide. *Suicide & Life - Threatening Behavior, 40*(6), 597-608. doi:10.1521/suli.2010.40.6.597
- Institute of Medicine (US) Committee on Advancing Pain Research, Care, and Education. (2011). *Relieving pain in America: A blueprint for transforming prevention, care, education, and research*. Washington (DC): National Academies Press. Retrieved from <http://www.ncbi.nlm.nih.gov/books/NBK92525/>
- Isobell D., Kamaloodien K., & Savahl S. (2015). A qualitative study of referring agents' perceptions of access barriers to inpatient substance abuse treatment centres in the Western Cape. *Harm Reduction Journal, 12*, 36. doi:10.1186/s12954-015-0064-z
- Jin, J., Sklar, E. S., Min, V., Sen Oh, V. M., Li, S. (2008). Factors affecting therapeutic compliance: A review from the patient's perspective. *Therapeutics and Clinical Risk Management, 4*(1) 269-286.
- Karnad, P., & McLean, S. (2011). Physiotherapists' perceptions of patient adherence to home exercises in chronic musculoskeletal rehabilitation. *International Journal of Physiotherapy and Rehabilitation*. Retrieved on 4 October 2015, from <http://ijptr.com/article/physiotherapists-perceptions-of-patient-adherence-to-home-exercises-in-chronic-musculoskeletal-rehabilitation/>
- Kipping, K., Maier, C., Bussemas, H. H., & Schwarzer, A. (2014). Medication compliance in patients with chronic pain. *Pain Physician, 17*, 81-94.
- Lal, A. (2016). Assessment and treatment of pain in thalassemia. *Annals of the New York Academy of Sciences, 1368*(1), 65-72. doi:10.1111/nyas.13061
- Lukyanova, V. V., Balcazar, F. E., Oberoi, A. K., & Suarez-Balcazar, Y. (2014). Employment outcomes among African Americans and Whites with mental illness. *Work, 48*(3), 319-328 310p. doi:10.3233/WOR-131788
- Lyons, H. Z. (2011). Responding to hard times in the "Big Easy": Meeting the vocational needs of low-income African American New Orleans residents. *Career Development Quarterly, 59*(4), 290-301. doi:10.1002/j.2161-0045.2011.tb00070.x
- Mahfouz, E. M., & Awadalla, H. I. (2011). Compliance to diabetes self-management in rural El-Mina, Egypt. *Central European Journal of Public Health, 19*(1), 35-41. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/21526654>
- Maslow G. R., Haydon, A., McRee, A. L., Ford C. A., Halpern, C. T. (2011). Growing up with a chronic illness: social success, educational/vocational distress. *Journal of Adolescent Health, 49*(2), 206-12. doi:10.1016/j.jadohealth.2010.12.001
- Massey, D. S., & Tourangeau, R. (2013). Where do we go from here? Nonresponse and social measurement. *The ANNALS of the American Academy of Political and Social Science, 645*, 222-236. doi:10.1177/0002716212464191
- Milfort, R., Bond, G. R., McGurk, S. R., & Drake, R. E. (2015). Barriers to employment among social security disability insurance beneficiaries in the mental health treat-

- ment study. *Psychiatric Services*, 66(12), 1350-1352. doi:10.1176/appi.ps.201400502
- Moore, C. L., & Wang, N. (2016). A national benchmark investigation of return-to-work outcome rates between African American, Native American or Alaskan Native, Latino, Asian American or Pacific Islander, and Non-Latino White veterans served by state vocational rehabilitation agencies: Application of bootstrap data expansion. *Journal of Vocational Rehabilitation*, 45(2), 133-147. doi:10.3233/JVR-160818
- Moore, C. L., Wang, N., Johnson, J., Manyibe, E. O., Washington, A. L., & Muhammad, A. (2015). Return-to-work outcome rates of African American versus White veterans served by state vocational rehabilitation agencies: A randomized split-half cross-model validation research design. *Rehabilitation Counseling Bulletin*, 58(3), 1-14. doi:10.1177/0034355215579917
- Morgan, J. E. (2010). Psychosocial development and compliance in vocational rehabilitation: A pilot study. *Journal of Vocational Rehabilitation*, 33(3), 159-166. doi:10.3233/JVR-2010-0524
- Mossey, J. M. (2011). Defining racial and ethnic disparities in pain management. *Clinical Orthopedics Related Research*, 469(7), 1859-1870. doi:10.1007/s11999-011-1770-9
- Murphy, N., & Canaleses, M. (2001). A critical analysis of compliance. *Nursing Inquiry*, 8(3), 173-181. doi:10.1046/j.1320-7881.2001.00106.x
- Myhr, A., & Augestad, L. B. (2013). Chronic pain patients—Effects on mental health and pain after a 57-week multidisciplinary rehabilitation program. *Pain Management Nursing*, 14(2), 74-84. doi:10.1016/j.pmn.2010.09.005
- National Research Council. (2013). *Nonresponse in social science surveys: A research agenda*. Washington, DC: The National Academies Press.
- Oberoi, A. K., Balcazar, F., Suarez-Balcazar, Y., Langi, F. L., Fredrik G., & Lukyanova, V. (2015). Employment outcomes among African American and White women with disabilities: Examining the inequalities. *Women, Gender, and Families of Color*, 3(2), 144-164. doi:10.5406/womgenfamcol.3.2.0144
- Ohayon, M. M., & Stingl, J. C. (2012). Prevalence and comorbidity of chronic pain in the German general population. *Journal of Psychiatric Research*, 46(4), 444-450. doi:10.1016/j.jpsychires.2012.01.001
- Park, J., Hirz, C. E., Manotas, K., & Hooyman, N. (2013). Non-pharmacological pain management by ethnically diverse older adults with chronic pain: barriers and facilitators. *Journal of Gerontology Social Work*, 56(6), 487-508. doi:10.1080/01634372.2013.808725
- Patton, M. Q. (2014). *Qualitative research and evaluation methods* (4th ed.). Thousand Oaks, CA: Sage.
- Penney, L. S., Ritenbaugh, C., Elder, C., Schneider, J., Deyo, R. A., & DeBar, L. L. (2016). Primary care physicians, acupuncture and chiropractic clinicians, and chronic pain patients: a qualitative analysis of communication and care coordination patterns. *BMC Complementary and Alternative Medicine*, 16(1), 1. doi:10.1186/s12906-016-1005
- Petrofsky, J. S., Laymon, M., Alshammari, F., & Lee, H. (2016). Use of low level of continues heat as an adjunct to physical therapy improves knee pain recovery and the compliance for home exercise in patients with chronic knee pain: a randomized controlled trial. *Journal of Strength and Conditioning research*, 30(11), 3105-3115. doi:10.1519/JSC.0000000000001409
- Peytchev, A. (2013). Consequences of survey nonresponse. *The ANNALS of the American Academy of Political and Social Science*, 645(1), 88-111. doi:10.1177/0002716212461748
- Rayner, G. (2009). Conventional and ecological public health. *Public Health*, 123(9), 587-591. doi:10.1016/j.puhe.2009.07.012
- Sheir, G., Ginsburg, M., Howell, J., Volland, P., & Golden, R. (2013). Strong social support services, such as transportation and help for caregivers, can lead to lower health care use and costs. *Health Affairs*, 32(3), 544-551. doi:10.1377/hlthaff.2012.0170
- Syed, S. T., Gerber, B. S., & Sharp, L. K. (2013). Traveling towards disease: transportation barriers to health care access. *Journal of Community Health*, 38(5), 976-993. doi:10.1007/s10900-013-9681-1
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53-55. doi:10.5116/ijme.4dfb.8dfd
- Van Hal, L., Meershoek, A., Nijhuis, F., & Hortsman, K., (2013). A sociological perspective on the unmotivated client: Public accountability and professional work methods in vocational rehabilitation. *Disability and Rehabilitation*, 35(10), 819-808. doi:10.3109/09638288.2012.709303
- Van Horn, P. S., Green, K. S., (2009). Survey response rates and survey administration in counseling and clinical psychology: A meta-analysis. *Educational and Psychological Measurement*, 69(3), 389-403. doi:10.1177/001364408324462
- Visser, P. S., Krosnick, J. A., & Lavrakas, P. J. (2000). Survey Research. In H. T. Reis, & C. M. Judd, (Eds.), *Handbook of Research Methods in Social and Personality Psychology* (1st ed.) (pp. 223-249). Cambridge, UK: Cambridge University Press.
- Walls, R. T., & Dowler, D. L. (2015). Disability and Income. *Rehabilitation Counseling Bulletin*, 58(3), 146-153. doi:10.1177/0034355214530788
- Wang, G., McGrath, B., Burns C., Watts, C. (2010). Health care transitions among youth with disabilities or special health care needs: An ecological approach. *Journal of Pediatric Nursing*, 25(6), 505-550. doi:10.1016/j.pedn.2009.07.003
- Wouters, H., Amin, D. F., Taxis, K., Heerdink, E. R., Egberts, A. C., & Gardarsdottir, H. (2016). Associations between personality traits and adherence to antidepressants assessed through self-report, electronic monitoring, and pharmacy dispensing data: A pilot study. *Journal of Clinical Psychopharmacology*, 36, e489-e512. doi:10.1097/JCP.0000000000000541

Zhao, G., Ford, E. S., Li, C., & Mokdad, A. H. (2008) Compliance with physical activity recommendations in US adults with diabetes. *Diabetic Medicine*, 25(2), 221-227. doi:10.1111/j.1464-5491.2007.02332.x

Janique Tynez Washington, PhD, at the time of this research, was a Doctoral Research Fellow at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities and a doctoral candidate in the Doctoral Program in Rehabilitation Counseling and Rehabilitation Counselor Education at North Carolina Agricultural and Technical State University. She is currently employed as director of clinical services at Children's Aid Society.

Corey L. Moore, Rh.D, CRC, serves as Principal Investigator and Research Director at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building and Delta Sigma Theta Sorority, Inc. Distinguished Professor Endowed Chair within the Department of Rehabilitation Counseling and Disability Studies.

Dr. Tyra Whittaker is the Program Coordinator of the Doctoral Program in Rehabilitation Counseling and Rehabilitation Counselor Education, North Carolina Agricultural and Technical State University.

Dr. Miriam Wagner is Professor Emerita of the School of Education, North Carolina Agricultural and Technical State University.

Lupus in Culturally Diverse Populations: A Transdisciplinary Model for Vocational Rehabilitation Counseling

Kimberly A. Rapoza
Kathleen Kenney-Riley
Shari Salzhauer Berkowitz
Allen N. Lewis
Myra Rosen Reynoso

Abstract: Purpose: *Lupus is a chronic autoimmune disease, impacting multiple organ systems and functional status. Lupus disproportionately affects people from minority racial and ethnic backgrounds and takes an earlier, more severe and disabling course within these groups. Care for persons with lupus often requires a multitude of specialists and coordination. To eliminate health disparities, there is a need for comprehensive multilevel and multidisciplinary interventions, with vocational rehabilitation counselors playing an integral role in this process. This paper proposes a transdisciplinary model of care management between all stakeholders that can lead to improved function, disease management and quality of life. The transdisciplinary model builds upon the current interprofessional education model that encourages education, communication and collaboration between health care disciplines, including a team-based model of care incorporating all health providers, rehabilitation counselors, minority individuals with lupus, and other community-based entities (school and work) and natural supports to offer culturally appropriate services. **Keywords:** *Lupus, race, disparities, functional status, disability, transdisciplinary care, vocational rehabilitation**

Lupus is a multi-systemic autoimmune disease in which the body's immune system attacks its own organs resulting in significant morbidity and mortality. Lupus affects many areas of individuals' lives including physical, cognitive, social, and emotional functioning, often resulting in significant disabilities and poor quality of life (Almehed, Carlsten, & Forsblad-d'Elia, 2010; Bjork, Dahlstrom, Wettero, & Sjowall, 2015; Macejova, Zariikova, & Oetterova, 2013). Lupus is most commonly diagnosed between the ages of 15 and 44, but can present in early childhood (Furst et al. 2013; Levy & Kamphuis, 2012). Lupus is more prevalent in women and racial minorities, carries a higher mortality rate in non-White racial/ethnic groups, particularly individuals of African-American (AA), Asian, Latino or Native-American (NA) descent, and studies suggest lupus occurs earlier in life for Latinos and AA individuals (Pons-Estel, Alarcón, Scofield, Reinlib, & Cooper, 2010; Yazdany et al., 2011). Due to earlier disease manifestation in minority individuals, lupus results in higher rates of morbidity, mortality, functional challenges, and organ damage

than in White individuals (Demas & Costenbader, 2009; Holt et al., 2015; Pons-Estel et al., 2008; Schur & Hahn, 2014).

The course of lupus varies by person and typically follows a pattern of remission and flares. Medical treatment guidelines for lupus vary widely and are complicated by the lack of standardized treatment. The complexities of lupus contribute to more cases not being recognized. Beyond recognition of lupus and related to outcomes, lupus impacts individuals' productivity in daily activities, school and work as the disease progresses, and these effects may be more significant and cumulative over time (Fernando & Isenberg, 2005; Mikdashi & Nived, 2015). Additionally, the economic burden of lupus is significant due to the cost of care, as well as lost productivity and lower quality of life for these individuals (Panopalis et al., 2008), especially minority populations where incidence and survival rates are also of concern.

Generally, incidence and survival rates of lupus have increased over the past few decades (Doria et al., 2006). However, it is likely to be diagnosed later in Latino and AA populations compared to majority populations, resulting in even greater risk for

significant impact on their level of functioning (Demas & Costenbader, 2009). These delays in diagnosis can often take up to six years from the initial symptoms. This typically results in more organ system damage by the time the diagnosis is made (Al Sawah et al., 2015).

Prevalence rates for lupus are highest in the United States in communities with the lowest Socioeconomic Status (SES), resulting in limited access to care and support services, poorer health outcomes, lower survival rates, poorer outcomes for low SES children, and more significant disability (Demas & Costenbader, 2009; Lau, Yin & Mok, 2006; Mina & Brunner, 2010; Moncrieffe & Tillery, 2015). The combination of non-White racial/ethnic group membership, having a higher incidence and earlier onset of disease, along with typically later diagnosis and lower SES renders underserved minority populations at risk for higher acuity of lupus disease leading to disparate educational and vocational outcomes than those of majority populations. As such, individuals with lupus, like those with other autoimmune and rheumatological diseases, require a comprehensive multilevel and multidisciplinary approach that addresses medical, psychosocial, educational, and vocational needs.

The purpose of this discussion is to review the existing literature on lupus, and the confluence of symptoms and treatments that create a high propensity for disability that are particularly debilitating for racial/ethnic minority groups. The unpredictable and intermittent nature of the disease as it impacts disability detection and service planning is discussed. In the sections that follow, the implications of having lupus on minority individuals in the areas of employment and education are discussed. Building upon this literature, a transdisciplinary model of care for minority individuals with lupus and the central role that Vocational Rehabilitation Counselors (VRC) can play in improving outcomes is proposed. Finally, the implications of implementing this model for Vocational Rehabilitation (VR) research and counseling are discussed.

The Impact of Lupus on Work, Education and Rehabilitation

Lupus symptoms such as fatigue, pain, depression and neurocognitive impairments are among the most common limiting features of the disease and influence the ability to function in daily living, school and/or work (Garris, Oglesby, Sulcs, & Lee, 2013). Persons from minority backgrounds, who are more at risk for ongoing organ damage and other co-morbidities from lupus, may have even greater obstacles to access services (Fernández et al., 2007), further impacting outcomes for education, work productivity and maintenance of employment.

Lupus treatments often result in missed school, work and/or social functions (Agarwal, Yasui, & Kumar, 2015; Levy & Kamphuis, 2012). Because the symptoms and organ system involvement vary so widely, treatments require individualized treatment plans. Providers must develop plans that address each person's needs based on their symptoms as well as their unique cultural and individual factors (Tunnicliffe, Singh Grewal, Kim, Craig, & Tong, 2015).

Recently, the U.S. Social Security Administration recognized lupus as a disabling condition, but access to benefits, supplemental security income (SSI) and social security disability insurance (SSDI), is dependent upon individuals being able to document that lupus is causing them to be unable to work, go to school and/or live independently ("*Social Security Disability*", n.d.). Because lupus is a chronic disease that is permanent, and it negatively impacts major areas of life functioning, it constitutes a bona fide disability consistent with the concept of disability in the Americans with Disabilities Act (1990 and 2008) (Public Law 101-336). Lupus also meets the World Health Organization's (2001) concept of disability under the International Classification of Functioning, Disability and Health framework that maintains disability is an individual interplay between health condition, degree of impairment, one's participation, the environment, and personal attributes.

The Negative Impact of Lupus on Work

Lupus has been identified as one of the leading causes of work disability; as well as having a negative impact on work hours, loss of work, and difficulty in maintaining one's job (Agarwal & Kumar, 2016). Lupus impacts not only work retention, but also work productivity and career choices. One study found 41.1% of participants stated lupus impacted the number of sick days they took, 35.6% reported an effect on the number of hours they were able to work, 28.2% of respondents quit a job due to lupus and 21.3% had to adjust their career, while 11.3% were fired because of their lupus (Berkowitz, Kenney-Riley, Rapoza, & Lewis, 2017). Of particular note is that the negative impact of work disability on persons with lupus from underrepresented racial/ethnic minorities may be even greater than the generalized lupus population (Gonzalez, Toloza, McGwin, & Alarco, 2013).

With the knowledge that lupus is two to four times more common in non-White racial/ethnic groups, it may be extrapolated that these populations have higher rates of disability due to lupus. The contributory nature of lupus to unemployment is likely to have a greater negative effect on racial and ethnic minority populations since generalized unemployment rates for such populations tend to be higher than rates for majority populations (Bump, 2017). Thus, having lupus is a risk factor for work disruption.

Several studies have indeed found the higher negative impact of lupus on work has cultural dimensions. Baker and Pope (2009) found risk factors for work disability in persons with lupus included race, younger age at diagnosis, low SES and educational attainment, as well as number of organ systems involved. African Americans and Latinos with lupus have a higher incidence of renal disease and kidney failure, hypertension and cardiovascular disease, which can significantly impact their ability to work and function (Demas & Costenbader, 2009). Beyond this, the fact that minority populations tend to have disproportionately higher rates of occurrence of disability and low participation in formal rehabilitation systems as per Section 21 of the Rehabilitation Act Amendments of 1992 (Lewis, Bethea, & Hurley, 2009), means lupus, as a disabling condition, is likely to have more disruption of actual work or potential to work on this group. We also know from the rehabilitation literature that the Triple Threat phenomenon (the interaction among having a disability, being poor, and being of

minority status) severely compromises work outcomes (Burriss, Lewis, Pitt, Getachew, & Alston, 2014).

The Negative Impact of Lupus on Education

In addition to employment, lupus has been found to have a negative impact on both secondary and post-secondary educational attainment. Minority populations and those from lower SES backgrounds with lupus have been found to have lower education levels and lack educational support services (Demas & Costenbader, 2009). Specific variables identified as influencing school include level of lupus disease activity, treatments, number of hospitalizations and school absences (Zelko et al., 2012).

Educational attainment can also have long term consequences on general health and quality of life. Devins, Edworthy, and ARAMIS Lupus State Models Research Group (2000) found that AA participants with lupus reported poorer psychosocial well-being than White and Asian-American (ANA) participants, and AA and ANA reported greater illness intrusiveness. However, educational attainment and illness intrusiveness mediated the relationship between race and psychosocial well-being. That is, some of the relationship between race and poorer well-being was a consequence of lower educational attainment that logically accompanies lower SES.

As described above, the literature indicates significant racial disparities related to work disability, education and access to services in individuals with lupus (Baker & Pope, 2009; Demas & Costenbader, 2009; Gonzalez et al., 2013; Zelko et al., 2012). Even with common employment and educational supports, the cycle of relapses and remissions with lupus may result in intermittent levels of disability and varying levels of functioning based on disease activity level as well as treatment regimens requiring a multidisciplinary approach to care (Baker & Pope, 2009; Beckerman, Auerbach, & Blanco, 2011; Danoff-Burg & Friedberg, 2009; Kelly, Dunnage, Beresford, & McCann, 2012; Lawson et al., 2014). Providers working with minority populations with lupus must address these issues when serving these individuals and refer them for vocational rehabilitation services to optimize their ability to go to school, work, complete activities of daily living and improve their quality of life. These individuals are at high risk, and include vulnerable and disadvantaged populations that often do not receive adequate access to appropriate services aimed at reducing their poor outcomes, yet are among those most in need of these services.

Culturally Informed Vocational Rehabilitation Approaches for Individuals with Lupus

Section 21 of the Rehabilitation Act Amendments of 1992 states that the racial demographic composition of the country is changing, that individuals from racial/ethnic minority backgrounds tend to have higher rates of work related disability, and that individuals from minority backgrounds have received inequitable treatment in the vocational rehabilitation system ("H.R.5482", n.d.). Similarly, lupus disproportionately affects people from certain racial and ethnic minority backgrounds, and takes an earlier, more severe and disabling course within these groups (Pons-Estel et al., 2008). Therefore, based on Section 21's mandate and the

known demographic characteristics of the disease, it is imperative that a comprehensive model of interdisciplinary treatment/rehabilitation and coordination also address issues of culture and cultural competency.

Lewis et al., (2009) have noted that cultural competency is a key component in service delivery for rehabilitation counselors. It is important, both for improving service outcomes for a diverse client population, as well as for reducing health disparities, which stem from disproportionately negative experiences and outcomes for individuals from racial/ethnic minority backgrounds in the health system, that persist even when socioeconomic factors and access are controlled. Additionally, and in terms of outcomes, the risk for individuals with lupus to experience health disparities within medical and mental health systems, might contribute to risk for disability disparities post-diagnosis, when services and accommodations are needed to assist the individual in educational, work and social adjustments necessitated by the debilitating and chronic course of the disease. Lewis (2009) defined disability disparity as "when an underserved, ethnic or racial minority cultural group's goal is to receive services within the formal, rehabilitation and disability system (public or private), but there is a differential experience based primarily on cultural orientation that results in higher incidence of disability, and/or lower participation levels in the formal helping system, and/or fewer successful individual outcomes when compared to majority culture groups" (p. 1140). Logically extending from this concept of disparities is the concern of the extent to which race/ethnicity and this chronic disease intersect to create disability disparities for minority individuals with lupus.

Agarwal et al. (2015) caution that given the higher prevalence of lupus in racial/ethnic populations and known disparities in access to social services and health care that are disproportionately shouldered by underrepresented communities, extra effort needs to be made to ensure maximum vocational rehabilitation and counseling benefits for people with lupus. The needs of each individual may be dependent upon which organ systems are involved, the level of organ damage, baseline health status of the individual, treatments, family/social supports, socioeconomic status and race, thus a multidisciplinary team approach is needed to identify and implement interventions aimed at reducing the disabling impact of lupus. It is possible then that vocational rehabilitation outcomes may rest on a combination of the method of service delivery and demographic characteristics of service recipients.

Transdisciplinary Care for Minorities with Chronic Illnesses/Disabilities: Addressing Plan for Vocational Rehabilitation Providers

To eliminate health disparities in lupus there is a need for comprehensive multilevel and multidisciplinary interventions, with VRC playing an integral role in this process (Moncrieffe & Tillery, 2015). Yazdany et al. (2012) noted that to reduce the significant public health impact of lupus there is a need for creating a health care system that is responsive to the needs of the most vulnerable populations with lupus. While there have been significant advances in the diagnosis and management of lupus, significant disparities remain among specific minority populations

(Moncrieffe & Tillery, 2015). Research indicates that geographic areas with low SES residents were among the highest in prevalence rates for lupus. Those minority populations living in disadvantaged neighborhoods have less access to care at specialized rheumatology centers, potentially resulting in delays in accessing treatments (Yazdany et al., 2012). Culturally appropriate assessments, lifestyle interventions, improved access to care and specialists, increased care coordination, and improved access to supports/prevention interventions could help improve health outcomes and functioning of minority individuals with lupus.

The complexity of lupus calls for a multidisciplinary team management plan. As health care disciplines across the country are being called upon to work as a team, the concept of transdisciplinary care has become more recognized and accepted. The Institute of Medicine (Greiner & Knebel, 2003) and World Health Organization (WHO, 2010) have recognized the need for team-based, interprofessional collaboration to be implemented when working within healthcare settings and with individuals with chronic illnesses to improve health, functioning and quality of life outcomes. Lupus is an example of a chronic illness that requires a collaborative team approach that includes the individual, medical providers, social support services, vocational rehabilitation counselors, physical, occupational and speech therapists, mental health providers, schools, employers and community involvement.

Transdisciplinary care is a model where members from various disciplines come together early in the care process and develop strategies together, exchange ideas and develop management solutions collaboratively (Kokemuller, n.d.). "Transdisciplinary healthcare involves reaching into the spaces between the disciplines to create positive health outcomes through collaboration" (Nandiwada & Dang-Vu, 2010, p. 26). In order to be able to implement this model of care for minority individuals with lupus, changes must occur at the education level for providers, clinical levels of care, community level for outreach and collaboration with schools, and employers to help assure services are accessible and available to the most vulnerable populations. To achieve this goal, we propose several layers of change in the following areas: 1. education of health care providers and VRCs; and 2. use of a transdisciplinary team-based model of care as well as creating a framework for implementing a transdisciplinary model of care for minority individuals with lupus.

Need for Multicultural Interdisciplinary Education

To fully implement a transdisciplinary model of care the first targeted area identified for change is the interdisciplinary education of team members prior to entering into practice. It is important for health care providers to understand the health counseling and preventative care needs among individuals from lower SES status, African Americans and Latinos with lupus, as they may be very different from Whites with chronic illnesses (Earnshaw et al., 2013). Access to care is a significant barrier for racially/ethnically diverse populations, thus training more health care providers and VRCs who want to work in these communities can be invaluable to linking individuals with lupus to providers. Educating health care providers (HCP) and VRCs together may optimize their learning about lupus, understanding of roles, as well as improve com-

munication and collaboration among the disciplines and offer new opportunities to improve access to services in underserved communities where lupus is more prevalent.

As previously stated, the WHO has emphasized the need for preparing all health professionals to work together to build a safer and better patient-centered and community oriented health care system (WHO, 2010). To achieve a transdisciplinary model of care, it is recommended that there be interdisciplinary education of these team members prior to entering into practice. In response to this and recognition of the need for collaboration in caring for individuals many of the health professions' accrediting agencies have mandated or recommended increasing interprofessional education (IPE) and practice experiences in pre-service education (Zorek & Raehl, 2013).

The Negative Impact of Lupus on Education

The second area identified as necessary for optimal care of the minority individual with lupus is the use of transdisciplinary teams. Lupus is a disease that requires individualized plans of medical care (Vu Lam, Ghetu & Bieniek, 2016). Successful case management for one individual with lupus will look very different from the next individual, and may change substantially over time for each individual. There is a need in chronic illness to adapt the current model of care towards health promotion, maintaining functioning and quality of life. To achieve this there is a need for transdisciplinary team-based care and care management with the client as a key part of the team (Agency for Healthcare Quality Research, 2016; Godlee, 2013).

Using the transdisciplinary approach with lupus by VRC follows a current trend in addressing general health care challenges with minority populations in an attempt to eliminate healthcare disparities based on cultural orientation. For example, transdisciplinary approaches have been used to address health literacy (e.g., Johnston Lloyd, Ammary, Epstein, Johnson & Rhee, 2006), health care disparities in cancer (e.g., Standifer et al., 2014), and general health challenges (e.g., Knerr & Fullerton, 2012) in an effort to reduce healthcare disparities due to cultural orientation in minority populations. Therefore, there is no reason to think that using the transdisciplinary approach by VRC in delivering services to minority persons with lupus would not be indicated and potentially valuable.

Within this framework of transdisciplinary health care for the person with lupus, it is clear the vocational rehabilitation services provided by a rehabilitation counselor as a focal point of the team might help in delivering more effective services to persons with lupus from minority backgrounds for several reasons. First, since minorities have lower participation in services (Lewis, 2009), transdisciplinary care offers more involved providers on the team; and thus, arguably a higher likelihood that there is at least one provider in the mix the minority client might build positive rapport with and stay engaged over time. Secondly, VRC are accustomed to leading multidisciplinary teams since it is consistent with usual practice in their case management function that often includes coordination of multiple providers of services in an efficient manner. Thus, leading a transdisciplinary team would not be a stretch for the typical rehabilitation counselor. Thirdly, VRC,

due to the mandate of Section 21 of the Rehabilitation Act Amendments of 1992 and 1998, have an imperative, and accordingly, should have the requisite skills, to work effectively with minority individuals with disabilities (e.g., lupus). Standard and required pre-service education for rehabilitation counselors affords exposure and beginning expertise in providing services cross-culturally. This combined with the push of the Section 21 mandate will impel the conscientious rehabilitation counselor to obtain more skill and proficiency in using cross-cultural counseling tools like the Three-factor Model tool (Lewis, 2006). Using this approach, for example, VRC develop a customized tool to fit their counseling style to become individually acquainted with culturally different service recipients in the areas of cultural identity, developmental functioning, and preferred outcome of services to ultimately enhance culturally sensitive and effective services. The fourth point is that VRC are trained to work from a values perspective that embodies the concepts of individualization, holistic view of the individual, full participation (includes empowerment and self-determination), and starting with the individual's assets (includes natural supports) (Premuda-Conti & Lewis, 2011). These are all fundamental to helping to level the playing field for persons with lupus from underserved and disadvantaged backgrounds, which minority individuals tend to be. Finally, rehabilitation counseling is fundamentally a community-based intervention, which places the locus of activity proximal to, if not within, the client's natural support system where the mistrust is likely to be mitigated, and mistrust of service providers is a common barrier to minority populations receiving effective services.

For persons with lupus, the most important collaboration will be between the primary care provider (whether that is a nurse, doctor, physician assistant or rheumatologist) and the VRC. Having open communication and referral systems set up can improve the transmission of information between professionals, and increase likelihood of service implementation. Connecting providers, vocational counselors, clients and work/school personnel offers opportunities to develop support services allowing individuals to function independently and complete school, work and participate in activities of daily living. The use of a partnership model between each of these systems: individual, health care, vocational rehabilitation, employers and schools allows for a new model of team-based care to be implemented to address the unique needs of each person with lupus (see Figure 1. A Transdisciplinary Model of Care for Minority Individuals with Lupus).

Transdisciplinary Care Model

The relapsing and remitting nature of lupus results in varying degrees of disability and levels of functioning over time, and the medical regimen for each person will differ, necessitating individualized planning. A number of service providers are necessary for identifying each person's needs and for providing treatment, interventions and support that optimizes functioning, disease management and quality of life. Hence, the first layer of the model proposes a collaborative team approach among professional resources, such as medical providers, social support services, VRC, physical, occupational and speech therapists, mental health providers, schools, and employers. Minority individuals with lu-

pus are the focus in the model with their VRC, the point from which transdisciplinary service planning can commence.

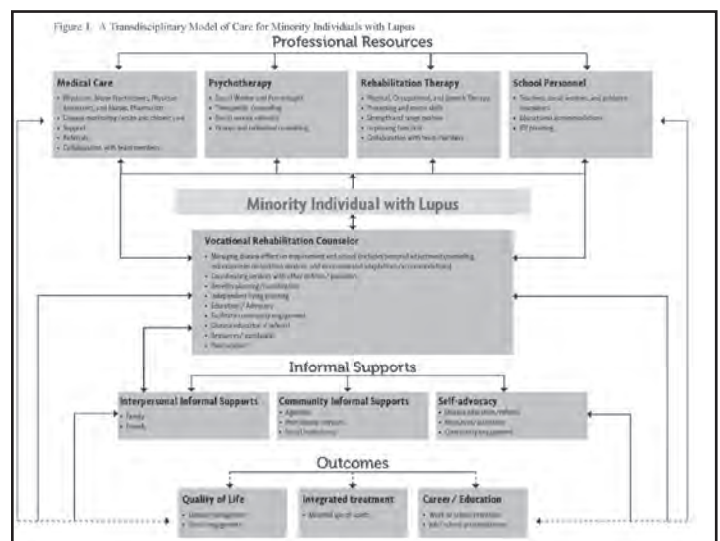
VRC are placed in an intermediary and collaborative role between professional resources, the individual with lupus and informal supports and desired outcomes (i.e., work/education, quality of life, and treatment outcomes). VRC, trained to work from a perspective of individualized treatment plans, self-advocacy, education, and support system strengthening, may best serve the unique case management needs of a chronic disease like lupus. VRC may also be in the best position as a focal point for a transdisciplinary team that develops treatments and coordinates disease management strategies together, as this case management model is already a common occupational function.

Importantly, the demographic profile of the disease mandates that cultural competency be included as a key component in service delivery; lupus strikes women most often, people in their prime working years (20-40), and individuals from AA, Latino, NA and ANAethnic backgrounds. VRC, due to the mandate of Section 21 of the Rehabilitation Act Amendments of 1992 and 1998, are required to acquire the skill set necessary to work effectively with minority individuals with disabilities, but also are accustomed to working within a holistic framework that can develop care and service plans that accommodate the additional diversity of gender, age, and socioeconomic status found among minority individuals diagnosed with lupus.

In the next level of the model, informal supports are recognized as having a profound impact on disease management, emotional wellbeing and self-care. VRC are trained to work from a perspective of self-advocacy, education, individualized treatment plans and support system cultivation, and can help develop or strengthen the informal support systems needed to attain and sustain the model's identified positive outcomes: a high quality of life, maximal use of and benefit from integrated treatment, and school as well as work success.

Implications for VR Practice and Research

Areas where VRC can help promote the care of minority individuals with lupus include providing the team with knowledge



of local community resources, connecting clients and healthcare team members with agencies, prioritizing problems, identifying services needed and available, improving access to services, educating team members regarding negotiating disability service systems, enhancing understanding of services available for minority individuals regarding their education, work and functional aspects of independent living and assisting healthcare members in better assessing the physical, cognitive, psychological, emotional and social needs of their clients to optimize their documentation of needs and gaining approval/access for these services. In order to achieve this, rheumatology centers providing care to clients with lupus and VRC must develop relationships and create a model of collaborative care.

VRC should reach out to centers with rheumatology clinics to provide in-service education, create a referral process and develop collaborative relationships with the management team for these clinics/centers. Having access to and relationships with a known VRC may increase the likelihood of the providers using these services, increase referrals and improve assessments of client's needs and disabilities. Further, VRC may provide valuable insight and reduced workload for healthcare providers by educating them on the process of applying for disability services and assisting them in accessing available supports for their minority clients with lupus.

Rheumatology providers can provide VRC with an understanding of the complexities of lupus, including all organ systems involved, level of acuity, medication needs and side effects and potential complications for each individual. Educating VRC on the pathophysiology of lupus, the impact of lupus in minority populations and current and future treatment options will allow the team to create a realistic and attainable management plan in consultation with the client to assure their needs are being met. Training VRC in the care of chronic conditions such as lupus can improve identification of appropriate services and interventions for clients due to a clear understanding of their disease process. Research has found that training VRC in chronic illnesses and the unique health and vocational needs of illnesses such as lupus can enhance access, the use of, and outcomes of VR services (Fleming, Phillips, & Kline, 2015).

Coordination of care is another barrier to providing team-based chronic care management. Traditionally medical providers were seen as the 'leader' of the healthcare team, but as health care has transitioned into fewer admissions, more outpatient care, and a focus on promoting individuals with chronic illnesses to continue to live full lives, there is a need for a change in this model. When a minority individual with lupus is in an acute stage of their disease requiring hospital admission and intensive treatment, the medical provider may be the lead for their illness management, with the VRC as a consultant during this period. As the individual's status improves and the client is transitioning back to home, school and work, the VRC should take the lead in the case management with the healthcare provider team as consultants in developing an appropriate plan of care. Flexibility in the team-based model would allow for improved collaboration, communication and meeting the needs of minority persons with lupus based on their changing health care status.

The use of VRC in person-centered transition planning has been found to enhance client participation in transition planning, improve communication and increase client use of available services (Hagner, May, Kurtz, & Cloutier, 2014). VRC may provide invaluable assistance to client and healthcare providers as they work with minority individuals with lupus who are recently diagnosed or have gone through a critical illness with prolonged hospitalization as they prepare to transition back to their home, school, work and social lives. The VRC can help prepare the minority client for discharge planning meetings, build rapport between the client and healthcare team, assist in identifying individual needs, concerns and advocate for the individual in the discharge planning process. Helping the client voice their concerns, needs and desires can facilitate an improved management plan that can optimize functioning and quality of life in these individuals.

The implementation of this model has implications for VR research. Since this is a new model that has not been tested, it will be important to engage in validation activities. Of course, the ideal would be the gold standard of conducting randomized control design research studies, proving the efficacy of this model in improving educational and vocational outcomes for minority individuals with lupus. However, this may be a tall order in the near term, especially in light of the macro-level attributes of the model.

On the one hand, it is a model that addresses dynamics and relationships at a macro-level among system components. This does not readily lend itself to psychometric validation in its purest and traditional form because obtaining a clear unit of analysis at the individual level might be formidable. However, if such individual level data or macro-level data using a broader unit of analysis (e.g., program level data) were available, potentially a path analytic or structural equation model approach might be instructive as a validation method. Additionally, examining the linkages across the many connections between elements in the model would also be worthwhile in smaller validation studies.

On the other hand, and perhaps more likely in the near term, is that this model would be viewed as having explanatory power on its face (i.e., face validity) as a framework to guide and explain the potential relationships among its elements. Over time, if, and as the model becomes more pervasive and recognized within the field (primarily through usage and citation), it could receive a type of informal validation based on its ability to be instructive in clarifying the concept of transdisciplinary care in VR for persons with lupus from underserved and minority backgrounds.

Conclusion

Lupus is a complex, progressive, often debilitating disease with no known cure that disproportionately impacts persons of color and women, who experience a wide range of symptoms across the lifespan with exacerbating and remitting attacks. The professionals who are charged with helping them to live life to their fullest potential, including healthcare providers, vocational rehabilitators, family, schools and employers must find ways to connect, engage and educate each other, and work collaboratively to optimize outcomes in this high-risk population (Gonzalez et al., 2013).

In this paper, we have proposed several strategies to overcome the lack of connection between the professional stakeholders in the quest for optimal functioning for persons with lupus, especially minorities. The use of a transdisciplinary model of collaboration and care management between all professional stakeholders can lead to improved function in all aspects of life. A transdisciplinary model of care, as proposed, builds upon the current interprofessional education model that encourages education, communication and collaboration to include a team-based model of care incorporating health providers, VRC, individuals with lupus, family/friends, communities, schools and employers as key components of the model for care. As stated, lupus impacts populations that are traditionally underserved, thus creating a comprehensive set of challenges. Deploying a team-based model of care, offers a more culturally competent plan of care and addresses the unique needs of each individual, while optimizing their functioning and well-being. This model might be applicable to other chronic illnesses as more individuals with chronic illness continue to live longer, but with more complex social, emotional and physical needs.

Acknowledgement: The financial support for this research was provided by the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90RT5024-01-00) to the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities through a collaborative subcontract with the University of Massachusetts Boston Institute for Community Inclusion (ICI). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this article do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government.

References

- Agarwal, N., & Kumar, V. (2016). Burden of lupus on work: Issues in the employment of individuals with lupus. *Work*, 55(2), 429-439. <http://doi:10.3233/WOR-162398>
- Agarwal, N., Yasui, N. Y., & Kumar, V. (2015). Lupus: Vocational aspects and the best rehabilitation practices. *Journal of Vocational Rehabilitation*, 43(1), 83-90. <http://doi:10.3233/JVR-150757>
- Agency for Healthcare Quality Research (2016). *Partnering with patients to improve quality, safety and the patient experience* (Agency for Healthcare Quality and Research Pub. No. 16-0034-1-EF). Retrieved from <https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/quality-patient-safety/patient-family-engagement/pfepriarycare/partnering-1.pdf>
- Almehed, K., Carlsten, H., & Forsblad-d'Elia, H. (2010). Health-related quality of life in systemic lupus and its association with disease and work disability. *Scandinavian Journal of Rheumatology*, 39, 58-62. <https://doi.org/10.3109/03009740903124408>
- Al Sawah, S., Daly, R.P., Foster, S., Naegeli, A., Benjamin, K., & Alarcón, G. (2015, June). *Understanding delay in diagnosis, access to care, and satisfaction with care in lupus: Findings from a cross-sectional online survey in the United States*. Paper presented at the European League Against Rheumatism (EULAR) Annual Conference. Rome, Italy.
- Americans with Disabilities Act of 1990, Pub. L. No. 101-336, 104 Stat. 328 (1990).1043659606295567
- Baker, K., & Pope, J. (2009). Employment and work disability in systemic lupus erythematosus: A systematic review. *Rheumatology*, 48(3), 281-284.
- Beckerman, N. L., Auerbach, C., & Blanco, I. (2011). Psychosocial dimensions of SLE: implications for the health care team. *Journal of Multidisciplinary Healthcare*, 4, 63.
- Berkowitz, S., Kenney-Riley, K., Rapoza, K.A., & Lewis, A.N. (2017). *Lupus: Disease impact on functioning and the need for vocational rehabilitation counseling services*. Manuscript submitted for publication.
- Bjork, M., Dahlstrom, O., Wettero, J., & Sjowall, C. (2015). Quality of life and acquired organ damage are intimately related to activity limitations in patients with systemic lupus erythematosus. *BMC Musculoskeletal Disorders*, 16(188), 1-9.
- Bump, P. (2017, May 5). Black and Hispanic unemployment rates have never been below those for Whites. *The Washington Post*. Retrieved from https://www.washingtonpost.com/news/politics/wp/2017/05/05/black-and-hispanic-unemployment-has-never-been-below-that-for-whites/?utm_term=.065f3f720ee4
- Burriss, J.L., Lewis, A.N., Pitt, J., Getachew, M.A., & Alston, R. (2014). Essential knowledge to improve employment of ethnic minorities with disabilities in the United States. In D. Strauser (Ed.), *Career development, employment and disability: From theory to practice* (pp. 449-463). New York, NY: Springer Publishing.
- Danoff-Burg, S., & Friedberg, F. (2009). Unmet needs of patients with systemic lupus erythematosus. *Behavioral Medicine*, 35(1), 5-13. <http://doi:10.3200/BMED.35.1.5-13>
- Demas, K. L., & Costenbader, K. H. (2009). Disparities in lupus care and outcomes. *Current Opinion in Rheumatology*, 21(2), 102-109. doi:10.1097/BOR.0b013e328323daad
- Devins, G. M., Edworthy, S. M., & ARAMIS Lupus State Models Research Group. (2000). Illness intrusiveness explains race-related quality-of-life differences among women with systemic lupus erythematosus. *Lupus*, 9(7), 534-541.
- Doria, A., Iaccarino, L., Ghirardello, A., Zampieri, S., Arienti, S., Sarzi-Puttini, P., & Todesco, S. (2006). Long-term prognosis and causes of death in systemic lupus erythematosus. *The American Journal of Medicine*, 119(8), 700-706. <http://dx.doi.org/10.1016/j.amjmed.2005.11.034>
- Earnshaw, V.A., Carroll-Scott, A., Rosenthal, L., Chwastiak, L., Santilli, A., & Ickovics, J.R. (2013). Preventive discussions with health care providers: Exploring difference by race/ethnicity and place. *Journal of Health Care for the*

- Poor and Underserved*, 24(2103), 185-195. <https://doi.org/10.1353/hpu.2013.008>
- Fernández, M., Alarcón, G. S., Calvo-alén, J., Andrade, R., McGwin, G., Vilá, L. M., & Reveille, J. D. (2007). A multi-ethnic, multicenter cohort of patients with systemic lupus erythematosus (SLE) as a model for the study of ethnic disparities in SLE. *Arthritis Care & Research*, 57(4), 576-584. <http://doi:10.1002/art.22672>
- Fernando, M. & Isenberg, D. (2005). How to monitor SLE in routine clinical practice. *Annals of Rheumatic Disease*, 64, 524-527. <https://doi:10.1136/ard.2003.015248>
- Fleming, A. R., Phillips, B.N., & Kline, K.M. (2015). Clients with chronic illness in VR agencies: How do they compare with other client populations? *Journal of Vocational Rehabilitation*, 42(2015), 101-113. <http://doi:10.3233/JVR-150728>
- Furst, D. E., Clarke, A. E., Fernandes, A. W., Bancroft, T., Greth, W., & Iorga, S. R. (2013). Incidence and prevalence of adult systemic lupus erythematosus in a large US managed-care population. *Lupus*, 22(1), 99-105. <http://doi:10.1177/0961203312463110>
- Garris, C., Oglesby, A., Sulcs, E., & Lee, M. (2013). Impact of systemic lupus erythematosus on burden of illness and work productivity in the United States. *Rheumatology (Oxford)*, 52(12), 2292-2301. <http://doi:10.1093/rheumatology/ket300>
- Godlee, F. (2013). Partnering with patients. *BMJ*, 346, f3153. <http://doi:10.1136/bmj.f3153>
- Gonzalez, L.A., Toloza, S.M.A., & McGwin Jr, G., & Alarcón, G. S. (2013). Ethnicity in systemic lupus erythematosus (SLE): Its influence on susceptibility and outcomes. *Lupus*, 22(12), 1214-1224. <http://doi:10.1177/0961203313502571>
- Greiner, A.C., & Knebel, E. (2003). *Health Professions Education: A Bridge to Quality*. Washington, DC: National Academies Press. Retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK221528/>
- Hagner, D., Kurtz, A., May, J., & Cloutier, H. (2014). Person-centered planning for transition-aged youth with autism spectrum disorders. *Journal of Rehabilitation*, 80(1), 4-10.
- Holt, J.B., Huston, S.L., Heidari, K., Schwartz, R., Gollmar, C.W., Tran, A., & Croft, J.B. (2015). Indicators for chronic disease surveillance- United States, 2013. *Morbidity and Mortality Weekly Report*, 64(1), 1-246. Retrieved from <https://www.cdc.gov/Mmwr/pdf/rr/rr6401.pdf>
- H.R.5482 - Rehabilitation Act Amendments of 1992 (n.d.). Retrieved from <https://www.congress.gov/bill/102nd-congress/house-bill/5482>
- Johnston Lloyd, L.L., Ammary, N.J., Epstein, L.G., Johnson, R., & Rhee, K. (2006). A transdisciplinary approach to improve health literacy and reduce disparities. *Health Promotion Practice*, 7(3), 331-335. DOI: 10.1177/1524839906289378
- Kelly, J., Dunnage, J., Beresford, M. W., & McCann, L. J. (2012). Multi-disciplinary care in juvenile-onset systemic lupus erythematosus. *British Journal of School Nursing*, 7(7), 325-330. <https://doi.org/10.12968/bjsn.2012.7.7.325>
- Knerr, S., & Fullerton, S.M. (2012). Transdisciplinary approaches to understanding and eliminating ethnic health disparities: Are we on the right track? *Ethnicity and Disease*, 22(4), 504-508.
- Kokemuller, N. (n.d.). What is the difference between a transdisciplinary team & a multidisciplinary team? Retrieved from <http://smallbusiness.chron.com/difference-between-transdisciplinary-team-multidisciplinary-team-18762.html>
- Lau, C. S., Yin, G., & Mok, M. Y. (2006). Ethnic and geographical differences in systemic lupus erythematosus: An overview. *Lupus*, 15(11), 715-719.
- Lawson, E. F., Hersh, A. O., Trupin, L., Scheven, E., Okumura, M. J., Yazdany, J., & Yelin, E. H. (2014). Educational and vocational outcomes of adults with childhood-and adult-onset systemic lupus erythematosus: nine years of followup. *Arthritis Care & Research*, 66(5), 717-724. <http://doi:10.1002/acr.22228>
- Levy, D. M., & Kamphuis, S. (2012). Systemic lupus erythematosus in children and adolescents. *Pediatric Clinics of North America*, 59(2), 345-364.
- Lewis, A. N. (2009). Disability disparities: A beginning model. *Disability and Rehabilitation*, 31(14), 1136-1143. <http://dx.doi.org/10.1080/09638280902773737>
- Lewis, A.N. (2006). The three-factor model of multicultural counseling for consumers with disabilities. *Journal of Vocational Rehabilitation*, 3, 151-159.
- Lewis, A., Bethea, J., & Hurley, J. (2009). Integrating cultural competency in rehabilitation curricula in the new millennium: Keeping it simple. *Disability and Rehabilitation*, 31(14), 1161-1169. <http://dx.doi.org/10.1080/09638280902773760>
- Macejova, Z., Zarikova, M., & Oetterova, M. (2013). Systemic lupus erythematosus- disease impact on patients. *Central European Journal of Public Health*, 21(3), 171-173.
- Mikdashy, J. & Nived, O. (2015). Measuring disease activity in adults with systemic lupus erythematosus: The challenges of administrative burden and responsiveness to patient concerns in clinical research. *Arthritis Research & Therapy*, 17(83), 1-10. <https://doi:10.1186/s13075-015-0702-6>
- Mina, R., & Brunner, H. I. (2010). Pediatric lupus—are there differences in presentation, genetics, response to therapy, and damage accrual compared with adult lupus? *Rheumatic Disease Clinics of North America*, 36(1), 53-80. <http://doi:10.1016/j.rdc.2009.12.012>
- Moncrieffe, H. & Tillery, R. (2015). Addressing healthcare disparities in autoimmune disease: A focus on systemic lupus erythematosus in the USA. *The Journal of Pan African Studies*, 7(9), 64-71.
- Nandiwada, D. R., & Dang-Vu, C. (2010). Transdisciplinary health care education: Training team players. *Journal of Health Care for the Poor and Underserved*, 21, 26-34.

- Panopolis, P., Yazdany, J., Gillis, J. Z., Julian, L., Trupin, L., Hersh, A. O., & Yelin, E. (2008). Health care costs and costs associated with changes in work productivity among persons with systemic lupus erythematosus. *Arthritis and Rheumatism*, 59(12), 1788–1795. <http://doi.org/10.1002/art.240>
- Pons-Estel, G.J., Alarcon, G.S., Scofield, L., Reinlib, L., & Cooper, G.S. (2010). Understanding the epidemiology and progression of Systemic Lupus Erythematosus. *Seminars in Arthritis and Rheumatism*, 39(4), 257. <http://doi.org/10.1016/j.semarthrit.2008.10.007>
- Premuda-Conti, P., & Lewis, A. (2011). Vocational rehabilitation counseling in the United States. *Psicología, Conocimiento y Sociedad*, 4, 52–82. <http://revista.psico.edu.uy/index.php/revpsicologia/index>
- Schur, P. H., & Hahn, B. H. (2014). Epidemiology and pathogenesis of systemic lupus erythematosus. *UpToDate* Retrieved from <https://www.uptodate.com/contents/epidemiology-and-pathogenesis-of-systemic-lupus-erythematosus>
- Social Security Disability SSI and Filing based on Lupus (n.d.). Retrieved from <http://www.ssdrc.com/ssd-ssi-lupus.html> Section 504, Rehabilitation Act of 1973 (n.d.). Retrieved from <https://www.dol.gov/oasam/regs/statues/sec504.htm>
- Standifer, M., Baldwin, J., Davis, J., Gwede, C., Williams, C., Dash-Pitts, L., Goldsmith, J., & Sneed, K. (2014). A transdisciplinary approach to eliminate cancer disparities: An overview of community engagement and outreach efforts in a National Institute of Health Center for Excellence. *Journal of Health Disparities Research and Practice*, 7(2), 26-36.
- Tunnicliffe, D. J., Singh Grewal, D., Kim, S., Craig, J. C., & Tong, A. (2015). Diagnosis, monitoring, and treatment of systemic lupus erythematosus: A systematic review of clinical practice guidelines. *Arthritis Care & Research*, 67(10), 1440-1452.
- Vu Lam, N. C., Ghetu, M. V., & Bieniek, M. L. (2016). Systemic lupus erythematosus: Primary care approach to diagnosis and management. *American Family Physician*, 94(4), 284-294.
- World Health Organization Department of Human Resources in Health (2010). *Framework for Action in Interprofessional Education and Collaborative Practice*. Geneva: WHO. Retrieved from http://www.who.int/hrh/resources/framework_action/en/.
- World Health Organization (2001). *International Classification of Functioning, Disability and Health*. Retrieved from <http://who.int/classifications/icf/en/>.
- Yazdany, J., Trupin, L., Tonner, C., Dudley, A., Zell, J., Panopolis, P., & Yelin, E. (2012). Quality care in systemic lupus erythematosus: Application of quality measures to understand gaps in care. *Journal General Internal Medicine*, 27(10), 1326-1333.
- Zorek, J. & Raehl, C. (2013). Interprofessional education accreditation standards in the USA: A comparative analysis. *Journal of Interprofessional Care*, 27(2), 123-120. <http://dx.doi.org/10.3109/13561820.2012.718295>
- Zelko, F., Beebe, D., Baker, A., Nelson, S. M., Ali, A., Cedeno, A., & Brunner, H. I. (2012). Academic outcomes in childhood-onset systemic lupus erythematosus. *Arthritis Care & Research*, 64(8), 1167-1174. <http://doi:10.1002/acr.21681>

Dr. Kimberly Rapoza is an Associate Professor in the Department Psychology at Mercy College and a Research Fellow in the Peer-to-Peer Mentor Research Team Academy at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities. She currently serves as the director for the Ronald E. McNair Scholars Program at Mercy College.

Salzhauer Berkowitz, PhD, CCC-SLP, CLC is an Associate Professor of Communication Disorders at Mercy College, and a Research Fellow in the Peer-to-Peer Mentor Research Team Academy at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities. In addition to teaching and conducting research, Dr. Berkowitz supervises graduate students as they provide speech therapy in the Mercy College Speech and Hearing Center.

Kathleen Kenney-Riley, EdD, APRN, BC-PNP is an Associate Professor of Nursing in the School of Health and Natural Sciences at Mercy College and a Research Fellow in the Peer-to-Peer Mentor Research Team Academy at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities. In addition to teaching and conducting research, Dr. Kenney-Riley is a Pediatric Nurse Practitioner who practices with children and adolescents with Lupus and other Rheumatologic conditions.

Dr. Allen N. Lewis, is Professor and Dean of the College of Health Professions at the State University of New York Downstate Medical Center, Brooklyn, NY. He has over 35 years of experience as a clinician, administrator and educator. During the first half of his career, he worked in public mental health, substance abuse services and cancer epidemiology as a clinician and administrator. His second career as an academic spans work at four institutions (Virginia Commonwealth University, University of Pittsburgh, Gallaudet University, and James Madison University) prior to joining the SUNY Downstate Medical Center.

Dr. Myra Rosen-Reynoso, is a Senior Research Associate at the Institute for Community Inclusion (ICI)

at University of Massachusetts Boston. She leads the efforts of the Peer-to-Peer Mentorship Academy for ICI as part of the collaboration with the Langston University Rehabilitation Research and Training Center. Additionally, she works on a variety of federally funded research projects focused on improving the vocational rehabilitation outcomes of youth and adults with disabilities.

The Use of Employment/Vocational Rehabilitation Services for Persons with HIV/AIDS and Substance Abuse: A potential Health Benefit

Abdoulaye Diallo
Chia Vang
Belinda Rivas
Antonio Aguirre
Carl Flowers
Ngai Kwan

Abstract: *This study investigates Vocational Rehabilitation (VR) services related to competitive employment closure among non-Hispanic Blacks (NHB), non-Hispanic Whites (NHW), and Hispanics with HIV/AIDS and substance use disorder (SUD). Data of 4150 was extracted from the Rehabilitation Services Administration (RSA-911) database. Descriptive statistics and multi-variate analysis showed consumers who received SSI and Medicare were less likely to be employed than those who did not, and, NHW who received rehabilitation counseling and guidance benefited the most compared to NHB who did not. Rehabilitation counselors can assist minorities with HIV/AIDS and SUD secure employment given the positive effects of employment for this population. Health professionals should consider incorporating employment, using VR services in their treatment strategies, while making sure clients with different racial ethnicity background benefit equally from all VR services.*

Human Immunodeficiency Virus and Acquired Immunodeficiency Syndrome (HIV/AIDS), the leading cause of death for the general global population, is a serious health and social problem, negatively affecting individuals' basic daily living, including employment (WHO, 2014). HIV/AIDS disproportionately affects minorities. During the period of 2005-2014, data suggests that compared to Whites, African Americans (AA) and Hispanics/Latinos were more affected by HIV, with African Americans experiencing the worst infection rate (Center for Disease Control and Prevention (CDC), 2016). A potential factor in HIV/AIDS transmission is substance use disorder (UNODC, 2011). Substance use can lead to impaired judgment and risky behaviors, including impulsive and unsafe sexual encounters, or using infected needles (Hergenrather, Zeglin, Conyers, Misrok, Rhodes (2016); NIDA, 2012), either of which can lead to the spread of HIV (Morojele et al, 2006; Parry et al, 2009). Persons with HIV/AIDS, who are at higher risk of substance use disorder (Morojele et al, 2006; Parry et al, 2009), are thus likely to further spread infection. Treatment for this population diagnosed with substance use disorder (SUD) is crucial.

Benefits of Employment

Employment may be beneficial for this population with both HIV/AIDS and SUD challenges. Employment provides positive benefits, improved self-esteem, health benefits, and quality of life (QOL) (Conyers, 2004; Jung & Bellini, 2011). For competitive employment, in particular, consumers are payed at least minimum wage. Among persons with HIV/AIDS, employment is positively related to physical, psychological, social, and mental health, including HIV/AIDS-related health issues (Heponiemi, et al., 2007; Lewis, Kagan, Heaton, & Cranshaw, 1999, 2012), all of which influence a positive decrease in the use of substances. The role of employment in SUD treatment extends beyond the immediate physical and psychological impacts to social and behavioral influences. Research has found employment provides social support that may reduce the use of substances among persons with HIV/AIDS. Social support is effective in reducing risk behaviors that can lead to reinfection, in increasing treatment adherence, and in reducing other related problems among individuals with HIV/AIDS (e.g., stress, depression, anxiety) that are linked to the use of substances (Leserman et. al., 2000). As West (2008) noted, employment is among the strongest and most reliable predictors of substance use reduction or elimination.

Employment and Substance Use Disorder Treatment

Positive effects notwithstanding, traditional SUD treatment can be unattractive, especially for minority clients, given the cost associated with treatment and traditional treatments' emphasis on European values and less, if any, focus on minorities' values (Lee, 2013; Milligan, Nich, & Carroll, 2004; Straussner, 2001). Employment, on the other hand, is unequivocally appealing.

Employment barriers due to impairments from HIV/AIDS (physical, psychological or social) may have relatively little impact on the employment capacity of many persons with HIV/AIDS. As a result of medical advances, the acute disease aspect of HIV/AIDS has been reduced; instead, this population now tends to have long-term chronic health problems that nonetheless allow them to maintain their employment capacity (Conyers & Boomer, 2014; Disease Control and Prevention, 2013; Hergenrather et al., 2016; Jung & Bellini, 2011). Employment has become not only possible but necessary for persons with HIV/AIDS. In fact, some scholars (Coyers & Boomer, 2014; Pete et al., 2015; Sung, Brooks, Muller, Chan, & Strand, 2012) have emphasized the need for employment in public health intervention for persons with HIV/AIDS. Yet, Conyers and Boomer (2014) have observed that the impact of vocational rehabilitation or employment on HIV prevention has received scant attention.

The state-federal vocational rehabilitation (VR) program, which serves over one million persons with chronic illness and disability (CID) annually, might benefit those with HIV/AIDS and SUD to secure and maintain employment in integrated settings (e.g., through job skills training, assessment, referral, and job placement services, among others). As a result of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, persons with HIV/AIDS are eligible for such employment services. Recently, former U.S. President Obama sponsored the first National HIV/AIDS Strategy that fosters employment opportunity for persons with HIV/AIDS (Hergenrather et al., 2016).

However, VR services have been shown to be less beneficial for minorities compared to Whites. Hayward and Schmidt-Davis (2003) have noted that differences in the likelihood of successful closure are related to consumer descriptors, such as race. VR services have been shown to be effective for persons with HIV/AIDS when researchers control for race (Shamburger-Rousseau, Conyers, Armstrong, 2016). Additionally, according to Wheaton (1995), there is no differences between Whites and minorities in relation to successful employment closure. However, other research has noted minorities were less likely to exit VR services with successful employment (Dutta et al., 2008; Feist-Price, 1995; Herbert & Martinez, 1992).

VR services in particular (general assessment, job readiness, rehabilitation counseling and guidance, on-the-job support, information referral) may be essential for persons with HIV/AIDS and SUD, who, unlike more typical VR clients, face two separate CID, both of which are highly stigmatized. Yet, counseling-related instruments and approaches, given their lack of multicultural related information, are generally ill-suited for minorities (Diller, 2011; Lee, 2013), including minorities with HIV/AIDS and SUD. Compared to Whites, minorities such as AA and Hispanics benefit less from these services.

While research on employment is well documented in the literature, fewer studies have addressed race, with a focus on HIV/AIDS and those with SUD. This includes the interaction of VR counseling services with race. Race may moderate the effects of VR counseling and competitive employment closure among persons with HIV/AIDS and SUD. It is worth noting moderator or interaction variables (race) have become increasingly important in rehabilitation counseling. What works for Whites may not work for AA or Hispanics (Chan, Bezyak, Ramirez, Chiu, Sung, & Fukikawa, 2010; Chan, Tarvydas, Blalock, Strauser, & Atkins, 2009). In this case, it is unclear which racial group(s) are related to competitive employment. This study investigates (1) VR services associated with competitive employment for persons with HIV/AIDS and SUD who were NHW, NHB, or Hispanics and (2) differences in successful competitive employment among NHW, NHB, or Hispanics who receive VR counseling services.

Research Questions

For VR consumers with HIV/AIDS and SUD:

1. Among NHW, NHB, or Hispanics with HIV/AIDS and SUD, what VR services are related to successful competitive employment?
2. Among NHW, NHB, or Hispanics with HIV/AIDS and SUD who receive VR counseling services, what are the differences in successful competitive employment closure - specifically, NHW versus NHB and NHW and Hispanics with SUD?

Method

Data for this ex post facto study analyses were obtained from the Rehabilitation Service Administration (RSA 911) data set from 2002 to 2012. This RSA secondary data set, with about 150 variables, includes demographic variables, services utilization, disability type and causes, and employment of persons with disabilities for the 50 U. S states, the District Columbia, and US territories.

Population

Based on the research questions, only persons with HIV/AIDS and SUD who were NHW, NHB, or Hispanic were included in this study. Of the total 4150 participants with HIV/AIDS and SUD, 455 were Hispanics, 2700 were NHB, and 1004 were NHW.

Variables

The outcome or dependent variable for the study was competitive employment; defined as employment in an integrated setting, self-employment, or a state-managed Business Enterprise Program (BEP) that is performed full-time or part-time, and the consumer is compensated at or above the minimum wage (Pete et al, 2015). The consumer also maintains employment for 90 days and then exits the VR system. This variable was dichotomous (competitive employment closure vs not competitive employment closure).

The predictor or independent variables were demographic, need-based, and VR-related variables that were significantly correlated with competitive employment closure at 0.1 and above. The demographic variables included gender (male vs female), level of education (high school vs college level education), age (17 to 64), race (NHB, and NHW, and Hispanics, with NHW as the reference group). The need-based variables included Medicare, Medicaid, SSI, SSDI, and tariff. The VR variables included diagnosis, counseling and guidance, college or university training, occupational or vocational training, on-the-job training, job readiness, miscellaneous: training provided, job search assistance, job placement assistance, on-the-job support, transportation services, maintenance, information and referral, and other services. The VR counseling variables were diagnosis and treatment of impairments, job readiness, rehabilitation counseling and guidance, information referral, and on-the-job support. Variable were considered counseling variables because counselors were more likely to partly or fully provide these services, unlike services such as transportation, technical assistance services, personal assistance services, and others. In addition, these services are relevant for persons with HIV/AIDS and SUD given the nature of HIV/AIDS, including the stigmatization and lack of education regarding this disease among employers (Adaramaja, Opeyemi, & Mojisola, 2016; Hergenrather 2016; Kroll, Lampert, & Devitt, 2011). Based on the feedback of an expert panel which consisted of eight former and current counselors who have worked in 10 different states, these variables were included. All the demographic variables were categorical, except for age. Also, all the need related variables and VR related variables, including the counseling variable, were dichotomous (consumers either received the services or they did not).

Analysis

A correlation analysis was done and as stated above variables that were correlated at 0.1 and above were included in the analysis. To describe the bivariate relationships between the predictors and competitive employment closure, crosstabs with row percentages and chi-square analyses were used. In addition, for research question 1, multivariate logistic regression analysis was performed to investigate how different services are associated with competitive employment for persons with HIV/AIDS and SUD who were NHW, NHB, or Hispanic. For research question 2, multivariate logistic regression analysis was also used to investigate the differences in successful competitive employment among NHW, NHB, or Hispanic in relation to VR services, including the counseling variables.

For both research questions 1 and 2, the analyses were conducted in three blocks to determine change in model significance. For research question 1, first, demographic variables were entered. Need-based variables were entered next, and the VR variables, including the VR counseling variables. For research question 2, first, demographic variables were entered. Hispanic and NHB racial groups were selected and entered with the other demographic variables. Because NHW was the reference group, it was not entered. Need-based variables were entered next, and the VR variables, including the VR counseling variables and the interaction variables (i.e., NHB and the counseling variable and Hispanics

and the counseling variables) were entered last. In interaction or moderation effect, there is a combined effect of variables on an outcome. Interaction variables were created between each of the VR variables and each of the three races in order to compare NHW (the reference group) with NHB and Hispanics.

Results

The provision of VR services varied. See Table 1 for detailed results.

Service Received	N	% for NHB, NHW, and Hispanics	% for NHB	% for NHW	% for Hispanics
SSI	1007	24.6%	26.1%	20.1%	25.8%
SSDI	786	19.2%	18.1%	24.2%	15.6%
TANF	132	3.2%	3.1%	3.0%	3.6%
Medicaid	1881	45.2%	45.7%	36.6%	60.5%
Medicare	633	15.31	15.0%	18.6%	1.0%
Diagnosis and Treatment	4150	29.6%	29.5%	33.7%	25.5%
Rehabilitation counseling and guidance	4150	51.1%	48.4%	61.7%	43.1%
College / University	4150	9.3%	6%	14%	7.9%
Occupational / Vocational	4150	11.9%	12.1%	12.3%	11.2%

The chi-square analysis showed the demographics (age, level of education, and gender) were not significant. All the need-based and all the VR services were significant. For example, among those clients who achieved competitive employment, 43% had received diagnosis and treatment of impairments services while only 26% of those clients who did not achieve competitive employment had received diagnosis and treatment of impairments services. See Table 2 for the detailed results.

For the multivariate logistic regression analysis for research question 1, the result indicates all the VR counseling variables were significant, except for diagnosis services. For the need-related variables, only SSI and Medicare were significant, with odd ratios of 0.61 and 0.95, respectively. This indicates if a person does not receive SSI the odds of successful competitive employment closure were 1.64 times greater, and if a person does not receive Medicare the odds of successful competitive employment were 1.43 times greater. Receiving SSI or Medicare diminishes the probability of securing successful competitive employment following VR services.

However, persons with HIV/AIDS and SUD who were NHW, NHB, or Hispanic and received VR counseling services were more likely to be employed compared to their peers who did not received these services. The expected odds for persons with HIV/AIDS and SUD who were NHW, NHB, or Hispanics and who received counseling and guidance and information and referral were 1.23 and 1.71, times respectively, higher than their peers who did not receive the same service. For job readiness training,

the expected odds for persons with HIV/AIDS and substance use disorder who were NHW, NHB, or Hispanics and who received this service was 0.73 lower than peers who did not receive the same service (See Table 3 for the detailed results). This indicates the employment odds of this population who did not receive job readiness were 1.35 times higher than those who did not receive this same service.

For the multivariate logistic regression analysis for research question 2, the only significant interaction was between NHB and NHW in relation to counseling and guidance services. See table 4.

These interactions indicate the expected odds ratio for NHB who received counseling and guidance services were 0.54. That is, the employment odds of NHW who received counseling and guidance services were 1.85 times higher than NHB who received this same service. The other counseling variables were not significant. The non-significant interaction relationships (for job readiness, information and referral, diagnosis and treatment of

impairments, and on-the-job support and on the job support) for NHB and NHW indicate that NHB who received these services were no more or less likely to be employed than similar NHW. For Hispanics, the results indicate that those receiving VR counseling services (all five of the counseling services in this study) were no more or less likely to be employed than similar NHW. (See Table 4 for result).

Discussion

The purpose of this study was twofold. First, to investigate the differences among VR services that are associated with successful competitive employment for persons with HIV/AIDS and SUD who are NHW, NHB, or Hispanic. Second, to investigate the differences in successful competitive employment among individuals of different ethnicities--NHW, NHB, or Hispanic--who received VR counseling services.

For research question 1, the result indicated that persons with HIV/AIDS and SUD who were NHW, NHB, or Hispanic and received SSI and Medicare were less likely to be employed compared to their peers who did not receive these same services. Additionally, persons with HIV/AIDS and SUD who were NHW, NHB, or Hispanic and received counseling and guidance, college or uni-

Table 2. Services received (N=4,145).

	N	Y	Chi-Square & P Value
Education at Application	2808 (88.9%)	857 (87%)	Pearson Chi ² = 2.525
	352 (11.1%)	128 (13%)	P = .112
Diagnosis & Treatment	2335 (73.9%)	559 (56.8%)	Pearson Chi ² = 104.
	825 (26.1%)	426 (43.2%)	P = 0.001
Rehab Counseling & Guidance	1726 (54.6%)	299 (30.4%)	Pearson Chi ² = 176.95
	1434 (45.4%)	686 (69.6%)	P = .001
College / University	2956 (93.5%)	852 (86.5%)	Pearson Chi ² = 49.92
	204 (6.5%)	133 (13.5%)	P = .001
Occupational / vocational training	2873 (90.9%)	774 (78.6%)	Pearson Chi ² = 108.16
	287 (9.1%)	211 (21.4%)	P = .001
On the job training	3152 (99.7%)	961 (97.6%)	Pearson Chi ² = 46.73
	8 (0.3%)	24 (2.4%)	P = .001
Job Readiness	2975 (94.1%)	840 (85.3%)	Pearson Chi ² = 80.56
	185 (5.9%)	145 (14.7%)	P = .001
Misc. training	3001 (95%)	854 (86.7%)	Pearson Chi ² = 78.89
	159 (5%)	131 (13.3%)	P = .001
Job search	2857 (90.4%)	615 (62.4%)	Pearson Chi ² = 432.10
	303 (9.6%)	370 (37.6%)	P = .001
Job placement	2828 (89.5%)	517 (52.5%)	Pearson Chi ² = 660.26
	332 (10.5%)	468 (47.5%)	P = .001
On-the-Job Supports	3081 (97.5%)	864 (87.7%)	Pearson Chi ² = 156.54
	79 (2.5%)	121 (12.3%)	P = .001
Transportation	2220 (70.3%)	380 (38.6%)	Pearson Chi ² = 322.23
	940 (29.7%)	605 (61.4%)	P = .001
Maintenance	2918 (92.3%)	742 (75.3%)	Pearson Chi ² = 210.34
	242 (7.7%)	243 (24.7%)	P = .001

Table 2. Services received (N=4,145). Continued

	N	Y	Chi-Square & P Value
Information / Referral	2859 (90.5%)	810 (82.2%)	Pearson Chi ² = 50.17
	301 (9.5%)	175 (17.8%)	P = .001
Other services	2735 (86.6%)	620 (62.9%)	Pearson Chi ² = 271.26
	425 (13.4%)	365 (37.1%)	P = .001
SSI	2236 (73.6%)	818 (82.5%)	Pearson Chi ² = 32.57
	802 (26.4%)	173 (17.5%)	P = .001
SSDI	2426 (74.7%)	620 (79.8%)	Pearson Chi ² = 8.72
	820 (25.3%)	157 (20.2%)	P = .003
TANF	2939 (75.6%)	100 (78.1%)	Pearson Chi ² = .43
	948 (24.4%)	28 (21.9%)	P = .601
Medicaid	1664 (73.9%)	1465 (79.1%)	Pearson Chi ² = 15.51
	588 (26.1%)	386 (20.9%)	P = .001
Medicare	2589 (75.1%)	518 (82.7%)	Pearson Chi ² = 17.27
	860 (24.9%)	108 (17.3%)	P = .001
White_NH	2404 (76.4%)	761 (75.8%)	Pearson Chi ² = .16
	742 (23.6%)	243 (24.2%)	P = 0.70
Black_NH	1111 (76.6%)	2054 (76.1%)	Pearson Chi ² = .16
	339 (23.4%)	646 (23.9%)	P = .70
Hispanic	2808 (76.0%)	357 (78.5%)	Pearson Chi ² = 1.36
	887 (24.0%)	98 (21.5%)	P = .267

versity training, occupational or vocational training, on-the-job training, miscellaneous training, job search assistance, job placement assistance, on-the-job support, transportation, maintenance, information and referral, and other services were more likely to be employed compared to their peers who did not receive these services.

For research question 2, the job readiness interaction with NHB & Hispanic and the counseling and guidance interaction with NHB & Hispanic differences in securing employment were found only for NHB and NHW in relation to counseling and guidance services only. These relationships indicated that for counseling and guidance services, NHB were less likely to secure employment compared to NHW.

In sum, the three racial groups benefited from VR services in general and less so for VR enabling services. For counseling and guidance services NHW benefited more than NHB, but benefited

equally as Hispanics. For the other four VR counseling services, NHW benefited equally as NHB and Hispanics.

Vocational Rehabilitation and the Receipt of Benefits

As noted above, Hispanics, NHB, or NHW clients with HIV/AIDS and SUD who received SSI and Medicare were less likely to be competitively employed compared to those who did not receive SSI and Medicare. Yet, according to Coyer and Boomer (2014), persons with HIV/AIDS feel a sense of normalcy as they develop employment skills through VR services and engage in employment activities. Despite the need for benefits for persons with disabilities (PWDs), research has shown benefits such as SSI and Medicare dissuade PWDs from reentering the work force (Bardos, Burak, & Ben-Shalom, 2015). For VR consumers with HIV/AIDS, studies have indicated fear about loss of benefits is an obstacle in returning to work (Brooks, Martin, & Veniegas, 2004; Hunt, Jaques, Niles, & Wierzalis, 2003; Timmons, & Fesko, 2004). Jung and Bellini (2011), who used VR consumers with HIV/AIDS, found in addition to SSI and Medicaid, SSDI and Medicare recipients were less likely to be fulltime employed compared to those who did not receive these services. They noted fear of losing benefits may have led to the part time employment preference.

Training is crucial to gaining employment. It can augment the skills and qualifications necessary for employment and therefore the readiness to meet employers' demands. For example, college or university training can provide a degree, a certificate, or other educational credentials. On-the-job training, occupational training, and miscellaneous training can provide specific job skills, training for gainful employment, and GED or high school diplomas, respectively.

Table 3

Multivariate Regression Analysis (for research question 1)

Service Provided	Odds Ratio	S.E.	P Value	95% Conf. Inter.
SSI at application	0.61 (1.64) ^R	0.12	0.00	-0.77, -0.27
Medicare at application	0.70 (1.43) ^R	0.17	0.03	-0.70, -0.05
Rehabilitation counseling and guidance	1.23	0.11	0.06	-0.04, 0.44
College/University	1.44	0.16	0.02	0.06, 0.69
Occupational/vocational training	1.50	0.14	0.00	0.13, 0.66
OTJ Training	4.51	0.50	0.00	0.63, 2.78
Job readiness	0.73 (1.35) ^R	0.18	0.09	-0.68, 0.04
Misc. training	2.28	0.17	0.00	0.48, 1.17
Job Search	1.68	0.14	0.00	0.28, 0.81
Job Placement	3.61	0.13	0.00	1.03, 1.56
Information referral	1.70	0.13	0.00	0.28, 0.80
OTJ support	3.14	0.18	0.00	0.82, 1.51
Transportation	1.57	0.10	0.00	0.25, 0.65
Information referral	1.70	0.13	0.00	0.28, 0.80
OTJ support	3.14	0.18	0.00	0.82, 1.51
Transportation	1.57	0.10	0.00	0.25, 0.65
Maintenance	2.11	0.14	0.00	0.49, 1.04

Table 4

Multivariate Regression Analysis (for research question 2)

Service Provided	Odds Ratio	S.E.	P Value	Conf. Inter.
SSI at application	0.61	0.12	0.00	-0.73, -0.27
Medicare: insurance at application	0.71	0.17	0.04	-0.68, -0.00
Rehabilitation counseling and Guidance	2.02	0.22	0.00	0.28, 1.19
Information referral	1.83	0.24	0.01	0.11, 1.07
Diagnosis	0.70	0.21	0.08	-0.77, 0.05
On-the-job Support	2.47	0.35	0.01	0.21, 1.58
Rehabilitation counseling and guidance by NHB	0.54 (1.85) ^R	0.26	0.02	-1.14, -0.11
Job readiness by NHB	0.50	0.41	0.08	-1.54, 0.09
Diagnosis by NHB	1.80	0.24	0.01	0.13, 1.05

However, training services may be insufficient in securing employment for PWDs. Consumers may need a combination of VR service component to effectively gain and maintain employment. For example, job placement services may require a thorough job search to find and place clients at a specific employment that matches the client's need. Job search, whether through the internet or in person, to better match clients is crucial. Transportation becomes invaluable as clients may need to travel far distances when searching for employments. Many minority clients who generally lack resources may need transportation services. Job placement becomes more beneficial when there is ongoing support for persons with mental illness. Some have noted the importance of job placement and on-the-job supports for successful employment for persons with mental illness, including persons with SUD (Bond, 2004; Bond, Drake, & Becker, 2008; Pete et al., 2015). To attain one's potential in employment, maintenance services, such as food, shelter, and clothing become necessary. As Maslow (1943) noted, attaining one's highest potential necessitates meeting basic needs.

Yet, NHB and Hispanics, in addition to having little access to trainings and educational opportunities, lack resources, including transportation and basic necessities, and, in a greater need of them compared to NHW (Wilson, Alston, Harley, & Mitchell, 2002). A lack of one or more of the VR services may hamper employment opportunities.

Vocational Rehabilitation Services and Race

Vocational rehabilitation counseling can be invaluable for persons with HIV/AIDS and SUD. For example, for a group that faces discrimination and issues related to HIV/AIDS and SUD (e.g., disclosing illness to an employer, depression), rehabilitation counseling and guidance services can (together with their clients) come up with effective solutions and decisions. For a group facing discrimination and stigmatization that can lead to abandoning employment (Hunt, Jaques, Niles, and Wiezalis, 2003), and about whom employers may be under informed or misinformed, on-the-job support that provides support services (follow-up and follow-along, and job retention services), can be beneficial. For example, on-the-job support can provide a buffer against discrimination and stigmatization through its provision of emotional support and/or advocacy for clients. In fact, Pete et al., (2015) and Bond (2014) found on-the-job supports to be effective for persons with mental illness, including persons with SUD. For a group that may need to seek employment with employers who are unbiased in their hiring process and tolerant of persons with CID, an information referral service is appropriate. With knowledge of employers in the community, counselors can refer their clients accordingly. Job readiness services can be helpful for persons who are highly marginalized, such as persons with HIV/AIDS and SUD and persons from minority backgrounds. A high score in attendance, grooming, and other related aspects of employment may offset some of the negative attitudes associated with HIV/AIDS and SUD and therefore raise the potential for employment. Prevocational services (e.g., job readiness) can foster or boost self-confidence in pursuing employment (Coyer and Boomer, 2014).

It is worth noting, job readiness or prevocational preparatory model is not without controversy. Opponents of this model prefer the "place-then-train" model, which has been shown to be particularly effective for persons with intellectual and other disabilities (Corrigan, 2001; Bond, Drake, & Becker, 2008). Job readiness service, as a preparatory service, trains or prepares consumers for the world of work by teaching them appropriate work behaviors such as work attendance, appropriate dress code and grooming, and productivity (Rehabilitation Services Administration, 2002–2007). Some (Corrigan, 2001; Pete et al., 2015) argued, because of employers' stigmatization and bias against marginalized groups using the selective placement approach can help match clients with job openings and ongoing supports on the job. In this study, job readiness did not benefit persons with HIV/AIDS and SUD, an outcome in line with opponents of preparatory service, such as job readiness.

The other counseling services mentioned above showed significant positive relationships to employment for persons with HIV/AIDS and SUD. Diagnosis and treatment of impairments services was the only non-significantly counseling services (in this study) to competitive employment. However, while there was not a significant difference between consumers who received diagnosis services and consumers who did not, those who received this service had a higher percentage of being employed than those who did not.

Counseling services and race. The racial disparities in VR service outcomes in general has been tied to bias and discrimination against minorities and a lack of multicultural competence among service providers (Manthey, Brooks, Chan, Hedenblad, & Ditchman, 2015; Wilson, Alston, Harley, & Mitchell, 2002). However, while some have found disparity other have not. For example, Atkins and Wright (1980), in investigating VR acceptance rate, noted blacks in general were discriminated against at all levels in the VR system. Wilson, Alston, Harley, & Mitchell (2002) found a contrary result. In this current study, as noted above, compared to NHB, NHW benefitted the most from only counseling and guidance service, a crucial, if not the most important, counseling service. This was not surprising, given the heavy reliance on European values in counseling (Diller, 2011; Lee, 2013).

For the other four counseling variables, the non-significant differences between NHW and NHB and between NHW and Hispanics were surprising, given NHW have generally benefitted the most from VR services. For job readiness, in particular, one would expect NHW to benefit the most, given work behaviors fostered in employment training are generally based on Western culture. These behaviors may not be in line with minority cultures such as NHB (Lee, 2013). Nonetheless, the minority racial groups are generally confronted with an additional racial biases and other adverse effects to competitive employment closure, and may therefore be more in need of these counseling services.

Some of the non-significant differences may have been due several factors. In relation to NHW and Hispanics, the small sample size of Hispanics relative to NHW may have affected the result. It is also possible that the emphasis of rehabilitation counseling programs and multicultural awareness research, social justice,

advocacy, and other related issues may be benefiting minorities. Or, on the other hand, the lack of multicultural competency counseling (for persons with HIV/AIDS and SUD) may have affected all the racial groups equally. In fact, the competitive employment closures for all the races were low, with minimal differences, at 24%, 24.2%, and 22%, respectively. For diagnosis and treatment of impairment service in particular, which is generally less appropriate for minorities such as Blacks (Lee, 2013), advances in HIV/AIDS knowledge may have played a role. The epidemic crisis of HIV/AIDS in the black and other minority communities and the resultant aggressive measures to reduce or eradicate it may have resulted in appropriate instruments for Blacks and Hispanics.

Limitations

Causality cannot be determined because the data were archival and the design was *ex post facto*. The data were entered at different points when consumers were seeking employment; this may affect the reliability of the data. The RSA data was collected from 2002 to 2012, and therefore longitudinal analysis is not appropriate with the RSA data. It is unclear which specific processes or practices in the counseling variables play a role in the non-employment of SSI and Medicare recipients (persons with HIV/AIDS and SUD who were NHW, NHB, or Hispanic). The aggregation of data across fiscal years possibly contained duplicated cases, which is a limitation of the study. Future researchers should therefore consider conducting a trends analysis to isolate results for each year under analysis. In spite of these limitations, this study's findings provide insight regarding VR services, in particular SSI, SSDI, Medicare, and Medicaid and counseling variables, and the impact of race on counseling services.

Implications for Rehabilitation Counseling Practice

Rehabilitation professionals should inform their clients with HIV/AIDS and SUD about VR services' potential to improve their employment prospects and discuss possibilities of including them in their service plan, while considering the negative impact of enabling services. Rehabilitation counselors can play a great role in helping NHB, NHW, and Hispanics with HIV/AIDS and SUD receiving SSI and Medicare to secure employment successfully. Given that wages can offset losses and given the many other benefits of employment, rehabilitation counselors can intervene and help their clients make decisions without fear of losing benefits. While some states have benefit counselors to assist SSI, Medicare, and other need-based recipients (Jensen & Silverstein, 2006), rehabilitation counselors can be invaluable in assisting their clients in need-based issues and being employed. Through providing VR counseling as well as guidance that steers consumers to appropriate services and that provide informal benefit counseling, rehabilitation counselors can increase the employment prospects of their clients without fear of losing benefits. Also, counselors, in preparing consumers for work, can prepare them for benefits-related issues that will likely change. In the same vein, rehabilitation counselors can use legislations related to benefits (e.g., 1992 amendment to the Vocational Rehabilitation Act) to educate clients and allay their fears about losing benefits (Shamburger-Rousseau, Conyers, & Armstrong, 2016).

It is worth noting, racial minority groups, such as NHB and Hispanics, who generally are underemployed may be more adversely affected by the lack of benefit provided by low paying employment. Rehabilitation counselors can focus on employment with high wage and benefits for these groups by providing university education and occupational training that can lead to high paying employment.

Implications for Research

Some of this study's findings are unusual, since counseling services are generally Eurocentric and benefit NHW compared to minorities. Future research can focus on replicating this study using larger samples of NHW and Hispanics. Pete et al., (2015) indicated information referral, which links consumers to other agencies not available through the VR program, is effective for NHB with substance use disorder. Additionally, they noted the importance of providing referrals to needed services in order to improve mental health, substance use recovery, health status, and VR service outcomes. Persons with HIV/AIDS and SUD also has similar needs as NHB with substance use disorder and, therefore, can benefit from information referral services. Researchers (using qualitative methods for example) should try to understand the reasons for the non-significant result between NHB and NHW in relation to the effect of information referral on successful employment and improve the odds of securing employment for all the races who receive counseling services.

The low competitive employment closure for all races (though not the main focus of this study) is concerning. It is crucial to understand the reason this present study found minimal race-based differences in the effects of the counseling services on competitive employment closure. Is it due to improvement of counselors' multicultural competences and/or non-biased practices of counselors? Or, it is due to lack of multicultural competence related to serving persons with HIV/AIDS and SUD? In the latter case, a low competitive employment closure for all the races is possible, thereby minimizing differences among the races.

While it is true that multicultural competence and a code of professional ethics related to multicultural competence have been emphasized in the rehabilitation counseling field in recent years, race per se has been the predominant consideration, thus over showing crucial problems, such as substance use, that racial minorities face. As such, even seasoned multiculturally competent counselors may be unprepared or inadequately trained to assist a population with added complexities (HIV/AIDS and SUD) in relation to treatment needed. In relation to substance use some (Cardoso, Pruett, Chan, Tansey, 2006; Lee, 2013; Kohlenberg & Watts, 2003; Moodley & Lubin 2008 as cited in Shamburger & Conyers, 2016) counselors may lack the necessary skills and training to deal with minority populations who experience substance use or other challenges. Focusing on qualitative research to study rehabilitation counselors' multicultural competence related to persons with HIV/AIDS and SUD may increase successful competitive employment closure for persons with HIV/AIDS and substance use disorder.

In addition, researchers can try to identify the specific factors and practices in these counseling services (working alliances, advocacy, appropriate goals/objectives) that actually result

in successful employment for this particular population in order to help rehabilitation providers target their vocational interventions accordingly. Moreover, research can investigate the effects of the VR services on competitive employment closure for the individual racial groups, given these services has potential benefit for minority populations.

Conclusion

Persons with HIV/AIDS and SUD face employment barriers. For racial minorities with HIV/AIDS and SUD such obstacle becomes even more challenging because the long-term chronic health problems, considered shameful by society, and race result in double employment stigmatization. Yet, employment has physically, psychologically, and socially benefit for this population, especially for racial minority, who generally lacks basic resources. Persons with HIV/AIDS and SUD may need VR intervention to secure and maintain employment. This study demonstrated that, unlike enabling services, VR services can improve the prospects of securing employment for this population and that the two racial minority groups benefited equally as NHW in all the VR services, except for counseling and guidance services. Rehabilitation counselors can focus on helping recipients of SSI and Medicare secure employment and use VR services in general to assist persons with HIV/AIDS and SUD secure competitive employment closure. Also, they can continue to provide VR counseling services to achieve competitive employment closure in ways that equally benefit all races with HIV/AIDS and SUD, while improving their counseling and guidance service for NHB.

References

- Adaramaja, S. R., Opeyemi, O. I. & Mojisola, A. A. (2016). The influence of stigmatization on psychosocial wellbeing of HIV/AIDS clients attending. *Ghana Journal of Development Studies*, 13(2), 195-206.
- Arkins, B. J., & Wright, G. N. (1980). Three views: Vocational rehabilitation of Blacks: *Journal of Rehabilitation*, 46, 40, 42-46.
- Bardos, M., Burak, H., & Ben-Shalom, Y. (2015). Assessing the costs and benefits of return-to work program. *Mathematica Center for studying Disability Policy*. Retrieved from https://www.dol.gov/odep/topics/pdf/RTW_Costs-Benefits_2015-03.pdf
- Bond, G. R. (2004). Supported employment: Evidence for an evidence-based practice. *Psychiatric Rehabilitation Journal*, 27(4), 345-359.
- Bond, G. R., Drake, R. E., & Becker, D. R. (2008). An update on randomized controlled trials of evidence-based supported employment. *Psychiatric Rehabilitation Journal*, 31(4), 280-290.
- Brooks, R. A., Martin, D. J., Ortiz, D. J., & Veniegas, R. C. (2004). Perceived barriers to employment among persons living with HIV/AIDS. *AIDS Care*, 16(4), 756-766.
- Cardoso, E., Pruetz, S., Chan, F., Tansey, T.N., (2006). Substance abuse assessment and treatment: The current training and practice of APA Division 22 members. *Rehabilitation Psychology*, 51(2), 175-178.
- Center for Disease Control and Prevention. (2016). Social determinant of health: Know what affects health. Retrieved from <http://www.cdc.gov/socialdeterminants/>
- Center for Disease Control and Prevention (2016). HIV in the US. AT A Glance. Retrieved from <http://www.cdc.gov/hiv/statistics/overview/ata glance.html>. 10/2/2016
- Chan, F., Bezyak, J., Ramirez, M., Chiu, C., Sung, C., & Fukikawa, M. (2010). Concepts, Challenges, Barriers, and Opportunities Related to Evidence-Based Practice in Rehabilitation Counseling. *Rehabilitation Education*, 24(3 & 4), 179-190.
- Chan, F., Tarvydas, V., Blalock, K., Strauser, D., & Atkins, B. J. (2009). Unifying and elevating rehabilitation counseling through model-driven, diversity-sensitive evidence-based practice. *Rehabilitation Counseling Bulletin*, 52(2), 114-119.
- Conyers, L., & Boomer, K. B. (2014). Examining the role of vocational rehabilitation on access to care and public health outcomes for people living with HIV/AIDS. *Disability and Rehabilitation*, 36(14), 1203-1210.
- Conyers, L. M. (2004). Expanding understanding of HIV/AIDS and employment: Perspectives of focus groups. *Rehabilitation Counseling Bulletin*, 48(1), 5-18.
- Corrigan, P. W. (2001). Place-Then-Train: An alternative service paradigm for persons with psychiatric disabilities. *Clinical Psychology: Science and Practice*, 8(3), 334-349.
- Diller, J. V. (2011). Cultural diversity: A primer for the human services. Brooks/Cole: United States.
- Dutta, A., Gerve, R., Chan, F., Chou, C. C., & Ditchman, N. (2008). Vocational rehabilitation services and employment outcomes for people with disabilities. A United States study. *Journal of Occupational Rehabilitation*, 18(4), 326-334.
- Feist-Price, S. (1995). African Americans with disabilities and equity in vocational rehabilitation services. *Rehabilitation Counseling Bulletin*, 39(2), 119-129.
- Hayward, B. J., & Schmidt-Davis, H. (2003). Longitudinal study of the vocational rehabilitation services program. Final Report 2: VR Services and Outcomes.
- Heponiemi, T., Elovainio, M., Manderbacka, K., Aalto, A., Kivimäki, M., & Keskimäki, I. (2007). Relationship between unemployment and health among health care professionals: Health selection or health effect?. *Journal of Psychosomatic Research*, 63(4), 425-431.
- Herbert, J. T., & Martinez, M. Y. (1992). Clients ethnicity and vocational rehabilitation case outcome. *Journal of Job Placement*, 8(1), 10-16.
- Hergenrather, K. C., Zeglin, R. J., Conyers, L., Misrok, M., & Rhodes, S. D. (2016). Persons living with HIV/AIDS: employment as a social determinant of health. *Rehabilitation Research, Policy, and Education*, 30(1), 4-31.
- Hunt, B., Jaques, J., Niles, S. G., & Wierzalis, E. (2003). Career concerns for people living with HIV/AIDS. *Journal of Counseling and Development*, 81(1), 55-60.

- Jensen, A. & Silverstein, R. B. (2006). State vocational rehabilitation agencies as change agents. Retrieved from http://disability.law.uiowa.edu/lhpdc/rrtc/vr_syschange/InfoBulletins/Info_Bulletin_5_benefits_plan.pdf
- Jung, Y., & Bellini, J. L. (2011). Predictors of employment outcome for vocational rehabilitation consumers with HIV/AIDS: 2002–2007. *Rehabilitation Counseling Bulletin*, 54(3), 142–153.
- Kohlenberg, B., & Watts, M. W. (2003). Considering work for persons living with HIV/AIDS: Evaluation of a group employment counseling program. *Journal of Rehabilitation*, 69 (1), 22-29.
- Kroll, L. E., & Lampert, T. (2011). Unemployment, social support and health problems: results of the GEDA study in Germany, 2009. *Deutsches Ärzteblatt International*, 108(4), 47-52.
- Lee, C. C. (2013). A conceptual framework for counseling across culture. In C. C. Lee (Ed), *Multicultural issues in counseling* (pp. 13-23). Alexandria, VA: American Counseling Association.
- Lee, C. C., & Frazier, K. N. (2013). A conceptual framework for counseling across culture. In C. C. Lee (Ed), *Multicultural issues in counseling* (pp. 37-53). Alexandria, VA: American Counseling Association.
- Lee, C. C., & Park, D. (2013). A conceptual framework for counseling across culture. In C. C. Lee (Ed), *Multicultural issues in counseling* (pp. 3-13). Alexandria, VA: American Counseling Association.
- Leserman, J., Petitto, J. M., Golden, R. N., Gaynes, B. N., Gu, H., Perkins, D. O., & Evans, D. L. (2000). Impact of stressful life events, depression, social support, coping, and cortisol on progression to AIDS. *American Journal of Psychiatry*, 157(8), 1221-1228.
- Lewis, S., Kagan, C., Heaton, P., & Cranshaw, M. (1999). Economic and Psychological Benefits from Employment: The experiences and perspectives of mothers of disabled children. *Disability & Society*, 14(4), 561-575.
- Manthey, T. J., Brooks, J., Chan, F., Hedenblad, L. E., & Ditchman, N. (2015). Motivational interview. In F. Chan, N. L. Berven, & K. R. Thomas (Eds), *Counseling theories and techniques for rehabilitation and mental health professionals* (pp. 247-279). New York, USA: Springer.
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.
- Milligan, C. O., Nich, C., & Carroll, K. M. (2004). Ethnic differences in substance abuse treatment retention, compliance, and outcome from two clinical trials. *Psychiatry Service*, 55(2), 167-173.
- Morojele, N. K., Kachieng'a, M. A., Mokoko, E., Nkoko, M. A., Parry, C. D., Nkowane, A. M., & Saxena, S. (2006). Alcohol use and sexual behaviour among risky drinkers and bar and shebeen patrons in Gauteng province, South Africa. *Social Science & Medicine*, 62(1), 217-227.
- National Institute on Drug Abuse (2012). *Drug facts: HIV/AIDS and drug abuse: Intertwined Epidemics*. Retrieved from <http://www.drugabuse.gov/publications/drugfacts/hiv-aids-drug-abuse-intertwined-epidemics>
- Parry, C., Rehm, J., Poznyak, V., & Room, R. (2009). Alcohol and infectious diseases: An overlooked causal linkage? *Addiction*, 104(3), 331–332.
- Pete, J. P., Diallo, A., Kaya, C., Brooks, J., Allen, M., Bezyak, J., & Chan, F. (2015). Vocational rehabilitation as a public health intervention for young African American men with substance use disorders. *Journal of Vocational Rehabilitation*, 43(2), 149-157.
- Power, P. W., & Orto, A. E. D. (2004). *Family Living with Chronic Illness and Disability*. Spring Publishing Company: USA.
- Rehabilitation Services Administration. (2002–2007). Reporting manual for the case service report (RSA-911). Washington, DC: U.S. Department of Education, Office of Special Education and Rehabilitation Services.
- Shamburger-Rousseau, A. E., Conyers, L. M., Armstrong, A. J. (2016). Rehabilitation services utilization among African American Women living with HIV/AIDS. Applying for Behavioral model for vulnerable populations. *Rehabilitation Counseling Bulletin*, 60(1), 27-39.
- Straussner, L. A. (2001). *Ethnocultural Factors in Substance Abuse Treatment*. The Guilford Press: New York.
- Sung, C., Brooks, J., Muller, V., Chan, F., & Strand, D. (2012). Employment and career development. In F. Chan, M. Bishop, J. Chronister, E. J. Lee, & C. Y. Chiu (Eds.), *Certified rehabilitation counselor examination preparation*: (pp. 57-80). New York: Springer Publishing Company.
- Timmons, J. C., & Fesko, S. L. (2004). The impact, meaning, and challenges of work: Perspectives of individuals with HIV/ AIDS. *National Association of Social Workers*, 29(2), 137–144.
- Substance Abuse and Mental Health Services (2013). Result from the 2013 survey on drug abuse and health: Summary of the National Findings. Retrieved from <http://www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHresults2013.pdf>
- West, S. L. (2008). The utilization of vocational rehabilitation services in substance abuse treatment facilities in the U. S. *Journal of Vocational Rehabilitation*, 29(2), 71-75.
- Wheaton, J. E. (1995). Vocational rehabilitation acceptance rate for European American and African Americans: Another look. *Rehabilitation counseling Bulletin*, 38(3), 224-231.
- Wilson, K. B., Alston, R. J., Harley, D. A., & Mitchell, N. A. (2002). Predicting VR acceptance based on race, gender, education, work, status at application, and primary source of support at application. *Rehabilitation Counseling Bulletin*, 45(3), 132-142.
- World Health Organization, 2014. *The top ten causes of death*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs310/en/>

Abdoulaye Diallo, PhD., CRC, is an Associate Professor in the School of Rehabilitation Counseling and Services at the University of Texas Rio Grande Valley and a Research Fellow in the Peer-to-Peer Mentor Research Team Academy at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities.

Chia Vang, M.S., is a doctoral student in the school of rehabilitation counseling and services at University of Texas Rio Grande Valley.

Belinda Rivas, M.A., LPC, is a faculty member in the school of rehabilitation counseling and services at University of Texas Rio Grande Valley.

Antonio Aguirre, M.A., is a faculty member in the school of rehabilitation counseling and services at University of Texas Rio Grande Valley.

Carl Flowers, PhD. CRC, LCPC is a faculty member in Department of Counseling, Quantitative Methods, and Special Education at Southern Illinois University.

Ngai Kwan, M.A., is a Research Associate in the Institute for Community Inclusion at University of Massachusetts Boston.

A Preliminary Investigation of a Tribal College's Educational Supports for Individuals with Disabilities

Cassie Kitcheyan
Priscilla R. Sanderson
Myra Rosen-Reynoso
Paula Sotnik

Abstract: *Native Americans have experienced a long history of colonization and genocide, which has had a devastating effect on the health, both physical and emotional, of native people (Young, 1994). This has ultimately affected many aspects of their lives including education. The aim of this qualitative study was to understand the perceptions of faculty and staff on a Midwestern Tribal College campus regarding disability and historical trauma. Participants completed an open-ended questionnaire related to disability, student accommodations, and historical trauma. Five themes emerged, including novel themes such as minimal disability knowledge, unidentified mental health issues, limited accommodations for students, recognition of historical trauma and variation in understanding historical trauma. The participants' responses indicate a need for professional development to improve disability-related educational support. Further research is needed on Native American student effects of historical trauma to understand implications of retention and classroom accommodations. Implications for educators, researchers and rehabilitation counselors are discussed.*

American Indian (AI) and Alaskan Native (AN) people make up 1.9 % of the United States' population (Norris, 2012). Since the year 2000, this population has increased by 39% (Norris, 2012). Interestingly, of the total population, an estimated 14.8 % speak their Indigenous language in their home while 71.9 % speak predominantly English (Siebens & Julian, 2011). The United States federal government currently recognizes 566 AI and AN tribes, each with their own unique cultures, languages, and traditional customs and practices. Some tribes have been recognized by their respective states since colonial times. Native Americans (NA) are identified as being descendants of an Indigenous group or tribe that predated Europeans in the North and South America. National organizations and federal agencies use the term "AIs/ANs" in their reports and the U.S. Constitution. The authors will apply "Native Americans," throughout the following pages except for federal reports. "Native Americans" term is used for grassroots preference.

The National Congress of American Indians (NCAI) recognizes the lack of resources and therefore, reported the low educational attainment of Americans Indians and AN students (NCAI, 2017). The accumulation of low educational attainment may continue throughout the academic career of tribal college Native American students. Camera reported that only 67% of Native

American students graduated from high school while Non-White Hispanic students graduated at 80%. The poor educational outcome revealed that Native American students have not improved in reading or math (grades four and eight) in comparison to other racial and ethnic populations (US Department of Education, 2012). Furthermore, poverty and social-emotional competence has proven to be a factor in the achievement gap of Native American and AN students (Chain, Shapiro, LeBuffe, & Bryson, 2017). Access to quality high school education on the reservation contributes to Native American college students' lack of college readiness. Native American high school graduates have the highest rates amongst all student groups, to fail completion of college preparation courses (Greene, Forster, & Manhattan Institute, 2003).

The educational challenges of Native American students have been recognized nationally and resulted in the development of tribal colleges and universities nationwide (Stein, 1988). To address the educational challenges, the Tribally Controlled Community College Assistance Act was signed into law in 1978. The act was necessary due to the rural location of reservations, lack of access to main stream institutions of higher education, cultural differences from non-tribal colleges and communities, need for local oversight of higher education, and the absence of tax base for trib-

al colleges and universities. (American Indian Higher Education Consortium, 2017).

According to the AI Higher Education Consortium [AIHEC] (2017), there are 36-fully accredited Tribal Colleges and Universities (TCUs) in the United States (AIHEC, 2017). The AIHEC further reported that there are 75 TCU campuses in 16 states, that serve students from more than 230 federally recognized tribes. TCUs provide support to students who are considered at-risk and provide culturally relevant education on or near reservations (AIHEC, 2017; Sandefur, 1989). Students identified at-risk include those with poor college preparation, have little to no academic motivation, place lower value on college education, face issues with financial support, and experience cultural conflict (Carroll, 1978; Dehyle, 1989; Falk & Aitken, 1984; Huffman, Sill, & Brokenleg, 1986; Lin, 1985, 1990; Scott, 1986).

A comprehensive study was conducted that revealed that Native American college students completed pre-college curriculum at a rate of 24%, in comparison to all college-bound graduates at 56% (Pavel, Skinner, Farris, et al., 1998). The need for tribal colleges on tribal lands continues as Nichols and Kayongo-Male (2003, pg. 2) explained that for “states with tribal colleges, the proportion of AI students being educated rose 62% between 1990 and 1996.” Tribal colleges and universities address educational issues differently than public colleges/universities through several factors: (1) tribal college curricula are from a tribal perspective, (2) tribal colleges include local cultural pedagogy and cultural values, (3) tribal language is part of the curriculum, (4) remedial courses are offered at tribal colleges (5) tribal college is convenient and supportive faculty and staff helps with retention, (6) tribal colleges provide academic preparation to transfer to a public college/university for advanced studies (7) tribal college students remain close to their home and receive family support, (8) provision of financial support, including child care support from family; and, (9) acceptance of non-traditional students who are not typically 18 years old, single, and have parents willing to support their education. (Brown, 2003).

Native American Historical Trauma and Current Challenges

Native American tribes were displaced and removed from their ancestral homelands and required to live on reservations located in barren, desolate areas. Some Indian reservations are poverty stricken and plagued with the effects of historical trauma (Whitbeck, Adams, Hoyt and Chen, 2004). Whitbeck et al.

Variable	N	%
Gender		
Male	4	36.4%
Female	7	63.6%
Highest Degree		
Associate	3	27.3%
Bachelor	5	45.5%
Graduate	3	27.3%
Race/Ethnicity		
Non-Hispanic White	5	45.5%
Native Americans	5	45.5%
Other	1	9.1%
Totals	11	100%

explained that NA were subjected to traumas that are defined in specific *historical losses* of population, land, family and culture. These traumas resulted in *historical loss symptoms* related to social-environmental and psychological functioning that continue today. Historical trauma results in mental illness, suicide, addiction, or sex-

ual violence and can be traced back through epigenetics to the present and health disparities (Pember, 2015).

Indigenous language revitalization is a key component in tribal culture restoration as forced assimilation practices have reduced fluent speakers in many tribes (McCarty, Romero & Zepeda, 2006). The boarding school era was not a milieu of love and compassion designed to support the education experiences of young Native American students. The students of these boarding schools were removed from their homes by force and kidnapped. Some may have left their homes voluntarily as a result of coercion (Booth, 2009). The principle value was “kill the Indian and save the man,” a famous quote by Richard Henry Pratt on the education of NA (1973). The schools operated in a militarized regime, including dorm and school chores. The students who spoke their native language were punished and taught to hate their tribal identity and roots. Religious organizations ran most of the boarding schools with government support. Thus, Native American students were not allowed to practice their spirituality, including chanting. This experience contributed to historical trauma, loss of language and spiritual practices (Braveheart & DeBryn, 1998 Goodkind, Hess, Gorman, & Parker, 2012).

Although there is a clear connection between trauma and disability, these historical experiences currently impact the lives, needs, and services of NA. Tribal community surveys on disabilities reported that among this population there was: spinal cord injury, diabetes complications, blindness or visual impairments, mobility disability, traumatic brain injury, deafness or hardness of hearing, orthopedic conditions, arthralgia, emotional or mental health conditions, learning disabilities, and alcoholism or drug dependence (Clay, 1992; Rural Institute on Disabilities, 1995; American Indian Disability Legislation Project, 2000).

In order to understand these issues further, the authors wanted to gain information on the basic definition of disability and disability related accommodations on a tribal college setting. In the current study, the authors examine the perceptions of faculty and staff employed at a tribal college regarding disability and historical trauma. Specifically, the authors sought to determine insight into their concepts of disability and the types of accommodations requested by students. Additionally, the authors wanted to determine their understanding of historical trauma and the role it plays in the educational realm of their students’ lives.

Method

The qualitative study was chosen to provide in-depth open-ended responses about the perception of faculty and staff on a campus regarding disability and historical trauma. This is the first study of its kind at the tribal college, thus the need to begin with a qualitative study to identify themes and patterns. The study did not offer incentives to the participants. Data from the tribal college’s office of student services documenting the disabilities and services received by the students was intentionally omitted in order to protect the identity of the students and college.

Participants

The sample for this study consisted of 11 participants

(seven women and four men) that completed the survey. All of the self-reported Native American participants resided on a local reservation, all non-native participants did not live on the reservation. To protect their identity, the names of participants are not disclosed, but their demographic data is summarized in Table 1.

Procedures

The lead investigator recruited all faculty and staff members who had face-to-face interactions with students by providing a written explanation of the survey objectives via college email messages. Participants were identified as valuable respondents due to their current or previous work with tribal college students. The adjunct faculty members were not recruited due to their part-time temporary work status. Once the participants agreed to complete the survey, the lead investigator sent the open-ended questionnaire through the college email message. The participants then completed the questionnaire on their own and submitted the completed typed questionnaire responses to the lead investigator.

Study questionnaire. The lead investigator and co-researchers developed the questionnaire's open-ended questions. The open-ended questions were created to collect baseline data on the disability climate of the tribal college. Data was collected through the use of the questionnaire disbursed and retrieved through email. The survey consisted of the following questions: (1) What is your concept of disability? (2) What is the range of disabilities you see at the tribal college? (3) Are you aware of the number of students on this campus have disabilities? (4) What are the accommodations students with disabilities receive on this campus? (5) How are students with disabilities accommodated on campus? (6) What role do you see historical trauma playing in students' mental health, specifically depression? (7) How does historical trauma impact education and employment of these students?

Analysis

A multi-investigator qualitative method included the lead investigator and co-researchers reviewing the participant answers for content analysis independently (Sanderson, Teufel-Shone, Baldwin, et al, 2010; Teufel-Shone et al. 2006). The purpose of the multi-investigator approach was to collect a broader and deeper understanding of the investigators' interpretation of the responses. The research team analyzed the data in five steps. First, the lead investigator typed the interview responses and shared it with co-investigators. Second, the lead investigator entered their responses in a table for each co-investigator to review independently as they noted patterns and codes. Third, each investigator completed their patterns and codes on a Microsoft Word table, and all of the coding was compiled into a single document. Fourth, after the content analysis, the investigators met by Go-To-Meeting for half a day to conduct a consensus on patterns and themes. Finally, upon completion of identifying themes and patterns, all investigators agreed upon one primary theme and secondary themes.

Study Investigators

The research team consisted of four female investigators. The lead investigator was a tribal college faculty member of Na-

tive American background. The co-investigators included a Native American, Latina, and White. All the researchers came from different disciplines—education, rehabilitation counseling, psychology, and social work.

Results

Theme 1: Minimal Disability Knowledge

All participants were asked to explain their concept of disability. The question was intentionally worded in this manner to elicit each individual's definition and understanding of disability. This was done to investigate any differences in how this diverse group of participants comprehended the complex concept of disability. Unfortunately, eight of the eleven participants responded with answers that were likely from published sources as clearly indicated by one respondent: "I agree with the following definition from the U.S. Department of Education, Rehabilitation Services Administration, commonly utilized in higher education, and stated below..." This pattern of response can be due to either a lack of clear instructions to answer using their own words or that they did not have sufficient knowledge or experience with disabilities; and therefore, relied on a prepared definition provided from a researched source. All of the participants included in their responses the fact that disability could be physical, emotional or cognitive and that it results in functional impairment. One participant specifically indicated that she was providing her concept of disability and explained that in addition to "physical, intellectual or emotional needs" disability could also "be an economical disability where someone is lacking the resources to deal with his/her life situations such as not able to pay for rent, utilities, or is homeless." While poverty is a risk factor and oftentimes a sequelae of disability, it is usually not viewed as disability in and of itself. Therefore, some of the respondents that offered additional information beyond any referenced definition, gave some indication that their concept of disability may in fact be slightly different from the traditional Western or academic one. The respondent who held the highest-level administrative position provided the most comprehensive definition of disability that was clearly not from a referenced source. The respondent wrote, "My concept of disability involves a person unable to function properly due to disease, genetics, accidents, trauma, accident, and a person's environmental conditioning leading to psychological, emotional, and learning challenges." It is challenging to decipher what the majority of responses indicate as many provided definitions from general published sources; There is some variation in how disability is understood based on those that provided self-definitions.

Theme 2: Unidentified Mental Health Issues

Several of the faculty and staff respondents lack awareness of student disabilities, which may be associated with student failure to self-disclose. Respondents surmised that certain students might have a disability based on their interactions with said students. For instance, one Non-Hispanic White instructor, replied:

"I am not aware of any numbers. Because of some of the classes I teach, I'm more aware

of students with disabilities because they often write about them in the assignments I have them complete in my Sociology, Psychology; and, Unity and Diversity classes.”

The majority of participants indicated that they were aware of Native American students having disabilities based on their “student observations and student outcome measures,” rather than documentation of disability provided to the tribal college. One instructor responded, “I think there are more (college name omitted intentionally) students with disabilities than we know because they have to self-identify.” Similarly, another wrote:

“I believe there were many students suffering from disabilities. Unfortunately, at the post-secondary level these disabilities need to be self-reported. If a student has always had struggles with academics they may think that it is only them. They are unaware that what they have could be a clinical disability that they need accommodations for. But if they are unaware of their disability they will suffer in silence and in turn not be successful in their college courses.”

All of the participants, with the exception of one respondent, expressed that there were many Native American students on campus that probably had some type of disability; however, they were either undiagnosed or the students chose not to disclose their disabilities nor request accommodations.

Theme 3: Limited Accommodations for Students

Faculty and staff expressed their willingness to accommodate students when they were made aware of disability-related needs. An example of such accommodations included inviting a student with a hearing disability to sit in the front of the classroom:

“Some students would self-disclose that they need some kind of help to overcome such impairments as not being able to hear in one ear. This student will be sitting somewhere where they can use their good ear to listen to lectures. Another student might need a larger font in printed items. Another student had a fear of public speaking; the instructor accommodated him by allowing him to present using a PowerPoint and his voice-over.”

It is clear that the tribal college respondents are taking steps to provide students with necessary services:

“For now, we have asked the Society of Care group to offer counseling to anyone in our college community. Some instructors have offered bonus points to attend an initial session with the licensed counselors. We have asked our Student

Support staff and faculty to refer these students to get help even if it is not with the Society of Care group but rather some other community resource, such as Tribal Health. I do not think we have a process to identify certain disabilities, such as dyslexia and I do not believe our support staff has the training or do we have a special education teacher to help us manage these types of challenges.”

Echoing this same sentiment, another respondent wrote that:

“I believe they are. We have ramps and elevators, and in the last calendar year our college contracted with a local mental health provider to meet students emotional and mental health concerns. Our Student Services program developed a referral program for students with either academic or mental concerns.”

Despite general awareness of services or programs the college offered, respondents were not certain of the specific services and acknowledged that they were all provided by community resources.

Theme 4: Historical Trauma is Recognized

It was apparent by the responses that all participants recognized historical trauma is an issue that the NA community has to contend with. However, there was a stark difference between the NA versus the non-NA participants understanding of the role historical trauma played in impeding positive education outcomes for the NA students. One NA respondent indicated that this is an omnipresent challenge, “I think historical trauma is a contributing factor to not only depressed students but depressed college personnel too.” However, non-NA respondents believed historical trauma was simply one factor in student health and education outcomes. One non- NA respondent attributed the diminished functioning family systems as an important negative force.

“There might be some impact but not all of it should be blamed on historical trauma. The family unit is a big part of the support system for students and lack of it leads to a lot of the students not completing their education.”

One respondent explained that historical trauma and its effects are so entrenched in this community that many NA students have become de-sensitized to its presence and influence on their lives. This phenomenon adds another layer of complexity in addressing disability and providing students with supports. The NA participant added:

“Historical trauma plays a major role in students mental health. I believe that students are not aware of the depth that historical trauma runs through our family trees. The oppressed

mindset has become an owned trait. I think that we are unaware of how we have the power to change but aren't in that mindset. We model our lives from our parents and grandparents. If they have not broken the cycle then the trauma continues onto another generation."

Theme 5: Variation in Understanding of Historical Trauma

The concept of historical trauma, although accepted, appeared to be perceived differently by the NA respondents versus non-NA respondents. This could be in part due to lack of education or exposure to this concept. However, this gap in knowledge may also be attributed to the fact that non-NA respondents were not forced to assimilate into a dominant society and were never colonized. Overall, non-NA participants' responses minimized the complexity of historical trauma or tended to believe it is the person's responsibility to deal with it rather than recognize the magnitude of the impact. One respondent explained:

"Some students seem to dwell on historical trauma and not take advantage of the services offered to them so that they can learn to cope with their feelings and be successful at (name of college intentionally omitted) and professionally. I would hope that students would seek help or advice in dealing with historical trauma if they need it."

In sharp contrast to this view, the NA respondents exhibited greater compassion in their explanations of the impact of historical trauma on their students. Many respondents identified the current effects of historical trauma and how it continues to hurt the spirit of NA communities:

... "Now, since we have to live a way that's not ours this is affecting us and our spirit. This makes us feel lost. Feeling lost leads to depression. Our elders taught us that we have a role in our families. Our elders became corrupted, our children became corrupted, and therefore our families have become ruined. Where is our role? Lost."

Discussion

This preliminary study investigated faculty and staff perception of disability and historical trauma at a tribal college. Several findings emerged from this qualitative study. First, the majority of participants did not possess or decided not to provide their own working definition of disability rather they relied on outside references for their definitions. All respondents asserted that classroom accommodations were available for students with disabilities; however, vague explanations of the specific type of support services were provided. Classroom and academic accommodation are an important aspect of academic success for students with dis-

abilities. Classroom and academic accommodations also promote retention and equal access to classroom lectures, and a respectful learning environment. Accommodations range from testing modifications such as allowing more time to complete the quiz or exam, limiting distractions while taking a test, providing sign language interpreters, and textbook or testing in alternative formats. The accommodation needs of the student must be reasonable in the class with a documented disability that includes communications with the Disability Support Services. The recommendation is to meet with Disability Support Services personnel, instructors, and student to address classroom and academic accommodations as an equal access to education from lectures, lab, practicum, test-taking, and discussion groups.

Second, the participants noted a broad range of disabilities on campus. Primarily mental health and social-emotional concerns were noted. These concerns are difficult to address when a school psychologist is not present on-campus. Yosai and Goforth (2016) described the need for a school psychologist for children, and the need for school psychologists also applies to tribal college campuses. Grandbois (2005) recommended that mental health professionals familiarize themselves with the worldviews of NA in order to provide culturally competent mental health services. The need for mental health professionals applies to tribal college NA faculty, staff, and students. All racial and ethnic faculty and staff should be knowledgeable about local mental health resources and commit to learning about local tribal history, customs, and practices. Resources include tribal and state vocational rehabilitation (VR) services. Clearly, since the participants did not bring up rehabilitation services at a local-level, they were likely not familiar with the services of the tribal and state VR agencies for diagnostic services, mental health services, and educational support and accommodations.

The responses offered insight into the perceptions of faculty and staff regarding disability and historical trauma. Respondents offered dynamic responses that presented the relationship between lack of disability knowledge of faculty and staff and its potential effect on students self-identifying and seeking services. The study showed that the perception of historical trauma and educational outcome are not understood, especially by the non-NA instructors.

Lomawaima (1999) indicated a concern that non-NA participants believe that tribal college students require special pedagogy to learn. Perhaps these non-Native educators employed by a tribal college setting require cultural sensitivity training and historical events that impacted the local tribal people as visitors of the NA reservation. This type of training would likely be beneficial for all faculty and staff.

Directions for Future Research

From the current study, the authors offer three recommendations. First, there is a need for further qualitative study of staff and faculty working on tribal college campuses on the topics of disability and historical trauma. Individual interviews conducted in-person are preferable to the approach used in this study as this would allow a more in-depth inquiry. Secondly, quantitative data from student support offices on tribal colleges could be combined

with qualitative data to gain a more comprehensive picture of student disabilities and challenges in accessing accommodations. Finally, there is a need to collect longitudinal data related to the range of disabilities among NA students, the services they receive, and their outcomes.

Limitations

The aim of this qualitative study was to understand the perceptions of faculty and staff on a Midwestern Tribal College campus regarding disability and historical trauma. The data collected was intended to inform the development of a research study focused on the effects of historical trauma on a tribal college student success.

Two limitations included the small sample size, the delivery and collection of the data. By distributing and collecting the survey and responses through email messages the lead investigator was unable to ask clarifying questions to gain a deeper understanding of the responses. Furthermore, the surveys gave respondents time to research definitions, whereas a semi-structured interview would have provided more authentic responses. Ideally, future research endeavors will include individual interviews and focus groups of faculty, staff, and disability support services personnel at a variety of tribal colleges.

Implications for Vocational/Educational Rehabilitation Counselors

Few of the students on this campus received services from vocational/educational rehabilitation counselors. Rehabilitation counselors need to be aware that many of their NA clients may have co-morbid conditions like depression and anxiety due to the effects of historical trauma. The results of this study demonstrate the need for educators to collaborate with VR counselors, ideally beginning in high school, to be educated about their roles and services to improve the ability of these NA students to reach their full potential. A recent study found that those individuals from racial and ethnic minority groups experience limited outcomes in the educational transition and vocational rehabilitation process including areas such as high school completion, obtaining employment, quality of employment, postsecondary education or training and independent living (Anderson & Smart, 2010). The authors attribute some of the difficulties due to the challenge of navigating two service systems, special education and vocational rehabilitation; and, the individualist approach to the transition planning process that is a mismatch with the collectivistic orientation of many diverse students and their families (Anderson & Smart, 2010). Further, rehabilitation and independent living counselors need to conduct monthly outreach services to NA students and their families on tribal college campus for eligibility criteria for services, the wide range of services available through vocational rehabilitation, and how to access services. Future research is needed to better understand the impact of vocational rehabilitation services for tribal college and high students and the best practices for supporting these NA students with disabilities.

Acknowledgment

The research was supported under a grant from the National Insti-

tute on Disability, Independent Living, and Rehabilitation Research to Langston University (NIDILRR grant number 90RT5024-01-00). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this brief do not necessarily NIDILRR, ACL, HHS, and one should not assume endorsement by the federal government.

References

- American Indian Disability Legislation Project (AIDLP) *Research and Training Center on Rural Rehabilitation Rural Institute on Disabilities*. (2000). Missoula: University of Montana Rural Institute.
- American Indian Higher Education Consortium. (2017). AIHEC: Who we are. Retrieved from <http://www.aihec.org/index.html>
- Anderson, C.B., & Smart, J.F. (2010). Improving transition outcomes for culturally and linguistically diverse VR consumers. *Journal of Applied Rehabilitation Counseling*, 41(4), 3-10.
- American Psychiatric Association. (2010). Mental health disparities: American Indians and Alaska Natives. Retrieved from http://www.integration.samhsa.gov/workforce/mental_health_disparities_american_indian_and_alaskan_natives.pdf
- Booth, T. T. (2009, November). *Cheaper Than Bullets: American Indian Boarding Schools and Assimilation Policy, 1890-1930*. Paper presented at Images, Imaginations, and Beyond: Proceedings of the Eighth Native American Symposium, Southeastern Oklahoma State University.
- Braveheart, M. Y.H., & DeBryn, L.M. (1998). The American Indian holocaust: Healing historical unresolved grief. *American Indian and Alaska Native Mental Health Research*, 8(12), 60-82. DOI: 10.5820/aian.0802.1998.60
- Brown, D. (2003). Tribal colleges: Playing a key role in the transition from secondary to postsecondary education for American Indian students. *Journal of American Indian Education*, 42(1), 36-45.
- Camera, L. (2015). Native American students left behind. Retrieved from <https://www.usnews.com/news/articles/2015/11/06/native-american-students-left-behind>
- Carroll, R. E. (1978). Academic performance and cultural marginality. *Journal of American Indian Education*, 18(1), 11-16.
- Chain, J., Shapiro, V. B., LeBuffe, P. A., & Bryson, A. M. (2017). Academic achievement of American Indian and Alaska Native students: Does social-emotional competence reduce the impact of poverty? *American Indian & Alaska Native Mental Health Research: The Journal Of The National Center*, 24(1), 1-29.
- Clay, J. (1992). *A profile of independent living services for American Indians with disabilities living on reservations*. Missoula: University of Montana Rural Institute.
- Dehyle, D. (1989). Push outs and pull outs: Navajo and Ute school leavers. *Journal of Navajo Education*, 6(2), 24-47.

- Falk, D. R., & Aitken, L. P. (1984). Promoting retention among American Indian college students. *Journal of American Indian Education, 23*(2), 24-31.
- Grandbois, D. (2005). Stigma of mental illness among American Indian and Alaska Native nations: Historical and contemporary perspectives. *Issues in Mental Health Nursing, 26*, 1001-1024
- Green, J.P., Forster, G., & Manhattan Institute, N.I. (2003). Public High School Graduation and College Readiness Rates in the United States. Education Working Paper No. 3.
- Goodkind, J.R., Hess, J.M., Gorman, B., Parker, D.P. (2012). "We're Still in a Struggle": Dine resilience, survival, historical trauma, and healing. *Qualitative Health Research, 22*(8), 1019-1036. DOI: 10.1177/1049732312450324
- Huffman, T., Sill, M., & Brokenleg, M. (1986). College achievement among Sioux and white South Dakota students. *Journal of American Indian Education, 25*(2), 32-38.
- Lin, R. L. (1985). The promise and the problems of the Native American student. *Journal of American Indian Education, 25*(1), 6-16.
- Lomawaima, K.T. (1999). The unnatural history of American Indian education. In K.G. Swisher & J.W. Tippeconnic, III (Eds.), *Next steps: Research and practice to advance Indian education* (pp. 3-31). Charleston, WV: Clearinghouse of Rural Education and Small Schools.
- McCarty, T. L., Romero, M. E., & Zepeda, O. (2006). Reclaiming the gift: Indigenous youth counter-narratives on native language loss and revitalization. *American Indian Quarterly, 30*(1/2), 28-48.
- National Congress of American Indians. (2017). Education. Retrieved from <http://www.ncai.org/policy-issues/education-health-human-services/education>
- National Conference of State Legislatures. (2017). Retrieved from <http://www.ncsl.org/research/state-tribal-institute/list-of-federal-and-state-recognized-tribes.aspx>
- Nichols, T.J., & Kayongo-Mal, D. (2003). The dynamics of tribal college-state university collaboration. *Journal of American Indian Education, 42*(3), 1-24.
- Norris, T. (2012). The American Indian: Alaska Native population: 2010. In 2010 Census Briefs.
- Pavel, D.M., Skinner, R.R., Farris, E., Calahan, M., Tippiconnic, J. and Stein, W. (1998). *American Indians and Alaska Natives in postsecondary education*. Washington, D.C.: National Center for Education Statistics.
- Pember, M.A. (2015, May 28,). Trauma may be woven into DNA of Native Americans. *Indian Country Today*. Retrieved <https://indiancountrymedianetwork.com/news/native-news/trauma-may-be-woven-into-dna-of-native-americans/>
- Pratt, R.H. (1973). *The advantage of mingling Indians with Whites*. Americanizing the American Indians: Writings by the "Friends of the Indian" 1880-1990, pp. 260-271 Cambridge, MA: Harvard University Press. Retrieved from http://carlisleindian.dickinson.edu/sites/all/files/docs-resources/CIS_Resources_PrattSpeech.pdf
- Rural Institute on Disabilities. (1995). American Indians and Disability. *Rural Facts, 2*.
- Sanderson, P.R., Teufel-Shone, N.I., Baldwin, J.A., Sandoval, N., & Robinson, F. (2010). Breast cancer education for Navajo women: a pilot study evaluating a culturally relevant video. *J Canc Educ, 25*(2), 217-223. DOI 10.1007/s13187-009-0036-7
- Sandefur, G. D. (1989). American Indian reservations; the first underclass areas? *Focus, 12* (1), 37-40.
- Scott, W. J. (1986). Attachment to Indian culture and the "difficult situation." *Youth & Society, 17*(4), 381-395.
- Siebens, J., & Julien, T. (2011). Native North American languages spoken at home in the United States and Puerto Rico: 2006-2010. In United States Census Bureau.
- Stein, W. J. (1988). A history of the tribally controlled community colleges: 1968-1978. *Dissertation Abstracts International, 49*(11), 32-42. (University Microfilms No. 8902818)
- Teufel-Shone, N.I., Siyuja, T., Watahomigie, J.J., & Irwin, S. (2006). Community-based participatory research: conducting a formative assessment of factors that influence youth wellness in the Hualapai community. *Am J Public Health, 96*(9), 1623-1628.
- U.S. Department of Education. (2012). National Indian Education Study reveals varying progress. Retrieved from <https://www.ed.gov/news/press-releases/national-indian-education-study-reveals-varying-progress>
- Whitbeck, L. B., Adams, G. W., Hoyt, D. R., & Chen, X. (2004). Conceptualizing and measuring historical trauma among American Indian people. *American Journal of Community Psychology, 33*(3-4), 119-130. doi:10.1023/B:A-JCP.0000027000.77357.31.
- Yosai, E. R., & Goforth, A. N. (2016). Native American school psychologists: Helping children succeed in school and in life. *Tribal College Journal*. Retrieved from <https://tribalcollegejournal.org/native-american-school-psychologists-helping-children-succeed-school-life/>
- Young, T. K. 1994. *The health of Native Americans*. New York: Oxford University Press.

Cassie Kitcheyan of Winnebago, Nebraska recently graduated with a Master of Science in Education in Student Affairs and College Counseling from Wayne State College. She serves as a Native American Studies instructor at Little Priest Tribal College in Winnebago. She is an enrolled member of the Winnebago tribe Nebraska and also represents the San Carlos Apache tribe of Arizona.

Priscilla R. Sanderson, Ph.D., CRC is a tenured Associate Professor with Northern Arizona University, Health Sciences Department. She is a Principal Investigator for the Center for American Indian Resilience (CAIR), a partnership with the University of Arizona and a tribal college, Diné College.

Myra Rosen-Reynoso, Ph.D., is a Senior Research Associate at the Institute for Community Inclusion (ICI) at University of Massachusetts Boston. She leads the efforts of the Peer-to-Peer Mentorship Academy for ICI as part of the collaboration with the Langston University Rehabilitation Research and Training Center.

Paula Sotnik, Institute for Community Inclusion Boston, has developed and directed 16 national and state training and technical assistance projects supporting and empowering individuals with disabilities. Paula was co-author and is lead trainer on Culture Brokering.

The Impact of Disability and Type of Crime on Employment Outcomes of African American and Latino Offenders

Glacia Ethridge
Angel Riddick Dowden
Michael Brooks

Abstract: *Individuals with criminal histories who struggle to gain employment may choose to turn to illegal activity or seek state and federal program assistance to support themselves and their families. African Americans and Hispanic/Latinos with disabilities and criminal histories experience barriers (i.e., disability, criminal history, and race/ethnicity) that often prevent them from obtaining or maintaining competitive integrated employment. The purpose of this article was to examine the extant literature pertinent to disability and criminal history as employment obstacles among African American and Hispanic/Latino ex-offenders. As the foundation, the article categorizes employment outcomes for these target population by disability and criminal history, discusses how state vocational rehabilitation agencies can develop a criminal history service delivery model to improve employment outcomes, presents implications for improving employment outcomes, and explores future research.*

There are 6,851,000 individuals or 1 in every 36 persons under some form of correctional supervision (e.g. probation, parole, jail or prison; United States [U.S.] Department of Justice, 2016). These individuals experience significant barriers toward obtaining competitive integrated employment due to their criminal history. Several other major employment barriers include, but are not limited to, limited education, sporadic work history, inadequate job skills and training, and employer discrimination (Novak et al., 2011, Rodriguez & Emsellem, 2011; Swensen, Rakis, Snyder, & Loss, 2014). Individuals with criminal histories who struggle to gain or maintain such employment may turn to illegal activity or seek state and federal program assistance to support themselves and their families (Austin & Chun-Lung, 2014; Sugie, 2012). Subsequently, the lack of employment and/or underemployment of approximately 7 million ex-offenders cost taxpayers millions of dollars and compromise public safety, social stability, and the overall economy.

Lack of employment or underemployment in the U.S. increases exponentially among African American and Hispanic/Latino ex-offenders. The barring of individuals from employment based on their criminal records disproportionately affects members of these targeted racial and ethnic populations as they remain overrepresented in the criminal justice system. For example, African Americans account for 28.3% of all arrests and 40% of incarcerated persons, although they represent just 12.9% of the

total U.S. population (Nellis & King, 2009; U.S. Department of Labor, 2013); and arrest rates more than doubles their share of the incarcerated population. In contrast, the arrest rate for Whites falls slightly below or is relatively equal to their proportion of the population. Whites make up 67% of the population and represent 70% of all arrest (Nellis & King, 2009). According to The Pew Center on the States (2009), 1 in 106 White men, 1 in 36 Hispanic/Latino men, and 1 in 15 African American men are incarcerated. Additionally, 1 in 45 White adults, 1 in 27 Hispanic/Latino adults and 1 in 11 African American adults are under correctional supervision (e.g., probation, parole, jail or prison).

Harley, Cabe, Woolums, and Turner-Whittaker (2014) indicated that ex-offenders have difficulty when seeking employment; however, the employment barrier becomes further challenging when considering the ethnic background of the ex-offender, particularly for African Americans. Within the prison system, there are many offenders who are diagnosed as having a disability (U.S. Department of Justice, 2015). An estimated 32% of prisoners and 40% of jail inmates reported having at least one disability (U.S. Department of Justice, 2015). The impact from having one or more disabilities on employment outcomes is overwhelmingly negative (U.S. Department of Justice, 2015).

The purpose of this article was to examine the extant literature pertinent to disability and criminal history as employment obstacles among African American and Hispanic/Latino ex-of-

fenders. As the foundation, the article categorizes employment outcomes for these target populations by disability and criminal history, discusses how state vocational rehabilitation (VR) agencies can develop a criminal history service delivery model to improve employment outcomes (Dowden, Ethridge & Brooks, 2016), and presents implications for improving employment outcomes, and explores future research.

Employment Outcomes by Disability Type

Approximately 2 in 10 prisoners and 3 in 10 jail inmates report having a cognitive disability (highest among women and Whites), the most commonly reported disability in each population; more than half of prisoners (54%) and jail inmates (53%) with a disability reported a co-occurring chronic condition (O'Keefe & Schell, 2007; Bronson, Maruschak, & Berzofsky, 2015); 10.1% reported an ambulatory disability (Bronson et al., 2015); and an increasing percentage reported having a mental illness (O'Keefe & Schell, 2007). Overcoming this trifecta of barriers is often insurmountable for the aforementioned populations.

It is well documented that persons with disabilities (PWD) are employed at lower rates than individuals without disabilities (Jang, Wang, & Lin, 2014) and persons with psychiatric disabilities have fewer employment outcomes than any other disability group (Cook, Burke-Miller, Roessel, 2016; Moran, Russionova, Yim, & Sprague, 2014; Schimmel, Liu, & Croake, 2012). Jang et al. (2014) indicated that PWDs encounter a multitude of barriers when seeking employment. Among those barriers identified include a lack of familial support, limited work history, and low educational attainment. Other reasons reported by the authors include chronic work absenteeism, lack of participation in employment services and clinical services, and employer attitudes towards this population. Persons with psychiatric disorders experience higher poverty rates than any other minority group (e.g., African Americans, Hispanic/Latino, and women; Mizrahi, Jeffers, Ellis, & Pauli, 2016). Additionally, they often reside in communities with limited resources and treatment options and access to medications (O'Keefe & Schnell, 2007). Should ex-offenders with a mental illness obtain employment, they often earn lower wages than their non-disabled counterparts (O'Keefe & Schnell, 2007). To cope with their symptoms and the environment, engagement in criminal activity becomes a critical way to survive (O'Keefe & Schnell, 2007).

Substance Use Disorders

According to Lindstedt, Ivarsson, and Soderlund (2006), persons who have a co-occurring disorder of mental illness and a substance use disorder (SUD) often engage in criminal activity. For African American male ex-offenders with a SUD, sample acts of criminal activity include gang and drug-related activity (Smith, 2013). Having a SUD can impact the employment outcomes for PWDs. For example, three supported employment programs in Portland, Oregon were implemented to evaluate the employment outcomes of participants in their program (Herinckx, 2010). The program offered services such as affordable housing, healthcare, drug and alcohol support, and employment assistance to individ-

uals of varied racial and ethnic groups. Over 70% of the participants had a felony conviction and were homeless at the time of entry into the program. Many of the participants had an SUD, with alcohol (40%) being the substance of choice, followed by heroin (22%), amphetamine (16%), and marijuana (4%). Forty percent of participants in the program had a co-occurring mental health diagnosis and 34% was arrested in the past 5 years (Herinckx, 2010). Persons of color had a higher employment rate (76%) than their White counterparts (69%) and 31% of Whites did not obtain employment versus 24% of persons of color. A possible reason for the difference in the employment rates for persons of color and Whites could be that there were more persons of color engaged in transitional housing, which was a strong predictor of employment. It was further indicated that if a person with an SUD also presents with a mental disorder, the employment rates decline.

Learning Disabilities

Feist-Price, Lavargne, and Davis (2014) explored the school-to-prison pipeline that exists for students with disabilities. The authors noted that within the school system, there has been an increase in the reliance of police officers to assist in disciplining students. Because of this, more students often find themselves being punished for non-violent crimes (e.g., behavioral issues); however, should the crime be more severe in nature, adolescents may be incarcerated in the adult correctional criminal justice system (Feist-Price et al., 2014). Feist-Price et al. (2014) state further that there appears to be some evidence to suggest that students who engage in misconduct often live in poverty, have insufficient school resources, drop out, and experience poor academic achievement. Regarding race/ethnicity, African American and Hispanic/Latino students experience higher suspensions, expels, and arrests than White students with disabilities (Feist-Price, 2014; Mizrahi et al., 2016). For students with mental and physical disabilities, this pipeline is far greater (Feist-Price et al., 2014).

Having a learning disability not only impacts students academically, but for adults living with this disability, it may impact their work (Madaus, 2006). When asked how frequently the disability impacted their work, approximately 61% reported that their disability impacted their work occasionally (Madaus, 2006). Participants were employed in various work settings ranging from business and education to health care and watershed forestry (Madaus, 2006). Race was not a predictor of employment outcomes (Madaus, 2006). Carter, Austin, and Trainor (2012) found that employment for students with severe disabilities (e.g., autism spectrum disorder [ASD], intellectual, and multiple disabilities) upon graduation had favorable employment outcomes. The jobs, however, that students obtained two years after graduation were entry level positions including production, grounds keeping, cleaning and maintenance, food service, office support, and retail and sales. While race was a demographic variable captured, it did not have an impact on the employment outcomes for this group (Carter et al., 2012).

Co-Morbidity of Disabilities

Dutta, Gervy, Chan, Chou, and Ditchman (2008) examined the employment outcomes for persons who have sensory/

communicative, physical, and mental disabilities participating in VR services. Mental disabilities were comprised of mostly African Americans (25%) while sensory disabilities were comprised mostly of Whites (72%). Racial/ethnicity demographic data were captured for Hispanic/Latino, Asian American, and American Indian; however, these groups had fewer representations in all disability categories. The researchers found that African American participants with sensory/communicative disorders (16%) had a smaller chance of obtaining successful employment when receiving VR services, while Native Americans with physical impairments (2%) receiving VR services had a lower chance of obtaining successful employment. Further results of this study indicated that people with sensory impairments, regardless of race, had a lower probability of obtaining employment, and persons who had a co-occurring psychiatric condition and a physical disability also had a smaller chance of employability.

Cimera and Cowan (2009) also examined the employment outcomes for persons with Autism Spectrum Disorders (ASD) in addition to sensory impairments, learning disabilities as well as other impairments (e.g., mental illness, communication disorders, physical/mobility impairments, etc.). Approximately 41% of persons with ASD were employed. Both sensory impairment (57%) and learning disabilities (42%) had higher employment rates than persons with ASD. In comparison to persons with sensory impairments and learning disabilities, persons with ASD earned less wages and worked fewer hours (Cimera & Cowen, 2009).

Employment Outcomes by Type of Crime

African American and Hispanic/Latino populations are also disproportionately disbursed when considering type of crime. That is, over half of the African American and Hispanic/Latino (non-White) populations in state prisons are incarcerated for violent crime (e.g. robbery, homicide; Porter, 2016). In addition, African Americans account for 35% of those arrested, 53% of drug convictions, and 45% of drug offenders in prison (Porter, 2016). Nonetheless, there is a paucity of literature regarding the intersectionality of type of crime and employment outcomes for ex-offenders seeking employment. For some industries, such as child and health care, employers are prohibited from hiring applicants with a criminal history as mandated by state and federal laws (Swanson, Langfitt-Reese, & Bond, 2012). In their 2012 study that captured employers' hiring practices of ex-offenders, Swanson et al. surveyed employers who had hired ex-offenders. Questions were related to their experiences of hiring an ex-offender, their decision to hire an ex-offender as well as determining the factors for hiring an ex-offender. Forty-two percent of employers indicated the reason they chose to hire someone with a criminal background is because the applicant met the job qualifications. Other reasons reported included the applicant's interviewing skills and affiliation with an employee at the job; the employer's belief that the person had changed and deserved a chance, and the employer's examination of the applicant's date of last conviction. The employers also factored the applicant's transparency and sincerity of disclosing their conviction. The majority of employers did require a background check (73%), while others opted not to as

they did not believe this to be a deciding factor when an applicant was under employment consideration. In general, employers believed in the applicant's responses 27% of the time. In examining employer's hiring decision of ex-offenders, race was not used as a variable in determining whether an employer would hire someone with a previous conviction.

Pager (2003) examined persons who had a drug conviction and were employed in service jobs. Race was not found to be significant in the employability of ex-offenders as was the case in Swanson et al.'s (2012) study; rather, having a criminal background was found to impact the employability of this population. Holzer, Raphael, and Stoll (2004) also found that employers are willing to hire someone with a criminal record, however, this willingness to hire is based upon the industry. The authors found that among 600 employers, those who were in sectors such as construction or transportation are more willing to hire ex-offenders than employers in the service industries (Holzer et al., 2004). Additional results indicated that 35% of employers would be willing to hire ex-offenders with a limited work history, but this was contingent on the type of criminal offense committed (Holzer et al., 2004). For example, persons who had committed severe crimes or those violent in nature were least likely to be employed rather than persons who had committed non-violent crimes (Cerda, Stenstrom, & Curtis, 2015; Holzer et al., 2004; Schmitt & Warner, 2011; Young & Powell, 2015; Stoll & Bushway, 2008; Vuolo, Lageson, & Uggen, 2017), Young & Powell, 2015 should appear after Vuolo, Lageson, & Uggen, 2017) found that race was not a determining factor when employers elect to hire an ex-offender. The findings in this article suggested that employers are willing to hire ex-offenders based upon whether they believe the ex-offender can change, the ex-offender's work history and willingness to learn about the job (Reich, 2014).

In addition to the types of crimes committed, a hiring manager's decision to employ someone with a criminal background can be based on their interactions or previous hiring of ex-offenders (Young & Powell, 2015). Young and Powell (2015) indicated in their proposed model of hiring ex-offenders that hiring managers who have had positive exposure of working or hiring ex-offenders in the past were more likely to hire someone with a criminal background. While this is only a section of the model, this was an important aspect to consider as these persons are responsible in making the final hiring decisions. Prior to making hiring decisions, hiring managers may collect resumes and conduct interviews online or in person. Decker, Ortiz, Spohn, and Hedberg (2015) found that the method by which employers obtain applications, this impacted whether someone with a criminal background was hired, but this finding was also based upon the job applicant's ethnicity which will be expounded on in the next section. Ex-offenders who applied for online jobs received more favorable responses from employers rather than those persons who submitted their applications in-person (Decker et al., 2015). While the research cited in this section thus far suggest that employers are willing to hire ex-offenders, there are employers who still opt to not employ someone with a criminal background (Schmitt & Warner, 2011; Vuolo et al., 2017).

In contrast to Holzer et al. (2004), Swanson et al. (2012)

and other previously cited authors, Pager, Western, and Sugie (2009) examined the role of race as it pertains to crime and employment outcomes. The authors found that African American males with criminal histories had lower employment rates than their White counterparts and were less likely to be interviewed for employment. The types of crimes that ex-offenders committed in this study were drug-related in nature (e.g., possession, drug use, and drug charge with an intent to sell; Pager et al., 2009). In addition to the employer barriers that minority ex-offenders may encounter when seeking employment, one needs to also consider the environmental factors hindering their employment opportunities as well (Feist-Price et al., 2014; Lockwood, Nally, & Ho, 2016). For example, Lockwood et al. (2016) indicated that there are insufficient resources for offenders' post-release when returning to their environments. This is often true for African American ex-offenders as they typically return to environments with high rates of unemployment, crime, and poverty (Feist-Price et al., 2014; Lockwood et al., 2016). For minority ex-offenders, the particular crimes committed when there are limited employment opportunities within these communities are violent in nature (e.g., burglary, robbery, and use/possession of weapons; Feist-Price et al., 2014) and thus may impact future employment due to the severity of the crime.

Employment Outcomes by Race/Ethnicity

Minority individuals who have been imprisoned have been found to be less likely to return to their pre-detained job status than are Whites (Bui & Morash, 2010). Various studies have found that Whites are more likely to be working following incarceration than are ethnic minorities (Decker et al., 2015; Pager, Western, & Bonikowski, 2009; Petit & Lyons, 2007; Vuolo et al., 2017), even up to 1, 5, 10, 15, and 20 years' post-confinement (Pager, 2003). Vuolo et al. (2017) indicated that African Americans encounter employment discrimination due to their racial and criminal backgrounds. The authors further indicated that African Americans and Hispanic/Latinos without criminal backgrounds still have lower employment rates than Whites who have criminal backgrounds. The same findings occurred in Decker et al.'s (2015) study as these authors found that in general, African American and Hispanic/Latino applicants who submitted job applications in person were less likely to be interviewed than White job applicants. When factoring in criminal history, the authors found similar results to Vuolo et al.'s (2017) study. Decker et al. (2015) found that employers were more likely to hire White applicants with a criminal background than African Americans and Hispanics/Latinos without a criminal history. Employment opportunities for minorities with criminal backgrounds can be contingent on a company's commitment to hiring diverse applicants. For example, Vuolo et al. (2017) noted that companies that have diverse employees are more likely to hire someone with a criminal background.

In the era of "Ban the Box", Vuolo et al. (2017) found that while the underlying premise of this legislation was to increase the employment odds for ex-offenders, it may have the inverse effect for minority ex-offenders seeking employment. The authors found that for states in which this legislation is implemented, employers

may use gender and race assumptions to render employment decisions for potential applicants. For example, the authors indicated that for African American job applicants, employers may believe that these applicants possess a criminal background due to the overwhelming statistics that indicate that African Americans are imprisoned at higher rates (Vuolo et al., 2017) even though African American job applicants may not possess a criminal background. Given this assumption, African American job applicants without a criminal background will be least likely to be employed based upon their ethnicity. The authors further indicated that African Americans seeking employment in states with this legislation are better off being asked about their criminal background, regardless of whether they possess one or not, to increase the likelihood of being employed (Vuolo et al., 2017).

In general, the growth of the U.S. minority population, combined with a possible increased rate of incarceration, has created numerous challenges for the VR system. According to the U.S. Census Bureau (2017), 42.6 million Hispanic/Latino people live in the United States, making up 14.4% of the population. Hispanics/Latinos are the fastest-growing segment, experiencing 66% growth from 1980 to 1990, compared to a total population growth of only 9%. Furthermore, it is projected that by the year 2040, the Hispanic/Latino population is expected to comprise 25% of the total U.S. population. As stated previously, the Hispanic/Latino population encounters employment barriers, regardless of criminal history similarly to African Americans (Decker et al., 2015). Although there has been an increase in the Hispanic/Latino population, African Americans have been the primary focus of studies examining the impact of minority status on return to work after being in jail (U.S. Census Bureau, 2017).

Continuing the Conversation

According to Dowden et al. (2016), in an effort to improve client employability and RSA-911 data collection, a recommendation was put forth for state VR services to collect criminal history at application and at every VR meeting thereafter. In doing so, knowing this vital information throughout the VR process will support VR counselors and other employment specialists in improving employability services to clients who are ex-offenders (Dowden et al., 2016). A conversation continuation for VR counselors includes exploring with deeper emphasis the impact the individual's disability has on employment outcomes and abilities. In doing so, there's an opportunity for VR counselors to fill the gap between their role as VR counselor and the client's role. Exploring this gap requires VR counselors to assess each barrier to employment and its significance individually. Assessing each barrier to employment and its significance individually vs. simply assessing the disability and its significance has the potential of changing employment outcomes as well as employment training and support for the client. All these data are tracked, collected, and reported in efforts to improve employment outcomes for client populations at greater risk of experiencing employability barriers. Additionally, these efforts enhance employment processes that again improve employment outcomes long-term, but short term has the potential to expedite employability (expedition of employability for the of-

fender population is critical to reduced recidivism, improved familial stability, long term community outcomes and the national economy).

The Vocational Rehabilitation Employment and Service Delivery Model (See Figure 1) initially appeared in the article by Dowden et al. (2016). It has been revised here to include a next step toward employability improvements for African American and Latino populations with criminal histories and disabilities. This conversation continuation builds on efforts to outline a model that vocational rehabilitation agencies could adopt and employ with the goal of improving employability as well as enhancing the tracking, collecting, and reporting of employment data.

Implications for Rehabilitation Counselors and Future Considerations

The perspectives presented here offer a more responsive way to provide services to VR clients with criminal histories. The literature supporting these perspectives encourages rehabilitation counseling service providers to consider disability of all types as additional barriers to successful outcomes (Biegel, Stevenson, Beimers, Ronis, & Boyle, 2010; Cook, 2006; McDonnell, 2016). As is, clients with disabilities who have been released from jail/prison are not faring well when it comes to reentering society (Feist-Price et al., 2014; U.S. Department of Justice, 2015). The inclusion of disabilities and criminal history in discussions has implications for training future counselors in general as well as those working in vocational rehabilitation. Such augmentations in training curriculum could take place in the assessment and skill building/techniques courses. Rehabilitation counselors in training could benefit from understanding the employment implications for various types of criminal charges and convictions, the terms of incarceration and stages of the re-entry process. In addition to this introductory experience, rehabilitation counseling students may also need experiential courses (practicum/internship) or rotations where they are developing and applying these skills.

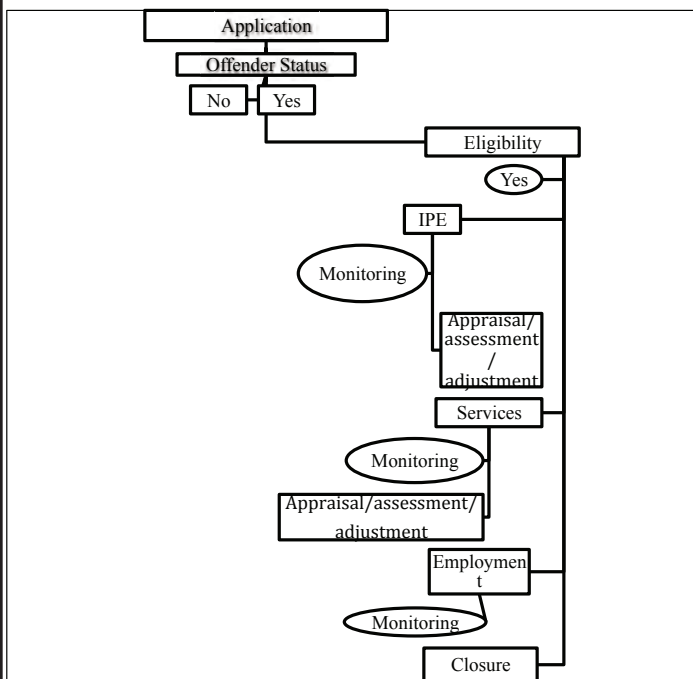
In addition to training, there are implications impacting the practice of VR services. Seeking employment can be difficult for members of stigmatized populations. Overwhelmingly, research supports the notion that African-Americans and Hispanic/Latino Americans are impacted by institutional and systemic racism (Decker et al., 2015; Petit & Lyons, 2007; Vuolo et al., 2017). Sociopolitical consequences of a non-formidable relationship with law enforcement, and criminal justice and judicial systems interact to further impede the potential of successful outcomes for African American and Latino offenders with disabilities. Therefore, rehabilitation counselors may need to strengthen their social justice advocacy. While many rehabilitation counselors already follow the advocacy competencies that are specified in the ACA Code of Ethics (2014), these actions are not established guidelines. Specific advocacy practices for rehabilitation counselors could include: (a) identifying potential barriers and biases within the criminal justice system that adversely affects minority groups, (b) determining the effect of advocacy efforts on the criminal justice and VR systems and constituents, and (c) recognizing the impact of oppression and other barriers to health development.

Future considerations for studies involving rehabilitation counselors who provide services to clients with criminal histories and disabilities should consider implementing and piloting the Vocational Rehabilitation Employment Service Delivery Model (See Figure 1). The idea behind the model builds on a premise that VR state agencies could adopt and employ the goal of improving employability as well as enhancing the tracking, collecting and reporting of employment data.

The confluence of race, disability, and criminal history clearly impacts employment. The researchers are interested in better understanding how the state VR counseling system responds to this issue. Therefore, data should be gathered from VR counselors as they work on the frontline with ex-offenders with disabilities and can provide needed insight. It is recommended that researchers assess VR counselors' perceptions of effectiveness of the current VR service delivery model compared to the proposed criminal history service delivery model to the employability of African American and Latino ex-offenders with disabilities. Perhaps, a pre-post assessment could be utilized that could eventually lead to standardization of service delivery, tracking, reporting, and collaboration of systems relative to consumers with criminal histories. Identifying best practices will assist in advocating for systemic change and policy reform.

VR counselors can utilize the living condition variable of the RSA 911 data (Rehabilitation Services Administration, 2004), code 06 - adult correctional facility. Currently, this code is the only data related to (ex)-offender status. This code and corresponding variables provide only initial information about an applicant's living condition at application. Additionally, there are no data or research indicating that this information is used to support an applicant during the employment process. The integration of the Vocational Rehabilitation Employment Service Delivery Model

Figure 1. Vocational Rehabilitation Employment and Service Delivery Model



and possibly a new RSA variable with corresponding code will be significant to the field of rehabilitation. Adding a criminal history variable and code will provide data on individuals who enter the VR system with a criminal history. In the future, the model could ultimately improve employability and employment outcomes for all ex-offenders with disabilities, especially African Americans and Hispanics/Latinos. While the task of creating a new RSA-911 variable concerning ex-offender status will be challenging, given the statistics concerning ex-offenders, particularly for African Americans and Hispanics/Latinos, it is imperative that data be collected for this variable. Further exploration of the employability of these populations is needed to better understand employment barriers and to create vocational strategies to increase African American and Hispanic/Latino ex-offenders' employability.

Conclusion

Employment, as the most desirable social achievement, is considered the priority outcome of services for VR consumers. For ex-offender populations with disabilities, especially African Americans and Hispanic/Latinos, the challenge of obtaining employment can be overwhelming. Having a criminal history adds to the burden because employers are less willing to hire former offenders than any other marginalized group (Holzer, Raphael, & Stoll, 2006). For VR counselors to be competent in providing these services, it is important to know the full history of the clients they are serving. It appears that the needs of today's VR client demand a highly specialized type of VR service. The expansion of VR counseling practice to include criminal history is necessary in keeping with providing the best possible services (Barlow, Levitt, & Bufka, 1999; McHugh & Barlow, 2010).

References

- American Counseling Association. (2014). *ACA Code of Ethics*. Alexandria, VA: Author.
- Austin, B. S., & Chun-Lung, L. (2014). A structural equation model of Vocational Rehabilitation services: Predictors of employment outcomes for clients with intellectual and co-occurring psychiatric disabilities. *Journal of Rehabilitation, 80*(3), 11-20.
- Barlow D. H., Levitt J. T., & Bufka L. F. (1999). The dissemination of empirically supported treatments: A view to the future. *Behaviour Research and Therapy, 37*(1), 147-162.
- Biegel, D. E., Stevenson, L. D., Beimers, D., Ronis, R. J., & Boyle, P. (2010). Predictors of competitive employment among consumers with co-occurring mental and substance use disorders. *Research on Social Work Practice, 20*(2), 191-201.
- Bronson, M. M., Maruschak, L. M., & Berzofsky, M. (2015). *Disabilities among prisoners and jail inmates, 2011-12*. Retrieved from <https://www.bjs.gov/index.cfm?ty=pbdetail&iid=5500>
- Bui, H. N., & Morash, M. (2010). The impact of network relationships, prison experiences, and internal transformation on women's success after prison release. *Journal of Offender Rehabilitation, 49*(1), 1-22.
- Carter, E. W., Austin, D., & Trainor, A. A. (2012). Predictors of postschool employment outcomes for young adults with severe disabilities. *Journal of Disability Policy Studies, 23*(1), 50-63.
- Cerda, J. A., Stenstrom, D. M., & Curtis, M. (2015). The role of type of offense and work qualifications on perceived employability of former offenders. *American Journal of Criminal Justice, 40*, 317-335.
- Cimera, R. E., & Cowan, R. J. (2009). The costs of services and employment outcomes achieved by adults with autism in the US. *The National Autistic Society, 13*(3), 285-302.
- Cook, J. A. (2006). Employment barriers for person with psychiatric disabilities: Update of a report for the President's commission. *Psychiatric Services, 57*(10), 1391-1405.
- Cook, J. A., Burke-Miller, J. K., & Roessel, E. (2016). Long-term effects of evidence-based supported employment on earnings and on SSI and SSDI participation among individuals with psychiatric disabilities. *American Journal of Psychiatry, 173*(10), 1007-1014.
- Decker, S. H., Ortiz, N., Spohn, C., & Hedberg, E. (2015). Criminal stigma, race, and ethnicity: The consequence of imprisonment for employment. *Journal of Criminal Justice, 43*, 108-121.
- Dowden, A. R., Ethridge, G., & Brooks, M. (2016). The impact-criminal history has on the employability of African American and Latino populations with disabilities receiving state vocational rehabilitation services: Implications for adding a criminal history variable to the RSA-911 data. *Journal of Vocational Rehabilitation, 45*, 213-224.
- Dutta, A., Gervev, R., Chan, F., Chou, C. C., & Ditchman, N. (2008). Vocational rehabilitation services and employment outcomes for people with disabilities: A United States study. *Journal of Occupational Rehabilitation, 18*, 326-334.
- Feist-Price, S., Lavergne, L., & Davis, M. (2014). Disability, race, ex-offender status: The tri-vector challenge to employment. *Journal of Applied Rehabilitation Counseling, 45*(4), 25-33.
- Harley, D. A., Cabe, B., Woolums, R., & Turner-Whitaker, T. (2014). Vulnerability and marginalization of adult ex-offenders with disabilities in community and employment reintegration. *Journal of Applied Rehabilitation Counseling, 45*(4), 4-14.
- Herinckx, H. (2010). *Employment outcomes 2007-2009*. Retrieved from <http://www.centralcityconcern.org/research/>.
- Holzer, H. J., Raphael, S., & Stoll, M. A. (2004). How willing are employers to hire ex-offenders? *Focus, 23*(2), 40-43.
- Holzer, H. J., Raphael, S., & Stoll, M. A. (2006). Perceived criminality, criminal background checks, and the racial hiring practices of employers. *Journal of Law and Economics, 49*, 451-480.
- Jang, Y., Wang, Y. T., & Lin, M. H. (2014). Factors affecting employment outcomes for people with disabilities who re-

- ceived disability employment services in Taiwan. *Journal of Occupational Rehabilitation*, 24, 11-21.
- Lindstedt, H., Ivarsson, A. B., & Soderlund, A. (2006). Background factors related to and/or influencing occupation in mentally disordered offenders. *Scandinavian Journal of Caring Services*, 20, 331-338.
- Lockwood, S. K., Nally, J. M., & Ho, T. (2016). Race, education employment, and recidivism among offenders in the United States: An exploration of complex issues in the Indianapolis metropolitan area. *International Journal of Criminal Justice Sciences*, 11(1), 57-74.
- Madaus, J. W. (2006). Employment outcomes of university graduates with learning disabilities. *Learning Disability Quarterly*, 29, 19-31.
- McDonnall, M. C. (2016). The relationship between vocational rehabilitation professional's interactions with businesses and employment outcomes for consumers who are blind or visually impaired. *Rehabilitation Counseling Bulletin*, 59(4), 203-212.
- McHugh R. K., & Barlow D. H. (2010). The dissemination and implementation of evidence-based psychological treatments: A review of current efforts. *American Psychologist*, 65(2), 73-84.
- Mizrahi, J. L., Jeffers, J., Ellis, E. B., & Pauli, P. (2016). *Disability and criminal justice reform: Keys to success*. Retrieved from: <http://respectabilityusa.com/Resources/Disability%20and%20Criminal%20Justice%20Reform%20White%20Paper.pdf>
- Moran, G. S., Russinova, Z., Yim, J. Y., & Sprague, C. (2014). Motivations of persons with psychiatric disabilities to work in mental health peer services: A qualitative study using self-determination theory. *Journal of Occupational Rehabilitation*, 24, 32-41.
- Nellis, A., & King, R. S. (2009). *No exit: The expanding use of life sentences in America*. Retrieved from <http://www.sentencingproject.org/wp-content/uploads/2016/01/No-Exit-The-Expanding-Use-of-Life-Sentences-in-America.pdf>
- Novak, J., Mank, D., Rogan, P., Russinova, Z., Griffin, S., Bloch, P., Rosoklija, I. (2011). Workplace prejudice and discrimination toward individuals with mental illnesses. *Journal of Vocational Rehabilitation*, 35(3), 227-241.
- O'Keefe, M. L., & Schnell, M. J. (2007). Offenders with mental illness in the correctional system. *Journal of Offender Rehabilitation*, 45, 81-104.
- Pager, D. (2003). The mark of a criminal record. *American Journal of Sociology*, 108(5), 937- 975.
- Pager, D., Western, B., & Bonikowski, B. (2009). Discrimination in a low-wage labor market: A field experiment. *American Sociological Review*, 74(5), 777-799.
- Pager, D., Western, B., & Sugie, N. (2009). *Sequencing disadvantage: Barriers to employment facing young black and white men with criminal records*. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3583356>
- Pettit, B., & Lyons, C.J. (2007). —Status and the stigma of incarceration: The labor markets of incarceration, by race, class, and criminal involvement. In S. Bushway, M.A. Stoll, and D.F. Weiman (Eds.), *Barriers to reentry? The labor market for released prisoners in post-industrial America* (pp.203-226). New York: Russell Sage Foundation.
- Porter, N. (2016). *Repurposing: New beginnings for closed prisons*. Retrieved from <http://www.sentencingproject.org>
- Rehabilitation Services Administration. (2004). *Reporting manual for the case service report (RSA-911)*. Washington, DC: United States Department of Education Office of Special Education and Rehabilitative Services.
- Reich, S. E. (2017). An exception to the rule: Belief in reedemability distance signals, and the employer's decision to hire a job applicant with a criminal record. *Journal of Offender Rehabilitation*, 56(2), 110-136.
- Rodriguez, M. N., & Emsellem, M. (2011). *65 million need not apply: The case for reforming criminal background checks for employment*. Retrieved from http://www.nelp.org/content/uploads/2015/03/65_Million_Need_Not_Apply.pdf
- Schimmel, J., Liu, S., & Croake, S. (2012). Employment experiences of young Medicaid buy-in participants with psychiatric disabilities. *Psychiatric Rehabilitation Journal*, 35(3), 259-264.
- Schmitt, J., & Warner, K. (2011). Ex-offenders and the labor market. *The Journal of Labor and Society*, 14, 87-109.
- Smith, T.M. (2013). *How African-American ex-offenders successfully negotiate their socially disorganized environments into which they are returned after incarceration: As reflected in their own words*. (Unpublished doctoral dissertation). St. John Fisher College, New York.
- Stoll, M. A., & Bushway, S. D. (2008). The effect of criminal background checks on hiring ex-offenders. *Criminology & Public Policy*, 7(3), 371-404.
- Sugie, N. F. (2012). Punishment and welfare: Parental incarceration and families' receipt of public assistance. *Social Forces*, 90(4), 1403-1427: doi:10.1093/sf/sos055
- Swanson, S. J., Langfitt-Reese, S., & Bond, G. R. (2012). Employer attitudes about criminal histories. *Psychiatric Rehabilitation Journal*, 35(5), 385-390.
- Swensen, J., Rakis, J., Snyder, M., & Loss, R. (2014). Engaging employers and business in the hiring of individuals with criminal records. *Journal of Applied Rehabilitation Counseling*, 45(4), 15-24.
- The Pew Center on the States. (2009). *One in 31: The long reach of American corrections*. Retrieved from http://www.pewtrusts.org/~media/assets/2009/03/02/pspp_1in31_report_final_web_32609.pdf
- U. S. Department of Justice. (2016). *Correctional populations in the United States, 2014*. Retrieved from <https://www.bjs.gov/content/pub/pdf/cpus14.pdf>
- United States Bureau of the Census. (2017). *U.S. Population Projected to Cross 325 Million Threshold*. Retrieved from <https://www.census.gov/newsroom/press-releases/2017/cb17-tps43.html>

Vuolo, M., Lageson, S., & Uggen, C. (2017). Criminal record questions in the era of "ban the box". *American Society of Criminology*, 16(1), 139-165.

Young, N. C., & Powell, G. N. (2015). Hiring ex-offenders: A theoretical model. *Human Resource Management Review*, 25, 298-312.

Dr. Glacia Ethridge is an Assistant Professor in the Department of Counseling at North Carolina Agricultural and Technical State University and a Research Fellow in the Peer-to-Peer Mentor Research Team Academy at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities.

Dr. Angel Riddick Dowden is an Associate Professor in the Department of Counseling at North Carolina Agricultural and Technical State University and a Research Fellow in the Peer-to-Peer Mentor Research Team Academy at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities.

Dr. Michael Brooks is an Associate Professor in the Department of Counseling at North Carolina Agricultural and Technical State University and a Research Fellow in the Peer-to-Peer Mentor Research Team Academy at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities.

National Survey of State Vocational Rehabilitation Agency and Veterans Affairs Interagency Collaborations: An Emerging Conceptual Framework for Co-Serving Veterans of Color with Disabilities

Jean E. Johnson
Corey L. Moore
Fariborz Aref
Andre L. Washington
Courtney Ward
Kelsey Webb

Abstract: *This national study examined the perceptions of state vocational rehabilitation agency (SVRA) administrators (N = 39) about SVRA and United States Department of Veterans Affairs Vocational Rehabilitation and Employment (VA-VR&E) Program co-service practices that could facilitate improved employment outcomes among veterans of color (i.e., African Americans, Native Americans or Alaskan Natives, Latinos, and Asian Americans or Pacific Islanders) with disabilities. The investigators collected data using a survey of promising co-service practices and collaborations, and their subsequent analysis yielded 11 key themes that were catalogued into the following five domains; job placement services, referral services, cultural diversity, co-service agreements, and co-agency procedures. Generated findings informed the development of an emerging conceptual framework for a new “SVRA and VA-VR&E Co-Service Model” presented herein that could be considered for future evaluation and adoption by these agencies.*

Veterans of color (i.e., African Americans, Native Americans or Alaskan Natives, Latinos, and Asian Americans or Pacific Islanders) comprise about 22% (N = 4,265,049) of the total universe of all living United States (U.S.) Armed Forces veterans (N = 19,386,589) (Minority Veterans Report, 2017; National Center for Veterans Analysis and Statistics, 2016). Of these veterans, an estimated 11.2% (N = 2,171,297) are African American, 0.6% (N = 255,902) are Native American or Alaskan Native, 6.6% (N = 298,553) are Hispanic, and 1.6% (N = 68,240) are Asian American or Pacific Islander (National Center for Veterans Analysis and Statistics, 2016). These veterans, on average, are younger (median age 49-58) than White non-Latino veterans (median age 65), and it is projected that their representation will increase within all veterans from 20.9% in 2011 to 35.7% by 2040. Over 43% of all veterans of color served during the Gulf War Era (August 1990 to present) (Minority Veterans Report, 2017).

Significant numbers of these veterans are discharged from active duty with various service-connected physical and mental disabilities, substance abuse problems (Grossman, 2009; Twamley et al., 2013), chronic pain (Cifu et al., 2013), and hearing and vision impairments (Grossman, 2009; Tennant, 2012). Latino and African American veterans have been found to report significantly greater odds of disability compared to White non-Latino veterans (Sheehan, Hummer, Moore, & Butler, 2012). In fact, 16.9% of veterans of color who use U.S. Department of Veterans Affairs (VA) health care have a service connected disability (Minority Veterans Report, 2017). Post-traumatic stress disorder (PTSD), traumatic brain injury (TBI), and major depression, however, are described as the “signature injuries” of the most recent conflicts (Ainspan, 2011). Veterans of color also experience higher health prevalence rates of diabetes, heart disease, and strokes (National Center for Veterans Analysis and Statistics, 2017) that manifest in various functional limitations. The comorbidity of disabilities has

been labeled as polytrauma due to the combined functional limitations of each disability (Cifu et al., 2013).

The intersectionality of disability, health incidence, and environmental and social support contextual factors (e.g., homelessness and poor economic status) can manifest employment barriers and outcome disparities (Tennant, 2012; Twamley, Jak, Delis, Bondi, & Lohr, 2014). Recent state vocational rehabilitation agency (SVRA) level data analyses (i.e., Moore & Wang, 2016; Moore et al., 2016) empirically documented such outcome inequities among veterans of color with disabilities. Moore and Wang (2016), for example, using national fiscal year 2013 Rehabilitation Services Administration (RSA)-911 data, extracted, re-sampled, and analyzed case records (N = 11,603) for veterans from all racial/ethnic categories across multiple trials using bootstrap procedures. They reported that return-to-work probabilities were 'poorest' for African American veterans followed by Native Americans or Alaska Natives, Asian Americans or Pacific Islanders, Latinos, and then non-Latino Whites.

Section 21 of the Rehabilitation Act Amendments of 1998 (Pub. L. 93-112) documented patterns of inequitable treatment and called for increased involvement of rehabilitation professionals of color in the delivery of VR services to address employment outcome disparities. The Workforce Investment and Opportunity Act (WIOA) of 2014 (Pub. L. 113-128) further requires that SVRAs maximize the employment of persons with disabilities (McDonnell & Crudden, 2015), including those from diverse racial and ethnic populations. In light of these recent research findings and relevant disability policy mandates, there is a pressing need to develop new and innovative SVRA and U.S. Department of Veterans Affairs Vocational Rehabilitation and Employment (VA-VR&E) Program co-service models that increase the field's capacity to assist these veterans in overcoming employment challenges (Johnson, Moore, Wang, Sanders, & Sassin, 2016; O'Brien, 2011). SVRAs and VA-VR&E Programs individually provide various and similar VR services such as assessment to determine needed services, Individualized Plans of Employment (IPE), vocational or academic training, job placement services, vocational counseling, referrals, and assistive technology services. The agencies differ, however, in terms of eligibility requirements (Johnson et al., 2016). To be eligible for VA-VR&E Program services, veterans must have a service connected disability that presents an employment handicap. SVRAs provide services to veterans whether or not the disability is service connected. Services, however, are often provided in an environment characterized by the absence of coordination (O'Brien, 2011), and can thus become disjointed and confusing. Consequently, veterans are often unaware of the programs provided by these agencies and thus are not empowered to access available services.

Overall, previous research (e.g., Bezyak, Gilbert, Walker, & Trice, 2012; Fleming, et al., 2013) exploring rehabilitation interagency collaborations have reported higher measurable goal attainment, more engagement in work-related experiences, and higher rates of successful employment outcomes. For example, Bezyak et al. (2012) conducted a needs assessment of human service and rehabilitation professionals to assess their perspectives on the importance of community partnerships. Their findings

indicated that there was strong support among the respondents for developing community partnerships through the sharing of resources. Fleming et al. (2013) reviewed 35 rehabilitation research studies examining employment-focused interventions, of which 10 had interagency collaboration as a focus point. They identified the following key interagency partnerships as "best practice collaborations"; SVRAs, mental health agencies, colleges and universities as well as one-stop centers. Brewer et al. (2011), in an evaluation of a multi-site transition program and New York State Education Department interagency collaboration, found that students with disabilities who received transition services from community programs were more likely to participate in SVRAs as consumers and sustain work-related activities. Research continues in the area of transition to define and develop the conceptual roles of SVRA counselors and educational professionals in enhancing collaborations (Kline & Kurz, 2014). As pointed out by Oertle & Seader (2015), however, these collaborations are not yet broadly implemented or sustained despite successful transition collaborations.

Specific to SVRA and VA-VR&E Program co-service, the U.S. Rehabilitation Services Administration (RSA) provides overarching guidance that allows for collaboration between the two agencies (Johnson et al., 2016). Essentially, the collaboration allows for VA-VR&E counselors to refer veterans to SVRAs. A major advantage of this partnership is that SVRAs are able to provide some services that VA-VR&E cannot legally provide to the veteran, such as clothing allowance and some transportation allowances (U.S. Department of Veterans Affairs, 2014). Despite such RSA guidance, sparse examples of effective SVRA and VA-VR&E Program interagency collaborations are documented in the extant research literature. One published instance, however, is the partnership between the Texas Department of Assistive and Rehabilitative Services and the Waco Texas VA-VR&E program implemented in 2005. A Memorandum of Understanding (MOU) was developed between the two agencies that resulted in the SVRA providing services to over 4,000 veterans during fiscal year 2006. This MOU included procedures for making referrals, providing case management, and developing a concurrent IPE. Additionally, the MOU identified which services participating agencies could provide exclusively. This progressive partnership bridged the differences between the two programs and used their commonality to provide an array of services otherwise not available to the veteran (McGuire-Kuletz, Shivers, & Anderson, 2008). Another such example is an individual case between the Montana Division of Rehabilitation and the Billings, Montana VA-VR&E Program. In this instance, a veteran receiving VA-VR&E services was offered a job for which he had been trained to perform; however, the job site was a 6-hour drive from his current home. The VA-VR&E counselor contacted the SVRA counselor and they were successful in developing a vocational plan that was approved to pay for the veteran to move his family closer to the job location (McGuire-Kuletz et al., 2008). This collaboration resulted in both agencies accomplishing a positive employment outcome for the consumer.

It is important to note, however, that the available literature fails to indicate whether these collaborations were

sustained or used to foster other collaborations or provide non-anecdotal evidence of success. Moreover, these sparse examples illustrate the dearth of research investigating effective SVRA and VA-VR&E Program co-service practices aimed at assisting veterans of color with disabilities to obtain competitive, integrated employment (Johnson, et al., 2016). It is hypothesized that promising co-service practices between these two agencies already exist; however, they continue to go undiscovered and thus have not been adequately identified, cataloged, and described. Translated findings could help to inform SVRA practice efforts and assist agencies such as RSA and the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR) extensively address Section 21 and the WIOA by advancing the state-of-the science on employment outcomes among veterans of color with disabilities. The purpose of this study was to identify, catalog, and describe SVRA respondents' perceptions on SVRA and VA-VR&E Program promising co-service practices that can facilitate improved competitive integrated employment outcomes among veterans of color with disabilities. The following research questions were addressed in an effort to identify emergent co-service and collaboration themes:

1. What SVRA and VA co-service practices and collaborations are perceived by SVRA respondents as effective for assisting veterans of color with disabilities to obtain employment?
2. What SVRA and VA co-service practices and collaborations aimed at facilitating veterans of color with disabilities' successful return-to-work are potentially adoptable by these agencies?

Method

This study utilized survey methods to explore and identify SVRA and VA-VR&E promising co-service practices for assisting veterans of color with disabilities to obtain competitive integrated employment. This approach is well-suited for the study's purpose and helped to provide the research team with a deeper understanding of such co-service practices that could be adopted in the field to improve rehabilitation services and experiences, and inform the development of a conceptual framework for a new SVRA and VA-VR&E Co-Service Model.

Participants

The potential study population consisted of 80 SVRAs (blind and general) that were members of the Council of State Administrators of Vocational Rehabilitation (CSAVR). Forty SVRA administrators responded to the CSAVR endorsed survey. However, data for one agency was not included in the analysis due to incomplete data, resulting in a sample of 39 SVRAs. The response rate (n = 39) was 50% (i.e. rounded). Geographically, participating SVRAs were located in the southern (n = 10 or 26%), mid-western (n=8 or 20%), western (n=8 or 20%), and northeastern (n = 5 or 14%) regions of the U.S. Eight (20%) SVRAs failed to identify a geographical location. Additionally, the majority of the respondents (n=34) worked at Vocational Rehabilitation (VR) agencies and the other respondents (n=5) worked at Bureau of the

Blind agencies. The number of veterans provided employment services within the last 12-month period ranged from a low of 5 to a high of 5,736. Participant characteristics details can be seen in Table 1.

Procedures

Instrument. The online "Promising Practices in SVRA and VA-VR&E Co-Service Partnership Survey" included a total of 99 Likert-type items and a demographic form. Likert-type items asked respondents to indicate the nature of partnerships/collaborations between SVRAs and VA-VR&E Programs on a scale of 1 to 5, where 1 was "never true" and 5 was "always true". They were also asked to indicate the types of co-service practices in which they were involved on a scale of 1 to 5, where 1 was "not involved" and 5 was "always involved". They were then asked to rate the effectiveness of these co-service practices; 1 was "not at all effective" and 5 was "extremely effective"; to indicate barriers to engagement in co-service practices, 1 was "not a barrier" and 5 was "extreme barrier"; and to rate the benefits of engagement in co-service practices, 1 was "not beneficial" and 5 was "extremely beneficial". Demographic questions included asking SVRA Administrators to identify their gender, race, current agency position, educational attainment, certifications, or licenses attained, and approximate number of veterans provided services by their SVRA in the past 12 months.

Instrument development. Advisory panel member input, a focus group discussion, and pilot-test were all accomplished to enhance the content validity of the instrument. First, an advisory panel member reviewed the focus group protocol in relation to content and procedures and the input was used to help the research team develop the survey's framework. Next, the research team convened a focus group (N=12) that included Oklahoma Department of Rehabilitation Services VR counselors/specialists, program managers and field coordinators, and American Indian Vocational Rehabilitation Program (Section 121) counselors and VA-VR&E Program VR counselors. In partnership with national

TABLE 1. Demographic Information of Online Survey AIVR Participants

Variables	Label	n	%
Gender	Female	27	23.0
	Male	08	77.0
Age group	30 & less	02	6.0
	31 - 40	03	8.0
	41 - 50	07	20.0
	51 - 60	15	43.0
	61 & above	08	23.0
Race/ Ethnicity	White/Caucasian	6	17.0
	American Indian	29	83.0
Job Title	Administrator	2	6.0
	Director	19	54.0
	Manager	7	20.0
	TVR Specialist	1	3.0
	TVR Counselor	5	14.0
	TVR Trainee	1	3.0

Note. TVR = Tribal Vocational Rehabilitation. Note: n=35

advisory panel members, we developed the seven-question protocol designed to elicit participants' perspectives on co-service practices between SVRAs and VA-VR&E Programs and American Indian Vocational Rehabilitation Programs (AIVRPs) and VA-VR&E Programs; cultural influences, policies and procedures that influence collaboration in co-service practices. We used the major themes and categories that emerged from the analysis of the qualitative data from the focus group to further develop the framework for the "Promising Practices in SVRA and VA-VR&E Co-Service Partnership Survey" inclusive of the following domains: "Current Collaborations", "Previous Collaborations", "Current or Previous Involvement in Co-Service Practices with VA-VR&E", "Effectiveness of Co-Service Practices", "Benefits of Co-Service Practices", "Barriers to Co-Service Practices", and "SVRA Positions that Participate in Co-Service Practices". We used the focus group responses to develop the specific survey items that were included in each of the domains on the survey, along with a review of relevant literature.

Next, the survey was uploaded onto the psycdata.com online system and pilot-tested with 9 of the original 12 focus group participants. Participants were asked to respond to survey questions regarding co-service practices and to share comments or suggestions about how the survey could be improved. One major suggestion was to separate the survey sections for SVRA and VA-VR&E Program co-service collaboration and AIVRP and VA-VR&E Program co-service collaboration so that each agency respondent saw only questions relevant to their respective agency (i.e., SVRA or AIVR). Originally, the agencies were asked to respond to applicable questions as each question was encountered; only SVRA respondent data collecting through the SVRA section of the survey, and not AIVR respondent data, were analyzed in the current study. Another major suggestion was to change the language of the questions for clarification and to optimize efforts to operationalize the measurable constructs in a way that might help yield more valid responses. For instance, the language for the questions asking respondents to indicate the 'nature of partnerships' was changed to 'type of partnerships' in order to obtain a more useful response; we were really interested in knowing what types of partnerships were being facilitated rather than the make-up or nature of them. Additionally, based on participants' feedback, two

open-ended questions were added to allow respondents to provide additional information on co-service practices that they considered effective. These changes were made to the survey to further inform the instrument's development. Although reliability testing was not conducted, the quality and consistency of the survey was enhanced by these procedures.

Survey administration. The "Promising Practices in SVRA and VA-VR&E Co-Service Partnership Survey" was administrated online via psychdata.com. Per sub-contract agreement, CSAVR distributed a cover letter with an embedded survey hyperlink nationally to all 80 directors of SVRAs, blind and general agencies, who were members. CSAVR communicated through email and telephone to initially engage and encourage them to complete the survey. Subsequent communication included survey completion reminders at CSAVR's monthly meetings, email blasts, and an article in the CSAVR monthly newsletter authored by research team members highlighting the importance of completing the survey. Research team members, in response to a CSAVR invitation, also met face-to-face and telephonically with SVRA administrators who were members of the CSAVR's Veterans Committee and Research Committee at their 2016 annual conference in San Diego California to encourage their agency's participation in completing the survey. CSAVR provided a weekly update to the research team on the survey response progress. All of these activities were carried out to accomplish an acceptable response rate. Participation in the study was voluntary and participants could withdraw at any time. Respondents were provided informed consent information about the study and asked to complete a statement of consent to continue or end the survey. No honorarium was provided due to state regulations prohibiting monetary compensation to state employees. (Name of university omitted) Institutional Review Board approved the study.

Analysis

The research team analyzed the quantitative data using SPSS (Version 22). We generated frequencies and percentages for SVRA respondent demographic variables (e.g., type of SVRA [general or blind], gender, race/ethnicity), characteristics (i.e., number of services provided), and survey items across the seven different domains. Additionally, we generated means and standard deviations for the survey items. We used the survey item data analysis results to inform the development of the herein presented emerging conceptual framework for a new co-service model.

Results

The online survey included Likert-type items where respondents were able to report their perceptions on a range of co-service practice areas that captured respondent ratings, which were analyzed and used to describe their perspectives on SVRA and VA-VR&E Program co-service practices. The results of their perceptions analysis were described across the following survey areas that were derived from the focus group discussion findings: "Current Collaborations", "Previous Collaborations" "Current or Previous Involvement in Co-Service Practices with VA-VR&E", "Effectiveness of Co-Service Practices", "Benefits of Co-Service

Table 2
Perceived Ratings on Multiple-Choice Items regarding Current Collaborations Contained on the Promising Practices in SVRA and VA-VR&E Co-Service Partnership Survey; Frequencies and Percentages

Items	Percentage (Number of participants)				
	A (Never True)	B (Rarely True)	C (Sometimes True)	D (Usually True)	E (Always True)
a. Current Collaborations with VA-VR&E	2.0 (1)	8.0 (3)	31.0 (12)	28.0 (11)	31.0 (12)
b. Memorandum Understanding with VA-VR&E	39.0 (15)	15.0 (6)	5.0 (2)	5.0 (2)	36.0 (14)
c. Informal collaboration with VA-VR&E	5.0 (2)	8.0 (3)	28.0 (11)	18.0 (7)	41.0 (16)
d. Veterans' referrals to VA-VR&E	15.0 (6)	23.0 (9)	31.0 (12)	28.0 (11)	3.0 (1)
e. Information to veterans about veteran services at VA-VR&E	5.0 (2)	3.0 (1)	23.0 (9)	38.0 (15)	31.0 (12)

Practices”, Barriers to Co-Service Practices”, and “SVRA Positions That Would Participate in Co-Service Practices”.

Current Collaborations with VA-VR&E Programs

SVRA respondents were asked to indicate whether they currently engage in collaborations with VA-VR&E Programs to co-serve veterans of color with disabilities using a 5-point Likert-type scale where 1 = *never true*, 2 = *rarely true*, 3 = *sometimes true*, 4 = *usually true*, and 5 = *always true*. The mean response rating for the question of current collaborations was 3.79 (SD = 1.11), falling between *sometimes true* and *always true*. The detailed results are presented in Table 2.

Prior SVRA Collaborations with VA-VR&E

SVRA respondents were asked to indicate whether they had “Prior Collaborations with VA-VR&E Programs” using a 5-point Likert-type scale where 1 = *never true*, 2 = *rarely true*, 3 = *sometimes true*, 4 = *usually true*, and 5 = *always true*. The mean response rating for this question was 3.72 (SD=1.05), falling between *sometimes true* to *usually true*. A majority (n = 34 or 87%) indicated that they previously engaged in collaborations with VA-VR&E Programs that were considered effective and contributed to successful employment outcomes for veterans of color with disabilities; *sometimes true* (n = 15 or 38%), *usually true* (n = 9 or 23%), and *always true* (n = 10 or 26%). Other respondents indicated little engagement; *rarely true* (n = 5 or 13%).

Current or Previous Involvement in Co-Service Practices with VA-VR&E

SVRA respondents were asked to rate their current or previous involvement in 15 different co-service practices with VA-VR&E on a 5-point Likert-type scale where 1 = *not involved*, 2 = *rarely involved*, 3 = *sometimes involved*, 4 = *often involved*, and 5 = *always involved*. The mean response rating for these items ranged from a low of 1.79 (SD = 1.06) for the question pertaining to conflict resolution procedure development, falling between *not involved* to *rarely involved*, to a high of 3.21 (SD = 1.17) for the item on process for referrals that fell between *sometimes involved* to *often involved*. Table 3 shows the detailed results for each co-service practice.

Perceived Efficacy of Co-Service Practices

SVRA respondents were asked to rate the effectiveness of 15 SVRA and VA-VR&E co-service practices regardless of whether or not they engage in these practices on a 5-point Likert-type scale where 1 = *not at all effective*, 2 = *slightly effective*, 3 = *moderately effective*, 4 = *very effective*, and 5 = *extremely effective*. The mean response rating ranged from a low of 2.56 (SD = 1.17) for the job training manual development question, falling between *slightly effective* to *moderately effective*, to a high of 3.54 for the following items: referral process development (SD = 1.17), development of co-hierarchy and co-responsibilities (SD = 1.07), memorandum of understanding development (SD = 1.12), falling between *moderately effective* to *very effective*. The detailed results, which are not presented in rank order form, are shown in Table 4.

Benefits of Co-Service Practices

SVRA respondents were asked to rate the benefits of nine different SVRA and VA-VR&E Program co-service practice outcomes on a 5-point Likert-type scale where 1 = *not beneficial*, 2 = *slightly beneficial*, 3 = *somewhat beneficial*, 4 = *very beneficial*, and 5 = *extremely beneficial*. The mean response rating ranged from a low of 3.37 (SD = .819) for the question on effective change in organizational cultural, falling between *somewhat beneficial* to *very beneficial*, to a high of 4.13 for the following two items: effective change in organizational culture (SD = .819), and

Table 3
Perceived Ratings on Multiple-Choice Items regarding Current or Previous Involvement in Co-Service Practices Contained on the Promising Practices in SVRA and VA-VR&E Co-Service Partnership Survey; Frequencies and Percentages.

Items	Percentage (Number of participants)				
	A (Not Involved)	B (Rarely Involved)	C (Sometimes Involved)	D (Often Involved)	E (Always Involved)
a. Development of joint training manuals	51.0 (20)	18.0 (7)	20.0 (8)	8.0 (3)	3.0 (1)
b. Cultural training provided by one agency to another	33.0 (13)	31.0 (12)	23.0 (9)	10.0 (4)	3.0 (1)
c. Development of co-communication procedures	23.0 (9)	26.0 (10)	33.0 (13)	10.0 (4)	8.0 (3)
d. Development of process for referrals from and to each agency	10.0 (4)	13.0 (5)	39.0 (15)	23.0 (9)	15.0 (6)
e. Development of co-hierarchy and levels of co-responsibilities	26.0 (10)	28.0 (11)	28.0 (11)	10.0 (4)	8.0 (3)
f. Determination of resources allocations	28.0 (11)	21.0 (8)	28.0 (11)	15.0 (6)	8.0 (3)
g. Development of procedures for conflict resolution issues	36.0 (14)	28.0 (11)	18.0 (7)	5.0 (2)	13.0 (5)
h. Development of integrated manual of available resources from each agency	51.0 (20)	31.0 (12)	8.0 (3)	8.0 (3)	2.0 (1)
i. Memorandum of Understanding between agencies	28.0 (11)	18.0 (7)	15.0 (6)	6.0 (2)	33.0 (13)
j. Informal agreement between agencies	15.0 (6)	18.0 (7)	26.0 (10)	15.0 (6)	26.0 (10)
k. Collaborative case review	41.0 (16)	33.0 (13)	21.0 (8)	0.0 (0)	5.0 (2)
l. Collaborative case management	23.0 (9)	13.0 (5)	41.0 (16)	10.0 (4)	13.0 (5)
m. Collaborative job placement services	15.0 (6)	13.0 (5)	46.0 (18)	16.0 (6)	10.0 (4)
n. Collaborative job training services	10.0 (4)	13.0 (5)	57.0 (22)	10.0 (4)	10.0 (4)
o. Collaborative provision of maintenance services (e.g., transportation, Shelter, clothing, food)	15.0 (6)	10.0 (4)	44.0 (17)	23.0 (9)	8.0 (3)

increased coordinator (SD = .665), falling between *very beneficial* to *extremely beneficial*. Table 5 shows the detailed results.

Barriers to Co-Service Practices

SVRA respondents were asked to rate nine potential SVRA and VA-VR&E co-service challenges on a 5-point Likert-type scale where 1 = *not a barrier*, 2 = *slight barrier*, 3 = *somewhat of a barrier*, 4 = *moderate barrier*, and 5 = *extreme barrier*. The mean response rating ranged from a low of 2.10 (SD = 1.02) for the question pertaining to the lack of diversity in the workforce, falling between *slight barrier* to *somewhat of a barrier*, to a high

of 3.08 (SD = .929) for the item on inconsistent collaborations, falling between *somewhat of a barrier* to *moderate barrier*. The detailed results are shown in Table 6.

SVRA Positions That Would Participate in Co-Service Practices

SVRA respondents were asked to rate identified positions within SVRAs that they thought would participate in co-service practices with VA-VR&E Programs using a 5-point Likert-type scale where 1 = *would not participate*, 2 = *would somewhat participate*, 3 = *neutral*, 4 = *would mostly participate*, and 5 = *would completely participate*. The mean response rating ranged from a low of 3.69 (SD = 1.17) for the question on directors, falling between *neutral* and *would mostly participate*, to a high of 4.44 (SD = .680), falling between *would mostly participate* to *would completely participate*. Table 7 shows the detailed results.

Discussion

The purpose of this study was to identify, catalog, and describe SVRA respondents' perceptions on SVRA and VA-VR&E Program promising co-service practices. To this end, the following two research questions were addressed: (a) What SVRA and VA co-service practices and collaborations are perceived by SVRA respondents as effective for assisting veterans of color with disabilities to obtain employment? and (b) What SVRA and

Table 4
Perceived Ratings on Multiple-Choice Items regarding Effectiveness of Co-Service Practices Contained on the Promising Practices in SVRA and VA-VR&E Co-Service Partnership Survey; Frequencies and Percentages

Items	Percentage (Number of participants)				
	A (Not at all Effective)	B (Slightly Effective)	C (Moderately Effective)	D (Very Effective)	E (Extremely Effective)
a. Development of joint training manuals of co-service practices	23.0 (9)	26.0 (10)	26.0 (10)	23.0 (9)	2.0 (1)
b. Cultural training provided by one agency to another	8.0 (3)	12.0 (5)	41.0 (16)	31.0 (12)	8.0 (3)
c. Development of co-communication procedures	12.0 (5)	10.0 (4)	36.0 (14)	39.0 (15)	3.0 (1)
d. Development of process for referrals from and to each agency	8.0 (3)	13.0 (5)	15.0 (6)	46.0 (18)	18.0 (7)
e. Development of co-hierarchy and levels of co-responsibilities	13.0 (5)	28.0 (11)	31.0 (12)	25.0 (10)	3.0 (1)
f. Determination of resource allocations	10.0 (4)	21.0 (8)	36.0 (14)	28.0 (11)	5.0 (2)
g. Development of procedures for conflict resolution issues	12.0 (5)	21.0 (8)	44.0 (17)	18.0 (7)	5.0 (2)
h. Development of integrated manual of available resources from each agency	23.0 (9)	21.0 (8)	28.0 (11)	18.0 (7)	10.0 (4)
i. Memorandum of Understanding between agencies	5.0 (2)	10.0 (4)	34.0 (13)	28.0 (11)	23.0 (9)
j. Informal agreement between agencies	8.0 (3)	10.0 (4)	31.0 (12)	41.0 (16)	10.0 (4)
k. Collaborative case review	23.0 (9)	15.0 (6)	33.0 (13)	21.0 (8)	8.0 (3)
l. Collaborative case management	13.0 (5)	15.0 (6)	39.0 (15)	28.0 (11)	5.0 (2)
m. Collaborative job placement services	8.0 (3)	10.0 (4)	31.0 (12)	36.0 (14)	15.0 (6)
n. Collaborative job training services	8.0 (3)	8.0 (3)	41.0 (16)	35.0 (14)	8.0 (3)
o. Collaborative maintenance services (e.g., transportation, shelter, clothing, food)	10.0 (4)	14.0 (5)	33.0 (13)	33.0 (13)	10.0 (4)

Note: The items listed in this table are not presented in rank order form.

Table 5
Perceived Ratings on Multiple-Choice Items regarding Benefits of Co-Service Practices Contained on the Promising Practices in SVRA and VA-VR&E Co-Service Partnership Survey; Frequencies and Percentages

Items	Percentage* (Number of participants)				
	A (Not Beneficial)	B (Slightly Beneficial)	C (Somewhat Beneficial)	D (Very Beneficial)	E (Extremely Beneficial)
a. Reduce fragmentation of services	3.0 (1)	10.0 (4)	15.0 (6)	51.0 (20)	21.0 (8)
b. Increase productivity in employment outcomes	0.0 (0)	5.0 (2)	10.0 (4)	51.0 (20)	34.0 (13)
c. Reduce redundancy and overlap of services	5.0 (2)	10.0 (4)	15.0 (6)	39.0 (15)	31.0 (12)
d. Enhance efficiency in service provision	3.0 (1)	8.0 (3)	12.0 (5)	46.0 (18)	31.0 (12)
e. Inform effective policy change	0.0 (0) ^a	8.0 (3) ^a	54.0 (21) ^a	18.0 (7) ^a	18.0 (7) ^a
f. Contribute to effective change in organizational culture	0.0 (0) ^a	10.0 (4) ^a	51.0 (20) ^a	26.0 (10) ^a	10.0 (4) ^a
g. Provide wider array of services	0.0 (0) ^a	5.0 (2) ^a	21.0 (8) ^a	49.0 (19) ^a	23.0 (9) ^a
h. Provide greater access to resources and services	0.0 (0) ^a	8.0 (3) ^a	15.0 (5) ^a	49.0 (19) ^a	28.0 (11) ^a
i. Increased coordination among service providers	0.0 (0) ^a	0.0 (0) ^a	15.0 (6) ^a	54.0 (21) ^a	28.0 (11) ^a

* Total percentages may not equal 100% due to non-responses to certain items.

VA co-service practices and collaborations aimed at facilitating veterans' of color with disabilities successful return-to-work are potentially adoptable by these agencies? The sections that follow discuss the results for these questions, respectively, within the context of practice implications, and the potentially adoptable emerging conceptual framework for a new co-service model and/or its components.

The overall results indicated that the overwhelming majority (90% or >) of SVRA respondents currently or previously participated to some degree in collaboration with VA-VR&E Programs. To determine each of the 15 identified co-service practices' level of effectiveness, we used a rating mean value of 3 (indicating moderately effective) as the cut off criterion. Utilizing this threshold, the detailed results showed that an overwhelming majority of respondents considered 11 of the 15 identified co-service practices to be moderately, very, or extremely effective in contributing to successful employment outcomes for veterans of color with disabilities. Based on similarity of the practices, we cataloged these 11 co-service practices into the following five co-service practice domains: (a) job placement co-service practices (i.e., collaborative job placement, collaborative job training, collaborative provision of maintenance, and collaborative case management); (b) referral and information co-service practices (i.e., development of referral process); (c) cultural/diversity co-service practices (i.e., cultural training); (d) co-service agreements (i.e., memorandum of understanding and informal agreements); and (e) co-agency procedures (i.e., development of co-communication

procedures, joint determination of resource allocations, and development of co-hierarchy and co-responsibilities).

The overwhelming majority of SVRA respondents rated most effective those domains of co-service practices that more directly and visibly contribute to successful employment outcomes, namely job placement services, referral services, and co-service agreements. These findings align with previous research that supports these areas as effective co-service practices (e.g., Bezyak et al., 2012; Boeltzig, Winsor, & Haines, 2011) that enhance successful employment. In regard to co-agency procedures, an overwhelming majority of respondents deemed the development of co-communication procedures as well as the development of co-hierarchy and co-responsibilities as effective co-service practices. Through the lens view of Diffusion of Innovations Theory (Rogers, 2003), co-communications in the form of peer-to-peer conversations and peer networks could perhaps serve as key co-service practice facilitators. Similarly, another interesting finding relates to the cultural or diversity co-service practice dimension. An overwhelming majority of respondents rated the provision of cultural training from one agency to the other as an effective co-service practice contributing to successful employment outcomes. According to Del Valle et al. (2014) cultural diversity strategies are necessary for successful engagement in co-service practices.

Co-service effectiveness proxies represent benefits that result from SVRAs engaging VA-VR&E Programs in co-service practices (Fleming et al., 2013; Moore, Johnson, & Uchegbu, 2011). Accordingly, SVRA respondents were asked to rate the benefits of nine specific outcomes resulting from their engaging in co-service practices with VA-VR&E Programs. The respondents indicated that all 9 outcomes would be beneficial to their engagement in co-service practices. Seven of these beneficial outcomes were related to service delivery with an increase in the number of successful employment outcomes and increase in coordination as the greatest benefits to SVRA participation in co-service practices. Co-service practices could also help to reduce redundancy and fragmentation of services provided (Kaiser, 2011). The remaining 2 beneficial outcomes were related to structural changes within SVRAs that could result in effective policy changes and effective changes

Table 6
Perceived Ratings on Multiple-Choice Items regarding Barriers to Co-Service Practices Contained on the Promising Practices in SVRA and VA-VR&E Co-Service Partnership Survey; Frequencies and Percentages

Items	Percentage (Number of participants)				
	A (Not a Barrier)	B (Slight Barrier)	C (Somewhat of a Barrier)	D (Moderate Barrier)	E (Extreme Barrier)
a. Organizational culture differences in each agency	18.0 (7)	28.0 (11)	28.0 (11)	26.0 (10)	0.0 (0)
b. Organizational policies and procedures different in each agency	8.0 (3)	23.0 (9)	33.0 (13)	28.0 (11)	8.0 (3)
c. Funding sources allow for and preclude specific types of service provision	10.0 (4)	26.0 (10)	41.0 (16)	15.0 (6)	8.0 (3)
d. Different levels of professional competency of agency personnel	33.0 (13)	26.0 (10)	23.0 (9)	18.0 (7)	0.0 (0)
e. Lack of cultural awareness and sensitivity of population served by each agency	23.0 (9)	33.0 (13)	33.0 (13)	11.0 (4)	0.0 (0)
f. Inconsistent collaborations or partnerships	2.0 (1)	28.0 (11)	31.0 (12)	36.0 (14)	3.0 (1)
g. Level of interpersonal relationships	21.0 (8)	31.0 (12)	23.0 (9)	15.0 (6)	10.0 (4)
h. Lack of intentional focus on or development of interagency collaborations	10.0 (4)	28.0 (11)	31.0 (12)	26.0 (10)	5.0 (2)
i. Lack of diversity in workforce	33.0 (13)	33.0 (13)	26.0 (10)	5.0 (2)	3.0 (1)

Table 7
Perceived Ratings on Multiple-Choice Items regarding SVRA Positions that Would Participate in Co-Service Practices Contained on the Promising Practices in SVRA and VA-VR&E Co-Service Partnership Survey; Frequencies and Percentages

Items	Percentage (Number of participants)				
	A (Would Completely Participate)	B (Would Somewhat Participate)	C (Neutral)	D (Would Mostly Participate)	E (Would Not Participate)
a. Directors	3.0 (1)	17.0 (7)	18.0 (7)	31.0 (12)	31.0 (12)
b. Program Managers	0.0 (0)	21.0 (8)	7.0 (3)	41.0 (16)	31.0 (12)
c. Field Coordinators	0.0 (0)	0.0 (0)	5.0 (2)	56.0 (22)	39.0 (15)
d. Rehabilitation Counselors	0.0 (0)	3.0 (1)	3.0 (1)	43.0 (17)	51.0 (20)
e. Job Development/ Placement Specialists	0.0 (0)	3.0 (1)	23.0 (9)	38.0 (15)	36.0 (14)
f. Rehabilitation Technicians	3.0 (1)	5.0 (2)	27.0 (11)	44.0 (17)	21.0 (8)

in SVRA culture. The importance and potential effectiveness of engaging in cultural and diversity co-service practices could perhaps help create an environment that would foster policy and cultural changes that enhance service delivery and increase the number of successful employment outcomes among veterans of color with disabilities (Del Valle et al., 2014).

To further explore the effectiveness of co-service practices, respondents were asked to rate nine specific barriers as to how much they might prevent their engagement in co-service practices. A majority of the respondents (87%) indicated that all nine barriers would present a challenge to some degree to their engaging in co-service practices. Further, 6 of the 9 barriers were rated as presenting an extreme barrier to engagement in co-service practices. These barriers impact both service delivery and organizational culture and can limit the effectiveness of co-service practices, particularly if they prohibit engagement in co-service practices (Del Valle et al., 2014).

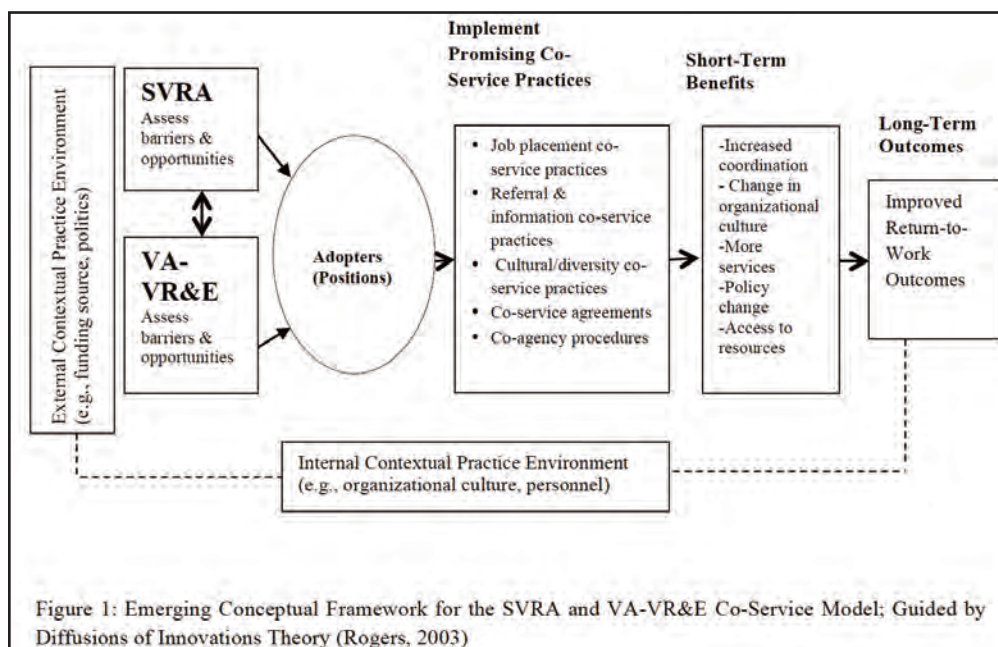
Finally, authors have noted the importance of considering who is involved in co-service practices and how this aspect could enhance or diminish the effectiveness of these strategies on successful employment outcomes. Kaiser (2011) pointed out the importance of appreciating each individual and their position's roles and functions, as well as identifying their strengths and challenges to engaging in co-service practices. SVRA respondents indicated that all positions (i.e., directors, program managers, field coordinators, rehabilitation counselors, job development specialist, and rehabilitation technicians) would engage in VA-VR&E Programs co-service practices. Interpreting this finding through the lens of Diffusion of Innovations Theory (Rogers, 2003), it is important for VR professionals to understand which individuals represent opinion leaders who can informally influence others' opinions, attitudes, and behaviors regarding co-service practices.

Emerging SVRA and VA-VR&E Co-Service Model and Theoretical Foundation

This study also sought to inform the development of an emerging conceptual framework for a new SVRA and VA-VR&E Co-Service Model that could help facilitate an increase in successful employment outcome rates among veterans of color with disabilities. Interagency collaborations have been shown to contribute to successful employment outcomes (Bezyak et al., 2012; Brewer et al., 2011; Fleming et al., 2013). As the current findings show, SVRAs engage in various collaborations and co-service practices with VA-VR&E Programs, but not consistently or uniformly across these agencies. Thus, the current study's findings and the Diffusion of Innovations Theory (Rogers, 2003) were used to develop an emerging SVRA and VA-VR&E Co-Service Model.

Diffusion of Innovations Theory (Rogers, 2003) provides a theoretical perspective for understanding how to promote the adoption of effective co-service practices between SVRA and VA-VR&E Programs (Johnson et al., 2016). Essentially, the theory explains how new ideas and practices are spread into a social system and what will likely increase or decrease adoption of the innovation (Rogers, 2003). For this study, the innovation is conceptualized as the integration of these promising co-service practices into an innovative new model that would result in more successful employment outcomes among veterans of color with disabilities. A full description of the theory and characteristics and percentages of adopter categories and rates for such co-services practices can be found in the article titled "Diffusion of Innovations Theory and Veterans of Color: A Framework for Promoting the Adoption of Effective State Vocational Rehabilitation Agencies, American Indian Vocational Rehabilitation Programs, and Veterans Affairs-Vocational Rehabilitation & Employment Co-service Practices in Vocational Rehabilitation" (see Johnson, et al., 2016).

Figure 1 depicts a graphic representation of co-service model's emerging conceptual framework. In this model, SVRAs and VA-VR&E Programs are conceived as key partners in



providing coordinated services. To achieve this goal, the two agencies should identify adopters/positions responsible for implementing, monitoring, and evaluating the model taking into account the interplay between the internal and external contextual environments, adopters of effective co-service practices, practice implementation, short-term benefits, and long-term outcomes. The adopters will be responsible for implementing effective co-service practices. Consistent with Diffusion of Innovations Theory (Rogers, 2003), the social system is represented by both the external and internal contextual practice environments as well as SVRA and VA-VR&E Program positions representing individuals who are potential adopters

of co-service practices. As the focal point, the implementation and engagement of effective co-service practices are influenced by barriers and opportunities for engagement. The elements of barriers and opportunities and short-term benefits are interrelated and are continually identified throughout the process of engagement in co-service practices so that they can be adapted to fit the contextual environments. All of the elements combine to achieve improved return-to-work outcomes for veterans of color with disabilities, which is the ultimate goal of the model. Monitoring and evaluation of the model, as represented by the dotted lines in Figure 1, is a continuous process. The monitoring and evaluation helps to determine whether implementation is on track and where changes may be needed. These processes will also help determine the efficacy of the model.

A general example of the application of model in SVRA and VA-VR&E Program context follows. Essentially, SVRA and VA-VR&E Programs would collaborate due to shared concerns and through systematic interactions learned from each other on how to enhance employment outcomes (Kilbride, Perry, Flatley, Turner, & Meyer, 2011). Consistent with Diffusion of Innovations Theory (Rogers, 2003), key individuals identified as “innovators” who are supporters of the new way of providing VR practices would establish the collaboration through the initial introduction of the co-service practices idea. At this initial meeting, “innovators” would identify other VR professionals to be involved as potential adopters and would begin to assess the barriers and opportunities for co-service practices within each of their agencies. Some potentially key barriers were identified in this study. This meeting would establish the core of VR professionals committed to promoting the adaptation and adoption of these co-service practices. Subsequent meetings, both face to face and by teleconference, would involve the implementation of co-service practices and include personnel at different levels in both agencies. An important first step would be to develop a written agreement such as an informal agreement or MOU that would establish co-communication procedures, joint determination of resource allocations, and co-hierarchies and co-responsibilities.

The next step would be to implement the co-service practices of job placement services, information and referral services, and cross-cultural and diversity training. In this collaboration, regular meetings would occur to adapt the services as uniquely provided by each agency into co-service practices for use by both agencies. To foster an environment of communication, an electronic newsletter could be established that would inform and update VR professionals in both agencies of the progress, the challenges, successes, and provide opportunity for feedback from others in the agencies. In addition to evaluating the long-term outcome of enhanced return-to-work outcomes, short-term benefits (included in the model) should be assessed to measure the effectiveness of these co-service practices. Overall, this emerging conceptual framework for this new model provides SVRAs and VA-VR&E Programs a unique opportunity to engage in co-service practices that are more coordinated and consistent than the current co-service paradigm.

Limitations

This study has limitations that should be taken into consideration when interpreting the results. First, the exploratory stage of this survey research on SVRA respondent perspectives regarding effective co-service practices limits the findings to a description of key observations. Although the current findings describe respondents' results on ratings of promising co-service practices, the efficacy of these practices or the SVRA and VA-VR&E Co-Service Model in facilitating increased outcomes among veterans of color was not evaluated. Researchers are encouraged to conduct future scaled-up intervention development evaluations whereby co-service interventions and the emerging co-service model that have the potential for enhancing outcomes for veterans of color can be further developed and tested. Second, the respondent sample was inclusive of SVRA administrators, but excluded VA-VR&E Program administrators. Given the inherent barriers in securing the VA's approval to involve their VA-VR&E Program administrators in research being conducted by external entities, we concluded that engaging SVRA respondents would represent a more feasible first-step. However, future research involving VA-VR&E Program administrators could provide new knowledge for furthering the field's understanding of effective co-service practices and collaborations. The new information generated through this study, nonetheless, is important and represents an initial first-step for advancing the current state-of-the science on new innovative co-service models that might contribute to improved successful employment outcome rates. Through subsequent scaled-up model evaluations, traditional co-service paradigms can perhaps be shifted toward an adoption of a new co-service paradigm.

Conclusion: Advancing the State-of-the Science

The overall findings advance the science by enhancing the field's understanding of promising co-service practices that could lead to increased employment outcome rates for veterans of color with disabilities served by the state-federal VR system. The current study also outlines an emerging new model for providing coordinated SVRA and VA-VR&E Program co-services. The adoption and careful implementation of this model, subsequent to future scaled-up intervention development evaluations, could help change the state-of-the science on veterans of color and employment outcomes. Adoption of this model would also provide a needed framework to evaluate its efficacy whereby evidence-based findings could be translated from the research bench/ laboratory/center to the hands of the people who can put it to good use at SVRAs and VA-VR&E Programs in the field.

Acknowledgment: The contents of this article were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90RT5024-01-00). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this article do not necessarily represent the policy of NIDILRR, ACL, HHS, and one should not assume endorsement by the federal government.

References

- Ainspan, N. D. (2011). From deployment to employment. *U.S. Naval Institute Proceedings*, 137 (2), 44-50. http://bbi.syr.edu/events/2011/docs/052511_shaheen/deployment_employment.pdf
- Bezyak, J. L., Gilbert, E., Walker, A., & Trice, A. (2012). Community partnerships: Initial steps for rehabilitation counseling professionals. *Journal of Rehabilitation*, 78(3), 3-10.
- Boeltzig, H., Winsor, J., & Haines, K. (2011). *Collaboration between state intellectual and developmental disabilities agencies and state vocational rehabilitation agencies: Results of a national survey*. (Research to Practice Issue No. 50). Retrieved from Institution for Community Inclusion website: <http://www.communityinclusion.org/article.php?articleid=329>.
- Brewer D, Erickson, W., Karpur, A., Unger, D., Pi, S., & Malzer, V. (2011). Evaluation of a multi-site transition to adulthood program for youth with disabilities. *Journal of Rehabilitation*. 77(3), 3-13.
- Cifu, D. X., Taylor, B. C., Carne, W. F., Bidelspach, D., Sayer, N., Scolten, J., & Campbell, E.H. (2013). Traumatic brain injury, posttraumatic stress disorder, and pain diagnoses in OIF/OEF/OND veterans. *Journal of Rehabilitation Research & Development*, 50(9), 1169-1176.
- Del Valle, R., Leahy, M., Sherman, S., Anderson, C., Tansey, T., & Schoen, B. (2014). Promising best practices that lead to employment in vocational rehabilitation: Findings from a four-state multiple case study. *Journal of Vocational Rehabilitation*, 41, 99-113. DOI: 10.3233/JVR-140708
- Fleming, A. R., Del Valle, R., Kim, M., & Leahy, M. J. (2013). Best practice models of effective vocational rehabilitation service delivery in the public rehabilitation program: A review and synthesis of the empirical literature. *Rehabilitation Counseling Bulletin*, 56(3), 146-159.
- Grossman, P. D. (2009). Foreword with a challenge: Leading our campuses away from the perfect storm. *Journal of Postsecondary Education and Disability*, 22(1), 4-9.
- Johnson, J. E., Moore, C. L., Wang, N., Sanders, P., Sassin, J. (2016). Diffusion of innovations theory and veterans of color: A framework for promoting the adoption of effective state vocational rehabilitation agencies, American Indian vocational rehabilitation programs, and Veterans Affairs-Vocational Rehabilitation & Employment co-service practices in vocational rehabilitation. *Journal of Applied Rehabilitation Counseling*, 47(1), 7-16.
- Kaiser, F. M. (2011). *Interagency Collaborative Arrangements and Activities: Types, Rationales, Considerations* (Report No. R41803). Retrieved from <http://fas.org/sgp/crs/misc/R41803.pdf>
- Kilbride, C., Perry, L., Flatley, M., Turner, E., & Meyer, J. (2011). Developing theory and practice: Creation of a community of practice through action research produced excellence in stroke care. *Journal of Interprofessional Care*, 25, 91-97. Doi: 10.3109/113561820.0483024.
- Kline, K. M., & Kurz, C. A. (2014). Collaboration between rehabilitation counselors and secondary educational institutions to optimize successful outcomes for high school students with disabilities. *Journal of Applied Rehabilitation Counseling*, 45(1), 18.
- McDonnall, M. C. & Crudden, A. (2015). Building relationships with business: Recommendations from employers concerning persons who are blind/visually impaired. *Journal of Rehabilitation*, 81(3), 43-50.
- McGuire-Kuletz, M., Shivers, S., & Anderson, P. (Eds.). (2008). *When Johnny (or Jeannie) comes marching home...and back to work: Linking Veterans Affairs and state vocational rehabilitation services for service men and women* (Institute on Rehabilitation Issues Monograph No. 34). Washington, D. C.: The George Washington University, Center for Rehabilitation Counseling Research and Education.
- Minority Veterans Report (2017). *Military Service History and VA Benefit Utilization Statistics*. Data Governance and Analytics, Department of Veterans Affairs, Washington, DC. https://www.va.gov/vetdata/docs/SpecialReports/Minority_Veterans_Report.pdf
- Moore, C. L., Johnson, J. E., & Uchegbu, N. (2011). Barriers to VR service access and return to work and career outcomes among African American war veterans: The need for evidence-based research and service strategies. In C. L. Moore, J. E. Johnson & A. L. Washington (eds.), *Improving Vocational Rehabilitation Access and Return to Work and Career Outcomes among African American Wounded Warriors, Gulf War, and Vietnam War Era Veterans with Disabilities* (pp. 71-94). Oklahoma City: Dept. of Rehabilitation Counseling and Disability Studies/LU
- Moore, C. L., & Wang, N. (2016). A national benchmark investigation of return-to-work outcome rates between African American, Native American or Alaskan Natives, Latino, Asian American or Pacific Islander, and non-Latino White veterans served by state vocational rehabilitation agencies: Application of bootstrap data expansion. *Journal of Rehabilitation*, 45(2), 133-147. doi: 10.3233/JVR-160818.
- Moore, C. L., Wang, N., Johnson, J., Manyibe, E. O., Washington, A. L., & Muhammad, A. (2016). Return-to-work outcome rates of African American versus White veterans served By state vocational rehabilitation agencies: A randomized split-half cross-model validation research design. *Rehabilitation Counseling Bulletin*, 59(3), 158-171.
- National Center for Veterans Analysis and Statistics. (2016). *Minority Veterans Report: 2014*. https://www.va.gov/vetdata/docs/SpecialReports/Minority_Veterans_2014.pdf
- Oertle, K. M., Plotner, A. J., & Trach, J. S. (2013). Rehabilitation professionals' expectations for transition and interagency collaboration. *Journal of Rehabilitation*, 79(3), 25-35.
- O'Brien, N. (2011). The role of state VR agencies in assisting African American Wounded Warriors, Gulf War and Vietnam War Era veterans with disabilities to obtain competitive jobs. In C. L. Moore, J. E. Johnson, & A. L. Washington (Eds.), *Improving vocational rehabilitation access and return to work and career outcomes among African*

American Wounded Warriors, Gulf War and Vietnam War era veterans with disabilities (pp. 20-25). Oklahoma City: Dept. of Rehabilitation Counseling and Disability Studies/LU.

- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York, NY: The Free Press.
- Sheehan, C. M., Hummer, A. R., Moore, B. L., & Butler, J. C. (2012). *Duty, honor, country, disparity: Race/ethnicity difference in self-reported health and disability among veterans*. Austin: Department of Sociology and Population Research Center/University of Texas at Austin.
- Tennant, J. (2012). Disability, Employment, and Income: Are Iraq/Afghanistan-Era U.S. Veterans Unique? *Monthly Labor Review*, 135, 3-10.
- Twamley, E. W., Baker, D. G., Norman, S. B., Pittman, J. O., Lohr, J. B., & Resnick, S. G. (2013). Veterans Health Administration vocational services for Operation Iraqi Freedom/Operation enduring Freedom Veterans with mental health conditions. *Journal of Rehabilitation Research and Development*, 50, 663-670. doi:10.1682/JRRD.2012.08.0137.
- Twamley, E. W., Jak, A. J., Delis, D. C., Bondi, M. W., & Lohr, J. B. (2014). Cognitive Symptom Management and Rehabilitation Therapy (CogSMART) for Veterans with traumatic brain injury: Pilot randomized controlled trial. *Journal of Rehabilitation Research and Development*, 51(1), 59-70. doi:10.1682/JRRD.2013.01.0020.
- U.S. Department of Veterans Affairs. (2014). *Vocational Rehabilitation and Employment*. Retrieved from <http://www.benefits.va.gov/vocrehab/index.asp>

Jean E. Johnson, Ed.D, CRC, is a Research Analyst at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities and Associate Professor in the Department of Rehabilitation Counseling and Disability Studies.

Corey L. Moore, Rh.D, CRC, serves as Principal Investigator and Research Director at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building and Delta Sigma Theta Sorority, Inc. Distinguished Professor Endowed Chair within the Department of Rehabilitation Counseling and Disability Studies.

Fariborz Aref, Ph.D., is a Research Assistant Professor at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities.

Andre Washington, Ph.D., CRC, is Research Analyst at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities and Assistant Professor

in the Department of Rehabilitation Counseling and Disability Studies.

Courtney Ward is a Doctoral Research Fellow at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities, and a doctoral candidate in the doctoral program in Rehabilitation Counseling and Rehabilitation Counselor Education at North Carolina Agricultural and Technical State University.

Kelsey Webb is a Predoctoral Research Fellow at the Langston University Rehabilitation Research and Training Center (LU-RRTC) on Research and Capacity Building for Minority Entities.

National Rehabilitation Counseling Association
P.O. Box 150235, Alexandria, VA 22315
Journal of Applied Rehabilitation Counseling (JARC)
Continuing Education Credit (CEU) Study Guide

Please read the article by J.T. Washington, C. L. Moore, T. T. Whittaker & M. L. Wagner included in the current issue of JARC. The title is "Predictors of Medical and Vocational Rehabilitation Treatment Compliance Among African Americans with Chronic Pain Conditions: An Exploratory Study." The following steps must be completed to obtain 3 CEUs credits.

1. Answer the five questions listed below. An 80% pass rate must be obtained to receive CEU credit.
2. Submit this form and the appropriate non-refundable administration fee (\$10.00 - NRCA members; \$25.00 - non-members) to the NRCA office (address above). Checks/money orders payable to: National Rehabilitation Counseling Association.
Credit Card Payment: VISA MasterCard American Express Discover
Card Number _____
Card Expiration Date (mm/yy): _____ Signature _____
Total Amount Submitted \$ _____
3. **Include a self-addressed stamped envelope or valid email address _____ along with the form and fee to the NRCA office.**
4. The NRCA office will send the CEU certificate to you. You will be responsible for submitting your CEU certificate to CRCC (1699 E. Woodfield Road, Suite 300, Schaumburg, IL 60173).

Name (Please Print) _____ NRCA Membership # _____

Multiple Choice Questions

1. The Institute of Medicine of the National Academies reported what number of Americans are impacted by chronic pain?
 - a. 10 million
 - b. 100 million
 - c. 1 million
 - d. 100,000
2. Which outcomes are possible when chronic pain is managed successfully through a multidisciplinary framework?
 - a. Improved daily functioning
 - b. Healthy social and community based interactions
 - c. Improved engagement in work activities
 - d. All of the above
3. Health-related disparities such as affordability of medical treatment, access to health-related resources, and transportation limitations, do not serve as barriers to successful Vocational Rehabilitation Treatment for African Americans.
 - a. True
 - b. False
4. Which selection contains all the dependent variables found to predict medical compliance for African Americans with Chronic Pain Conditions?
 - a. Marital Status, Employment, Age, Appointment Expense, and Medication Affordability.
 - b. Marital Status, Employment, Exercise Pain, and Medication Affordability.
 - c. Marital Status, Employment, Age, Education Level, Access to Diet Resources, Exercise Pain, and Exercise Knowledge.
 - d. Marital Status, Employment, Age Appointment Expense, Exercise Pain, and Medication Affordability.
5. Marital Status is a predictor of both Medical and Vocational Rehabilitation Compliance among African Americans with Chronic Pain Conditions.
 - a. True
 - b. False

National Rehabilitation Counseling Association
P.O. Box 150235, Alexandria, VA 22315
Journal of Applied Rehabilitation Counseling (JARC)
Continuing Education Credit (CEU) Study Guide

Please read the article by K. A. Rapoza, K. Kenney-Riley, S. Salzhauer Berkowitz, A. N. Lewis, & M. Rosen Reynoso included in the current issue of JARC. The title is "Lupus in Culturally Diverse Populations: A Transdisciplinary Model for Vocational Rehabilitation Counseling." The following steps must be completed to obtain 3 CEUs credits.

1. Answer the five questions listed below. An 80% pass rate must be obtained to receive CEU credit.
2. Submit this form and the appropriate non-refundable administration fee (\$10.00 - NRCA members; \$25.00 - non-members) to the NRCA office (address above). Checks/money orders payable to: National Rehabilitation Counseling Association.
Credit Card Payment: ___ VISA ___ MasterCard ___ American Express ___ Discover
Card Number _____
Card Expiration Date (mm/yy): _____ Signature _____
Total Amount Submitted \$ _____
3. **Include a self-addressed stamped envelope or valid email address _____ along with the form and fee to the NRCA office.**
4. The NRCA office will send the CEU certificate to you. You will be responsible for submitting your CEU certificate to CRCC (1699 E. Woodfield Road, Suite 300, Schaumburg, IL 60173).

Name (Please Print) _____ NRCA Membership # _____

Multiple Choice Questions

1. Lupus disproportionately affects people from which groups?
 - a. Women, children and people from minority racial and ethnic backgrounds
 - b. Women and men from all backgrounds
 - c. Adults from minority and racial and ethnic backgrounds
 - d. Women and children with disabilities
2. Lupus meets the definition of disability for which organization/entity?
 - a. Americans with Disabilities Act
 - b. World Health Organization
 - c. Social Security Administration
 - d. All of the Above.
 - e. None of the Above.
3. The authors ultimately promote which approach to services as the answer for addressing lupus in minority populations?
 - a. Interdisciplinary approach
 - b. Interprofessional approach
 - c. Transdisciplinary approach
 - d. Forgiveness, compassion, and self-compassion are related but separate, and each one of them can be taught or cultivated.
 - e. Multidisciplinary approach
4. Successful treatment of lupus is challenging because:
 - a. The course of lupus varies by person and includes periods of remission and flare ups
 - b. Medical guidelines for treatment vary and there is no standard treatment protocol
 - c. Lupus affects many areas of functioning within the individual
 - d. All of the above
 - e. None of the above
5. The authors maintain that rehabilitation counselors (RCs) are uniquely prepared to lead service delivery within the model they propose to racial and ethnic minority persons with lupus for these reasons.
 - a. RCs work with many different disabilities and populations, and lupus is no different than other conditions that cause

- disabilities among individuals and RCs have routine connections with health care providers caring for individuals with this disease.
- b. RCs are accustomed to leading/coordinating team-based services, have heightened expertise with minority and underserved populations because of Section 21, possess values consistent with providing individualized services, and are accustomed to delivering community-based services.
 - c. Rehabilitation Counseling pre-service education programs include a heavy focus on serving individuals with autoimmune diseases, of which lupus is one, and are well versed in the disease and its impact on individuals
 - d. RCs have extensive expertise in working cross-culturally with any disability and understand that lupus is similar to many other chronic diseases resulting in similar levels of disability and service needs allowing them to have standardized service plans.

**National Rehabilitation Counseling Association
P.O. Box 150235, Alexandria, VA 22315
Journal of Applied Rehabilitation Counseling (JARC)
Continuing Education Credit (CEU) Study Guide**

Please read the article by A. Diallo, B. Rivas, A. Aguirre, C. Vang, C. Flowers, & N. Kwan included in the current issue of JARC. The title is "The Use of Employment/Vocational Rehabilitation Services for Persons with HIV/AIDS and Substance Abuse: A Potential Health Benefit." The following steps must be completed to obtain 3 CEUs credits.

1. Answer the five questions listed below. An 80% pass rate must be obtained to receive CEU credit.
2. Submit this form and the appropriate non-refundable administration fee (\$10.00 - NRCA members; \$25.00 - non-members) to the NRCA office (address above). Checks/money orders payable to: National Rehabilitation Counseling Association.
Credit Card Payment: VISA MasterCard American Express Discover
Card Number _____
Card Expiration Date (mm/yy): _____ Signature _____
Total Amount Submitted \$ _____
3. **Include a self-addressed stamped envelope or valid email address _____ along with the form and fee to the NRCA office.**
4. The NRCA office will send the CEU certificate to you. You will be responsible for submitting your CEU certificate to CRCC (1699 E. Woodfield Road, Suite 300, Schaumburg, IL 60173).

Name (Please Print) _____ NRCA Membership # _____

Multiple Choice Questions

1. One of the results of this study in relation to the need-related variables is that:
 - a. Only SSI and Medicare are significant
 - b. Only SSI is significant
 - c. Only Medicare is significant
 - d. SSI and TANF
2. One of the results of this study is that:
 - a. The only significant interaction is between non-Hispanics blacks and Hispanics Whites in relation to counseling and guidance services
 - b. The only significant interaction is between non-Hispanics blacks and non-Hispanics Whites in relation to counseling and guidance services
 - c. The only significant interaction is between non-Hispanics blacks and non-Hispanics Whites in relation to assessment services
 - d. None of the above
3. According to this study a potential factor in HIV/AIDS transmission is:
 - a. Deficiency in immuno acid
 - b. Substance abuse
 - c. Both A and B
 - d. None of the above
4. According to this study a limitation of substance abuse treatment is:
 - a. The cost associated with treatment
 - b. The emphasis on minorities' values
 - c. The less emphasis on minorities' values
 - d. A and C
5. A limitation of this study is:
 - a. Causality can be determined for some of the variable but not for others
 - b. Longitudinal analysis is appropriate for the need-related variables but not for the counseling-related variables
 - c. Aggregation of data may contained repeated cases
 - d. All of the above

W 17-3

National Rehabilitation Counseling Association
P.O. Box 150235, Alexandria, VA 22315
Journal of Applied Rehabilitation Counseling (JARC)
Continuing Education Credit (CEU) Study Guide

Please read the article by C. Kitcheyan, P. R. Sanderson, M. Rosen-Reynoso & P. Sotnik included in the current issue of JARC. The title is "A Preliminary Investigation of a Tribal College's Educational Supports for Individuals with Disabilities" The following steps must be completed to obtain 3 CEUs credits.

1. Answer the five questions listed below. An 80% pass rate must be obtained to receive CEU credit.
2. Submit this form and the appropriate non-refundable administration fee (\$10.00 - NRCA members; \$25.00 - non-members) to the NRCA office (address above). Checks/money orders payable to: National Rehabilitation Counseling Association.
Credit Card Payment: VISA MasterCard American Express Discover
Card Number _____
Card Expiration Date (mm/yy): _____ Signature _____
Total Amount Submitted \$ _____
3. **Include a self-addressed stamped envelope or valid email address _____ along with the form and fee to the NRCA office.**
4. The NRCA office will send the CEU certificate to you. You will be responsible for submitting your CEU certificate to CRCC (1699 E. Woodfield Road, Suite 300, Schaumburg, IL 60173).

Name (Please Print) _____ NRCA Membership # _____

Multiple Choice Questions

1. The authors analyzed the qualitative data collected from faculty and staff at a tribal college and found the following themes:
 - a. Minimal disability knowledge, unidentified mental health issues, limited accommodations for students, historical trauma is recognized, and variation in understanding of historical trauma.
 - b. Extensive knowledge of disability and rehabilitation, student support services offered extensive accommodations, gender variation in understanding of historical trauma.
 - c. The tribal college has an established protocol to screen and identify students with disabilities.
 - d. None of the above.
2. Tribal colleges address educational issues differently than public universities/colleges through several factors?
 - a. Tribal college curricula are from tribal perspective.
 - b. Tribal colleges include local cultural pedagogy and cultural values.
 - c. Tribal language is part of the curriculum.
 - d. All of the above.
 - e. None of the above.
3. Historical trauma results in?
 - a. Mental illness
 - b. Addiction
 - c. Sexual violence
 - d. Suicide
 - e. All of the above
 - f. None of the above
4. The Tribally Controlled Community College Assistance Act was signed into law in 1978 to address some of the educational challenges of Native American students. The act was necessary due to the following reason(s):
 - a. Rural location of reservations,
 - b. Lack of access to main stream institutions of higher education,
 - c. Cultural differences from non-tribal colleges and communities,
 - d. Need for local oversight of higher education
 - e. Absence of tax base for tribal colleges
 - f. All of the above
 - g. None of the above

5. The authors maintain that educators need to collaborate with vocational rehabilitation counselors, ideally beginning in high school for the following reasons:

- a. To improve the rates of high school completion, employment, post-secondary education/training and independent living
- b. Many of the students on tribal college campuses are already receiving the services they need.
- c. Native American students only need assistance in navigating either the educational or the vocational system
- d. Educators have extensive expertise in working cross-culturally with any disability

National Rehabilitation Counseling Association
P.O. Box 150235, Alexandria, VA 22315
Journal of Applied Rehabilitation Counseling (JARC)
Continuing Education Credit (CEU) Study Guide

Please read the article by G. Ethridge, A. Riddick Dowden, & M. Brooks included in the current issue of JARC. The title is “The Impact of Disability and Type of Crime on Employment Outcomes of African American and Latino Offenders.” The following steps must be completed to obtain 3 CEUs credits.

1. Answer the five questions listed below. An 80% pass rate must be obtained to receive CEU credit.
2. Submit this form and the appropriate non-refundable administration fee (\$10.00 - NRCA members; \$25.00 - non-members) to the NRCA office (address above). Checks/money orders payable to: National Rehabilitation Counseling Association.
Credit Card Payment: ___VISA ___MasterCard ___American Express ___Discover
Card Number _____
Card Expiration Date (mm/yy): _____ Signature _____
Total Amount Submitted \$ _____
3. **Include a self-addressed stamped envelope or valid email address _____ along with the form and fee to the NRCA office.**
4. The NRCA office will send the CEU certificate to you. You will be responsible for submitting your CEU certificate to CRCC (1699 E. Woodfield Road, Suite 300, Schaumburg, IL 60173).

Name (Please Print) _____ NRCA Membership # _____

Multiple Choice Questions

1. Over half of the African American and Hispanic/Latino (non-White) populations in state prisons are incarcerated for _____ crime?
 - a. Violent
 - b. Non-violent
 - c. Property
 - d. Fraud
2. According to The Pew Center on the States (2009), what is the ratio of Hispanic/Latino men who are incarcerated?
 - a. 1 in 15
 - b. 1 in 20
 - c. 1 in 36
 - d. 1 in 106
3. African Americans are the fastest-growing segment, experiencing 66% growth from 1980 to 1990, compared to a total population growth of only 9%.
 - a. True
 - b. False
4. Employment opportunities for minorities with criminal backgrounds can be contingent on a company's _____.
 - a. Hiring practices of human resources managers that have experience hiring ex-offenders
 - b. Commitment to hiring diverse applicants
 - c. Re-examination of policies related to hiring ex-offenders
 - d. Willingness to hire ex-offenders with disabilities.

5. Specific advocacy practices for rehabilitation counselors working with Hispanic/Latino and African Americans ex-offenders with disabilities could include which of the following:
 - a. Identifying potential barriers and biases within the criminal justice system that adversely affects minority groups.
 - b. Determining the effect of advocacy efforts on the criminal justice and VR systems and constituents
 - c. Recognizing the impact of oppression and other barriers to health development.
who provided the services”
 - d. All of the above

National Rehabilitation Counseling Association
P.O. Box 150235, Alexandria, VA 22315
Journal of Applied Rehabilitation Counseling (JARC)
Continuing Education Credit (CEU) Study Guide

Please read the article by J. E. Johnson, C. L. Moore, F. Aref, A. L. Washington, C. Ward, & K. Webb included in the current issue of JARC. The title is "National Survey of State Vocational Rehabilitation Agency and Veterans Affairs Interagency Collaborations: An Emerging Conceptual Framework for Co-Serving Veterans of Color with Disabilities." The following steps must be completed to obtain 3 CEUs credits.

1. Answer the five questions listed below. An 80% pass rate must be obtained to receive CEU credit.
2. Submit this form and the appropriate non-refundable administration fee (\$10.00 - NRCA members; \$25.00 - non-members) to the NRCA office (address above). Checks/money orders payable to: National Rehabilitation Counseling Association.
Credit Card Payment: ___ VISA ___ MasterCard ___ American Express ___ Discover
Card Number _____
Card Expiration Date (mm/yy): _____ Signature _____
Total Amount Submitted \$ _____
3. **Include a self-addressed stamped envelope or valid email address _____ along with the form and fee to the NRCA office.**
4. The NRCA office will send the CEU certificate to you. You will be responsible for submitting your CEU certificate to CRCC (1699 E. Woodfield Road, Suite 300, Schaumburg, IL 60173).

Name (Please Print) _____ NRCA Membership # _____

Multiple Choice Questions

1. Return-to-work probabilities are equally poor for all veterans of color.
 - a. True
 - b. False

2. A review of literature on interagency collaborations identified all of the following as "best practice collaborations" except:
 - a. State vocational rehabilitation agencies
 - b. Mental health agencies
 - c. Colleges and universities⁶
 - d. All of the above
 - e. Only a & b

3. Of the 39 respondents to the online survey, a majority of 51% identified 11 effective co-service practices.
 - a. True
 - b. False

4. The majority of the beneficial outcomes were related to which of the following:
 - a. Structural changes in the SVRAs
 - b. Service delivery practices that would increase employment outcomes
 - c. Cultural changes in SVRAs
 - d. None of the above

5. A major reason for the emergence of a new SVRA & VA-VR&E Co-Service Model is:
 - a. SVRAs do not currently engage in co-service practices with VA-VR&E
 - b. The only co-service practice SVRAs engage in with VA-VR&E is referral of veterans to VA-VR&E
 - c. SVRAs current engagement in co-service practices with VA-VR&E lacks consistency and uniformity
 - d. SVRAs are not currently successful in assisting veterans of color to secure employment

2017 Index

Aguirre, Antonio, <i>See</i> Diallo, Abdoulaye	4:28	ing Conceptual Framework for Co-Serving Veterans of Color with Disabilities	4:54
Aref, Fariborz, <i>See</i> Johnson, Jean E.	4:54	Joseph, Mary-Anne M., Osmanu, Kimberly, and Moss, Kaylin, Ethical Considerations for Working with Transition aged youth and Students with Disabilities Given the implications of WIOA	2:42
Becton, Alicia B., Chen, Roy K., and Paul, Teresia M., A Second Chance: Employers' Perspectives in Hiring Individuals in Addiction Recovery	1:6	Kenney-Riley, Kathleen, <i>See</i> Rapoza, Kimberly A.	4:18
Bengtson, Kevin, <i>See</i> Chan, Fong	3:20	Kinyanjui, Benson, Umeasiegbu, Veronica I., and Bishop, Malachy L., Rehabilitation Needs of Refugees with Disabilities in the United States: Implications for Vocational Rehabilitation Counselors	2:5
Bishop, Malachy L., <i>See</i> Kinyanjui, Benson	2:5	Kitcheyan, Cassie, Sanderson, Priscilla R., Rosen-Reynoso, Myra, Sotnik, Paula, A Preliminary Investigation of a Tribal College's Educational Supports for Individuals with Disabilities	4:38
Brooks, Michael, <i>See</i> Ethridge, Glacia	4:46	Koch, Lynn C., Mamiseishvili, Ketevan and Wilkins, Melissa, Integrated Postsecondary Services and Supports for College Students with Psychiatric Disabilities	1:16
Brown Becton, Alicia, <i>See</i> Paul, Teresia M.	1:31	Kwan, Ngai, <i>See</i> Diallo, Abdoulaye	4:28
Cawthon, Stephanie W., Fink, Bentley W. K., Tarantolo-Leppo, Rachel H., Wendel, Erica M., and Schoffstall, Sarah J., Ecological Systems and Vocational Rehabilitation Service Provision for Individuals who are Deaf or Hard of Hearing	2:32	Lee, Beatrice, <i>See</i> Chan, Fong	3:20
Chan, Fong, Tansey, Timothy N., Chronister, Julie, McMahon, Brian T., Iwanaga, Kanako, Wu, Jia-Rung, Chen, Xiangli, Lee, Beatrice, Bengtson, Kevin, Umucu, Emre, Flowers, Susan, and Moser, Erin, Rehabilitation Counseling Practice in State Vocational Rehabilitation and the Effect of the Workforce Innovation and Opportunity Act (WIOA)	3:20	Lewis, Allen N., Advancing Rehabilitation Counseling: Leadership, Research, and Positioning the Profession in 2018 and Beyond	3:12
Chen, Roy K., <i>See</i> Becton, Alicia B.	1:6	Lewis, Allen N., Quamar, Abbas H., McKeon, Ashlee B., Schein, Michelle L., Schein, Richard M., and Hartman, Linda M., Improving the Evidence Base of Telerehabilitation: A Future Modality for Delivering Clinical Services to People with Disabilities	3:29
Chen, Xiangli, <i>See</i> Chan, Fong	3:20	Lewis, Allen N., <i>See</i> Moore, Corey L.	4:4
Chronister, Julie, <i>See</i> Chan, Fong	3:20	Lewis, Allen N., <i>See</i> Rapoza, Kimberly	4:18
Cool, Scott T., <i>See</i> Sánchez, Jennifer	1:40	Loy, Beth, <i>See</i> Simpson, Elisabeth B.	2:26
Diallo, Abdoulaye, Vang, Chia, Rivas, Belinda, Aguirre, Antonio, Flowers, Carl, and Kwan, Ngai The Use of Employment/Vocational Rehabilitation Services for Persons with HIV/AIDS and Substance Abuse: A potential Health Benefit	4:28	Lusk, Stephanie L. and Sánchez, Jennifer, Introduction to the Special Issue on Psychiatric Rehabilitation: The Impact of Substance Use on Rehabilitation Consumer Success	1:3
Ethridge, Glacia, Riddick Dowden, Angel, and Brooks, Michael, The Impact of Disability and Type of Crime on Employment Outcomes of African American and Latino Offenders	4:46	Lusk, Stephanie L. and Paul, Teresia M., Rehabilitation Professionals' Attitudes towards Medicinal Marijuana Use: A Pilot Study	1:25
Fink, Bentley W. K., <i>See</i> Cawthon, Stephanie W.	2:32	Lusk, Stephanie L., <i>See</i> Paul, Teresia M.	1:31
Flowers, Carl, <i>See</i> Diallo, Abdoulaye	4:28	Mamiseishvili, Ketevan, <i>See</i> Koch, Lynn C.	1:16
Flowers, Susan, <i>See</i> Chan, Fong	3:20	Martinez, Stephany N., <i>See</i> Sánchez, Jennifer	1:40
Gandarilla, Elizabeth, <i>See</i> Sánchez, Jennifer	1:40	McKeon, Ashlee B., <i>See</i> Lewis, Allen N.	3:29
Garcia, Magdalena E., <i>See</i> Sánchez, Jennifer	1:40	McMahon, Brian T., <i>See</i> Chan, Fong	3:20
Glade Rachel, <i>See</i> Paul, Teresia M.	1:31	Moore, Corey L., Introduction to Special Issue on Vocational Rehabilitation Experiences of Vulnerable Racial and Ethnic Populations: A Multi-Site Minority-Serving Institution Peer-Mentor Research Team Approach	4:4
Hartman, Linda M, <i>See</i> Lewis, Allen N.	3:29	Moore, Corey L., <i>See</i> Washington, Janique Tynez	4:7
Hartnett, Helen P., <i>See</i> Simpson, Elisabeth B.	2:26	Moore, Corey L., <i>See</i> Johnson, Jean E.	4:54
Huber, Mary J. and Oswald, Gina Introduction to the Special Issue, Rehabilitation Counseling: Current Status and Strategies for Improving the Profession's Effectiveness and Longevity	3:4	Moser, Erin, <i>See</i> Chan, Fong	3:20
Iwanaga, Kanako, <i>See</i> Chan, Fong	3:20		
Johnson, Jean E., Moore, Corey L., Aref, Fariborz, Washington, Andre L., Ward, Courtney, and Webb, Kelsey, National Survey of State Vocational Rehabilitation Agency and Veterans Affairs Interagency Collaborations: An Emerg-			

2017 Index

Moss, Kaylin, <i>See</i> Joseph, Mary-Anne M.	2:42
Muller, Veronica, <i>See</i> Sánchez, Jennifer	1:40
Osmanu, Kimberly, <i>See</i> Joseph, Mary-Anne M.	2:42
Oswald, Gina, <i>See</i> Huber, Mary J.	3:4
Paul, Teresia M., <i>See</i> Becton, Alicia B.	1:6
Paul, Teresia M., <i>See</i> Lusk, Stephanie L.	1:25
Paul, Teresia M., Lusk, Stephanie L., Brown Becton, Alicia, and Glade Rachel, Exploring the Im- pact of Substance Use, Culture, and Trauma on American Indian Adolescents	1:31
Quamar, Abbas H., <i>See</i> Lewis, Allen N.	3:29
Rapoza, Kimberly A., Kenney-Riley, Kathleen, Salzhauer Berkowitz, Shari, Lewis, Allen N., and Rosen Reynoso, Myra, Lupus in Culturally Diverse Populations: A Transdisciplinary Model for Vocational Rehabilitation Counseling.....	4:18
Riddick Dowden, Angel, <i>See</i> Ethridge, Glacia	4:46
Rivas, Belinda, <i>See</i> Diallo, Abdoulaye	4:28
Rosen Reynoso, Myra, <i>See</i> Moore, Corey L.	4:4
Rosen Reynoso, Myra, <i>See</i> Rapoza, Kimberly	4:18
Rosen-Reynoso, Myra, <i>See</i> Kitcheyan, Cassie	4:38
Salzhauer Berkowitz, Shari, <i>See</i> Rapoza, Kimberly.....	4:18
Sánchez, Jennifer, <i>See</i> Lusk, Stephanie L.	1:3
Sánchez, Jennifer, Muller, Veronica, Garcia, Magdalena E., Martinez, Stephany N., Cool, Scott T., and Gandarilla, Elizabeth, Psychiatric Rehabilitation Outcomes Among Hispanics with Co-Occurring Serious Mental Illness and Sub- stance Use Disorders: A Systematic Review	1:40
Sanderson, Priscilla R., <i>See</i> Kitcheyan, Cassie	4:38
Schein, Michelle L., <i>See</i> Lewis, Allen N.	3:29
Schein, Richard, <i>See</i> Lewis, Allen N.	3:29
Schoffstall, Sarah J., <i>See</i> Cawthon, Stephanie W.	2:32
Simpson, Elisabeth B., Loy, Beth, and Hartnett, Helen P., Exploring the Costs of Providing Assistive Technology as a Reasonable Accom- modation	2:26
Sotnik, Paula, <i>See</i> Kitcheyan, Cassie	4:38
Stuntzner, Susan, Compassion and Self-compassion: Conceptualization of and Application to Adjust- ment to Disability	2:15
Tansey, Timothy N., <i>See</i> Chan, Fong	3:20
Tarantolo-Leppo, Rachel H., <i>See</i> Cawthon, Stephanie W.	2:32
Turner Whittaker, Tyra, <i>See</i> Washington, Janique Tynez	4:7
Umeasiegbu, Veronica I., <i>See</i> Kinyanjui, Benson.....	2:5
Umucu, Emre, <i>See</i> Chan, Fong	3:20
Vang, Chia, <i>See</i> Diallo, Abdoulaye	4:28
Wagner, Miriam L., <i>See</i> Washington, Janique Tynez	4:7
Ward, Courtney, <i>See</i> Johnson, Jean E.	4:54
Washington, Andre L., <i>See</i> Johnson, Jean E.	4:54
Washington, Janique Tynez, Moore, Corey L., Turner Whittaker, Tyra, and Wagner, Miriam L., Pre-	

dictors of Medical and Vocational Rehabilitation Treatment Compliance among African Ameri- cans with Chronic Pain Conditions: An Explora- tory Study.....	4:7
Webb, Kelsey, <i>See</i> Johnson, Jean E.	4:54
Wehman, Paul, Rehabilitation Counseling: Emerg- ing Opportunities in the 21st Century.....	3:6
Wendel, Erica M., <i>See</i> Cawthon, Stephanie W.	2:32
Wilkins, Melissa, <i>See</i> Koch, Lynn C.	1:16
Wu, Jia-Rung, <i>See</i> Chan, Fong	3:20
Zanskas, Steve, Stewardship, the Accreditation Merger, and Opportunities for Growth	3:16

Editor's Comments

Introduction to the Special Issue on Psychiatric Rehabilitation: The Impact of Substance Use on Rehabilitation Consumer Success.....	1:3
JARC Welcomes New Associate Editor	2:4
Introduction to the Special Issue, Rehabilitation Counseling: Current Status and Strategies for Improving the Profession's Effectiveness and Longevity	3:4
Introduction to Special Issue on Vocational Rehabilitation Experiences of Vulnerable Racial and Ethnic Populations: A Multi-Site Minority- Serving Institution Peer-Mentor Research Team Approach.....	4:4

Book Reviews

A Lifetime at War, Life After Being Severely Wounded in Combat: Never Ending Dune	2:48
--	------

National Rehabilitation Counseling Association
P.O. Box 150235
Alexandria, VA 22315