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Unifying and Elevating Rehabilitation Counseling Through Model-Driven, Diversity-Sensitive Evidence-Based Practice

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Rehabilitation counseling must embrace an evidence-based practice paradigm to remain a vital and respected member of the future community of professions in rehabilitation and mental health care and to fully discharge its responsibility to assist consumers in accessing effective rehabilitation interventions and exercising truly informed choice. The goals of this article are to (a) discuss the importance of using model-driven and culturally sensitive evidence-based rehabilitation counseling practices to enhance rehabilitation outcomes for people with disabilities, (b) highlight the needs for an integrative conceptual framework of disability that can be used to conduct systematic rehabilitation counseling research and to examine mediators and moderators affecting vocational rehabilitation outcomes, and (c) recommend changes in rehabilitation counseling practice, education, and research.

Keywords: *evidence-based practice; theory-driven research; diversity*

The rehabilitation counseling profession is experiencing some growing pains and challenges today after decades of growth and expansion. Shaw, Leahy, Chan, and Catalano (2006) in their survey of leaders in the field have identified several major challenges facing the rehabilitation counseling profession. They classified these challenges into five thematic areas: (a) professional identity and recognition, (b) changes in service delivery systems, (c) education and training issues, (d) research, and (e) professional association issues. It is generally agreed that these challenges pose serious threats and can affect the vitality if not the survival of the rehabilitation counseling profession. Many of these challenges and their resolutions have been aptly discussed elsewhere in this special issue. In this article, we will focus our discussion on the need for the rehabilitation counseling profession to move toward use of an evidence-based practice (EBP) paradigm that embraces methodological pluralism and not just randomized controlled trials which is the gold standard of medical science.

One of the consequences of growth and expansion of the profession is that rehabilitation counselors are now practicing in diverse settings. These settings include state vocational rehabilitation agencies, community-based rehabilitation programs, insurance companies, and business and industry (Chan, Leahy, & Saunders, 2005). This ability to practice in multiple settings is a double-edged sword because it has resulted in fragmentation of the field and created pressing professional identity issues. In spite of diversity in practice settings, rehabilitation counseling professionals share many core competencies and the same major goal of promoting inclusion of people

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with disabilities in all aspects of society (Leahy, Chan, & Saunders, 2003). One way to unite the rehabilitation counseling profession is through scientific endeavors—the development and empirical validation of theoretical/conceptual models of disability central to the effective professional practice of assessment and rehabilitation counseling in all practice settings.

The need to incorporate research-based knowledge into rehabilitation counseling practice to assure that people with disabilities receive the most effective services is not new. Brian Bolton (1979) made this assertion in his textbook on rehabilitation counseling research almost 30 years ago. Bolton's assertion is particularly relevant in today's era of accountability and research utilization. Specifically, the EBP movement in medicine has permeated and affected a wide array of health and allied health care disciplines, and the field of rehabilitation is no exception. As a conceptual framework or philosophy, EBP advocates that every rehabilitation and health professional should have an interest in delivering the best possible services to their consumers, based whenever possible on the best clinical practices available from the research evidence. The utilization of EBP also allows rehabilitation counselors to fulfill their ethical obligations to their consumers. The information through EBP will allow counselors to better protect consumers from harm (nonmaleficence), result in improved efficiency in utilization of scarce resources (justice), and allow consumers to exercise knowledgeable self-determination and truly informed choice (autonomy; Thirty-Third Institute on Rehabilitation Issues [IRI], in press). Without doubt, rehabilitation counselors will be increasingly asked to integrate research evidence in their clinical decision-making process (Chan, Miller, Pruett, Lee, & Chou, 2003; Schlosser, 2006).

However, the lack of strong theoretical based research and empirically supported assessments and interventions are some of the most potent criticisms facing rehabilitation counseling research (Chan et al., 2003). Current rehabilitation practices have been characterized as experience based, eminence based, or habit based (Law, 2002). The lack of scientific research and evidence related to rehabilitation counseling is problematic as it can significantly hamper our ability to demonstrate to our funding sources and people with disabilities receiving rehabilitation services that our practice is based on best scientific evidences and that it is efficacious, effective, and efficient. Similarly, consumers and professionals from diverse backgrounds would have additional support for culturally relevant services targeting employment outcomes. For these reasons, Dunn and Elliott (2008) recently argue for the primacy of theory and its place in rehabilitation research. They advocate for the development of theory-driven research programs that embrace a methodological pluralism to help advance new theory and produce meaningful research programs that inform rehabilitation practice. Conversely, Bellini and Rumrill (2002) contended that rehabilitation counseling operates essentially atheoretically, with no general theory or model to account for a significant proportion of the knowledge content of rehabilitation counseling. They suggested that as models are less general than theories, they typically operate at an intermediate level of conceptualization. Models also are tied to practical concerns in the role performance of rehabilitation counselors and delivery of services to persons with disabilities. Bellini and Rumrill suggested that the use of rehabilitation models to validate the effectiveness of different rehabilitation counseling practices might be more fruitful than a strictly theory-building approach for an applied discipline such as rehabilitation counseling. Whether rehabilitation counseling is atheoretical will probably be subject to considerable debate. However, the development of theory-driven or model-driven research to inform best practices in rehabilitation will undoubtedly be important as we strive to improve the effectiveness of vocational rehabilitation services and outcomes.

Importance of Integrative Conceptual Framework and Systematic Research

Rehabilitation researchers and scholars have consistently recognized the need to consider contextual and environmental factors in the development of efficacious and effective rehabilitation counseling practice (see Wright, 1983). Several models of disability including Beatrice Wright's coping versus succumbing framework of disability and the National Institute on Disability and Rehabilitation Research's model of disability (Tate & Pledger, 2003) and the World Health Organization's International Classification of Impairments, Disabilities, and Handicaps (Peterson & Rosenthal, 2005) have underscored the importance of environmental (E) factors and personal characteristic (P) factors and the significant P × E interaction effect on the full integration of individuals with disability into the community. Recently, the World Health Organization International Classification of Functioning, Disability, and Health (ICF) model, an improved version of the International Classification of Impairments, Disabilities, and Handicaps, has gained wide acceptance among international rehabilitation health researchers and professionals as a framework that

can be used to support a systematic approach for understanding chronic illness and disability across cultures (Peterson & Rosenthal, 2005). Specifically, the ICF paradigm is structured around the following broad components: (a) body functions and structure, (b) activities (related to tasks and actions by an individual) and participation (involvement in a life situation), and (c) severity of disability and environmental factors. Functioning and disability are viewed as a complex interaction between the health condition of the individual and the contextual factors of the environment as well as personal factors.

The emphasis of the ICF is on function rather than condition or disease and is designed to be relevant across cultures as well as age groups and genders, making it highly appropriate for heterogeneous populations. The ICF model has been embraced by many health care and rehabilitation health researchers, and the voluminous research generated by these health researchers can also be invaluable for rehabilitation counselors. These kinds of EBP information can help the performance of rehabilitation counselors in their case management functions. Importantly, the ICF model is consistent with the holistic philosophy of rehabilitation counseling, and it holds significant promise as a unifying disability and rehabilitation model that can be used to conceptualize health care and medical and vocational rehabilitation assessment and intervention needs of people with chronic illness and disability. As such, the ICF model of disability can be invaluable for developing a systematic rehabilitation counseling research agenda that is complementary to the evidence-based research agenda of other health care and allied health professionals.

The research agenda of rehabilitation counseling researchers should focus on conducting systematic research to validate the relationships among the constructs in the ICF model and how these constructs interact to affect full inclusion of people with disabilities in the community, and the health and well-being, quality of life, and subjective well-being of persons with disabilities. We need to adapt instruments from other disciplines or develop and validate our own instruments to operationally define the constructs of Activity (activity limitations), Environment (social and physical), Personal Factors, Participation (participation restriction), and Quality of Life. Randomized clinical trials should be conducted to validate interventions that can be used to increase activity levels, to enhance the environment as facilitators (e.g., demand-side employment factors), to encourage full participation in the community, to promote health and mental health well-being, and to increase employment opportunities for people with disabilities.

As mentioned, rehabilitation counseling has had a tradition of emphasizing the person–environment interaction effect. However, rehabilitation counselor researchers have not made extensive use of the state-of-the-art research designs and statistics (e.g., multilevel analysis or hierarchical linear modeling) that will allow them to better examine the effect of the environment (socioeconomic status of the neighborhood, number of health care facilities or clinics in the neighborhood, recreational opportunities; unemployment rates in the geographical areas; and attitudes of employers toward hiring and retaining people with disabilities in certain industries, etc.) on the health-related quality of life and employment outcomes of people with disabilities.

Profound Meaning of Moderator and Mediator Variables for Rehabilitation Research

As a result of major shifts in the composition of the U.S. population, medical researchers today are becoming more interested in testing moderator effects in health sciences research. The Census Bureau projects that the United States will have a population of 420 million people by year 2050 (Shrestha, 2006). The European American population is projected to fall from 81% of the population in 2000 to 52% of the population in 2050. Conversely, the population of Hispanic or Latino origin is projected to steadily increase as a percentage of the total U.S. population through 2050, rising from 12.6% in 2000 to 24.4% in 2050. Asian Americans will also experience a dramatic growth from 3.8% in 2000 to 8% of the population in 2050. The African American population will rise from 12.7% of the population in 2000 to 14.6% of the population in 2050. American Indian, Eskimo, and Aleut will represent 1% of the population. Without a doubt, the U.S. population is becoming more racially and ethnically diverse. The changing demographic makeup of the United States has prompted many health care researchers to question the traditional assumption that treatments that work for European Americans will work for individuals from racial and ethnic minority groups. For the rehabilitation community, awareness of the effects of personal characteristics that identify a person as being different, how one sees oneself, and how others see and react to this individual have long been recognized as central to the experience of disability and issues that consumers bring to the rehabilitation counselor. Research on psychosocial aspects of disability has explored the powerful effects of disability as another aspect of human experience and study of diversity and multiculturalism.

Research questions involving moderators address when or for whom a variable most strongly predicts or causes an outcome variable, whereas mediators establish how or why one variable predicts or causes an outcome variable (Frazier, Tix, & Barron, 2004). A mediator provides information about the underlying mechanisms for change, whereas a moderator effect is basically an interaction, whereby the effect of an independent variable (e.g., types of therapy) differs at different levels of another independent variable (e.g., race). Similar to health care research, the study of moderator effects in rehabilitation counseling research is important as what works for European Americans with disabilities may not work for rehabilitation consumers from racial and ethnic minority backgrounds, what works for men may not work for women, and what works for European men with disabilities may not work for African women with disabilities, and so on. Similarly, moderators are extremely important in other key areas of rehabilitation research. For example, in studying the role of resiliency factors in adjustment to disability, we should examine whether the adjustment process is similar or different for persons with sudden onset versus chronic conditions. Therefore, it is very important for rehabilitation researchers to expend more research efforts in their studies to test moderator effects of race, gender, disability type, and immunity (e.g., social support) and vulnerability factors (e.g., stress). For theory or model building, it is equally important to study the mediator effect (i.e., the underlying mechanisms of change) so that we can better design interventions that work (Hoyt, Imel, & Chan, 2008). An increased emphasis on testing mediator and moderator variables in the rehabilitation counseling research paradigm is needed to develop model-driven culturally sensitive evidence-based rehabilitation counseling interventions for Americans with disabilities in the 21st century.

Cultural and disability sensitivity research must also be high on the systematic research agenda because rehabilitation counselors are the gatekeepers of both information and services for their consumers (Wong, Chan, Cardoso, Lam, & Miller, 2004). Phenomena such as racial bias and negative attitudes toward people with disabilities may unduly restrict the options or alternatives generated by professionals for people with disabilities receiving services and can affect the delivery of quality services as well as rehabilitation outcomes. However, studies of attitudes of rehabilitation counselors have indicated that rehabilitation professionals appear to be as likely as the general population to have negative or potentially biased attitudes (Cook, 1998; Rosenthal, Chan, & Livneh, 2006). There is evidence that rehabilitation counselors are vulnerable to racial bias. Historically, analyses of the RSA-911 data also indicate that minorities are less likely to be accepted for rehabilitation services in comparison to their European American counterparts (Atkins & Wright, 1980; Chan, Wong, Rosenthal, Kundu, & Dutta, 2005). Strohmer and Leierer (2000) affirmed that counselors are susceptible to systematic biases associated with specific client variables, such as gender, age, sexual preference, social class, and disability type. They cautioned that counselor biases may hinder the valid assessment of client assets and limitations and lead to underestimates of client potential. These biases can lead to disparities in eligibility determination, inadequate assessments, and ineffective service plans.

Recommendations to Facilitate Change to EBPs

In the allied health literature, some of the barriers to EBP identified by practitioners include inadequate research training to understand empirical research findings, lack of library and Internet resources, lack of time, and support of the agencies (Chronister, Chan, Cardoso, Lynch, & Rosenthal, 2008). It is also unclear whether rehabilitation counselors have the research training and motivation to be evidence-based rehabilitation practitioners. Therefore, we must strengthen and modify our master's level research training to help students become more familiar with research concepts related to EBP and in-service training must be provided to practicing rehabilitation counselors. Similarly, researcher, educator, and policy makers may also need to become more knowledgeable about the merits and drawbacks of evidence-based practice. For example, Tucker and Reed (in press) discussed controversies and practicalities of EBP in rehabilitation and made a case for adopting an attitude toward evidentiary pluralism, in which different types of evidence and evidentiary considerations are considered in making and justifying EBP decisions. We need to make sure that EBP based on methodological pluralism and knowledge translation are high on the agenda of the National Institute on Disability and Rehabilitation Research and the Rehabilitation Services Administration.

The profound levels of change in the culture of rehabilitation counseling practice required to implement EBP would require major changes on the part of policy makers, educators, researchers, and service providers. We also need to provide hard evidence to these stakeholders that EBP can improve employment outcomes of people with disabilities. For example, the Individualized Placement and Support model is a well-validated evidence-based psychiatric rehabilitation practice (see Bond, Drake, &

Becker, 2008) and individualized placement and support can be used to help stakeholders of rehabilitation services understand how EBP can help improve employment outcomes of people with significant disabilities.

Recommendations for these systematic changes were provided in the Thirty-Third Institute on Rehabilitation Issues on use of EBPs to improve employment vocational rehabilitation outcomes (IRI, in press). There are extensive changes that are necessary in our state and federal policies and rehabilitation agency levels. However, these areas are beyond the scope of this discussion. For rehabilitation counseling, the role of researchers would be strengthened and more central to the field and at the same time would demand increased activity and enhanced skills. Some of these new areas to emphasize would be meta-analysis, multisite clinical trials, and more advanced research methodologies. It would also be important to generate research that addresses knowledge gaps and seeks new sources for programmatic, funded research with nontraditional sources such as the National Institute of Health, National Institute of Mental Health, and the Substance Abuse and Mental Health Services Administration (IRI, in press).

Rehabilitation counselor educators engaged in both preservice and in-service education will need to make significant changes to better prepare practitioners to appreciate, understand, and utilize the EBP approach and nurture a scientist–practitioner culture. In the area of preservice education, the Council on Rehabilitation Education should analyze its standards to ensure that content and course structure prepare students with the knowledge, skills, and attitudes needed to successfully practice EBP; that clinical courses and work integrate an EBP knowledge base; that more educators and researchers are recruited and trained to generate high quality, fundable rehabilitation research; and that graduates are socialized to their ethical obligations to remain current with research and its clinical application to their practices (IRI, in press).

Research utilization has been a historic concern in rehabilitation counseling and the multicultural communities. Rehabilitation counseling must not misunderstand the seriousness of the challenge of adopting the demands of EBP. The EBP paradigm as it has evolved in its current form demands a new and pervasive change in the culture and practice of rehabilitation counseling, capacity building to improve the research and research dissemination infrastructure, and much more integrated communication between our research, practitioner, and consumer communities. However, once made, these changes have the potential to revitalize, unify, and showcase the contributions of rehabilitation counseling.

References

Atkins, B. J., & Wright, G. N. (1980). The vocational rehabilitation of Blacks. *Journal of Rehabilitation, 46*(2), 40–46.

Bellini, J., & Rumrill, P. (2002). Contemporary insights in the philosophy of science: Implications for rehabilitation counseling research. *Rehabilitation Education, 16,* 115–134.

Bolton, B. (1979). *Rehabilitation counseling research.* Baltimore, MD: University Park Press.

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,* 280–290.

Chan, F., Leahy, M., & Saunders, J. (2005). *Case management for rehabilitation health professionals (Volume 1): Foundational aspects.* Osage Beach, MO: Aspen Professional Services.

Chan, F., Miller, S., Pruett, S., Lee, G., & Chou, C. (2003). Rehabilitation research. In D. Maki & T. Riggar (Eds.), *Handbook of rehabilitation counseling* (pp. 159–170). New York: Springer.

Chan, F., Wong, D. W., Rosenthal, D. A., Kundu, M., & Dutta, A. (2005). Eligibility rates of traditionally underserved individuals with disabilities revisited: A data mining approach. *Journal of Applied Rehabilitation Counseling, 36*(3), 3–10.

Chronister, J. A., Chan, F., Cardoso, E., Lynch, R., & Rosenthal, D. A. (2008). Evidence-based practice movement in healthcare: Implications for rehabilitation. *Journal of Rehabilitation, 74* (2), 6-15.

Cook, D. (1998). Psychosocial impact of disability. In R. M. Parker & E. M. Szymanski (Eds.), *Rehabilitation counseling: Basics and beyond* (3rd ed., pp. 303–326). Austin, TX: PRO-ED.

Dunn, D., & Elliott, T. (2008). The place of theory in rehabilitation psychology research. *Rehabilitation Psychology, 53*, 254-267.

Frazier, P., Tix, A., & Barron, K. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology, 51*, 115–134.

Hoyt, W., Imel, S. E., & Chan, F. (2008). Regression and correlation techniques: Recent controversies and best practices. *Rehabilitation Psychology, 53*, 321-339.

Law, M. (2002). *Evidence-based rehabilitation: A guide to practice*. Thorofare, NJ: SLACK.

Leahy, M., Chan, F., & Saunders, J. (2003). A work behavior analysis of contemporary rehabilitation counseling practices. *Rehabilitation Counseling Bulletin, 46,* 66–81.

Peterson, D., & Rosenthal, D. (2005). The international classification of functioning, disability, and health: A primer for rehabilitation educators. *Rehabilitation Education, 19,* 81–94.

Rosenthal, D. A., Chan, F., & Livneh, H. (2006). Factors affecting rehabilitation counseling students' attitudes toward people with disabilities in high- and low-stakes contexts: A conjoint analysis. *Disability and Rehabilitation, 28,* 1517–1527.

Schlosser, R. W. (2006). The role of systematic reviews in evidence-based practice, research, and development. *Focus, 15*, 1–4.

Shaw, L., Leahy, M., Chan, F., & Catalano, D. (2006). Contemporary issues facing rehabilitation counseling: A Delphi study of the perspectives of leaders of the discipline. *Rehabilitation Education, 20,* 163–178.

Shrestha, L. B. (2006). *The changing demographic profile of the United States* (CRS Report RL 32701). Washington, DC: Congressional Research Service.

Strohmer, D. C., & Leierer, S. J. (2000). Modeling rehabilitation counselor clinical judgment. *Rehabilitation Counseling Bulletin, 44,* 3–11.

Tate, D. G., & Pledger, C. (2003). An integrative conceptual framework of disability: New directions for research. *American Psychologist,* 58, 289–295.

Thirty-Third Institute on Rehabilitation Issues. (in press). *Evidence-based practices: Improving employment outcomes for people with significant disabilities.* Hot Springs: University of Arkansas Rehabilitation Continuing Education Center.

Tucker, J. A., & Reed, G. M. (in press). Evidentiary pluralism as a strategy for research and evidence-based practice in rehabilitation psychology. *Rehabilitation Psychology.*

Wong, D. W., Chan, F., Cardoso, E., Lam, C. S., & Miller, S. (2004). Rehabilitation counseling students' attitudes toward people with disabilities in three social contexts: A conjoint analysis. *Rehabilitation Counseling Bulletin, 47,* 194–204.

Wright, B. A. (1983). *Physical disability—A psychosocial approach.* New York: Harper & Row.

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