KNOWLEDGE AND SKILL AREAS ASSOCIATED WITH DISABILITY MANAGEMENT PRACTICE FOR REHABILITATION COUNSELORS

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ABSTRACT

KNOWLEDGE AND SKILLS AREAS ASSOCIATED WITH DISABILITY MANAGEMENT PRACTICE FOR REHABILITATION COUNSELORS

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A national survey of disability management providers was conducted in order to identify and delineate the knowledge and skills perceived by practitioners to be important in disability management service provision. Furthermore, this study explored the reported preparedness of disability management providers. Participants included 790 individuals who were either associated with professional health and injury management associations or were Certified Rehabilitation Counselors in Michigan, Ohio and California. Participants were mailed the Disability Management Skills Inventory (DMSI) which was developed for this investigation. A total of 311 individuals responded for an overall response rate of 39.4%. Sixty-seven individuals reported no involvement in disability management thus, yielding 244 usable questionnaires. The final sample of respondents consisted of 149 rehabilitation counselors, 18 business professionals, 9 social workers and psychologists, 30 nurses, 23 physical and occupational therapists, and 13 "other" professionals. Factor analysis of the DMSI revealed 94 knowledge and skill items distributed across 3 competency areas: (a) Fundamentals of Disability Management; (b) Elements of Vocational Rehabilitation; and (c) Elements of Facilitative Counseling and Advocacy. Multivariate and univariate analyses of variance revealed significant differences in perceived importance of various knowledge and skill areas according to respondents' provider setting and professional classification. In addition, significant differences in reported preparedness on the various knowledge and skill areas according to professional

classification were found. Results were presented and discussed according to their implications for rehabilitation counselor practice, education and future research.

To my mother, Dorothy, and my son, Aleksander; my best friends.

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Chapter I

Introduction

The field of vocational rehabilitation has experienced many changes over the years including the shift from predominantly public sector to private sector and industry-based service provision. Initially, rehabilitation counselors were employed primarily in the state/federal system, however, today rehabilitation counselors are employed in a variety of settings such as school systems, hospitals, employee assistance programs, private practice and private industry (Desmond, 1985; Garvin, 1985; Lynch & Herbert, 1984). This service sector and setting shift also represents a change in rehabilitation emphasis. Previously the majority of rehabilitation services were provided to assist persons with disabilities to obtain employment, whereas in contrast, the private sector or industry-based rehabilitation services have focused on assisting persons with disabilities to maintain employment. This change in rehabilitation service emphasis has been influenced by economic, social and legislative factors that have subsequently impacted the way that employers manage their workers with disabilities and has created the need for industry-based disability intervention strategies.

Specific factors which have contributed to the development of disability management programs in the workplace include anti-discrimination laws and regulations, cost containment in health care and workers' compensation, increased numbers of qualified people with disabilities entering the labor market, and the expansion of social consciousness about employing persons with disabilities (Pati, 1985; Galvin, 1991). As a result of these factors and the shift to a more global economy, employers have begun to realize the importance of hiring and retaining a skilled, dependable work force along with controlling health and disability costs to remain profitable and competitive. Tate, Habeck, and Galvin (1986) indicated that these business trends have prompted employers to

become more aware of the need for and potential benefits of managing disability through disability management programs.

Over the past decade, disability management programs have gained credibility as a natural alternative for employers in addressing premature disability or early retirement for those employees who have experienced serious injuries or illnesses (Akabas, Gates, & Galvin, 1992). Employers are recognizing that disability costs are significant and that with the help of disability management programs, these costs can be controlled (Habeck, Leahy, Hunt, Chan, & Welch, 1991; Hunt, Habeck, VanTol, & Scully, 1993; Shrey, 1990). Disability management programs have not only been recognized as a valuable alternative for employers, but for workers with injuries and disabilities as well (Habeck et al., 1991). Safety, health and stability of employment are major concerns for workers. According to Akabas, Gates, and Galvin (1992), one in five males and one in seven females between the ages of 20 and 60 will become disabled, therefore supporting the need for programs that assist injured and disabled workers to maintain productivity and financial independence. Disability management programs, if implemented and administered effectively, are intended to achieve a win-win situation for both employees and employing organizations (Habeck, 1991).

The concept of disability management has been applied to rehabilitation service provision. From the perspective of a rehabilitation service provider, disability management is an organizational strategy that combines clinical and case management approaches typically characterized by vocational rehabilitation counseling with the multi-disciplinary team approach of rehabilitation and the principles of organizational development. These approaches are blended into a comprehensive framework of strategies that are managed and coordinated within organizations (Tate, Habeck & Galvin, 1986).

Statement and Significance of the Problem

The costs of work-related injuries and illness have become major concerns for employers. Chelius, Galvin, and Owens (1992) reported that disability costs total over 8% of payroll and in 1986, disability cost the United States $87.3 billion dollars. This figure represents actual dollars paid in lieu of wages to individuals who could not work due to a physical or mental disability. Over the past 10 to 15 years, these costs have increased between 300% and 400% and it is expected that these costs will continue to increase if solutions to control these costs are not sought (Shrey, 1990; Victor, 1989). A safety services study conducted by DuPont in 1990 cited that one lost work day case as a result of a disabling injury can cost an employer about 13,000 dollars. Included in this figure are direct costs such as wages and insurance costs, along with indirect costs like accident investigation and the loss of productivity (MacDonald, 1990). In 1990, the incidence rate of occupational injuries and illnesses was 8.8 per 100 full-time employees, which yielded an incidence total of 6.8 million workers with injuries or illnesses. This represents an increase of 177,000 injuries or illnesses over the preceding year along with an increase in the severity of injuries and illnesses (Hansen, 1992). Gilbride, Stensrud, and Johnson (1994) estimated that 8.6% to 12.1% of people in the United States had experienced some type of work disability in 1988. These figures indicate that work injuries and illnesses are not isolated events that are occurring with low frequency. In actuality, workplace disability is on the rise and is affecting large numbers of companies and their workers (Shrey, 1990). As severity of work disability increases, it is evident that intervention strategies are needed to prevent and control the impact of such occurrences.

Companies are concerned not only with the economic costs of disability in the workplace but with the human costs as well. Employers have become more aware of their valuable human resources and the importance of retaining their skilled workforce. As frequent turnover and employment of unskilled workers threaten the productivity and

profitability of the company, employers have realized the value in maintaining their current workforce (Tate, Habeck, & Galvin, 1986). Disability management is an approach that allows companies to address both the human and economic costs of disability while at the same time allowing for increased employer control over the rising costs of work-related disability. As our economy has moved toward being more service and information-oriented, a favorable climate has been created for efforts aimed at reducing workplace accidents and returning injured workers to their jobs as their contributions to the company are viewed as valuable (Backer, 1987). Furthermore, the results of two recent employer studies (Habeck, Leahy, Hunt, Chan & Welch, 1991; Hunt, Habeck, VanTol & Scully, 1993) have supported the benefit of employer based disability intervention strategies and have demonstrated that there is a relationship between an employer's disability prevention and management strategies and their overall experience with disability. Companies that have rigorously implemented the strategies associated with disability prevention and management have been effective in reducing the incidence of disability in their workplace (Habeck et al., 1991; Hunt et al., 1993).

As will be demonstrated in the literature review section for this investigation, the rehabilitation literature clearly supports the trend toward private sector employment options for rehabilitation counselors. Because of employers increased awareness of employees with disabilities and the economic implications associated with high disability incidence, it is reasonable to assume that many rehabilitation counselors employed in the private sector will provide services to business and industry during their careers. In 1986, the Research and Training Institute at the Human Resources Center in Albertson, New York conducted a nation-wide survey of 114 companies investigating their process for handling employees who experience a disabling injury or illness. Sixty-two percent of the companies responding had indicated that they had set up a disability management program and sixty percent of the companies without a disability management program felt that they

could benefit from one (Gottlieb, Vandergoot, & Lutsky, 1991). As companies continue to experience the growing costs of workplace injury and disability and look for strategies to mitigate these costs, knowledgeable, skilled practitioners will be needed to develop and implement disability management programs.

In order for rehabilitation counselors to serve as disability management practitioners, they need to possess the knowledge required to provide employers with information about the value of disability management and to communicate this knowledge in a language that employers understand. Rehabilitation counselors also need the skills to set up and operate a disability management program within a company. These knowledge and skill needs related to effective disability management practice may pose a challenge for rehabilitation counselor education programs. Kilbury, Benshoff and Riggar (1990) recognized the considerable challenge facing rehabilitation educators as they continue to prepare curriculums that are up to date and reflect the current trends facing the profession. As the trend toward employer based rehabilitation strategies became evident, Habeck and Ellien (1986) recognized that the rehabilitation counseling profession needs to become educated about how to work both with companies and individuals. Rehabilitation counseling curriculums also need to incorporate business concepts into their programs to recognize that employers as well as individuals with disabilities are the clients of rehabilitation services.

The Leadership Forum on Disability Management (Galvin, Habeck & Kirchner 1992), recognized that in order to develop a relevant curriculum to prepare graduate level rehabilitation counselors for the disability management role, it is necessary to first identify the core disability management functions and the skills required to perform these functions effectively. Education and training programs could then be developed to build these necessary skills. Findings from this investigation could provide rehabilitation counselor educators with empirical evidence to consider when looking to modify currently existing

curriculums and to develop training and continuing education programs that produce qualified professionals for employer-based practice. This information can therefore assist educators in the challenging endeavor of structuring education and training programs that will enhance graduate employment options in business and industry.

Many research efforts to date have been conducted to identify the roles and functions and competencies of rehabilitation counselors in a number of settings (e.g., Berven, 1979; Emener & Rubin, 1980; Jacques, 1959; Leahy, Wright, & Shapson, 1987; Matkin, 1983). However, to date none have specifically dealt with the competencies of rehabilitation counselors in disability management. This study marks the first attempt at investigating practitioners involved in providing disability management services and documenting the perceived importance of the knowledge and skills utilized by these practitioners.

The shift of rehabilitation counselors to the disability management arena makes it critical that rehabilitation professionals have thorough knowledge and skills of the concepts and interventions of the disability management approach. But first, the specific components and strategies of disability management service provision need to be identified and examined to find out more about what constitutes effective disability management practice. Both rehabilitation counselors who are currently providing disability management services and those who are interested in providing these services will need a knowledge and skill base on which to draw from when considering and launching into this area of practice. Szymanski, Linkowski, Leahy, Diamond, and Thoreson (1993) recognized that the basic underpinnings of any profession or specialty area are the identification of specific knowledge and skills that are required for effective service provision. Research in the field of rehabilitation counseling has continued to play an important role in the process of professionalization for rehabilitation counselors and it is under this premise that this investigation is based.

Rehabilitation professionals have been identified as a natural source to help employers meet the challenges of rising disability costs and incidence (Gottlieb, Vandergoot, & Lutsky, 1991). Havranek (1994) claimed that the unique knowledge and skills required to provide disability management programs are those which the effective rehabilitation professional already possesses. Matkin (1983) stated that rehabilitation counseling applied to the industrially injured does not involve the development of new and different counseling skills, methods or techniques. Although many agree that the field of rehabilitation and more specifically the rehabilitation counselor possesses many of the required skills necessary to provide effective disability management services, to date these assertions have not been empirically examined.

However, others disagree that rehabilitation counselors possess all of the skills and techniques required for effective disability management. For example, Shrey (1992) took a somewhat different perspective when he indicated that traditional vocational rehabilitation strategies are not adequate for returning injured workers to their jobs. He states that the vocational rehabilitation perspective tends to overemphasize the physical and psychological characteristics of individuals with injuries or illnesses and fails to recognize the importance of company and external environmental factors that impede successful return to work. In contrast, disability management as an approach to managing disability and returning injured workers to their jobs recognizes disability as a complex phenomenon that cannot be managed by clinical interventions alone but in combination with organizational strategies (Habeck, 1993).

These assertions and claims about the appropriateness of rehabilitation counselors as a qualified practitioner and the compatibility of the vocational rehabilitation process in disability management need to be investigated further. The skills and knowledge areas that are common to rehabilitation counseling practice and to the disability management role need to be identified and documented. It is also essential to determine those

knowledge and skill areas that go beyond traditional rehabilitation practice and are thought to belong exclusively to the disability management role. As disability management services continue to develop as an approach to controlling and managing workplace injuries and resulting disability in the workplace, it will be important to determine which practitioners are qualified to provide effective services.

Purpose of the Study

As public sector employment options continue to decline for rehabilitation counselors and as private industry realizes the human and economic benefits of preventing and managing disability, private sector employment for rehabilitation counselors in disability management may become a viable alternative. Fienberg and McFarlane (1979) noted that since 1973 the employment market for new professionals graduating from rehabilitation education programs has shifted from the public sector to other less traditional employment settings. Title V of the Rehabilitation Act of 1973 and the more recent Americans with Disabilities Act (1990) contributed to an awareness among business and industry concerning the needs and rights of their disabled workers. As a result of these events, rehabilitation counseling professionals must be educated in how to work with companies as well as individuals with disabilities when providing rehabilitation services (Gottlieb, Vandergoot, & Lutsky, 1991). Gottlieb, Vandergoot, and Lutsky's (1991) investigation was based on the recognition that it is critical to identify the important knowledge and skill areas that define effective disability management practice so that practitioners operating in this arena are prepared to deliver quality services. It is also recognized that rehabilitation counseling professionals will need to develop and acquire some of the less traditional skills that are identified as being important to disability management practice. For example, it has been noted in the literature that rehabilitation counselors will need skills in marketing and publicizing disability management services to

employers and once within companies (Gottlieb, Vandergoot, & Lutsky, 1991). Further, they must be sure to target their services to specific employers' needs and base these services on a thorough assessment of the company's disability experience (Habeck, 1991).

The purpose of this investigation was to examine and further validate the perceived importance of various knowledge and skill areas believed to be related to effective disability management practice. Furthermore, this study attempted to explore the reported preparedness of practitioners in these knowledge and skill areas. Comparisons were made with regard to the perceived level of importance and preparedness across practitioner dimensions (e.g., professional classification and provider setting). Rehabilitation counselors and other practitioners providing disability management services within three provider settings were surveyed and their responses analyzed for this investigation.

Along with answering the following specific research questions, results from this investigation provided descriptive information obtained from the demographic portion of the survey questionnaire. Information such as respondents' age, gender, educational level, and credentialling status were analyzed in relation to disability management provider's professional classification (rehabilitation counselors, nurses, physical therapists, etc.) and work setting (internal, external/private consultant, insurance based). This information was analyzed in an attempt to further describe the population of rehabilitation counselors and other practitioners providing disability management services. The specific research questions addressed in this investigation were as follows:

1. What are the knowledge and skill areas perceived to be important by disability management providers to achieve the outcomes of effective disability management practice?

2. Does the perceived importance of these knowledge and skill areas differ in relation to the provider's professional background (rehabilitation counselors, nurses, physical therapists, occupational therapists, etc.) and the provider's work setting (internal, external\private consultant, insurance-based)?

3. To what degree do disability management providers feel prepared in the knowledge and skill areas?

4. Does the reported preparation differ in relation to the provider's professional background (rehabilitation counselors, nurses, physical therapists, occupational therapists, etc.) and the provider's work setting (internal, external\private consultant, insurance-based)?

Implications for rehabilitation counselor practice, education, and research.

Based on its recency, continued growth, and increasing sophistication, rehabilitation counseling as a profession has been the focus of much research and discussion. The most noteworthy form of rehabilitation counseling research is role and function studies (Janikowski, 1990). Role and function and competency studies have traditionally served a useful purpose in rehabilitation counselor education and practice. Their results have provided clear and concise descriptions of the tasks and duties performed by rehabilitation counselors (Janikowski, 1990). Empirically derived competencies and functions have been used specifically for curriculum development and accreditation standards, as well as serving as a basis for rehabilitation counselor certification (Szymanski, Linkowski, Leahy, Diamond, and Thoreson, 1993). Additionally, Szymanski et al. (1993) indicated that empirically derived competencies and functions have assisted the rehabilitation counseling field to identify training needs among practitioners and serve as a basis for developing a professional identity.

This investigation is unique in that it will attempt to further identify the specific knowledge and skills required by rehabilitation counselors to provide disability management services. The results from this investigation are considered to have valuable implications for rehabilitation counselor practice, education and research.

On the basis of the recency of disability management as an employer-based disability strategy, rehabilitation counselors interested in pursuing this area of practice may initially face some difficulty locating job descriptions or even a network of peers that can

assist them in identifying the multidisciplinary competencies needed for practice. Furthermore, those practitioners who are employed within companies as internal disability management providers may be responsible for writing their own job descriptions and defining their own job tasks related to their company's disability related needs. Private providers/consultants will also be responsible for marketing disability management services and developing service proposals targeted to their potential employer customers. Rehabilitation counselors need to have access to information that documents the nature of disability management practice and delineates the specific knowledge and skills necessary for effective service provision. Results from this investigation can provide rehabilitation counselors with empirically derived competencies that will identify strategies and interventions characteristic of the disability management approach. These competencies can then serve as the basis on which rehabilitation counselors can develop job descriptions, plan service proposals and perform personal knowledge and skill assessments. The results can also help rehabilitation counselors to identify the specific knowledge and skill areas in need of further development in order to provide effective disability management services. It is hoped that this study will be a stimulus for rehabilitation counselor educators to critically analyze the rehabilitation counselor's involvement in disability management and to review their curriculums to determine if alterations are needed to prepare graduates for effective practice in disability management. Results can also be used to analyze and develop training and continuing education programs that address disability management competencies.

Finally, this study could be a stimulus for other research in this area of practice to more fully validate and evaluate the competencies required for effective disability management service provision. Additional research in disability management practice will be needed to determine if this area warrants consideration of specialty status within the profession of rehabilitation counseling.

Definition of Terms

Disability Management: Disability management as defined for the use of this investigation is a proactive approach in the workplace to reduce economic and human costs associated with disability by preventing disability incidence or remediating its effects and coordinating return-to-work strategies for retaining employees with disabilities in employment (Carruthers, 1993; Habeck, Leahy, Hunt, Chan, & Welch, 1991; Schwartz, Watson, Galvin and Lipoff, 1989).

Rehabilitation Counselor: Practitioner with a master's degree who assists persons with physical, mental, developmental, cognitive and emotional disabilities to achieve their personal, career, and independent living goals through the utilization of the counseling process. Some of the specific techniques and modalities used by rehabilitation counselors include: (a) assessment and appraisal, (b) diagnosis and treatment planning, (c) career/vocational counseling, (d) case management, referral and service coordination, (e) program evaluation, (f) intervention to remove barriers (environmental, employment, and attitudinal), and (g) job analysis, job accommodation, and job placement services (Scope of Practice for Rehabilitation Counseling, 1994).

Provider Setting: Individuals' primary employment setting when providing disability management services. Internal providers are company employees who directly provide/administer disability management services in-house. External providers are independent, private providers or employees of firms that are contracted to develop and/or provide disability management consultation or services. Insurance-based providers are employed by an insurance carrier or third party administrator that provides disability management services.

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Professional Classification: Individual's professional background and identity as self-designated on the Disability Management Skills Inventory. The following professional classification groups were represented in the study: (a) rehabilitation counselors; (b) psychologists and social workers; (c) business professionals; (d) nurses; (e) physical and occupational therapists; and (f) other professionals.

Competencies: Term that refers to the specific knowledge (what individuals know) and skill (what individuals do) areas required of practitioners to provide effective services intended to meet the needs of employers and individuals with disabilities.

Assumptions and Limitations

The first assumption underlying this investigation is related to the instrument used. It is assumed that the DMSI has accurately captured the competencies related to effective disability management practice; however, outcome studies were not used to verify this. The 101 knowledge and skill items on the Disability Management Skills Inventory (DMSI) were inferred from the literature and have not been connected to actual disability management outcomes.

The second assumption underlying this investigation relates to the validity of using self-report methods to assess the perceived importance and preparedness of knowledge and skill areas necessary for effective disability management service provision. It is possible to assume that survey respondents may not accurately report their responses to survey items and thus threaten the validity of the investigation. However, a substantial part of disability management providers' jobs requires that they assess the needs of workers with disabilities and assess the needs of employers related to their disability experience. More specifically, disability management providers assess and review medical information, client capacities and job requirements to determine vocational implications

(Scully & Habeck, 1993). Therefore, the perspective of disability management providers when evaluating the importance and preparedness of the knowledge and skill areas is considered to be based on "practice-based professional judgment" (Leahy, 1986). Respondents are felt to have the skill, ability and professional judgment for accurately and honestly assessing the professional skills related to disability management. Self report based survey research has been a frequently used approach for defining competencies that are not directly observable or that can be reflected in many forms of behavior (Boyatzis, 1980). It is however acknowledged that other methods such as direct observation could have been incorporated into the study design to increase the study's validity and further determine importance and preparedness in the knowledge and skill areas related to disability management practice.

The third assumption related to this investigation deals with the generalizability of the results from the study sample. A limitation is recognized in that the accessible population and subsequent study sample include disability management practitioners who may not be representative of the entire population of disability management practitioners. Many associations and conferences have arisen to address the continuing education needs of individuals working in the disability management arena. Three such conference samples were used in this study and it is unknown how they compare with the larger population of disability management practitioners. It is recognized that the sample selected for this study could represent ideal practice versus current standard practice in that these practitioners are motivated to increasing their level of knowledge and skill in disability management through participation in disability management training events. This investigation represents one of the first attempts to define a population of disability management practitioners. It is recognized that generalizing from the sample of practitioners surveyed in this investigation to the larger population of disability management providers may pose some limitations in that the sample may not be

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representative of the general population of disability management providers.

The fifth assumption is related to the Disability Management Skills Inventory. Sixty four items (63.4%) were developed from the Rehabilitation Skills Inventory, an instrument considered to be a comprehensive, standardized questionnaire of knowledge and skill competencies for rehabilitation counselors and rehabilitation counseling specializations. The DMSI is therefore biased toward a rehabilitation counselor perspective as the RSI items included have not been validated as being involved in effective disability management.

Finally, the selection of the fourth group, the Commission on Rehabilitation Counselor Certification (CRCC) sample, causes a bias toward rehabilitation counselors in the study sample. This was done to fulfill the study's purpose which was to examine the perceived importance of various knowledge and skill areas believed to be related to effective disability management practice and to explore provider's preparedness in these knowledge and skill areas. The findings would be discussed for their implications for rehabilitation counselors. It is recognized that the results are biased toward the rehabilitation counseling perspective and are more likely to be generalizable to the rehabilitation counseling population in disability management rather than to all providers of disability management.

Chapter II

Review of the Literature

A review of literature was conducted to inform this research and to provide a context for the investigation and to examine past research and events in the field of rehabilitation counseling that support the need for empirical research on the competencies currently performed in effective disability management practice. Competency studies in rehabilitation counseling were reviewed for their methodological approaches and findings to develop a foundation for this present study. Literature was reviewed in disability management and private rehabilitation practice to identify and infer competencies associated with disability management practice. Outcome studies in disability management were also reviewed to infer practices and thus competencies associated with effective disability management.

The Concept of Disability Management

Disability management and rehabilitation.

It was not by chance that the concept of disability management emerged during the 1980s. During this decade, employers, insurers, policy makers, and service providers became aware of the critical effects of health care costs, the aging of the workforce, and the increase in the incidence of disability in the workplace. These trends negatively impacted the business "bottom line" and paralleled foreign competition in businesses and industries which were once dominated by American companies (Galvin, 1991). Employers began to show an increased interest in disability management. Since the formal introduction of this concept in the literature, disability management has stimulated the development of publications and provider organizations facilitating the implementation of

employer disability management programs in numerous work places (Habeck, Kress, Scully & Kirchner, 1994).

Since the early days of rehabilitation, there has been a clear connection between economics and the goals of rehabilitation. As early as the 1500s, rehabilitation was provided for injured naval personnel and merchant seamen. In the late 1700s disability benefits were paid to soldiers during times of military conflict and in the 1800s workers' compensation was paid to railroad workers. Even at that time it was recognized that failure to meet the needs of workers with disabilities would create costs for society in a number of ways. Workers with injuries and disabilities impact industry directly in terms of wage loss benefits, health care and the financial costs of increased labor turnover in addition to the costs of recruitment and training of new workers. Also, the resulting decrease of workers in the labor force impacts social insurance and benefit systems that can only function adequately when large numbers of people are employed (Galvin, 1983). These early programs for injured workers clearly demonstrated that rehabilitation services were needed to reduce the financial costs of disability while at the same time demonstrating the value of promoting independence and economic productivity. Industry based rehabilitation has evolved since these early days when intervention mainly occurred after an injury or disability was acquired and has become more proactive in that employers and rehabilitation professionals are concerned with preventing injuries and disabilities from occurring.

Thus, the practice of disability management has important implications for both workers with disabilities and their employers (Habeck, Shrey & Growick, 1991). The opportunities that the disability management movement has created have been a source of interest for rehabilitation counselors, but only recently has this interest gained momentum (Habeck et al., 1994). This is partially due to the Americans with Disabilities Act (ADA). Enacted in 1990, the ADA legislatively addressed discrimination against people with

disabilities in employment. Although unanticipated, there was a significant relationship between the legal requirements of the ADA and the goals and objectives of disability management (Habeck et al., 1994). This has further strengthened the potential for the rehabilitation profession and private businesses to share resources and work collaboratively to address public policy mandates as well as the human and economic costs of disability in the workplace.

History.

Over the past 15 years, the concepts of disability management and industrial rehabilitation have emerged as critical components of business management and rehabilitation practice (Habeck, Shrey & Growick, 1991). Before this time, disability management was a new concept and was not yet operationally defined. The economic climate, labor market changes, cost containment in health care, workers' compensation costs, and legislative forces have contributed to the adoption of rehabilitation strategies and disability management programs in the workplace (Pati, 1985; Habeck et al., 1991; Naisbitt & Aburdene, 1985). In an attempt to respond to and control these critical forces, business and industry began to experiment with a variety of interventions such as employee assistance programs, wellness programs, public and private rehabilitation programs, and job modification. However, these interventions were provided in a somewhat "piece-meal" fashion which did not comprehensively address company and employee needs and therefore, were only moderately successful (Tate, Habeck, & Galvin, 1986).

Rehabilitation practitioners in the United States were more formally introduced to the concept of industry-based rehabilitation interventions in the 1980s. At this time, the World Rehabilitation Fund sponsored several international exchanges in this area including a tour by Aila Jarvikoski from the Rehabilitation Foundation of Helsinki, Finland to lecture to rehabilitation professionals in the U.S. about his project with the City of Helsinki. The

City of Helsinki conducted a project in 1980 to develop and test the effectiveness of a rehabilitation program for two major Helsinki employers. This program was specifically implemented to develop an effective method for screening employees needing early rehabilitation services and to develop rehabilitation strategies to be implemented at the actual work site (Galvin, 1983). This early program included a number of interventions aimed at rehabilitating injured workers including worker assessment, counseling, job reassignments, modification of work tasks and ergonomic solutions. Preventative strategies were also implemented such as exercise and relaxation sessions, and educational sessions addressing back pain, stress and cardiac impairments.

During this time period, similar workplace rehabilitation programs were being developed in other countries as well. In Sweden, firms established groups that were responsible for adapting jobs to workers with disabilities, and the Swedish government often paid up to fifty percent of costs related to modifying jobs and providing special assistive devices for employees. In Australia, many large employers rehabilitated injured workers through in-house rehabilitation programs (Galvin, 1983).

Disability management efforts in the United States also began to surface in the early 1980s. One of the first companies to develop a disability management program was Burlington Industries in North Carolina with a pilot program aimed at managing osteoarthritis and rheumatoid arthritis (Tate, Habeck, & Galvin, 1986). Burlington implemented rehabilitation services to workers before they became permanently disabled and could not continue to work. This initial program included services such as medical screening, training for company personnel, disability and career counseling, functional assessment, job analysis and job modifications (Tate, Habeck, & Galvin, 1986).

These early disability management programs have led the way for other companies to follow and implement workplace rehabilitation strategies as it was increasingly recognized that new solutions were needed that effectively addressed the complex issue of

work disabilities. Furthermore, experiences with disability revealed that it is not simply a medical problem which can be dealt with by using medical solutions alone. Employers and rehabilitation professionals realized that preventing and managing industrial injuries had to occur within the context of the employing organization in order to achieve maximum results for both employers and employees (Habeck, 1991). Thus, the practice and conceptual foundation of disability management as a strategy for addressing the human and economic costs of disability emanated from both the domestic and international experiences of business, rehabilitation practitioners, researchers, and government (Galvin, 1986).

Definitions of disability management.

One of the first and most frequently cited definitions of disability management came from two social workers in Finland. Jarvikoski and Lahelma (1980) discussed the concept of early rehabilitation in the workplace in their lecture tour to the United States sponsored by the World Rehabilitation Fund. Jarvikoski and Lahelma (1980) described disability management as a coordinated activity directed toward individuals with chronic or permanent functional limitations or disabilities, or an activity directed toward individuals with symptoms indicating that there is risk of such limitations or disabilities. Disability management services according to Jarvikoski and Lahelma (1980) are intended to restore an individual's work capacity. Disability management services include strategies aimed at developing an individual's resources or removing barriers imposed by the work environment.

Galvin (1983) also provided an early definition of disability management, stating that it is an orientation within business and industry that emphasizes the early identification of disability-related problems. This orientation also includes the management of physical symptoms of disability, the modification of jobs within the company, and the development

of policies that facilitate the return-to-work of employees with injuries or disabilities. Later, this definition was broadened by Schwartz, Watson, Galvin, and Lipoff (1989) and focused on the goal of disability management versus the specific services provided within the context of disability management. Disability management was described to include the services, people, resources and materials which are utilized to (a) minimize the costs and impact of disability on the company and the employees; and (b) encourage rehabilitation and return to work for disabled employees.

LeClair and Mitchell (1993) posed two separate definitions in an effort to describe the management and prevention of injury and disability. They defined disability management as a proactive approach in which employer based strategies are developed to reduce the employment impact of injury and disability. Disability prevention was subsequently defined as the employer's proactive involvement in developing policies and procedures for employee health care, rehabilitation and return to work in addition to identifying health and safety practices and risks in order to minimize the impact of injury and disability in the work environment.

Shrey (1990) begins his definition by first clarifying what disability management is not. He states that disability management is not claims management, it is not the traditional vocational rehabilitation process and it is not an expensive approach to controlling injury and disability costs. Furthermore, disability management is not a "faddish" health promotion program nor is it a "canned" approach to managing injury and disability. Shrey (1990) describes disability management as an active process which minimizes the impact of injury or disability on the worker's ability to perform his/her job. The basic principles of Shrey's definition include disability management as a process that allows the employer to have control and to assume the responsibility for making proactive decisions as well as planning and coordinating appropriate intervention services. Shrey (1990) also includes the promotion of disability and injury prevention strategies,

rehabilitation services, and return to work initiatives in his description of effective disability management programs.

Akabas, Gates and Galvin (1992) defined disability management as "a workplace prevention and remediation strategy that seeks to prevent disability from occurring or, lacking that, to intervene early following the onset of disability, using coordinated, cost-conscious, quality rehabilitation service that reflects an organizational commitment to continued employment of those experiencing functional work limitations" (p.2). Carruthers (1993) described disability management as a proactive, preventive, positive organizational program which promotes integration of individuals into the work force versus isolation. The disability management program according to Carruthers provides services from a central source and is accepted by all company employees. The goals of this organizational program include providing a humanistic approach to managing disability, developing a single contact point with accessible communication among all parties, and reducing the costs of disability. Habeck, Leahy, Hunt, Chan and Welch (1991) also offered a comprehensive definition of disability management. They described disability management as a proactive, employer based program designed to (a) prevent the occurrence of injury and disability, (b) intervene early to mitigate disability risks, and (c) coordinate services for cost effective restoration and return to work.

These definitions share many common elements and together provide a clear understanding of the concept of disability management. Disability management is a coordinated, comprehensive, employer-based approach to managing disability which provides a win-win situation for both employers and employees. In order to be fully effective, disability management should be a proactive, positive and preventive approach with the goals of reducing economic and human costs associated with disability, reducing disability incidence and retaining the productivity of employees by coordinating return to work.

Components of the disability management approach.

Based on the above definitions of disability management, proponents of disability management identified components and elements characteristic of this approach. Galvin (1986) pointed out that effective disability management programs do not just happen, but rather that there are critical conditions or factors which must be present for programs to be successful. First, top management in the company must be fully committed to managing injury and disability and returning employees to their jobs if injury or disability does occur. Successful disability management programs within companies have practices which encourage a comprehensive study and analysis of injury and disability occurrence among their workforce and have implemented policies and procedures that encourage and support their return to work commitment. Second, successful companies possess a caring, trusting environment where the quality of life and well-being of the injured/disabled worker is valued. Also, in order to successfully manage injury and disability, these companies involve labor officials or representatives in the return to work effort. Third, all company personnel (supervisors and general employees) are educated about the benefits of managing workplace injury/disability and return to work in companies with successful programs. Within this educational component Galvin also notes that it is important for other service providers participating in the return to work process to be trained as they are potentially valuable resources in the accommodation effort. Fourth, successful programs collaborate cooperatively with public agencies and private service providers. At times, supplemental services are required to return an employee to work and partnerships with outside agencies can aid in this process. Finally, Galvin recognizes that the rehabilitation process has much to offer employers who are investing in the physical and mental well-being of their employees. He indicates that rehabilitation services should be planned, coordinated and monitored by a skilled provider. This provider may have a variety of

backgrounds such as, counseling, personnel or psychology and should have knowledge of company services as well as community services (Galvin, 1986).

If the previously mentioned conditions are present, then the following steps are taken to implement a disability management program (Mitchell, 1982; Galvin, 1986):

1. Development of a corporate policy which demonstrates a commitment to rehabilitation and that addresses the specific injury/illness/disability characteristics present in the organization.

2. Development of an educational program for all company employees which defines the disability management concept and outlines the duties of all parties involved in the process.

3. Identification of the critical decision points related to medical care, disability benefits, return to work outcomes, and disability retirement.

4. Establishment of comprehensive and systematic rehabilitation services.

5. Development of a systematic return-to-work plan which involves such components as job analysis, job modification, and other placement services in order to return employees to work.

6. Development of an evaluation system for program review and program improvement.

As these steps for implementation of a disability management program suggest, all programs are unique and must be tailored to fit the company's specific injury and disability problems. However, successful disability management programs share many of the same components. Schwartz et al. (1989) identified key features that were present in effective disability management programs based on their case study research. The following components were presented as elements of successful programs:

1. A company-wide commitment to reducing disability costs and to providing the services needed to encourage return-to-work.

2. A thorough analysis and modification of appropriate benefits and policies which support disability management objectives.

3. A comprehensive assessment of the company's needs, experiences and responses to incidents of illness and injury.

4. Organization and coordination of the disability management approach across all levels and locations of the company, with clearly assigned responsibilities and accountability among all of the key parties and operating units.

5. The creation of a manageable and effective information system which documents, analyzes, manages, and evaluates data regarding employees, costs, services, and the overall impact of injury and disability.

6. Educational initiatives directed toward managers, supervisors, and production workers to communicate the company attitude regarding disability management efforts.

7. Contact with injured/ill employees and the treating physician within 24 hours after the incident occurs.

8. Facilitating and coordinating early return to work of disabled workers through modifications in job assignments, work hours and/or work duties.

9. Preparing an individual service and return to work plan by the responsible case manager along with the participating employee.

10. Coordinating the use of professionals with the expertise to design accommodations that permit employees with disabilities to perform their work in a productive, satisfactory manner.

11. Collaboration with public and private service agencies to provide mental health and rehabilitation services when appropriate.

Habeck (1991) has also identified some main features which successful employer disability management programs share. She states that the goals and aims of the disability management approach are common sense notions to effective business managers and rehabilitation professionals, however, the concepts associated with disability management are often hard to achieve in a unified way in companies. Habeck also points out that there is no specific formula or recipe for a disability management program that companies should implement blindly. The disability management program should address the particular and sometimes unique disability problems experienced by the company and its

workforce. A disability management program needs to evolve and adapt to the specific environment present within the company. According to Habeck (1991), these key features of successful disability management programs include the following:

1. Commitment of top management within the company.

2. Education and employee involvement at all levels within the company.

3. Involvement and participation from union/labor representatives.

4. A coordinated, team approach across company departments for effective case management and return to work.

5. Active use of safety and prevention initiatives to prevent occurrences.

6. Systematic procedures for effective use of health and rehabilitation services.

7. Early intervention strategies and continuous monitoring for all types of disability.

8. An organized return-to-work program, with supportive policies and modified duty work options.

9. The use of incentives and accountability measures to encourage participation of managers, supervisors, and employees in the disability management process.

10. An integrated management information system to monitor incidence, benefit usage, services, costs and outcomes.

Dent (1990) describes the process of effective disability management as neither a passive nor an aggressive approach. He describes disability management as an approach aimed at returning injured and disabled employees back to work and within this approach consistent steps are taken from the beginning, to facilitate a disabled employee's return to work. Dent (1990) offers these ways that disability management programs facilitate return to work:

1. Early identification of potential or problem disability cases.

2. Early contact with injured and disabled workers and assessment of motivation and resources for return to work.

3. Action planning or the mutually understood blue print for successful re-entry into the workplace.

4. Supervisors' support and cooperation with return to work efforts.

5. Open and frequent communication with the injured/disabled worker and all parties involved in the return to work effort.

6. Vocational rehabilitation including job analysis and modification, modified duty assignments and special devices and aids which allow the disabled worker to perform job duties.

Disability management is a complex initiative that consists of many components and involves many individuals from the company in addition to the involving resources from the community. Disability management programs continue to develop and change over time and need to do so in order to remain responsive to the evolving needs and circumstances experienced within the company. Therefore, the components of a company disability management program depend on the characteristics of the company, the type of work performed, the nature of the workforce, and the available resources (Akabas, Gates, and Galvin, 1992).

Employer support for disability management strategies.

Research in the area of disability management is limited and still relatively recent, however, empirical evidence does exist which supports the impact of internal firm behavior and disability management strategies on an employers' overall disability experience. Rousmaniere (1989) conducted a study of 24 hospitals in the northeastern part of the United States and found that injury incidence and severity were similar across all hospitals. However, he also revealed that there was tremendous variability in the costs incurred by these similar incidents within the hospitals studied, as well as tremendous

variation in the frequency of lost time injuries, total lost work days and workers' compensation losses that they experienced. In fact, workers' compensation losses at hospitals with high disability rates were twice as high per employee as hospitals with low disability rates. The study found that the most important factor impacting the variability of disability rates was the hospital's internal system of risk management and post injury response. In other words, the hospitals with systematically developed disability prevention and management programs experienced much better disability rates and costs. This study concluded that over 50% of workers' compensation costs can be directly attributed to the organization's handling and management of injured workers and their claims. National Rehabilitation Planners (1993) similarly asserted that companies can reduce their workers' compensation costs by roughly 25-30% in the first year after implementing a disability management program.

Two recent studies (Habeck, Leahy, Hunt, Chan & Welch, 1991; Hunt, Habeck, VanTol & Scully, 1994) of employer practices with regard to injury and disability management have clearly illustrated the connection between disability management policies and procedures and disability outcomes within the company. The first study consisted of two parts. The first part was an analysis to determine incidence rates of workers' compensation claims among Michigan employers (Hunt, 1988). It was found that there was at least a 10 times difference in workers' compensation claim rates between the highest and lowest claims firms within each of the 30 industries studied and that this variability was only partially explained by the firm's size, industry type and location. It was found that the high claims firms which were studied had twice as many accidents and four times as many workers' compensation claims as the low claims companies. The second part of the study was a survey of 124 Michigan firms with the purpose of exploring the empirical relationship between disability prevention and management strategies and the firms' workers' compensation claims experience (Habeck, et al. 1991). The study

attempted to determine how company practices along with the structural characteristics of the company influenced their workers' compensation experience. A number of conclusions were reached from this study. It was determined from the study that this particular finding supported assertions indicating that there are two well-defined components to the disability management process; the first component consisting of strategies that prevent the occurrence of incidents, and the second component consisting of the process to manage incidents after they occur. Most importantly, it was found that a firm's management philosophies and their policies and practices related to disability prevention and management were significantly related to a positive claims experience. That is, if the firm possessed an open managerial style, a human resource orientation, rigorous implementation of safety and injury prevention strategies, and specific company procedures aimed at preventing and managing disabilities then their claims experience was positive (Habeck et al., 1991).

The second study was an outgrowth of this first study and had as its purpose the goal to provide more refined statistical and behavioral evidence about the impact of company policies and practices have on disability prevention and management (Hunt et al., 1993). This investigation studied 220 Michigan firms in seven industrial classifications. The results clearly showed that companies which frequently engaged in behaviors such as safety diligence, safety training activities, and proactive return to work strategies, experienced significantly lower rates of injuries which resulted in lost work days. Furthermore, companies implementing these behaviors also experienced fewer lost work days and fewer workers' compensation claims than those companies not engaging in these behaviors. Again, this study strongly suggested a causal connection between a firm's policies and procedures in disability prevention and management and their performance on disability measures.

This study had a qualitative component to its design which included making site visits to 32 of the companies which participated in the larger survey. Companies with the highest and lowest disability performance representing each of the industry classification groups and size categories were chosen for site visits. This qualitative component was undertaken in an attempt to better understand how disability prevention and management policies and practices are implemented and carried out within a company. Also, information on how these policies and practices actually contributed to preventing and controlling disability was sought. A number of observations were made about the characteristics of companies which successfully manage injuries and disabilities.

Successful companies make extensive use of data to identify their injury and disability problems and they analyze these problems to identify the root causes of injury and disability in their company. They use this data to measure their overall disability performance and they develop and target interventions to mitigate the causes of injury and disability. Successful companies have a top level of management which supports the goals, policies and procedures of disability prevention and management and they have an educated labor force which understands the importance of safety and disability strategies in relation to the overall well-being of the company and to themselves. Companies with a positive disability experience incorporate ergonomic strategies into their prevention efforts and they have developed effective, cooperative relationships with knowledgeable and responsive health care providers. These companies are active in case management and they implement systematic return to work strategies in such a way that the needs of individual situations and problems are addressed (Hunt, Habeck, VanTol & Scully, 1994).

These research efforts have supported the effectiveness of specific disability prevention and management strategies on the outcomes that companies can achieve with rigorous implementation. The results described in this section support the definitions and components of disability management as outlined previously. Therefore the findings were

used to develop knowledge and skill statements that constitute the Disability Management Skills Inventory developed for this investigation. Thus, data obtained from this investigation can assist in further identifying the knowledge and skills that rehabilitation counselors are performing when providing disability management services.

The practitioner's role in disability management.

In his position paper entitled "The Role of the Rehabilitation Counselor in Industry", Garvin (1985) indicates that the survival of rehabilitation depends on communicating the worth of rehabilitation services not only to persons with disabilities but to the employer community as well. He states that the rehabilitation counseling profession must consider the employer as a client or as Shawhan (1983) points out, rehabilitation counselors must acknowledge that employers are viable consumers of rehabilitation services. Pati (1985) stated that the future success of rehabilitation is directly related to the rehabilitation professional's ability to create effective partnerships with business and industry. These positions occurred at a time when disability management as an employer based initiative was gaining recognition among rehabilitation professionals and the employer community. These positions served to provide support to this concept of employer based interventions and demonstrate to rehabilitation professionals the need to acquire skills and knowledge in order to effectively interface with business and industry.

Disability management has been described by Habeck and Munrowd (1987) as an employer-based rehabilitation strategy. It is important to define what is meant by employer-based initiatives. Habeck and Munrowd (1987) state that employer-based rehabilitation describes strategies that are implemented by employers to prevent the unnecessary exit of injured employees from their jobs and to promote the retention and productivity of these employees. They indicate that it is important to distinguish employer-based strategies from employer oriented strategies such as supported

employment and projects with industries; and from private rehabilitation where service is retained by an external consultant. However, many employer-oriented rehabilitation services and disability management programs are provided by contracted providers of rehabilitation services. In addition, many of the original disability management programs were developed by insurance companies to control costs incurred by organizations insured by their company. This increased utilization of DM services provided by private providers and insurance companies has developed many opportunities for private rehabilitation to expand into this market (Welch, 1979).

At the time of Habeck and Munrowd's writing in 1987, they noted that the trend toward employment of rehabilitation counselors within internal, employer based company programs was a small one and was not a significant market at that date. The Institute for Disability Management and Rehabilitation (Schwartz, 1986) conducted a survey of 400 employers and found that only a small percentage of responding companies had a formal, identifiable internal disability management program. Results from a pilot study entitled "The Role of the Rehabilitation Counselor in Disability Management" (Scully & Habeck, 1993) revealed similar findings. Internal disability management providers were outnumbered 4 to 1 by private and insurance based providers collectively. Nevertheless, the opportunities that the workplace represents for impacting the lives of many employees by implementing effective disability management strategies (Habeck & Munrowd, 1987), is significant regardless of the source of intervention efforts.

Habeck (1991) developed a matrix to delineate two parameters that impact the nature of the role and the services provided by disability management practitioners. The two parameters are "focus of service" (i.e. the focus of service is directly on the individual employee or is indirect on the organization) and "relation to the company" (i.e. an internal company employee or an external contracted provider). Habeck (1991) asserted, that depending upon the combination of parameters, very different tasks are completed in

relation to disability management. She stated that rehabilitation counselors who focus on direct services to the individual with a disability will most likely use the skills characteristic of a professional rehabilitation counselor whereas practitioners who work with employees within the company will most likely perform the tasks of case management, service coordination, assessment and job placement within the context of the company. However, rehabilitation professionals who are focusing services on the organization are more likely to perform activities that are beyond the scope of traditional rehabilitation counselor practice. These practitioners will need knowledge of the many factors which impact health and disability in the workplace and also will require knowledge of business management and company operations.

Shrey (1990) discussed the role and function of the disability manager as a designated individual who (a) plans for effective allocation of employer resources including time, (b) coordinates rehabilitation services, develops and manages the return to work plan, and (c) reviews the progress of injured workers who have returned to work in order to determine the effectiveness of services. Shrey (1990) states that case management is an essential component of the disability management process and therefore disability managers must have the necessary skills, knowledge and resources to coordinate case management services for injured and disabled employees. In addition to case management skills, disability management practitioners must possess a working knowledge base in medical management, legal management, psychosocial management, labor relations, claims management, and other interdisciplinary skills that affect disability outcomes. Shrey (1990) asserted that the following topics must be addressed in training practitioners to function as disability managers: (a) the principles of the disability management process, (b) cost-effective disability management strategies, (c) company disability analysis, (d) the barriers which impede return to work and work retention, (e) claims and medical management, (f) the psychosocial aspects of injury and disability, (g)

health promotion, risk reduction and disability prevention strategies, (h) the impact of labor relations on disability claims, (i) occupational medicine resources and interventions, (j) vocational rehabilitation services, (k) disability management program development, and (l) disability management program evaluation.

Shrey (1990) also suggested a sample training program outline which provides five training modules addressing the knowledge and skill competencies needed for disability managers (pp.104-105). The five modules consist of topics and objectives for disability management issues, corporate health and disability analysis process, case management strategies, selection and evaluation of medical and rehabilitation providers for treatment of vocational services, and disability management program evaluation.

Habeck and Ellien (1986) indicated that rehabilitation services in the workplace are a logical application and expansion of the knowledge and skills utilized for traditional rehabilitation service. Based on this assertion, they conducted a review of the roles and functions of rehabilitation counselors in the workplace. This review and additional field research served as the basis for Habeck and Munrowd's (1987) conceptualization of disability management skill needs. They categorized the skills needed for disability management service provision in three areas; clinical and direct service skills, administrative skills, and organizational skills.

Habeck and Munrowd (1987) characterize clinical and direct service skills as counseling skills, vocational assessment, evaluation skills, and the ability to integrate occupational, educational, and social information into a plan of action. This area also includes knowledge of the medical, psychosocial and social impact of disability. Merrill (1985) indicated that the basic skill needed in this category of clinical skills are vocational assessment and planning, referral and coordination of services, and coordination of return to work.

Administrative skills are necessary to manage and coordinate effective rehabilitation services. This area of skills includes program evaluation and cost data analysis along with leadership abilities to develop and maintain disability management programs. Leadership skills are also needed for resolving and mediating conflicts between the different parties involved in the disability management process. Disability management practitioners require business skills and the capacity to perform management duties. Specific knowledge is also needed to perform effectively in the disability management role. Practitioners need to understand benefit systems, financial procedures, organizational behavior and development, collective bargaining and the role of labor unions, and technology available for worksite accommodations and modifications. Preventive strategies are also included here as practitioners require knowledge of prevention strategies such as ergonomics, health promotion and wellness strategies.

The disability management practitioner is a change agent according to Habeck and Munrowd (1987) and requires organizational development skills. The practitioner must evaluate the needs of the employer organization and thus perform an organizational analysis. This requires an investigation of the employer's policies, procedures and practices in addition to the impact that these policies and behaviors have on the proposed interventions. Practitioners must have knowledge of the company culture, values and dynamics which occur across the various departments and personnel. Habeck and Munrowd (1987) concluded that employer-based rehabilitation practice requires competence in vocational rehabilitation skills along with a number of other skills in the areas of organizational development and administration.

When discussing disability management and its implications for rehabilitation counselors, (Tate, Habeck and Galvin, 1986) described the practitioner's role in a similar fashion. They argued that the disability management concept is basically applied at three intervention levels; clinical (direct employee service), educational (training and assisting

service providers), and consultative (facilitating communication and coordination among the different parties in the disability management process). Tate et al. (1986) assert that practitioners entering the disability management arena need to adopt a systems perspective to intervention. Practitioners must have knowledge of management concepts and organization structures in addition to knowledge of company policies and benefit administration. Tate et al. (1987) state that this systems approach requires skills in negotiating cross-departmental cooperation and facilitating a team approach with all parties involved.

Disability management practitioners, according to Tate et al. (1987) also need to possess clinical skills which will enable them to address the psychosocial impact of injury and disability, to mediate the barriers to rehabilitation and return to work, and to coordinate the participation of the parties involved in the disability management process. Furthermore, practitioners must have the skills to develop and monitor information systems for determining company costs and outcomes and must have knowledge of strategies that emphasize job and worker assessment and matching job modifications.

Gottlieb, Vandergoot and Lutsky (1991) conducted a study of 114 companies to determine programs and practices in place within these companies to minimize the impact of disability on their employees. Results of this study suggested several ways that the rehabilitation community can become involved in disability management. Rehabilitation counseling professionals can provide information about the overall value of disability management; they can suggest ideas about interventions and services offered in disability management programs; and they can conduct training on case management and subsequently provide case management and evaluation services.

Based on their study, Gottlieb et al. (1991) identified a number of implications for rehabilitation counseling professionals. Disability management practitioners need to base their intervention strategies on a thorough assessment and understanding of the company

and its workforce. Rehabilitation practitioners in this area of practice will need to be educated in how to work effectively with business and industry and need to view the employer as a consumer of services as well as the individual with a disability. As state and federal governments become increasingly concerned about the impact of disability on employers, disability management practitioners should be prepared to assist employers in framing corporate policies to address disability. Practitioners in disability management should also be prepared to assist employers in developing and implementing management information systems that monitor those individuals utilizing disability benefits, the services they receive and the costs associated with disabilities.

Habeck, Kress, Scully and Kirchner (1994) in their article entitled "Determining the Significance of the Disability Management Movement for Rehabilitation Counselor Education", caution against quickly concluding that there is a close match between the traditional skills and competencies of the rehabilitation counselor and the competencies needed for provision of disability management services. Habeck et al. (1994) argue that the disability management approach includes much more than the provision of rehabilitation services to employees after the onset of disability. It is important to realize that disability management is an organizational approach which is often a component of a company's human resources or medical services department. Depending on the focus of service and the relation to the company, the rehabilitation counselor's educational needs for the unique and often times advanced knowledge and skills will change.

This assertion is supported by other disability management proponents as well (Dent, 1990; Shrey, 1994; Olsheski, 1993). Shrey (1994) argues that the traditional vocational rehabilitation approach is not sufficient to accomplish the goal of return to work. He states that the vocational rehabilitation approach over emphasizes the characteristics of the individual and does not address environmental influences which impact return to work. Olsheski (1993) asserts that the different context in which

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disability management services occur requires that rehabilitation counselors be skilled in areas such as the fundamentals of organizational behavior, labor relations, ergonomics, and human resource management. He states that rehabilitation counselors need skills which are beyond client assessment and intervention; they need competencies in addressing the organizational and environmental factors that impact on return to work. In conclusion, it would appear that in order to provide effective disability management, services must be dual focused including both the individual (clinical) and on the work environment (system) (Habeck et al., 1994).

Current issues impacting disability management.

Habeck, Kress, Scully and Kirchner (1994) recently summarized the factors currently facing the disability management movement. They indicate that current health care reform efforts and the current negative economic climate are impacting disability management efforts. They cite an issues paper prepared by the Washington Business Group on Health (May 1994) which states that employers continue to face increasing problems in managing both occupational and non occupational disability and that costs continue to rise faster for workplace disability than for health care in general. Due to constant changes in health care delivery systems and ongoing corporate reorganization, it is difficult for employers to develop and implement effective programs and benefits which target their disability problems. Employers are specifically challenged by exploding disability costs which question the value of programs they have implemented in an attempt to control these costs. In addition, employers are in need of reliable empirical information which can assist them in assessing their company's needs and in developing the most effective strategies/programs to meet their specific health and disability needs.

Habeck et al., (1994) discuss the controversy about health care reform proposals which focus on managed care. This has caused increased concern as it is felt that relying

on third parties for managed care will ultimately reduce incentives for disability prevention and management in the workplace and subsequently the employer involvement. It is feared that employer-based disability management programs will be replaced with provider-based case management services. However, many proponents of the disability management movement including employers feel that disability management as an employer based strategy to prevent and control disability and related costs will be a lasting initiative.

The current negative economic climate facing business and industry and subsequent management trends was also cited by Habeck et al. (1994) as an issue facing disability management, particularly downsizing the workforce and re-engineering the work environment in an attempt to meet cost and quality demands. An important component of the disability management approach is maintaining the connection between employer and employee when an injury or disability occurs. Retention is becoming harder to accomplish as employers are challenged to expand job duties and worker tasks in an attempt to produce more with fewer workers. Further, downsizing is occurring not only with production workers but with human resource and benefit personnel as well. Consequently, personnel with little or no knowledge of disability are assuming the role of the disability manager and thus potentially compromising the effectiveness of disability management strategies. Based on these economic concerns, Habeck et al., (1994) argue that it becomes increasingly necessary for employers to gain credible information about the costs and benefits of disability management programs.

The Evolution of Rehabilitation in the Private Sector

History.

Disability management as it is applied by rehabilitation counselors, emanated from the movement toward private sector rehabilitation practice. This movement toward

providing services in the private sector impacted the rehabilitation counseling profession and changed rehabilitation counselor education to reflect the role and function of counselors in this setting. Rehabilitation counseling is considered a unique profession as it was originally created and supported by the federal government. In the late 1970s and early 1980s, accountability, inflation, and budgetary limitations contributed to the decrease in federal and state funding for rehabilitation services (Anderson & Parente, 1982). This decrease in funding could have potentially slowed the growth of rehabilitation; however, at the same time, developments in worker's compensation provided alternative labor markets for rehabilitation counselors. Thus, the rehabilitation counseling profession expanded into the private sector and the federal and state government was no longer the only employer of rehabilitation counselors.

Griswold and Scott (1979) argued that it wasn't until the latter part of the 1970's that rehabilitation in the private sector had increased sufficiently to be viewed as a significant competitor to public sector rehabilitation. This competitive advantage was viewed as the result of limited available public funds to meet the needs of many persons with disabilities, particularly those individuals who were industrially injured (Matkin, 1980). Further, Diamond and Petkas (1979) explained that the traditional service delivery practices of public sector rehabilitation caused some concern among employers/insurance carriers and the workers' compensation officials in regard to services provided for the industrially injured. These concerns were mostly related to the differences in philosophical approaches and timeliness in the provision of rehabilitation services. The approach of the traditional state/federal rehabilitation program is to maximize a client's potential whereas the workers' compensation approach is to rehabilitate the worker with an injury back to their level of functioning prior to the injury (Diamond & Petkas, 1979). Another difference according to Diamond and Petkas (1979) was the outcome expectations of the two approaches. The state/federal vocational rehabilitation program seeks to find a

specific job placement which could require lengthy and formal training. The employer or insurance carrier of an injured worker seeks an early closure by job placement or a monetary settlement. Lengthy training programs are too costly to the insurance carrier. Finally, Diamond and Petkas (1979) argued that the state/Federal vocational rehabilitation program has not aggressively attempted to change its rehabilitation approach in order to better accommodate the needs of those who are injured on the job. Subsequently a new approach emerged which emphasized the needs of employers, insurance carriers and those individuals injured on the job and began to gain momentum in the late 1970s and early 1980s.

The movement toward providing more effective vocational rehabilitation services to injured workers was encouraged and supported by the federal government. Conferences were held which provided information to states regarding rehabilitation and workers' compensation. At the same time, several initiatives were developed to review state workers' compensation laws and to determine the adequacy of vocational rehabilitation services provided (Lewin, Ramseur, & Sink, 1979). Perhaps the most critical factor contributing to the development of rehabilitation in the private sector was the establishment in 1971 of the National Commission on State Workers' Compensation Laws which developed guidelines to assist states in providing an adequate workers' compensation system. This Commission recommended changes that would serve to improve the workers' compensation system. Included in the changes was one objective which dealt with the provision of sufficient medical care and rehabilitation services (National Commission on State Workmen's Compensation Laws, 1972). The Commission felt that workers' compensation was not doing an effective job of assisting injured workers to recover lost abilities and return to work and suggested that rehabilitation services be provided by the employer or a designated provider (Lewin, Ramseur, & Sink, 1979).

Based on the Commission's findings and subsequent recommendations for rehabilitation services to be provided for workers' compensation recipients, the state vocational rehabilitation program was considered to be the logical source to obtain these services. Formal agreements were then made between worker's compensation and vocational rehabilitation (Lewin, Ramseur, & Sink, 1979). However, it was not long before the state/federal vocational rehabilitation system came under close scrutiny and criticism for their inability to deliver these services to workers' compensation recipients.

McMahon (1979) looked specifically at the problems inherent in the public service delivery system based on Whittington's (1975) proposal to privatize mental health services. According to McMahon (1979) there are four main problems with public rehabilitation service provision for private sector applications. First, the nature of public funding is not conducive to providing prompt, direct services to clients. Second, there are managerial restraints which are highly influenced by legislative changes. These legislative changes can alter the course of rehabilitation at a given moment. In addition, the civil service philosophies or regulations make it difficult to reward superior performance or to discipline ineffective employees. Third, consumers of the public rehabilitation program do not control vocational rehabilitation dollars and therefore lack a free choice. Thus, they cannot monitor or change their treatment or control the services they receive. Finally, McMahon (1979) cites limited resources as a problem with public vocational rehabilitation service provision. He states that the need for vocational rehabilitation services far exceeds the capabilities of the public service delivery system. He specifically states that some populations are neglected by the public system such as older workers and the industrially injured. These problems and the need for solutions prompted the development of a network of private rehabilitation providers.

Matkin (1980) stated that the scope of services provided and the client population served in the private sector may explain the short term approach of the private

rehabilitation provider as compared to the long term approach within the public sector. Private rehabilitation service providers have primarily worked with workers' compensation recipients and do not encounter the wide diversity of disability types that public sector service providers do. In addition, timeliness of rehabilitation services is emphasized in the private sector and based on the public sector's priority system, those individuals with industrially injuries were generally considered to be less severely disabled and could not receive services in a timely manner (Diamond & Petkas, 1979; Griswold & Scott, 1979; Matkin, 1980). Diamond and Petkas (1979) reported that the main differences between these two service sector approaches are the timeliness of service and a more personalized case management approach in the private sector. They indicated that there is little difference in the range of services provided by either sector. Referrals for the private sector of rehabilitation service generally come from insurance carriers, self-insured employers, attorneys, physicians, and state workers' compensation agencies. McMahon (1979) also indicates that services provided in this sector generally mirror those offered in the public sector but vocational evaluation and job placement services are more frequently requested in the private sector while counseling and training are less frequently emphasized.

Matkin (1983) indicated that the principle element shaping the context in which rehabilitation counselors operate in the private sector is the insurance industry. The insurance industry thus influences the types of services provided and the skills and knowledge required by private rehabilitation providers (Lynch & Martin, 1982; Matkin, 1982). Individuals referred for rehabilitation services within the private sector are most often injured or disabled in the workplace and are covered by workers' compensation insurance (Diamond & Petkas, 1979; Griswold & Scott, 1979; Lewin, Ramseur & Sink, 1979; McMahon, 1979; Organist, 1979; Sales, 1979; Shrey, 1979).

Rehabilitation counseling and individuals with industrial injuries.

The above mentioned factors contributed to a new sector of rehabilitation counseling practice which focused on providing rehabilitation services to individuals with industrial injuries. Shrey (1979) stated that this private sector was becoming more responsible for the rehabilitation of workers' injured on the job as the consequences of these industrial accidents became more onerous. He recognized that escalating benefit levels were becoming a challenge to employers and insurers and that it was necessary to find new approaches to "disability management". Rehabilitation was cited as an important component of workers' compensation claims management and thus, vocational rehabilitation was seen as an important vehicle for controlling the social and economic factors associated with industrial injuries (Sawyer, 1976). In the mid to late 1970s, research in the area of vocational rehabilitation of the industrially injured was relatively new; however, some evidence did support the fact that industries could financially benefit by returning injured workers' to their jobs as soon as possible after an injury (Shrey, 1979). Industry did see this as a financial incentive and as a way to reduce turnover rates through the utilization of rehabilitation services.

Industries began to recognize the importance of rehabilitation efforts as they realized that they lacked much of the necessary experience and skills required to redesign jobs and accommodate injured workers. Sawyer (1976) stated that "insurance carriers and employers have a strong inducement to provide vocational services for disabled workers whose prospects indicate that they may return to work and give up their claims to weekly benefits" (p.23). Akabas (1976) further identified several areas in which employers lack information and consequently need direct involvement with rehabilitation counselors to address these areas. She states that industry does not have access or knowledge regarding the variety of disabling conditions and their potential impact on job placement and employee productivity. Employers have little information about the rehabilitation process

and the utilization of assistive devices or technology for workers with disabilities. Akabas (1976) states that employers do not possess the skills or knowledge for job restructuring or job accommodation and that employers lack information and resources to assist workers with problems such as alcoholism, substance abuse, depression, and anxiety.

Rehabilitation counselors who provide rehabilitation services to industrially injured clients work in a setting that combines a variety of complex, diverse, and sometimes unrelated systems; each with its own set of rules, regulations, regulatory bodies, and legal and philosophical foundations (Matkin, 1983). Matkin (1983) identified the many systems that rehabilitation counselors needed be familiar with in order to effectively enter in to the private sector service arena. These systems included: (a) workers' compensation, (b) insurance coverage for injuries sustained in unrelated work activities, (c) automobile no-fault insurance coverage, (d) coverage provided under the Railroad Workers' Retirement Act, and (e) benefits covered under Social Security Disability Insurance. Empirically derived competencies related to private sector and insurance rehabilitation practice will be discussed later.

Specialization in Rehabilitation Counseling

As new knowledge, technology, medical advances, and legislation continue to develop, specialty practice areas emerge in an effort to address new service needs. Rehabilitation counseling is not exempt from this emergence into specialty practice areas. Patterson (1967) stated that anyone who is aware of new developments in science and the professions, realizes that we live in the age of specialization and that this specialization is inevitable. He discusses specialization as a "natural development in a situation where there are large numbers of clients who form clearly definable subgroups, or where complex professional functions can be easily or logically subdivided" (p.147). Over the

years since its inception as a profession, rehabilitation counseling has been faced with opposing viewpoints about the need for specialization.

Wright (1980) describes rehabilitation counseling as a profession which possesses an extensive body of knowledge and technology but this great and expanding accumulation of information and skill related to rehabilitation counseling has exceeded the realm of the practicing generalist. Therefore, he argues that it is necessary for the rehabilitation counseling profession to accommodate and utilize this expanding knowledge through specialization.

Wright (1980) provides a comprehensive history of the changing role and function of the rehabilitation counselor since the early days of the profession. In the 1920s when public rehabilitation was implemented, the rehabilitation counselor was a "jack of all trades" or was all things to all clients. This is the generalist role where the rehabilitation counselor is responsible for everything and everyone in a specified area. Generalists basically provide a variety of services and serve a variety of clients throughout the entire rehabilitation process regardless of the client's unique needs. In the mid 1950s when the federal government began funding rehabilitation counselor education programs, the "counseling" counselor role emerged (Wright, 1980). At this time there was a singular training focus on the counseling process which perpetuated the notion that there was a clear distinction between counseling and other rehabilitation related functions. In the mid 1960s, counseling as a professional function was moved into proper focus according to Wright (1980) as one of the facilitating activities in the vocational adjustment of persons with disabilities. Rehabilitation counselor education programs gave increased emphasis to traditional rehabilitation functions and began preparing graduates for employment in state rehabilitation agencies as generalists in various capacities (Wright, 1980).

Another historical perspective on specialization was offered by Patterson (1957) who stated that rehabilitation functions other than counseling were "nonprofessional" and

argued against including these other "coordinator" type functions into the rehabilitation counselor curriculum. Patterson recommended that a subprofessional provide these coordinator functions such as casework and job placement. Later, Patterson (1967) still adhered to his counselor versus coordinator distinction but acknowledged the difficulty in specializing in the various professional functions associated with rehabilitation counseling. He acknowledged that specializing in just the counseling function would serve to break the client into individual parts and thus fragment the total rehabilitation process. Patterson (1967) felt that specialized training should occur above and beyond the two year master's program in rehabilitation counseling and that rehabilitation counselor education should concentrate on the counseling function during this two year program.

DiMichael (1967) proposed a two-way classification system of rehabilitation counselor specialization. He discussed horizontal specialists as those who work with a particular disability type and vertical specialists as those who provide one function in the rehabilitation process. DiMichael (1967) argued that being either a horizontal or vertical specialist sacrifices the continuity of the rehabilitation process and felt that a role encompassing both types of specialization was optimum. Empirical research served to support his proposal (e.g. Sather, Wright, & Butler, 1968; Ayer, Wright, & Butler, 1968).

Wright (1980) proposed that it would be most desirable to combine DiMichael's (1967) argument for case continuity with the expertise of a specialist to ensure the effectiveness of rehabilitation services. Wright (1980) also felt that the role of specialist should include education or preparation which is above and beyond the rehabilitation counseling master's degree. He stated that specialization was needed in rehabilitation based on the following issues:

1. The challenge of an expanding base of knowledge and the difficulty that practitioners have in keeping up to date with new knowledge and the new literature relevant to rehabilitation.

2. The pressures of accountability which are upon the rehabilitation process, agency, and profession.

3. The challenge to maintain a level of flexibility and innovation to accommodate expanding needs, services and client populations.

4. The need for recognition of new groups of rehabilitation specialists who perform client services which are not of a counseling nature.

Most specialists operate within an existing discipline, institution or profession. Specialists are employed to perform tasks or functions which are unique to a discipline and are consistent with the goals and philosophies of that discipline. Nadolsky (1975) stated that specialization or the development of specialized fields within a discipline is accomplished through the elevation of one or more functions related to the discipline to the status of a role. An example in rehabilitation would be vocational evaluation as it has become a specialized discipline by elevating to a role selected functions of the vocational rehabilitation counselor (Nadolsky, 1975.)

In his article discussing trends in rehabilitation counselor specialization, Thomas (1982) uses the term specialization but indicates that the terms "subspecialization" or "emphasis" would be more appropriate. In Thomas's (1980) opinion, rehabilitation counseling is a specialization within the field of counseling and thus further specializations would in fact be subspecializations. He indicates that further specialization or subspecialization is virtually inevitable for rehabilitation counseling based on the following reasons:

1. Rehabilitation counselors, educators, and students have diverse interests and abilities.

2. University training programs have different capacities to offer various types of instruction.

3. There are a variety of extensive roles and functions expected of rehabilitation counselors.

4. Clients served in the rehabilitation process possess a wide variety of disabilities.

5. Rehabilitation counselors are employed in a wide variety of settings which may have different requirements for success.

6. The effectiveness of the generalist will be limited by the additional knowledge gained about various client groups and different aspects of the rehabilitation process.

7. The rehabilitation counseling field is constantly being inundated with new priorities.

8. The federal government has agreed to provide separate funds for graduate programs which do not conform to the traditional generic training model.

Reagles (1981) proposes another perspective of rehabilitation counseling specialization. He proposes a model of the disciplines related to rehabilitation which he feels are more contemporary than Thomas's view. He indicates that rehabilitation principles, knowledge and competencies form the core base of rehabilitation counseling. Reagles (1981) views rehabilitation counseling and vocational evaluation as disciplines related to rehabilitation. In other words, rehabilitation is the core profession in which rehabilitation counseling shares knowledge and expertise.

Nevertheless, it would seem that based on these assertions, specialization or subspecialization is inherent or inevitable within the field of rehabilitation counseling. The reasons and issues raised by Wright (1980) and Thomas (1982) provide a solid rationale for the need to encourage specialization within rehabilitation counseling. Thomas (1982) identified four broad categories of rehabilitation counselor specialization which currently exist. He indicated that rehabilitation counselors can specialize to work (a) with specific disability groups, (b) in particular settings, (c) providing counseling in specific life areas, and (d) in applying particular treatment methods. Private sector and industrial rehabilitation fit within these categories for specializations as services are provided in distinct settings and are often provided to specific disability groups.

Private sector rehabilitation was gaining momentum at about the same time that the specialization debate was becoming more heated. This was evidenced by the development of a separate professional organization to meet the needs of rehabilitation counselors in the private sector. The National Association of Rehabilitation Professionals in the Private Sector was founded in 1977 as this sector's need were not accommodated by the already existing rehabilitation organizations (Reagles, 1981). Further debate continued about the merger of professional organizations into a single, independent rehabilitation counseling organization. Based on the attitudes conveyed by leaders of the professional organizations a merger became highly unlikely (Parker & Thomas, 1981). Scher (1979) discussed the survival of the rehabilitation counseling profession in the 1980s as being dependent upon three factors: (a) practitioners are qualified to provide rehabilitation services, (b) an accreditation process is available which develops and enforces standards, and (c) organizations exist which speak for the needs of everyone. Despite this warning, the current state of rehabilitation counselor education, accrediting bodies and professional organizations seems to reflect the trend toward specialization in the field of rehabilitation counseling.

Specialization issues are also relevant to disability management as this area of practice could potentially constitute a specialty area within rehabilitation counseling. Disability management services occur in a nontraditional setting for rehabilitation counselors. Services are often provided to specific disability types which occur frequently in the workplace. However, prior to concluding that disability management warrants a position as a specialty or subspecialty area, it is important to empirically define the specific competencies that are needed for effective service provision.

Competency Studies in Rehabilitation Counseling

Fundamental to the debate regarding rehabilitation counselor specialization, rehabilitation counseling research has been involved in the development of an extensive body of knowledge identifying the job functions and competencies important to rehabilitation counseling practice (e.g., Berven, 1979; Emener & Rubin, 1980; Fraser & Clowers, 1978; Harrison & Lee, 1979; Jacques, 1959; Leahy, Wright & Shapson, 1987; Muthard & Salomone, 1969; Porter, Rubin, & Sink, 1979; Rubin, Matkin, Ashley, Beardsley, May, Onstott, & Puckett, 1984; Wright & Fraser, 1975). These studies have been undertaken in an attempt to further define and affirm rehabilitation counseling as a profession (Walker & Myers, 1988). Szymanski, Linkowski, Leahy, Diamond, and Thoreson (1993) stated that the foundation of any profession or professional specialty area is the identification and delineation of specific knowledge and skills which are required for effective service provision. Findings of competency studies can also establish an empirical basis for unifying professional activities (Wright, Leahy, & Riedesel, 1987).

Professional competency, role and function, knowledge validation, and job analysis research are terms that describe the process of systematically studying practitioners in a specific area of practice to identify important functions and tasks or knowledge and skills that are associated with the area of practice (Leahy, 1994). Role and function research provides an empirically derived description of the tasks and functions that are associated with a practitioner's role. The knowledge that is required to perform functions is indirectly inferred from the description of the functions and tasks. In contrast, knowledge validation and professional competency studies provide descriptions derived directly from assessments of the knowledge and skills characterizing a particular role, but the actual functions and tasks performed are indirectly inferred based on the knowledge and skills needed by the individual for effective practice (Leahy, 1994).

Competencies can be described as existing in three distinct domains: (a) knowledge (what an individual knows), (b) skill (what an individual can do), and (c) affective characteristics (personal attributes such as attitudes, values, beliefs, motives) (Berven, 1987). Competencies describe the attributions or characteristics of individuals performing jobs, whereas functions refer to the actual job characteristics.

Traditionally, two methods have been utilized most often to identify the competencies of rehabilitation counselors (Leahy, 1986). One method often utilized is self report, survey research which asks practitioners to identify tasks which are important for effective practice. Another method used to identify competencies is to directly assess the tasks performed by rehabilitation counselors. Job task analysis has been used to identify the requirements of a job and serve as criteria for inferring knowledge, skill and other characteristics which cause certain behaviors to occur (Leahy, 1986).

In this section a chronological account of the major studies conducted to identify the important rehabilitation counselor competencies will be presented. Those studies which specifically investigated the competencies of rehabilitation counselors in the private or insurance sector will be discussed later.

Jacques (1959) was one of the first to conduct a study of rehabilitation counselor competencies. This study employed a critical incidents approach to a nationwide sample of 404 rehabilitation counselors and supervisors in various settings and agencies. This investigation was conducted to: (a) identify the critical job elements of counseling in rehabilitation settings, (b) identify the training needs of rehabilitation counselors, and (c) explore the differences that academic preparation imposes in terms of what counselors perceive to be critical incidents in counseling situations. Results from this study identified six sub-roles found within the counseling process: (a) creating a therapeutic climate, (b) structuring-arranging, and structuring-defining limits, (c) gathering information (d) evaluating, (e) giving information, (f) interacting. Another important finding was that

the type of behavior reported by trained counselors was different from the behavior reported by untrained counselors. From this Jacques (1959) concluded that counselors who had graduate level training were more sensitive and aware of the importance of critical job requirements.

Ten years later, Muthard and Salomone (1969) conducted what was to become a landmark role and function study in the field of rehabilitation counseling. This study was sponsored by the American Rehabilitation Counseling Association and was undertaken to provide information for the rehabilitation counseling profession regarding their work role. A stratified random sample of 378 rehabilitation counselors employed by state vocational rehabilitation agencies, state agencies for the blind, and private non-profit agencies were surveyed using the Rehabilitation Counselor Task Inventory. The task inventory identified a range of duties performed by rehabilitation counselors through a task analysis. This study posed a number of research questions including: (a) what functions are performed by rehabilitation counselors in various settings, (b) to what extent are the work setting and characteristics of counselors related to their actual functions, and (c) what are the implications of the study for rehabilitation counselor preparation. The study's findings identified eight major categories which described the rehabilitation counselor's role: (a) affective counseling, (b) eligibility and case finding, (c) group procedures, (d) placement, (e) vocational counseling, (f) test administration, and (g) test interpretation. The study also found that approximately one-third of rehabilitation counselor's time was spent on counseling and guidance activities while approximately 25% of time was spent on other duties such as case reporting and recording and performing clerical-type tasks. Based on the study's findings Muthard and Salomone (1969) reported that a generic curriculum for rehabilitation counselor preparation was appropriate. Since 1969, a number of researchers have either replicated or extended this work by Muthard and Salomone.

Using a smaller regional sample, Fraser and Clowers (1978) attempted to determine how rehabilitation counselors were spending their time and also the level of difficulty of their job functions. This investigation surveyed 78 vocational rehabilitation counselors who were attending a conference on severe physical disabilities. A function survey was developed based on reviews and categorization of rehabilitation counselor tasks by rehabilitation educators and agency counselors. Fifteen functions were identified and rehabilitation counselors were asked to provide an estimate of the amount of time spent in each function during an average work week and to provide a rating in regard to the functions complexity. Results of this investigation revealed that counseling and planning, and case recording and reporting were judged by rehabilitation counselors to be the most time consuming functions. Counseling and planning consumed 20% of rehabilitation counselor's time and case recording and reporting consumed approximately 16% of their time in an average week. Of these more time consuming functions, only counseling and planning were rated as highly complex. Fraser and Clowers (1978) concluded that the results revealed slightly less time spent in counselor-client functions and reduced time spent in professional growth or public relations activities as compared to earlier studies.

Role and function studies have been widely used to determine training needs for rehabilitation counselors and to develop rehabilitation counselor curriculums which adequately prepare graduates for effective practice. Berven (1979) stated that in order for rehabilitation counseling training programs to address the most critical training needs, they must first be identified. Berven (1979) subsequently conducted an investigation to define the training needs of rehabilitation counselors employed in the state agency in Region II. This study attempted to define the pre-professional training needs of rehabilitation counselors by determining the importance of various areas of competence. The sample utilized for this study included 680 rehabilitation counselors and supervisors from Region

II as well as a nationwide sample of 70 trainers. The Rehabilitation Training Needs Questionnaire was constructed for use in this investigation and was developed on the basis of a literature review to define the areas of knowledge and skill required of rehabilitation counselors. The study revealed six areas of competence which received the highest rankings and Berven (1979) designated the following areas as the highest priority of pre-professional training needs: (a) psychological information, (b) case management, (c) medical information, (d) resource utilization and job placement, (e) counseling, and (f) special rehabilitation problems.

Emener and Rubin (1980) also conducted a study using a survey research design to determine an accurate description of the role and function of the rehabilitation counselor in the late 1970s. They asserted that Muthard and Salomone's (1969) study provided an accurate picture of rehabilitation counseling in the mid 1960s but competency studies conducted since that time using smaller samples were showing an indication that this role was changing (e.g., Fraser & Clowers, 1978; Parham & Harris, 1978; Rubin & Emener, 1979; Zadny & James, 1977). Emener and Rubin's (1980) investigation sought to identify a number of issues, specifically the following research questions were addressed in the study: (a) to what extent are the items on the Abbreviated Task Inventory a part of the rehabilitation counselor's job, (b) do rehabilitation counselors desire changes in their roles and functions, and (c) to what extent are the roles and functions of rehabilitation counselors similar to those reported by rehabilitation counselors in the mid 1960s. A nationwide sample of 352 rehabilitation counselors, administrators and educators were surveyed using the Abbreviated Task Inventory which was developed by Muthard and Salomone (1969). This investigation yielded many findings but was significant in that although many of the job tasks were reported as being substantial parts of rehabilitation counselor's job regardless of work setting, specific differences were found. For example,

state agency counselors attributed higher importance to tasks such as test interpretation, medical referral, and eligibility case finding.

In 1984, Rubin, Matkin, Ashley, Beardsley, May, Onstott and Puckett examined the work duties of certified rehabilitation counselors employed in a variety of work settings. The Job Task Inventory was administered to a nationwide sample of 6,400 certified rehabilitation counselors with a 17.6% response rate. This study attempted to identify the roles and functions of certified rehabilitation counselors and to determine if the roles and functions differed across employment settings. A factor analysis of the responses revealed five major work categories and 11 subcategories. Additionally, the data analysis revealed significant differences in perceived importance of various work tasks according to the rehabilitation counselor's work setting.

Results from earlier studies which revealed differences in work tasks across work settings provided a stimulus for a group of researchers from Wisconsin to further determine the significance of this important finding. Leahy, Shapson, and Wright (1987) conducted the first empirically based effort to investigate three specializations of rehabilitation counseling (rehabilitation counseling, job placement and development, and vocational evaluation) across three primary employment settings (public agencies, private nonprofit facilities, and private for -profit firms). The study attempted to address these specific research questions: (a) what are the patterns of competency importance for the three specializations of practitioners, and (b) do perceptions of competency importance and attainment differ according to practitioner specialization and employment setting. The Rehabilitation Skills Inventory (RSI) was developed for this investigation and was considered to be a comprehensive, standardized questionnaire of knowledge and skill competencies. The RSI was empirically verified through extensive field tryouts and rigorous pretesting. Sample frame construction was also a major task as no pre-existing sampling frame was available that adequately stratified practitioners by specialization and

sector. A sample of 3,614 participants was selected for this study and a response rate of 37.1% was obtained. A cluster analysis was performed on responses and yielded ten clusters of items: (a) vocational counseling, (b) assessment planning and interpretation, (c) personal adjustment counseling, (d) case management, (e) job placement, (f) group and behavioral techniques, (g) professional and community involvement, (h) consultation, (i) job analysis, and (j) assessment administration. The results from this study offered many interesting findings for the field of rehabilitation counseling. The findings revealed that the three specializations of rehabilitation counseling shared a common core of competencies but there were significant differences in the level of importance attributed to the various competencies. Differences in the perceptions of competency importance were also revealed in relation to the employment settings of practitioners. Thus, the results from this study provided support to previous research which indicated that setting-based factors influence the importance of practitioner competencies.

Most recently, the Council on Rehabilitation Education (CORE) and the Commission on Rehabilitation Counselor Certification (CRCC) initiated an on-going research project co-sponsored by the American Rehabilitation Counseling Association (ARCA) and the National Rehabilitation Counseling Association (NRCA). The purpose of this on-going research project was to conduct research for continual validation and updating of the CORE standards for rehabilitation counseling curriculums and the CRCC examination content areas across settings and over time (Szymanski, Linkowski, Leahy, Diamond, and Thoreson, 1993). The rationale for this longitudinal, knowledge validation study was based on current trends in rehabilitation-related legislation, expanding employment settings and client populations, and new technologies and service delivery strategies (Jenkins, Patterson, & Szymanski, 1992). They recognized that competency

areas which emanate from these trends must be examined and incorporated into rehabilitation education programs in addition to accreditation and certification standards.

The nationwide sample used for this investigation consisted of certified rehabilitation counselors and individuals graduating from CORE accredited rehabilitation counselor education programs. The instrument developed for this study contained items from the CRCC examination content areas or the CORE curricular standards. The purpose of this study was to examine and validate the importance of empirically derived knowledge domains in rehabilitation counseling. The study found that grouping respondents according to their employment settings and job titles accounted for the most frequent differences in knowledge importance. The researchers concluded that the results from this study provided a clear description of the professional identity of rehabilitation counselors by identifying the knowledge base upon which services are provided (Leahy, Szymanski, & Linkowski, 1993).

Research efforts to further define rehabilitation in the private for profit sector.

Based on previously cited research, it is evident that setting-specific factors account for variability within rehabilitation counselors' work roles and may also account for differences in counselors' perceptions of important competency or knowledge areas needed for effective service delivery. Fienberg and McFarland (1979) stated that among the many factors which influence the rehabilitation counselor's role and function, the work setting in which the counselor is employed is considered to be an extremely potent variable in determining the nature of professional practice. These assertions along with the empirical evidence supporting the variability of role and functions across rehabilitation counseling employment settings, provided a stimulus for researchers to take a closer look at the role of the rehabilitation counselor in the private for profit sector.

Lynch & Martin (1982) began research efforts in private sector rehabilitation practice based on the rationale that employment opportunities for rehabilitation counselors in this sector had continued to increase and there was very little research which examined whether educational preparation programs were adequately preparing graduates for this sector of practice. The purpose of their study was to begin the process of determining the various knowledge and skill areas which were considered to be important for effective provision of rehabilitation in the private sector. The sample for this investigation consisted of 147 members of the National Association of Rehabilitation Professionals in the Private Sector (NARPPS). A survey instrument was developed based on a review of the literature in the area of rehabilitation counseling in the private sector and consisted of 41 items. Survey items were analyzed using descriptive statistics. The study found that a number of knowledge and skill items which are typically associated with rehabilitation education were also rated as important by private sector rehabilitation practitioners. However, Lynch & Martin (1982) indicated that based on their findings, some changes in traditional course offerings may be warranted. Private sector rehabilitation practitioners in this study rated of primary importance items such as assessment, job analysis and placement, and communication and organization. Of least importance were items related to generic interpersonal counseling.

Matkin (1983) conducted a similar study to identify the functions of the rehabilitation counselor working in the private sector. The rationale for his study emphasized that research efforts prior to this time did not address the roles and functions of rehabilitation specialists in the private sector. Subsequently, Matkin (1983) conducted this national study directed toward rehabilitation specialists employed within insurance companies, private rehabilitation companies, self-insured industrial settings, and private practice. The sample consisted of 850 NARPPS members or individuals who were employed by NARPPS members. The Rehabilitation Specialists Task Inventory was

developed for this study and consisted of 132 items gathered from past competency studies and literature describing the tasks of the private rehabilitation specialist. A factor analysis of responses revealed five major work role categories. These work role categories were as follows: (a) planning and coordinating client services, (b) business and office management, (c) job development and placement, (d) diagnostic assessment, and (e) other professional activities. Based on this study, Matkin (1983) provided recommendations for rehabilitation education, credentialling in the private sector, and cooperation between public and private sectors.

In 1984, Matkin and Riggar conducted two national studies which were basically designed to gather demographic information about the rise of private sector rehabilitation employment and its effect on graduate level training programs. Although these investigations are not competency studies, it is important to note their findings as they supported the trend toward private sector employment for rehabilitation counselors and validated the need to continue research efforts in the area of practice. Matkin and Riggar (1984) found that based on their review of the literature increased attention was being given to employment in the private for profit sector. Additionally, they cited the sudden increase in membership within the National Association of Rehabilitation Professionals in the Private Sector during its first nine years of existence (1977-1986) as evidence of increasing private sector employment for rehabilitation counselors. Two concurrent studies were conducted of NARPPS members and National Council on Rehabilitation Education (NCRE) members. Participants were surveyed and responses revealed that there was in fact an increase in employment opportunities within the private sector and that these opportunities were influencing rehabilitation counselor education programs. Specifically, additional courses were being developed which addressed private sector issues and interactive strategies with private sector rehabilitation providers were being employed that enhanced the preparation of graduates.

Matkin (1987) continued to move ahead with this line of research identifying the role and function of private sector rehabilitation practitioners. He recognized that rehabilitation services were rapidly expanding into insured health care programs (e.g. personal injury protection policies, workers' compensation, Social Security) and the skills needed in these areas of practice were not reflected in the traditional coursework of rehabilitation counselor education programs. As a result, Matkin (1987) stated that consumers of such services and practitioners began to look for information and resources that could provide them with knowledge of various disability insurance systems. Based on this need, Matkin reviewed results from a study conducted by the Board for Rehabilitation Certification (BRC) which identified work functions and knowledge requirements in "insurance rehabilitation". Results from this two year study revealed four knowledge areas which reflected service provision in this area of practice. The four knowledge areas derived were as follows: (a) rules, regulations, policies, and procedures of disability compensation systems; (b) service applications within disability compensation systems; (c) forensic rehabilitation; and (d) cost containment and resource acquisition. After considering this study's findings, Matkin (1987) proceeded to recommend training sites which would allow for knowledge acquisition in insurance rehabilitation.

Gilbride, Connolly, and Stensrud (1990) surveyed and interviewed employers of insurance rehabilitation specialists to determine which knowledge, case handling, and personal skills outcomes they felt were most important to obtain from graduate rehabilitation counselor education programs. A 28-item instrument was developed for this investigation to obtain information from employers of insurance rehabilitation specialists on the educational outcomes they desired from rehabilitation education programs. The instrument was constructed from a review of insurance rehabilitation literature and consisted of three sections: (a) knowledge, (b) case handling skills, and (c) personal skills. The survey was distributed to all of the major insurance rehabilitation employers in

Iowa. Results indicated that insurance rehabilitation employers found job placement and development techniques, job analysis/modification/restructuring, transferable skills analysis and case management as the most important knowledge areas desired. The most important case handling skills were time management, decision making, and writing. The most important personal skills desired were independent working ability and organizational skills. The results from this investigation were used by Gilbride, Connolly, and Stensrud (1987) to design a market driven model of private rehabilitation curriculum development.

Finally, in the area of disability management, currently no competency studies have been published. However, in 1993 a pilot study entitled "The Role of the Rehabilitation Counselor in Disability Management" was conducted (Scully & Habeck, 1993). The purpose of this study was to identify the key functions performed by rehabilitation counselors in disability management and to identify the important knowledge and skill areas needed for effective disability management service provision. An instrument was developed for this investigation based on a review of relevant literature from vocational rehabilitation, business and health, and workers' compensation. Subjects consisted of a nationwide sample of 70 rehabilitation counselors who attended a conference at Michigan State University on the rehabilitation counselor's role in disability management. Survey responses were categorized and analyzed according to three major work settings: (a) internal providers, (b) insurance based providers, and (c) external providers. Participants in the study were asked to list the key functions that they performed in relation to disability management and were also asked to rate 35 items according to their perceived importance when providing disability management services. Although there were several areas of divergence among major work settings of disability management practitioners, there was agreement that several core aspects of the rehabilitation counselor's role were inherent in the role of the disability management provider.

Rehabilitation counselors in disability management reported that knowledge about disability-related legislation and benefit systems was needed in addition to a number of other tasks related to developing and maintaining a systematic process aimed at returning injured/disabled workers to productive employment. Specific tasks included development of a positive working relationship with injured workers and assessing medical and employment information in order to develop return to work strategies.

This study revealed that very few of the individuals were actually employed within the employer organization as rehabilitation counselors but it was also felt that this minority group of providers could offer a more direct view of the needs of employers in the area of disability management practice. This group of respondents demonstrated the importance of interventions which focused directly on the organization. External providers on the other hand reported more involvement in tasks such as mitigating psychosocial barriers to return to work, utilizing community resources, identifying transferable skills, and monitoring the medical aspects of a case. This study revealed many interesting findings and served as a pilot investigation for the proposed investigation involving disability management practitioners.

As is characteristic of role and function and competency study findings, implications for rehabilitation counselor education have been identified. With the shift from public sector employment for rehabilitation counselors to private-for-profit rehabilitation settings, rehabilitation counselor education programs have attempted to incorporate competency study findings into their curriculums. The rehabilitation counseling literature has reflected the attempts of rehabilitation counselor educators who have provided recommendations and proposed curriculums aimed at addressing the needs of practitioners in the private sector (e.g. Sales, 1979; McMahon & Matkin, 1983; Matkin, 1983; Crystal, 1987; Scofield, 1987; Gilbride, Connolly, & Stensrud, 1990; Kilbury, Benshoff, & Riggar, 1990; Rasch, 1992).

In conclusion, the literature review creates a context and rationale for the proposed study which will attempt to delineate the competencies required of practitioners providing services in disability management. The shift from public sector rehabilitation to private sector rehabilitation and subsequently industry-based rehabilitation efforts have been major factors influencing the emerging role of the rehabilitation counselor in disability management. Factors both within the field of rehabilitation counseling and within the business community have contributed to the evolution of the disability management approach. As the review of competency studies has demonstrated, the role of rehabilitation counselors varies greatly across different settings. Thus, it is reasonable to conclude that the emerging area of disability management as it relates to rehabilitation counseling will experience some divergence from the traditional rehabilitation counseling competencies as well. None of the earlier competency studies conducted have specifically addressed the knowledge and skills required for disability management practitioners. Therefore, this investigation could provide practitioners and educators with much needed information regarding this area of practice. Based on the specialty literature in rehabilitation counseling, disability management services are considered to occur in a nontraditional service setting for rehabilitation counselors and could potentially represent a specialty area for practitioners. However, before concluding that disability management is a viable specialty within rehabilitation counseling, it is necessary to further examine the specific knowledge and skill base on which services are provided.

Habeck, Kress, Scully, & Kirchner (1994) asserted that if the rehabilitation counseling profession wishes to make a significant contribution to disability management, it will be important to identify and address the areas where its activities and competencies do not match the goals and competencies required for effective disability management. This proposed study will attempt to identify these specific areas where disability management knowledge and skills match and do not match those associated with

traditional rehabilitation counseling practice and to offer implications for addressing competency needs in this area of practice.

Chapter III

Methodology

The purpose of this study was to identify and delineate the knowledge and skills perceived to be important by disability management service providers. In addition, this study explored the reported preparedness of disability management practitioners in the important knowledge and skill areas. The findings from this investigation can provide empirically derived competencies that will identify the knowledge and skill areas important to rehabilitation counselors in disability management. Furthermore, the findings can provide an empirically-derived knowledge and skill base from which rehabilitation counselor's in disability management practitioners can draw for effective service provision. A survey research design was utilized with a nationwide pool of subjects involved in disability management service provision.

Subjects

Description of the sample.

The sample used in this investigation consisted of subjects drawn from a nationwide, accessible population of practitioners who were believed to be involved in disability management service provision. No pre-existing sampling frame existed for individuals providing disability management services in the United States. Therefore, a unique sampling frame was constructed for use in this investigation based on the names of practitioners collected from four distinct sources. The four sources used in sample frame construction were as follows.

The first source included rehabilitation counselors who participated in a national disability management conference held in June 1995 at Michigan State University. This conference, "Disability Managers' Training Conference: Refining and Expanding Skills for

the Workplace", was attended by approximately 180 rehabilitation counselors and other professionals were either directly involved in providing disability management services or who were interested in learning more about this area of practice. Many of these participants responded to a pilot study specifically examining the role of the rehabilitation counselor in disability management. The responses of these "pioneers" in the field of rehabilitation and disability management served as the basis for development and validation of the Disability Management Skills Inventory, which was used for this current investigation. The participants from the conference were appropriate to involve in this follow-up investigation based on their previous exposure to disability management concepts and practices. In addition, these participants were presumed to be involved in disability management based on their known work affiliation or interest in disability management. The Disability Management Skills Inventory, the Demographic Questionnaire, and a detailed cover letter were distributed to 87% of conference attendees for a total of 156 individuals. Those selected to receive the survey were those individuals who did not appear on other lists comprising the sampling frame and who were not conference personnel.

The second source of practitioners used for sample frame construction was the list of individuals who attended the fall 1994 conference sponsored by the Washington Business Group on Health (WBGH), a major national organization representing large employers on issues related to health care. For the past nine years, the WBGH conducted the National Disability Management Conference dealing with current issues facing employers regarding disability management. The conference is attended by employers, insurers/third party administrators/benefits administrators, case managers, risk managers, public employers, labor representatives, occupational health nurses, rehabilitation professionals, employee assistance professionals, social workers and psychologists. A list of the 1994 conference participants was obtained and used as the second major source of

subjects for sample frame construction. The individuals attending the WBGH conference on disability management are a cross-disciplinary group of program and policy administrators and practitioners involved in disability and injury management. These individuals are appropriate for this investigation based on their involvement in disability management and their cross-disciplinary nature. These practitioners have had exposure to disability management concepts and practices as demonstrated by their attendance at the disability management conference. The list of participants for this conference consisted of 440 individuals. Thirty-five percent of these individuals were chosen for participation the study. Systematic random sampling procedures were used and every third name was chosen for inclusion in the study thus yielding a total of 150 individuals. These 150 individuals received the Disability Management Skills Inventory and the Demographic Questionnaire and were asked to participate in the study.

Work Injury Management subscribers comprised the third source for sample frame construction. Work Injury Management (WIM) is a publication with 400 subscribers who are currently involved or interested in disability and injury management. Most WIM subscribers are physical therapists or occupational therapists. WIM holds an annual conference related to these themes. For example, the 1995 Work Injury Management conference was entitled "The Application of Principles of Quality Management to Reduce Work Injury Costs." This conference is typically attended by approximately 550 physical and occupational therapists, vocational rehabilitation specialists and employers who are either interested in managing and controlling workplace injury and disability or those currently providing these services. The WIM subscriber and conference participant lists were combined to comprise this third source of sample frame construction. These lists were then cross-referenced with the MSU and WBGH conference participant lists to eliminate duplication of names. This combined list of WIM conference participants and subscribers consisted of 1431 names. Systematic random sampling procedures were used

to select individuals from these lists. Twenty percent of these individuals were chosen for participation in the study. Every seventh individual was selected from this list yielding a total sample of 204. These individuals were mailed the Disability Management Skills Inventory, the Demographic Questionnaire and were asked to participate in the study.

The final source used for the sampling frame were lists of rehabilitation counselors currently certified through the Commission on Rehabilitation Counselor Certification. A list of certified rehabilitation counselors employed in the private sector was obtained for Michigan, Ohio and California. These states were chosen based on their activity level and involvement in disability management and their progressive strategies aimed at dealing with workplace injury and disability. Those certified counselors currently employed in the private sector including insurance-based rehabilitation practitioners were identified and included in the accessible population of disability management providers for this study. A total of 1170 individuals comprised this list. Twenty-five percent of this population was chosen for inclusion in the study. Systematic random sampling procedures were employed and every fourth individual was selected yielding a total of 290 individuals who received a survey. When completing the actual survey, private-for-profit or insurance based rehabilitation counselors were asked to indicate whether they were currently involved in providing disability management services because little information was available to validate this groups' involvement in disability management. Those individuals who were not currently involved in providing disability management services designated such on the demographic questionnaire and were instructed not to complete the Disability Management Skills Inventory.

Lists from the above mentioned sources: Participants from the Michigan State University Disability Manager's Training Conference, the Washington Business Group on Health annual disability management conference, Work Injury Management annual conference, and the selected three-state private sector sample from the Commission on

Certification for Rehabilitation Counselors were thoroughly reviewed to avoid duplication of names. Names from these four lists of practitioners comprised the accessible population of subjects from which the sample was drawn for use in this investigation.

Sampling procedures.

The four groups of subjects used for sample frame construction remained separate for sampling purposes. In order to maximize the amount of data collected, with consideration given to the cost constraints imposed on this investigation and the precision desired, proportional sampling was conducted within each of the four population sources based on previous knowledge about the group memberships' involvement in providing disability management services. Based on knowledge of these population sources the variability within and across each group was expected to be low. Therefore, for those individuals involved in disability management, no distinct differences were expected to occur with respect to subjects' motivation or commitment toward performing disability management services. However, the group of rehabilitation counselors from the CRCC group were an unknown entity in that members may or may not have been providing disability management services during the time that the study occurred. This information was not known until after subjects were selected and the questionnaire was returned. It was felt that the conference participant groups were known entities in regard to their involvement in disability management and a higher number of subjects were selected from these population sources in an attempt to obtain a higher rate of usable responses from participants. It was also felt that conference participants would be more likely to respond based on their commitment to obtain more information about disability management as demonstrated by their attendance at disability management conferences.

Systematic random sampling procedures were conducted within three of the four sources that were used to construct the sampling frame. Systematic sampling procedures

stipulate that every kth subject is chosen systematically for inclusion in the sample. To guard against any human bias in using this method, the first subject is chosen at random using a table of random numbers. The subject with that number is then included in the sample along with every kth subject (determined by the sampling ratio and sampling interval) that follows (Babbie, 1983). A total number of 800 subjects were sampled from the four groups comprising the accessible population of subjects. A response rate of 40% was anticipated yielding a total number of usable surveys that would satisfy guidelines for conducting factor analysis . Liberal guidelines for conducting a factor analysis indicate that the sample contain at least 100 subjects and that there be between a 4:1 to 2:1 ratio of observations to variables. A 40% response rate would satisfy these guidelines by providing a 3:1 ratio of observations to variables. Furthermore, this response rate would satisfy conditions for conducting multivariate analysis of variance (MANOVA) which indicate that all cells of the respondent groups must be greater than the number of dependent variables used in the study (Hair, Anderson, Tatham, & Black, 1992).

Instrumentation

Instrument development.

The purpose of this study was to identify the knowledge and skills performed by disability management practitioners that they perceived to be important in achieving the desired outcomes of the disability management approach. These variables were assessed across three provider settings and six professional classification groups. In order to obtain valid information that can be analyzed in relation to the purpose of this investigation, a questionnaire with 101 knowledge and skill statements was developed. This questionnaire will be referred to as the Disability Management Skills Inventory (DMSI) (See Appendix A). A ten item demographic questionnaire was also developed to obtain descriptive information about the sample of disability management providers (See Appendix B).

The Disability Management Skills Inventory (DMSI) was a composite of the Rehabilitation Skills Inventory (RSI) (Leahy, Shapson & Wright, 1987) and an original inventory entitled "The Role of the Rehabilitation Counselor in Disability Management" (Scully & Habeck, 1993) used in a 1993 pilot study identifying the knowledge and skills needed by rehabilitation counselors to provide effective disability management services. The Rehabilitation Skills Inventory (RSI) developed by Leahy, Shapson and Wright (1987) was used in a comprehensive research project investigating rehabilitation counselor competencies across service settings, conducted under the administrative auspices of the National Council on Rehabilitation Education.

The development of the original pilot-study knowledge and skill inventory was based on two strategies: (a) literature review and development of a pool of competency items, and (b) consultation and review by an expert content panel. The following methodologies were employed for the development of the pilot study knowledge and skill inventory. Literature from the fields of vocational rehabilitation, business and health and workers' compensation was reviewed. Knowledge and skill statements representing the critical competencies needed by disability management providers were identified. These knowledge and skill items were then rewritten so that each statement began with a verb as indicated by Fine and his associates (Fine, 1973; Fine, Holt, and Hutchinson, 1974; Fine & Wiley, 1971). This original questionnaire entitled "The Role of the Rehabilitation Counselor in Disability Management" (See Appendix C) was a combination of structured and unstructured items that allowed respondents to identify the key functions of their jobs related to disability management and to respond to the importance of 35 knowledge and skill items.

Once initial revisions were performed on the pilot study instrument, a panel of professionals prominent in disability management and knowledgeable in disability management content, independently reviewed the instrument for clarity, representation of

disability management practice, consistency of word use, and elimination of redundant statements.

The pilot study instrument was then arranged into four sections beginning with respondents' self-categorization of the primary work setting in which they provide disability management services and unstructured items asking respondents to list the key tasks that they perform in their job related to disability management. Section two consisted of 35 statements that represented disability management knowledge and skill areas from the literature. This section contained a five-point Likert-type scale (0-4) asking respondents to rate the importance of these statements according to their significance, relevance, and amount of time spent on each in relation to their role in disability management. Section three was composed of unstructured items related to special issues in disability management such as case management. Section four of the questionnaire consisted of demographic information.

The pilot study instrument was first used to investigate the role of rehabilitation counselors in disability management (Scully & Habeck, 1993). Questionnaires were distributed to 116 rehabilitation counselors at a national invitational conference entitled "Rehabilitation Counselors in Disability Management" held at Michigan State University. Seventy participants responded to the pilot survey, for a response rate of 60%. Structured and unstructured survey responses were analyzed in an attempt to gain more information about the tasks and key functions performed by rehabilitation counselors in disability management. Descriptive statistics were used for analyzing structured survey items that asked respondents to rate the importance of specific statements related to their jobs as disability management providers. Means and standard deviations were calculated based on the responses to these items. (See Appendix D) Qualitative data were reviewed and actual responses were recorded and categorized. Individual responses to unstructured survey items yielded important information about the key functions in addition to the knowledge

and skills needed by rehabilitation counselors to provide disability management services. These responses were thoroughly reviewed to analyze the comprehensiveness of the list of knowledge and skill statements represented in the original disability management inventory and to provide validity to the instrument.

Development of the Rehabilitation Skills Inventory (RSI) occurred over a 13-month time period (November 1984-December 1985). Methodology for developing the RSI included consultation with expert judges and obtaining input from a national advisory committee. Further development stages included empirical verification of the instrument through field testing and rigorous pre-testing methods. Four main stages characterized the development of the RSI: (a) systematic literature review and development of a comprehensive pool of competency items, (b) review of the initial items by a national panel of expert judges, (c) practitioner tryouts of the item quality and instrument format, and (d) pilot testing with subsequent extensive data analysis (Leahy, Shapson & Wright, 1987).

The Rehabilitation Skills Inventory originally consisted of 114 competency items (See Appendix E) which were rated on two, five point Likert-type scales; importance of skills to respondents primary work role and attainment of skills in meeting client needs. Reliability estimates of the RSI were obtained using Cronbach's alpha, which yielded relatively high reliability coefficients for each of the five item categories that were developed a priori (assessment=.95; counseling=.92; placement=.96; case management=.91; professional development=.93). Content validity of the RSI was based partly on the types of items that were selected from previous research efforts where the content validity was based on functional job analysis procedures. Validity was also based on the development methodology used to construct the instrument including field trials and pretesting procedures (Leahy, Shapson & Wright, 1987).

The 114 original RSI items were reviewed to determine their relevance and appropriateness for this investigation. These original items were considered to be a comprehensive list of skills that are characteristic of rehabilitation counseling practice in both the public and private setting. On the basis of the documented goals and outcomes of disability management practice, items were reviewed and a determination was made about their relevance to disability management. First, items that obtained an overall mean value of less than 2.00 when rated by rehabilitation counselors were omitted. Next, items that did not relate to disability management practice as determined by the investigator and could not be modified to relate to disability management practice. A total of 64 items from the RSI were used for the DMSI. These items were modified to be consistent with disability management terminology and descriptive of disability management practice. Specifically, terminology was changed to describe the activities and participants in the disability management process.

Thus, the original pilot study instrument and the Rehabilitation Skills Inventory were adapted and merged to serve as the basis for developing the Disability Management Skills Inventory. All of the knowledge and skill statements on the original pilot study instrument with the exception of four items have been included in the Disability Management Skills Inventory. The four items that were omitted for the DMSI had obtained an overall mean score of less than 2.0 on the pilot study or the items were considered redundant when the RSI and the pilot study instruments were combined. Furthermore, four additional items were added based on responses given to the unstructured item asking rehabilitation counselors to list other skills that they perform which are critical to their role in disability management that were not mentioned in the original item list. These four items were constructed based on frequently cited responses from the participants. The Disability Management Skills Inventory, that served as the basis for the expert review panel, consisted of 99 items, 35 from the pilot study instrument

and data analysis and 64 from the RSI. After the experts reviewed the DMSI, two additional items were added to the instrument. The two additional items dealt with developing mechanisms for labor and management cooperation and analyzing benefit plans to ensure support of disability management strategies. These content areas had not been dealt with sufficiently elsewhere in the instrument. The final DMSI was 101 items.

The original importance scale used in the pilot study questionnaire was revised for use in the DMSI. Originally, respondents were asked to rate the importance of knowledge and skill statements based on factors such as significance, relevance and amount of time spent on each. A five point Likert-type scale (0-4) was used with (0) as not a part of respondents' jobs and (4) as a most significant part of respondents' jobs. The importance scale was modified for this current investigation and respondents were asked to rate the importance of knowledge and skill items in relation for achieving the outcomes of effective disability management service provision. This change attempted to help respondents link the important knowledge and skills directly to outcomes of the disability management approach.

The 101 knowledge and skill statements comprising the Disability Management Skills Inventory represent a comprehensive list of knowledge and skill areas characteristic of rehabilitation counseling and disability management service provision (See Appendix A). The rationale behind combining the knowledge and skill areas in these two domains of practice into one comprehensive inventory was to empirically determine the knowledge and skills perceived to be important to provide effective disability management services from the rehabilitation counselor's perspective. Because rehabilitation counselors have evolved into roles as a significant source of providers in this area, the DMSI was designed to determine the interaction between disability management activities and rehabilitation counselor knowledge and skills that practitioners consider to be important when providing disability management services. Therefore, the sample of subjects consisted of

rehabilitation counseling professionals as well as other practitioners involved in disability management. Obtaining data from a variety of practitioners provided a cross-disciplinary perspective of a cross-discipline service arena and allowed comparisons to be made about the skills and knowledge areas important to disability management practice as viewed by different practitioner groups and their reported levels of preparation in these areas.

All of the DMSI statements were rated on two, five point Likert-type scales (0-4) for importance and preparedness (See Table 1). Respondents were asked to consider each statement and determine to what extent the item was important in achieving the desired outcomes of disability management in their employment setting. Respondents also reviewed statements to determine the degree to which they felt prepared in the knowledge or skill area as a result of their education and training.

The 101 items comprising the DMSI were randomly ordered rather than grouped into rationally derived categories. The rationale for random assignment was to minimize any biasing effect that the groupings of similar task items may have on subsequent ratings of task importance or preparedness by participants.

The development of the demographic questionnaire for this investigation consisted of first identifying the major information of interest for use in the data analysis of the study. Information identified as critical to the study's purpose and research questions were considered along with other factors believed to have an impact on participant's responses. The demographic questionnaire used with the Rehabilitation Skills Inventory (1987) was thoroughly reviewed in relation to the study results to identify factors

Table 1

Rating Scales for the Disability Management Skills Inventory

Scale 1.

IMPORTANCE: To what extent are these knowledge and skill statements important to achieving the outcomes of effective disability management in your employment setting; how critical are these knowledge and skill statements in achieving the outcomes of effective disability management. Evaluate the "importance" as follows:

[0] None: Not important at all
[1] Little: Minor importance
[2] Moderate: Fairly important
[3] High: Substantial importance
[4] Maximal: Essential, crucial

Scale 2.

PREPAREDNESS: To what degree do you feel prepared in the knowledge and skill statements as a result of your education and training? Consider each statement in relation to the degree in which you feel prepared as a result of your education or training. Please consider your pre-service, in-service and continuing education. Evaluate your "preparedness" as follows:

[0] No preparation
[1] Little preparation
[2] Moderately prepared
[3] Highly prepared
[4] Very highly prepared

influencing participants' responses. This resulted in a ten-item demographic questionnaire that obtains identifying information regarding respondents' employment, professional identity, education, and credentials.

Major items within the demographic questionnaire included: (a) identifying information, (b) employment, (c) education, (d) professional identity/credentialling. Specifically, the demographic portion of the questionnaire asked subjects to self-categorize into a priori provider categories. Four categories of disability management provider settings were established for identifying respondents based on the pilot study. These categories were as follows: (a) Company employee who directly provides/administers disability management services in-house (internal providers), (b) Independent private providers or employees of consulting firms that are contracted to provide disability management services (private providers), (c) Providers employed by insurance carriers or third party administrators who provide disability management services (insurance based providers), and (d) professionals not currently providing or administering disability management services.

This investigation employed self-report procedures as a method to determine the perceived importance and reported preparedness in knowledge and skill areas associated with disability management. The use of self-report for this investigation was based on the assumption that practitioners are able and will in fact respond accurately to this survey. Self-report measures are commonly used to obtain information about respondents as is evidenced by the wide use of instruments such as interest inventories and attitude surveys (Bolton, 1985; Nunnally, 1970). Another important consideration when deciding to use a self-report measure was that it provides information not readily available from other sources (Primoff, 1980). Many of the competency areas included in the final instrument were knowledge and skill areas that could not be easily observed by others, therefore the

practitioner is in the best possible position to evaluate importance and preparedness with respect to the skill or knowledge area in question.

Procedures

Design.

A descriptive design was employed for this study. The descriptive procedures were a self-report survey of the perceived importance and reported preparedness in the knowledge and skill areas characteristic of disability management practice. These variables were analyzed and comparisons were made based on the self-reported responses to the a priori demographic categories of provider setting and professional classification of respondents.

The dependent variables for this investigation were (a) perceived importance of knowledge and skills related to the provision of disability management services, and (b) reported preparedness in these knowledge and skill areas. The independent variables were (a) provider setting, (b) educational emphasis, (c) level of education, and (d) professional classification.

Data collection.

After sample selection, mailing labels were developed and tracking books constructed. Subjects were identified via pre-coding and assigning a single instrument serial number (pre-printed on the instrument) to individual subjects. The identification number was recorded in the tracking book and on the demographic portion of the questionnaire.

Following instrument pre-coding, a packet of materials was mailed to each subject in the sample (N=644) with the exception of Michigan State University's disability management conference participants. Packets included the transmittal letter and

instructions (See Appendix F), a copy of the DMSI and the demographic questionnaire, and a self-addressed return envelope. All mailings were sent via first class mail in order to obtain information regarding subjects with undeliverable addresses and to develop an accurate record of subjects who received the materials. Subjects comprising the Certified Rehabilitation Counselor (n=290) group were mailed packets directly from the Commission on Rehabilitation Counselor Certification. An additional transmittal letter was included in the packet explaining mail back procedures and subjects were given three continuing education credits for completing the survey.

Returns of the questionnaire were monitored daily and reviewed for completeness. Approximately 4-6 weeks after the response date indicated on the transmittal letter, a second complete packet was mailed to non-responding subjects. The packet was basically identical to the initial packet with the exception of a new transmittal letter (See Appendix G) reminding participants of the survey and further stressing the importance of their participation.

During daily monitoring of returns, questionnaires were reviewed for accuracy especially with regard to self-categorization of employment settings. This information was verified by comparing it with demographic information obtained. This process allowed for daily quality control and accuracy prior to actual data entry. Data was then directly and manually entered onto the computer for storage and easy retrieval.

Data collection for the sample group of conference attendees at Michigan State University's Disability Manager's Training Conference was completed on-site. Conference attendees were provided with a packet of materials consisting of the Disability Management Skills Inventory, the Demographic Questionnaire, a cover letter and a self-addressed envelope. At the opening of the conference an announcement was made regarding the nature of the study, the importance of participation, and directions for completion. Announcements were made throughout the conference regarding the

importance of this research and conference attendee's participation. Attendees were asked to complete the survey during the three day conference, however, an envelope was provided for those who preferred to mail their survey after the conference. As numerous personal announcements were made to this group regarding participation, a complete second set of materials was not mailed to non-respondents in order to conserve financial resources. A follow-up postcard was mailed approximately 3 weeks after the conference was over (See Appendix H) to remind conference attendees to mail in their survey.

Data Analysis

Descriptive statistics were computed on sample characteristics from the demographic portion of the questionnaire. Specific continuous variables that defined selected characteristics of the sample included age and years of paid work experience. For each of these variables, group means and standard deviations were computed and displayed in tables for the entire sample, and for the individual sub-sample groups (e.g., provider setting, professional classification).

In an attempt to further describe this population of rehabilitation counselors providing disability providers, frequencies and percentages were computed on the following categorical variables: (a) disability management provider setting, (b) education level, (c) professional classification, (d) educational emphasis (i.e., major), (e) certification/licensure status, and, (f) the desirability of such credentials or licenses.

In responding to the first research question determining knowledge and skill areas considered to be important by practitioners in achieving the outcomes of effective disability management, descriptive statistics were computed for each knowledge and skill item on the DMSI. Descriptive statistics were computed based on subject responses to the five point Likert-type importance scale. Group means and standard deviations were calculated for each item by professional classification (rehabilitation counselors, business

professionals, nurses, physical & occupational therapists, psychologists & social workers, and others) and provider setting (internal, private consultant, insurance based) and displayed in table format.

Next, the 101 items on the Disability Management Skills Inventory were factor analyzed. The purpose of the factor analysis was to condense or summarize the information contained in the original 101 dependent variables into a smaller set of new composite dimensions while minimizing loss of information. The factor analysis is intended to define the fundamental constructs or dimensions underlying the original knowledge and skill statements (Hair, Anderson, Tatham, & Black, 1992). Common factor analysis was used to obtain a factor solution. Common factor analysis is aimed at explaining common variance or the variance that is shared by the actual items as opposed to principle components analysis which extracts both variance that is unique to variables as well as error variance (Pedhazur and Schmelkin, 1991). Common factor analysis does not imply that the variables are error free and do not have specific variance. In order to improve the interpretation of the factor analysis, an orthogonal rotational method was used. The Varimax solution was chosen as it has proved to be successful as an analytic approach to obtaining an orthogonal rotation of factors. Varimax provides a clear separation of factors and yields a simple factor solution (Hair, Anderson, Tatham, & Black, 1992). After reviewing descriptive data for the sample sub-groups and considering the size of the final sample all subjects were used to determine a factor solution.

After conducting the factor analysis, reliability coefficients were calculated through the computation of Cronbach's alpha to determine the internal consistency reliability of DMSI items within each identified factor.

In order to respond to the second research question and determine if the ratings of knowledge and skill items differed in perceived importance according to provider setting and professional classification, a multivariate analysis of variance was conducted. The two

independent variables used were: (a) professional classification (rehabilitation counselors, business professionals, nurses, etc.), and (b) provider setting (internal, external, insurance based). The dependent variables for this analysis were the mean scores on the individual item factors. The MANOVA was conducted to evaluate both main effects (professional classification and provider setting) and interaction effects (professional classification x provider setting) for each factor. All significant F ratios were followed up by post-hoc comparisons.

In order to address the third research question and determine the degree to which practitioners feel prepared in the knowledge and skill areas as a result of their education and training, descriptive statistics were computed for each knowledge and skill item on the DMSI. Descriptive statistics were computed based on subject responses to the five point Likert-type preparedness scale. Group means and standard deviations were calculated for each item by professional classification and provider setting and displayed in table format. For the purpose of analyzing responses on the preparedness variable, the same factor solution utilized for importance was used for further data analysis on the preparedness variable.

In responding to the fourth research question regarding whether ratings of knowledge and skill items differ in reported preparedness according to provider setting and professional classification, a multivariate analysis of variance was conducted. The two independent variables were: (a) professional classification (rehabilitation counselors, business professionals, nurses, other practitioners, etc.), and (b) type of provider setting (internal, external, insurance based). The dependent variables for this analysis were the mean scores on the individual item factors. The MANOVA was conducted to evaluate both main effects (professional classification and provider setting) and interaction effects (professional classification x provider setting) for each factor. All significant F ratios were followed up by post-hoc comparisons.

Chapter IV

Results

Characteristics of the Sample

Of the 800 DMSI's distributed to practitioners throughout the nation, nine were returned as undeliverable and one was returned as inappropriate for the study as the subject resided in Australia. Of the remaining DMSI's (n=790) distributed, 311 were returned for an overall response rate of 39.4%. This group will be referred to as the total sample. Four sources were used to compose the sampling frame for this study. All four sources consisted of practitioners who were thought to be involved in disability management by virtue of their group membership. While the overall response rate was 39.4%, response rates among the four sample groups were as follows: Work Injury Management, 31.6% (n=62); Disability Management Conference, 48.1% (n=75); Washington Business Group on Health, 31.1% (n=46); and, the Commission on Rehabilitation Counselor Certification, 44.1% (n=128).

The overall response rate obtained in the study was approximately as expected. The response rate for this study closely parallels typical response rates for survey research as first mailings typically yield 30% return rates and subsequent mailings add 10-20% (Babbie, 1979). Heppner, Kivlinghan, and Wampold (1992) state that there is no agreed upon, acceptable return rate for survey research and that survey research is often published with response rates of less than 40%. Response rates for two of the subsample groups, the Disability Management Conference and the Commission on Rehabilitation Counselor Certification were somewhat higher than the other two groups. The higher response rates for these two groups might be explained by the larger number of rehabilitation counselors comprising their membership and that the survey instrument was developed from rehabilitation counseling research. Rehabilitation counseling groups appeared to be more likely to respond as the study represented their concerns and

perspective on disability management. The groups with a lower response rate had more diversity within their professional membership and may have been less likely to respond as the study may not have addressed their perspective on disability management. Further, different participant recruitment strategies were employed for the CRCC group and the Disability Management Conference and this may have also contributed to a higher response rate for these two groups. Subjects from the CRCC group were mailed a questionnaire directly from the Commission on Rehabilitation Counselor Certification and were given three continuing education credits for completing the survey. This incentive may explain the higher response rate for this group. Subjects recruited from the Disability Management Conference were recruited for participation via numerous verbal elicitations. Throughout the duration of the conference announcements were made stressing the need for participation and the value of their responses. The Disability Management Conference group had the highest response rate and may be explained by the frequent verbal pleas and endorsements of conference personnel. The sample is biased based on the higher response rates for groups predominantly comprised of rehabilitation counselors; however, the purpose of this study was to further elucidate the rehabilitation counselor's involvement in disability management.

Provider settings and professional classifications of the total sample.

Respondents were asked to identify their current provider setting in disability management from these options: internal providers, external providers, insurance-based providers, and not currently providing. The distribution of provider setting responses of the 311 individuals responding to the questionnaire were as follows: internal providers, 18.3% (n=57); external providers, 47.6% (n=148); insurance based providers, 12.5% (n=39); and not currently providing, 21.5% (n=67).

There were some problems inherent in the major categorical variable, provider setting. Nine respondents noted that one category alone could not adequately describe the setting of their work and subsequently categorized themselves in two provider-setting categories. Apparently some individuals consider their work as crossing setting lines and find it difficult to identify themselves with only one provider setting, probably reflecting the changing venues of disability management practice today. In order to utilize these responses for the final analysis, these respondent's were re-categorized on the basis of their predominant employment setting. Predominant work setting was inferred from demographic information such as the name of the employing organization, job title, and professional identity. When respondents listed the proportion of time spent in each provider setting, this information was considered as well.

In regard to the professional background of individuals providing disability management, respondents were asked to designate their professional identity by choosing from a list of 12 offered and an "other" category. These included: (a) rehabilitation counselor; (b) human resource manager; (c) social worker; (d) occupational therapist; (e) physician; (f) risk manager; (g) nurse; (h) educator; (i) psychologist; (j) physical therapist; (k) business manager; (l) benefits administrator; and (m) other. For data analysis purposes, these categories were collapsed into six major categories as follows: rehabilitation counselors, business professionals, psychologists and social workers, nurses, physical and occupational therapists, and others. Rehabilitation counselors and nurses maintained individual categories in the sample. Psychologists and social workers were combined for their similar clinical orientation and physical and occupational therapists were combined based on their similar goals of service. Development of the business professionals category was achieved by combining human resource managers, risk managers, business managers, and benefits administrators. Originally, 40 individuals (12.8%) of from the total sample classified themselves as "other", including two physicians

and four educators. Nineteen of these individuals were reclassified into the six merged categories by inferring professional identity from reviewing their demographic data. Upon completion of the re-categorization process, the professional classification of the total sample was as follows: rehabilitation counselors, 59.6% (n=177); business professionals, 7.4% (n=23); psychologists and social workers, 4.4% (n=13); nurses, 10.8% (n=32); physical and occupational therapists, 11.1% (n=33); and "others" 6.4% (n=19). Fourteen respondents did not designate a professional identity.

An interesting finding was made while reviewing demographic data for recategorization of "others" for professional classification. Eleven respondents with master's degrees in rehabilitation counseling or vocational rehabilitation related fields, and with the certified rehabilitation counselor credential, had designated themselves as "others" for professional identity. It appeared that these respondents did not consider themselves rehabilitation counselors but rather wrote in their professional identity as rehabilitation consultants, disability managers, or vocational consultants. These individuals were reclassified as rehabilitation counselors for data analysis purposes but this finding may be important to consider when describing practitioners that provide disability management services. They may describe their professional identity other than rehabilitation counseling and prefer terminology such as consultant or disability manager.

The final sample of 244 individuals represented 78.5% of the total respondents and was used for the major data analyses. A complete summary of the total sample by subsample group and a summary by professional classification is provided in Table 2.

Provider settings and professional classifications of the final sample.

Respondents in the final sample were classified in the three major provider settings as follows: internal providers, 23.4% (n=57), external providers, 60.7% (n=148), and insurance based providers, 16.0% (n=39). The final sample was categorized in

Table 2

Total Sample by Subsample Group and Professional Classification

	WIM		WBGH		CRCC		DM Conf.		Total	
Professional Identity	n	%	n	%	n	%	n	%	n	%
Rehabilitation Counselors	4	7.0%	16	41.0%	108	85.0%	49	66.2%	177	59.6%
Business	2	3.5%	6	15.4%	7	5.5%	8	10.8%	23	7.4%
Psychologists & Social Workers	2	3.5%	2	5.1%	3	2.4%	6	8.1%	13	4.4%
Nurses	9	15.8%	12	30.8%	3	2.4%	8	10.8%	32	10.8%
PT's/OT's	32	51.6%	0	0.0%	0	0.0%	1	1.4%	33	11.1%
Other	8	14.0%	3	7.7%	6	4.7%	2	2.7%	19	6.4%
(Missing)	(5)		(7)		(1)		(1)		(14)	

professional classifications as follows: rehabilitation counselors, 61.6% (n=149); business professionals, 7.4% (n=18); psychologists and social workers, 3.7% (n=9); nurses, 12.4% (n=30); and, physical and occupational therapists, 9.5% (n=23); and "others", 5.4% (n=13). Two respondents did not designate a professional identity and therefore constitute missing data on this variable. The distribution of the final sample by provider setting and professional classification is provided in Table 3, and the distribution of the final sample by subsample group and professional classification is provided in Table 4.

Characteristics of the sampling frame.

The mean age for the final sample was 43.3 and the mean ages for the four subsample groups were as follows: Work Injury Management (WIM), 38.4; Washington Business Group on Health (WBGH), 42.9; Commission on Rehabilitation Counselor Certification (CRCC), 45.2; and, Disability Management Conference (DMC), 43.8. The final sample contained 36.9% (n=90) males and 63.1% (n=154) females. Gender composition of the four subsample groups was as follows: WIM, 38.6% males and 61.4% females; WBGH, 42.9% males and 57.1% females; CRCC, 33.0% males and 67.0% females; and, DMC, 39.0% males and 61.0% females. With regard to work experience, the final sample had a mean of 12.77 years of rehabilitation work experience. The mean years of experience for the four subsample groups were as follows: WIM, 10.43; WBGH, 10.28; CRCC, 14.56; and DMC, 12.59. Regarding certification status, the final sample contained 9.1% (n=22) respondents who held no professional certifications. The proportion of respondents not certified in each of the four subsample groups were as follows: WIM, 18.2%; WBGH, 17.1%; CRCC, 0.0%; and, DMC, 13.8%. With regard to professional classification, 57.4% of the final sample were reported to be rehabilitation counselors with the next highest percentage being nurses (12.4%). With the exception of respondents from WIM, who reported higher proportions of physical therapists (36.4%),

Table 3

Final Sample by Provider Setting and Professional Classification

Professional Identity	Internal (n=57)		External (n=148)		Insurance Based (n=39)	
	n	%	n	%	n	%
Rehabilitation Counselors	23	40.4%	101	69.2%	25	64.1%
Business Professionals	8	14.0%	6	4.1%	4	10.3%
Psychologists & Social Workers	3	5.3%	5	3.4%	1	2.6%
Nurses	13	22.8%	10	6.8%	7	17.9%
Physical & Occ. Therapists	8	14.0%	14	9.6%	1	2.6%
Other Professionals	2	3.5%	10	6.8%	1	2.6%
(Missing)	(0)		(2)		(0)	

Table 4

Final Sample by Subsample Group and Professional Classification

	WIM (n=44)		WBGH (n=35)		CRCC (n=106)		DM CONF. (n=59)		TOTAL	
Professional Identity	n	%	n	%	n	%	n	%	N	%
Rehabilitation Counselors	4	9.1%	15	42.9%	92	87.6%	38	65.5%	149	61.6%
Business Professionals	2	4.5%	6	17.1%	4	3.8%	6	10.3%	18	7.4%
Psychologists & Social Workers	1	2.3%	2	5.7%	2	1.9%	4	6.9%	9	3.7%
Nurses	9	20.5%	11	31.4%	3	2.9%	7	12.1%	30	12.4%
Physical & Occ. Therapists	22	50.0%	0	0.0%	0	0.0%	1	1.7%	23	9.5%
Other Professionals	6	13.6%	1	2.9%	4	3.8%	2	3.4%	13	5.4%
(Missing)	(0)		(0)		(1)		(1)			

nurses (18.2%), and occupational therapists (11.4%),the highest two proportions in each of the other three groups reported to be rehabilitation counselors and nurses, as compared to any other professional groups. Specific proportions were as follows: WBGH, 40.0% rehabilitation counselors and 31.4% nurses; CRCC, 83.8% rehabilitation counselors and 2.9% nurses; and, DMC, 56.9% rehabilitation counselors and 13.8% nurses. With regard to education most respondents reported education at the masters level (65.4%), and the lowest proportion reported education at the associates degree level (5.0%). All four subsample groups reported the highest proportion of their group memberships with education at the masters level. Specific percentages were as follows: WIM, 39.5%; WBGH, 51.4%; CRCC, 84.6%; and, DMC, 58.6%.

Despite some differences in the characteristics of individual subgroups, the four groups were merged for data analysis on the basis of their known involvement in disability management service provision in order to collect responses from rehabilitation counselors and other practitioners currently providing disability management services. The final sample obtained for this study poses some limitations regarding generalizing to the larger population of disability management providers. The final sample may be somewhat biased toward rehabilitation counselors as all individuals comprising the larger population of disability management providers did not have an equal chance of being selected for the study. Rehabilitation counselors comprised more than 50% of the final sample of disability management providers and this may not be indicative of the general population of disability management practitioners. Based on these issues and the overall purpose of this study, findings will be primarily generalized to rehabilitation counselors providing disability management services.

Education.

The educational levels reported by the final sample, were as follows: 21 respondents (8.8%) had doctorates; 157 (65.4%) had masters degrees; 48 (20.0%) had bachelors degrees; 12 (5.0%) had associates degrees; and, 2 respondents (.8%) reported having no degree. A complete summary of respondents' highest degree obtained according to provider setting is provided in Table 5 and according to professional classification in Table 6.

Of the respondents listing their highest degree obtained as an associates degree (n=12), 91.7% were in nursing and 8.3% were in other areas not specified on the demographic questionnaire. Respondents listing their highest degree as a bachelors degree (n=48) reported degrees in the following areas: 16.7% in nursing; 6.3% in psychology; 8.3% in occupational therapy, 14.6% in physical therapy; 2.1% in special education; 8.3% in sociology; 6.3% in education; 2.0% in business; and, 35.4% in other areas not specified on the demographic questionnaire. Respondents listing their highest degree as a masters degree (n=157) reported degrees in the following areas: 52.9% in rehabilitation counseling; 7.0% in vocational rehabilitation related areas; 1.3% in social work; 1.3% in nursing; 14.7% in guidance/counseling; 5.1% in psychology; 1.3% in occupational therapy; 3.8% in physical therapy; .6% in special education; .6% in sociology; 3.2% in education; .6% in business; .6% in human resources; and, 7.0% in other areas not specified on the demographic questionnaire. Respondents listing their highest degree as a doctorate (n=21) reported their degrees in the following areas: 23.8% in rehabilitation counseling; 4.8% in guidance and counseling; 33.3% in psychology; 4.8% in physical therapy; 9.5% in education; 4.8% in human resources; and 19.0% in other areas not specified on the demographic questionnaire.

Table 5

Final Sample Highest Degree Obtained by Provider Setting

	Internal (n=57)		External (n=148)		Insurance Based (n=39)		Final Sample (N=244)*	
Degree Level	n	%	n	%	n	%	N	%
None Reported	0	0.0%	1	.7%	1	2.6%	2	.8%
Associates	4	7.1%	4	2.7%	4	10.5%	12	5.0%
Bachelors	20	35.7%	23	15.8%	5	13.2%	48	20.0%
Masters	28	50.0%	102	69.9%	27	71.1%	157	65.4%
Doctorate	4	7.1%	16	11.0%	1	2.6%	21	8.8%

*missing data for 4 cases on this variable

Table 6

Respondent's Highest Degree Obtained by Professional Classification

	Rehabilitation Counselors (n=149)		Business Professionals (n=18)		Psychologists & Social Workers (n=9)		Nurses (n=30)		Physical & Occ. Therapists (n=23)		"Other" Professionals (n=13)	
Degree Level	n	%	n	%	n	%	n	%	n	%	n	%
None Reported	0	0.0%	1	5.6%	0	0.0%	1	3.4%	0	0.0%	0	0.0%
Associates	1	.70%	0	0.0%	0	0.0%	10	34.5%	1	4.3%	0	0.0%
Bachelors	13	8.8%	8	44.4%		0.0%	12	41.4%	10	43.5%	5	38.5%
Masters	123	83.1%	8	44.4%	5	55.6%	6	20.7%	10	43.5%	5	38.5%
Doctorate	11	7.4%	1	5.6%	4	44.4%	0	0.0%	2	8.7%	3	23.1%

Certification status.

Regarding certification status of the final sample, 22 individuals (9.1%) were not certified and 220 individuals (90.9%) had one or more certifications. Of those respondents who were certified, 151 individuals (61.8%) were Certified Rehabilitation Counselors, 59 (24.1%) were Certified Insurance Rehabilitation Specialists, 8 (3.2%) were Certified Vocational Evaluators, 32 (13.1%) were Registered Nurses, 9 (3.6%) were National Certified Counselors, 54 (22.2%) were Certified Case Managers, 34 (13.9%) were Licensed Professional Counselors, 2 (.8%) were Certified Risk Managers, and 53 (21.7%) held other certifications besides those or along with those listed on the demographic questionnaire. Most frequently listed "other" certifications reported were Licensed Physical Therapist, Registered Physical Therapist, Registered Occupational Therapist, Certified Occupational Health Nurse, Licensed Psychologist, Certified Rehabilitation Registered Nurse, and Registered Social Worker. Respondents were also asked how desirable their credentials were in their present job; 80 individuals (33.3%) felt that certification was mandatory; 130 individuals (54.2%) reported that certification was advantageous for their present job; and 30 individuals (12.5%) felt that certification was not needed for their present job.

Perceived Importance and Preparedness of DMSI Items

In order to examine the perceived importance of knowledge and skill areas associated with disability management practice, respondents were asked to rate the importance of 101 knowledge and skill areas. Respondents rated the items using the following five point Likert-type scale: (0) None: not important at all; (1) Little: minor importance; (2) Moderate: fairly important; (3) High: substantial importance; and (4) Maximal: essential or crucial. A review of the means for the final sample demonstrated that 100 out of 101 items received a mean score of 2.0 or greater indicating that almost all

of the items were perceived to be of moderate or greater importance. The one item on the DMSI with a mean score below 2.0 was "describe Social Security regulations and procedures regarding disability determination and benefits". Furthermore, 38 out of 101 items received a mean score of 3.0 or greater indicating that approximately 40% of the items were perceived to be highly important. A complete summary of means and standard deviations for the final sample on importance items is provided in Table 7.

In order to determine the reported preparedness of respondents in knowledge and skill areas associated with disability management practice, respondents were asked to rate their preparedness on the 101 DMSI items. Respondents rated the degree to which they felt prepared as a result of their education and training using the following five point Likert-type scale: (0) No preparation; (1) Little preparation; (2) Moderately prepared; (3) Highly prepared; (4) Very highly prepared. A review of the means for the final sample demonstrated that 85 of 101 items received a mean score of 2.0 or greater indicating that respondents felt at least moderately prepared in approximately 85% of the knowledge and skill areas associated with disability management.

Only 9 of 101 items received a total mean score of 3.0 or greater, indicating that respondents felt highly prepared as a result of their education and training on a small number (9%)of the knowledge and skills items associated with disability management practice. Most of these items with an overall mean at or above the 3.0 level appeared to be characteristic of a professional, ethical relationship with workers and other professionals are listed below:

1. Abide by ethical and legal considerations of case communication and recording.
2. Write case notes, summaries and reports so that others can understand the case.
6. Assess medical information, job restrictions and job requirements to determine modified duty to facilitate return to work.

Table 7

Means and Standard Deviations for the Final Sample on Importance

		M	SD
Imp 1	Abide by ethical and legal considerations of case communication and recording	3.64	.62
Imp 2	Write case notes, summaries and reports so that others can understand the case	3.50	.66
Imp 3	Recognize psychological problems requiring consultation for referral	3.02	.91
Imp 4	Interpret to disabled workers their diagnostic information	3.05	1.02
Imp 5	Develop and integrate disability management policy consistent with the Family Medical Leave Act and the Americans with Disabilities Act	2.76	1.11
Imp 6	Assess medical information, job restrictions and job requirements to determine modified duty to facilitate return to work	3.63	.72
Imp 7	Employ counseling techniques to facilitate the disabled worker's self-exploration	2.82	1.01
Imp 8	Use assessment information to provide disabled workers with insights into personal dynamics	2.51	1.05
Imp 9	Use labor market information to assist the disabled worker in locating and obtaining suitable employment	2.68	1.26

Table 7 (Cont'd).

		M	SD
Imp 10	Describe Social Security regulations and procedures regarding disability determination and benefits	1.89	1.23
Imp 11	Understand insurance claims processing and professional responsibilities in workers' compensation and other internal benefit programs	3.07	1.03
Imp 12	Prepare and present cases for mediation	2.00	1.30
Imp 13	Coordinate the activities of all parties involved in the return-to-work plan	3.54	.75
Imp 14	Monitor the medical management of a case to determine if the disabled worker is receiving appropriate treatment and if treatment is helping in recovery	3.06	1.10
Imp 15	Address the psycho-social impact of illness and injury to mitigate barriers to return to work and to further refer if necessary	3.15	.89
Imp 16	Identify social, economic and environmental forces that may adversely affect a disabled worker's motivation toward return to work	3.24	.88
Imp 17	Market disability management services to business and industry	2.50	1.31
Imp 18	Review injury and disability data with the company safety personnel to develop strategies for prevention	2.33	1.36

Table 7 (Cont'd).

		M	SD
Imp 19	Recommend modifications of job tasks to accomodate a disabled worker's functional limitations	3.29	.86
Imp 20	Analyze the physical work environment, employer recruitment practices and hiring procedures to determine conformance with ADA requirements	2.34	1.36
Imp 21	Develop and manage transitional work programs	2.27	1.45
Imp 22	Develop and maintain a system for program evaluation and documenting outcomes	2.64	1.34
Imp 23	Assess the significance of workers' disabilities in consideration of medical, psychological, educational and familial status	3.06	.95
Imp 24	Develop a therapeutic relationship characterized by empathy and positive regard for the disabled worker	3.24	.90
Imp 25	Interview the disabled worker to verify the accuracy of case information	3.39	.89
Imp 26	Identify educational and training requirements for specific jobs	2.96	1.09
Imp 27	Match the disabled worker's needs with job reinforcers and their aptitudes with job requirements	2.89	1.17

Table 7 (Cont'd).

		M	SD
Imp 28	Identify transferable work skills by analyzing work history, functional capacities and limitations	3.15	1.14
Imp 29	Provide information in order to assist disabled workers to answer other individuals' questions about their disabilities	2.61	1.24
Imp 30	Use local resources toassist with external job placements	2.67	1.24
Imp 31	Possess knowledge of workers' compensation laws, compensable injuries, and employer disability benefit systems	3.43	.82
Imp 32	Understand the applications of current legislation affecting the employment of individuals with disabilities	3.18	.92
Imp 33	Read professional literature	2.96	.86
Imp 34	Monitor the medical management of a case to determine if the disabled worker is satisfied with treatment	2.66	1.18
Imp 35	Assure regular contact with disabled workers who are experiencing lost work time	2.97	1.23
Imp 36	Respond to employer's biases and concerns regarding employing persons with disabilities	3.07	1.07

Table 7 (Cont'd).

		M	SD
Imp 37	Prepare supervisors and managers to be informed participants in the prevention and management of disability in the workplace	2.83	1.26
Imp 38	Promote ergonomic analysis of tasks and work stations and advocate the use of ergonomic interventions	2.87	1.12
Imp 39	Utilize occupational information materials such as the DOT, OOH and other publications	2.77	1.17
Imp 40	Facilitate the involvement with mental health and substance abuse service providers and incorporate these services into the return-to-work plan when necessary	2.56	1.12
Imp 41	Establish a data gathering and information management system to monitor disability trends within the employer organization	2.28	1.39
Imp 42	Prepare rehabilitation plans with disabled workers that consist of mutually agreed upon interventions and outcomes	3.33	1.01
Imp 43	Identify and comply with ethical and legal implications of client relationships	3.60	.78
Imp 44	Adjust counseling approaches or styles according to the disabled worker's cognitive and personality characteristics	3.19	1.02

Table 7 (Cont'd).

		M	SD
Imp 45	Document all significant findings specific to the disabled worker which are sufficient for records and/or legal testimony	3.04	1.15
Imp 46	Select evaluation instruments and techniques according to their appropriateness and usefulness for a disabled worker	2.78	1.24
Imp 47	Counsel with disabled workers regarding educational and vocational implications of test and interview information	2.78	1.29
Imp 48	Evaluate the disabled worker's social support system	2.81	1.02
Imp 49	Possess knowledge of employer and labor union policies and regulations relating to safety, disability and return to work	2.91	1.03
Imp 50	Consult with medical professionals regarding functional capacities, prognosis and treatment plans for workers with injuries or illnesses	3.53	.75
Imp 51	Identify stereotypic views toward persons with disabilities and provide education/training to company personnel to eliminate such stereotypes	2.55	1.13
Imp 52	Coordinate a team approach to injury management by involving internal company personnel, union representatives and external service providers	2.95	1.25

Table 7 (Cont'd).

		M	SD
Imp 53	Facilitate communication between physicians and disabled workers to assure accurate information is transpired that facilitates recovery and return to work	3.17	1.08
Imp 54	Educate clients regarding their rights under federal and state laws	2.54	1.14
Imp 55	Teach workers how to avoid injury and illness	2.50	1.37
Imp 56	Explain the concepts and strategies of disability management to employers	2.74	1.19
Imp 57	Analyze the task of a job utilizing standare DOL or other methods	2.59	1.32
Imp 58	Facilitate communication and cooperation across departments within the company to bring employees back to work	2.98	1.22
Imp 59	Use company disability data to identify problem areas, causative factors and potentially costly cases	2.51	1.43
Imp 60	Respond to new trends in disability management	2.59	1.26
Imp 61	Compile and interpret case information to maintain a current record	3.27	.82
Imp 62	Confront disabled workers with observations about inconsistencies between their goals and their behavior	3.19	.95

Table 7 (Cont'd).

		M	SD
Imp 63	Recommend occupational and/or educational materials for disabled workers to explore vocational alternatives	2.75	1.16
Imp 64	Determine appropriate community services for the disabled worker's stated needs	2.68	1.15
Imp 65	Assist disabled workers in modifying their lifestyles to accomodate functional limitations	2.58	1.16
Imp 66	Assess a disabled worker's ability to perform independent living tasks	2.17	1.34
Imp 67	Possess basic knowledge of organizational behavior, business operations, and management strategies	2.79	1.11
Imp 68	Apply published research results to professional practice	2.21	1.20
Imp 69	State clearly the nature of the disabled worker's problems for referral to outside service providers	3.01	1.09
Imp 70	Apply the principles of disability-related legislation to daily practice	2.86	1.10
Imp 71	Provide an internal case management system that coordinates and monitors activities with health care providers, insurance carriers and other outside participants	3.04	1.26
Imp 72	Provide follow-up to supervisors and employees after return to work to ensure that work duties are being performed within restrictions	3.12	1.07

Table 7 (Cont'd).

		M	SD
Imp 73	Provide information regarding the services you provide to persons with disabilities and employers	3.21	.95
Imp 74	Provide orientation and training on ADA requirements to ensure implementation and employer compliance with regulations	2.37	1.31
Imp 75	Negotiate with employers and labor union representatives in order to reinstate/hire a disabled worker	2.58	1.29
Imp 76	Apply knowledge of individual assistive devices and ergonomics and how they impact on job modification	2.82	1.06
Imp 77	Recommend and implement modifications to existing jobs or job duties to accomodate worker restrictions	3.19	.97
Imp 78	Develop and use criteria for the selection and evaluation of external service providers	2.48	1.20
Imp 79	Clarify for the disabled worker mutual expectations and the nature of the counseling relationship	2.93	1.13
Imp 80	Counsel disabled workers to help them appreciate and emphasize their personal assets	2.89	1.12

Table 7 (Cont'd).

		M	SD
Imp 81	Counsel with disabled workers regarding desirable work behaviors to help them improve and maintain employability	3.05	1.06
Imp 82	Review medical information to determine the disabled worker's functional limitations and their vocational implications	3.50	.77
Imp 83	Counsel with disabled workers to identify emotional reactions to disability	2.92	1.02
Imp 84	Assist disabled workers in understanding stress and in utilizing mechanisms for coping	2.75	1.03
Imp 85	Apply psychological and social theory to develop strategies for rehabilitation intervention	2.51	1.12
Imp 86	Counsel with a disabled worker's family to provide information and support positive coping behaviors	2.27	1.23
Imp 87	Possess knowledge of the company served, including the jobs performed and the corporate culture	3.17	.93
Imp 88	Conduct a review of the rehabilitation , medical or workers' compensation literature on a given topic or case problem	2.45	1.22
Imp 89	Refer disabled workers to appropriate specialists for special services	3.01	1.11

Table 7 (Cont'd).

		M	SD
Imp 90	Develop effective strategies for identifying work-related problems and risk factors which may lead to long-term disability cases	2.78	1.26
Imp 91	Utilize a systematic process designed to meet the needs of disabled employees for the purpose of bringing them back to work	3.19	1.04
Imp 92	Interpret the organization's policies and regulations to persons with disabilities and employers	2.65	1.23
Imp 93	Develop cooperative relationships with physicians who serve company employees by educating them about the company's job and its capabilities to accommodate return to work	2.92	1.32
Imp 94	Consult with company supervisors and management regarding accessibility and affirmative action issues	2.41	1.29
Imp 95	Develop and implement return-to-work strategies for employees off work due to illness or injury	3.26	1.12
Imp 96	Identify essential job elements by analyzing job tasks and physical demands	3.20	1.09

Table 7 (Cont'd).

		M	SD
Imp 97	Identify the current costs of disability problems in the company and demonstrate to top management how costs can be reduced by solving these problems	2.66	1.44
Imp 98	Instruct disabled workers in methods of systematic job search activities	2.72	1.37
Imp 99	Monitor the disabled worker's progress using goal-attainment or other rating systems	2.63	1.22
Imp 100	Develop mechanisms for labor and management cooperation in disability management	2.26	1.40
Imp 101	Analyze benefit plans to ensure that they support the goals of disability management and return to work	2.39	1.42

24. Develop a therapeutic relationship characterized by empathy and positive regard for the disabled worker

25. Interview the disabled worker to verify the accuracy of case information.

42. Prepare rehabilitation plans with disabled workers that consist of mutually agreed upon interventions and outcomes.

43. Identify and comply with ethical and legal implications of client relationships.

50. Consult with medical professionals regarding functional capacities, prognosis and treatment plans for workers with injuries or illnesses.

82. Review medical information to determine the disabled worker's functional limitations and their vocational implications.

A complete summary of means and standard deviations for the final sample on preparedness is listed in Table 8. For a complete summary of means and standard deviations on importance and preparedness according to professional classification and provider setting see Appendices I and J respectively.

Factor Analysis

In order to allow for parsimonious analysis and interpretation of the data, the 101 items on the DMSI were subjected to factor analysis. All responses from the final sample (N=244) on importance were used for the factor analysis. Respondent's ratings of perceived importance on the 101 knowledge and skill items were used to derive the factor structure which was then imposed on ratings of preparedness. The individual scores of the importance items were first intercorrelated using the product-moment method. The matrix of intercorrelations were factored using common factor analysis. Common factor analysis is aimed at explaining the variance shared by the items and the principal diagonal of the correlation matrix consists of estimates of the variance accounted for by the common factor (Pedhazur & Schmelkin, 1991). Common factor analysis yields more accurate

Table 8

Means and Standard Deviations for the Final Sample on Preparedness

		M	SD
Prep 1	Abide by ethical and legal considerations of case communication and recording	3.10	.93
Prep 2	Write case notes, summaries and reports so that others can understand the case	3.02	.96
Prep 3	Recognize psychological problems requiring consultation for referral	2.66	.94
Prep 4	Interpret to disabled workers their diagnostic information	2.91	1.01
Prep 5	Develop and integrate disability management policy consistent with the Family Medical Leave Act and the Americans with Disabilities Act	1.92	1.17
Prep 6	Assess medical information, job restrictions and job requirements to determine modified duty to facilitate return to work	3.12	1.30
Prep 7	Employ counseling techniques to facilitate the disabled worker's self-exploration	2.86	1.10
Prep 8	Use assessment information to provide disabled workers with insights into personal dynamics	2.46	1.12
Prep 9	Use labor market information to assist the disabled worker in locating and obtaining suitable employment	2.42	1.38

Table 8 (Cont'd).

		M	SD
Prep 10	Describe Social Security regulations and procedures regarding disability determination and benefits	1.39	1.16
Prep 11	Understand insurance claims processing and professional responsibilities in workers' compensation and other internal benefit programs	2.26	1.34
Prep 12	Prepare and present cases for mediation	1.56	1.40
Prep 13	Coordinate the activities of all parties involved in the return-to-work plan	2.93	1.16
Prep 14	Monitor the medical management of a case to determine if the disabled worker is receiving appropriate treatment and if treatment is helping in recovery	2.57	1.12
Prep 15	Address the psycho-social impact of illness and injury to mitigate barriers to return to work and to further refer if necessary	2.72	1.05
Prep 16	Identify social, economic and environmental forces that may adversely affect a disabled worker's motivation toward return to work	2.85	1.02
Prep 17	Market disability management services to business and industry	1.73	1.33
Prep 18	Review injury and disability data with the company safety personnel to develop strategies for prevention	1.77	1.34

Table 8 (Cont'd).

		M	SD
Prep19	Recommend modifications of job tasks to accomodate a disabled worker's functional limitations	2.65	1.11
Prep 20	Analyze the physical work environment, employer recruitment practices and hiring procedures to determine conformance with ADA requirements	1.99	1.32
Prep 21	Develop and manage transitional work programs	1.81	1.32
Prep 22	Develop and maintain a system for program evaluation and documenting outcomes	1.92	1.30
Prep 23	Assess the significance of workers' disabilities in consideration of medical, psychological, educational and familial status	2.83	1.02
Prep 24	Develop a therapeutic relationship characterized by empathy and positive regard for the disabled worker	3.36	.87
Prep 25	Interview the disabled worker to verify the accuracy of case information	3.33	.92
Prep 26	Identify educational and training requirements for specific jobs	2.85	1.20
Prep 27	Match the disabled worker's needs with job reinforcers and their aptitudes with job requirements	2.72	1.19

Table 8 (Cont'd).

		M	SD
Prep 28	Identify transferable work skills by analyzing work history, functional capacities and limitations	2.80	1.23
Prep 29	Provide information in order to assist disabled workers to answer other individuals' questions about their disabilities	2.60	1.25
Prep 30	Use local resources toassist with external job placements	2.52	1.28
Prep 31	Possess knowledge of workers' compensation laws, compensable injuries, and employer disability benefit systems	2.59	1.25
Prep 32	Understand the applications of current legislation affecting the employment of individuals with disabilities	2.40	1.19
Prep 33	Read professional literature	2.72	.92
Prep 34	Monitor the medical management of a case to determine if the disabled worker is satisfied with treatment	2.45	1.15
Prep 35	Assure regular contact with disabled workers who are experiencing lost work time	2.68	1.26
Prep 36	Respond to employer's biases and concerns regarding employing persons with disabilities	2.69	1.21

Table 8 (Cont'd).

		M	SD
Prep 37	Prepare supervisors and managers to be informed participants in the prevention and management of disability in the workplace	2.35	1.26
Prep 38	Promote ergonomic analysis of tasks and work stations and advocate the use of ergonomic interventions	2.04	1.28
Prep 39	Utilize occupational information materials such as the DOT, OOH and other publications	2.89	1.21
Prep 40	Facilitate the involvement with mental health and substance abuse service providers and incorporate these services into the return-to-work plan when necessary	2.41	1.11
Prep 41	Establish a data gathering and information management system to monitor disability trends within the employer organization	1.56	1.24
Prep 42	Prepare rehabilitation plans with disabled workers that consist of mutually agreed upon interventions and outcomes	3.05	1.12
Prep 43	Identify and comply with ethical and legal implications of client relationships	3.32	.92
Prep 44	Adjust counseling approaches or styles according to the disabled worker's cognitive and personality characteristics	2.98	1.06

Table 8 (Cont'd).

		M	SD
Prep 45	Document all significant findings specific to the disabled worker which are sufficient for records and/or legal testimony	2.71	1.26
Prep 46	Select evaluation instruments and techniques according to their appropriateness and usefulness for a disabled worker	2.66	1.25
Prep 47	Counsel with disabled workers regarding educational and vocationsl implications of test and interview information	2.67	1.38
Prep 48	Evaluate the disabled worker's social support system	2.82	1.04
Prep 49	Possess knowledge of employer and labor union policies and regulations relating to safety, disability and return to work	2.15	1.13
Prep 50	Consult with medical professionals regarding functional capacities, prognosis and treatment plans for workers with injuries or illnesses	3.10	.98
Prep 51	Identify stereotypic views toward persons with disabilities and provide education/training to company personnel to eliminate such stereotypes	2.38	1.16
Prep 52	Coordinate a team approach to injury management by involving internal company personnel, union representatives and external service providers	2.38	1.27

Table 8 (Cont'd).

		M	SD
Prep 53	Facilitate communication between physicians and disabled workers to assure accurate information is transpired that facilitates recovery and return to work	2.73	1.14
Prep 54	Educate clients regarding their rights under federal and state laws	2.30	1.19
Prep 55	Teach workers how to avoid injury and illness	2.14	1.30
Prep 56	Explain the concepts and strategies of disability management to employers	2.21	1.25
Prep 57	Analyze the task of a job utilizing standare DOL or other methods	2.41	1.40
Prep 58	Facilitate communication and cooperation across departments within the company to bring employees back to work	2.39	1.24
Prep 59	Use company disability data to identify problem areas, causative factors and potentially costly cases	1.79	1.35
Prep 60	Respond to new trends in disability management	1.64	1.31
Prep 61	Compile and interpret case information to maintain a current record	2.99	1.05
Prep 62	Confront disabled workers with observations about inconsistencies between their goals and their behavior	2.96	1.02

Table 8 (Cont'd).

		M	SD
Prep 63	Recommend occupational and/or educational materials for disabled workers to explore vocational alternatives	2.73	1.23
Prep 64	Determine appropriate community services for the disabled worker's stated needs	2.59	1.09
Prep 65	Assist disabled workers in modifying their lifestyles to accomodate functional limitations	2.52	1.09
Prep 66	Assess a disabled worker's ability to perform independent living tasks	2.23	1.25
Prep 67	Possess basic knowledge of organizational behavior, business operations, and management strategies	2.31	1.24
Prep 68	Apply published research results to professional practice	2.24	1.17
Prep 69	State clearly the nature of the disabled worker's problems for referral to outside service providers	2.93	1.06
Prep 70	Apply the principles of disability-related legislation to daily practice	2.34	1.20
Prep 71	Provide an internal case management system that coordinates and monitors activities with health care providers, insurance carriers and other outside participants	2.44	1.33
Prep 72	Provide follow-up to supervisors and employees after return to work to ensure that work duties are being performed within restrictions	2.77	1.21

Table 8 (Cont'd).

		M	SD
Prep 73	Provide information regarding the services you provide to persons with disabilities and employers	2.88	1.09
Prep 74	Provide orientation and training on ADA requirements to ensure implementation and employer compliance with regulations	2.06	1.35
Prep 75	Negotiate with employers and labor union representatives in order to reinstate/hire a disabled worker	1.89	1.28
Prep 76	Apply knowledge of individual assistive devices and ergonomics and how they impact on job modification	2.15	1.14
Prep 77	Recommend and implement modifications to existing jobs or job duties to accomodate worker restrictions	2.58	1.10
Prep 78	Develop and use criteria for the selection and evaluation of external service providers	2.12	1.21
Prep 79	Clarify for the disabled worker mutual expectations and the nature of the counseling relationship	2.88	1.12
Prep 80	Counsel disabled workers to help them appreciate and emphasize their personal assets	2.89	1.13

Table 8 (Cont'd).

		M	SD
Prep 81	Counsel with disabled workers regarding desirable work behaviors to help them improve and maintain employability	2.91	1.10
Prep 82	Review medical information to determine the disabled worker's functional limitations and their vocational implications	3.19	.98
Prep 83	Counsel with disabled workers to identify emotional reactions to disability	2.84	1.05
Prep 84	Assist disabled workers in understanding stress and in utilizing mechanisms for coping	2.72	1.00
Prep 85	Apply psychological and social theory to develop strategies for rehabilitation intervention	2.55	1.11
Prep 86	Counsel with a disabled worker's family to provide information and support positive coping behaviors	2.43	1.17
Prep 87	Possess knowledge of the company served, including the jobs performed and the corporate culture	2.49	1.13
Prep 88	Conduct a review of the rehabilitation , medical or workers' compensation literature on a given topic or case problem	2.51	1.18
Prep 89	Refer disabled workers to appropriate specialists for special services	2.80	1.07

Table 8 (Cont'd).

		M	SD
Prep 90	Develop effective strategies for identifying work-related problems and risk factors which may lead to long-term disability cases	2.24	1.25
Prep 91	Utilize a systematic process designed to meet the needs of disabled employees for the purpose of bringing them back to work	2.58	1.15
Prep 92	Interpret the organization's policies and regulations to persons with disabilities and employers	2.18	1.18
Prep 93	Develop cooperative relationships with physicians who serve company employees by educating them about the company's job and its capabilities to accommodate return to work	2.37	1.26
Prep 94	Consult with company supervisors and management regarding accessibility and affirmative action issues	1.95	1.23
Prep 95	Develop and implement return-to-work strategies for employees off work due to illness or injury	2.67	1.26
Prep 96	Identify essential job elements by analyzing job tasks and physical demands	2.79	1.23

Table 8 (Cont'd).

		M	SD
Prep 97	Identify the current costs of disability problems in the company and demonstrate to top management how costs can be reduced by solving these problems	1.83	1.32
Prep 98	Instruct disabled workers in methods of systematic job search activities	2.60	1.36
Prep 99	Monitor the disabled worker's progress using goal-attainment or other rating systems	2.31	1.25
Prep 100	Develop mechanisms for labor and management cooperation in disability management	1.56	1.26
Prep 101	Analyze benefit plans to ensure that they support the goals of disability management and return to work	1.63	1.33

estimates of communality and techniques are strongly preferred for most research applications that are attempting to understand a domain of phenomena in terms of a smaller number of underlying, latent variables (Floyd & Widamen, 1995). Based on this rationale, common factor analysis techniques were deemed appropriate and used for this study.

Prior to factor analyzing the DMSI items, participants were randomly assigned into two groups. The first group was used as the derivation sample and the second group served as the cross-validation sample. Factor analyses utilizing the maximum-likelihood method were then computed on the derivation and the cross-validation sample. Initially, an eigenvalue of greater than one was used as the cutoff for the determination of factors. This method yielded 20 factors and most proved to be inconsistent across the cross-validation and derivation samples. Further analyses and examination of the loadings narrowed the number of desired factors to three. Other numbers of factors were examined, but more than three factors gave inconsistent results across the derivation and cross-validation samples. In addition, after a Varimax rotation, an analysis of the created factors demonstrated three distinct knowledge and skill areas. A re-derivation of a three factor system based on the whole final sample accounted for 46.6% of the total variance. Examination of the items loading highest on each of the three factors suggested that the results were substantively justified. Items loading high on Factor One were characteristic of fundamentals of disability management, items loading high on Factor Two were typical vocational rehabilitation knowledge and skill areas, and items loading high on Factor Three were characteristic of facilitative counseling and advocacy. The stability of the factor structure is not known based on the low respondent to item ratio utilized in the factor analysis. Further, the factor structure may have been compromised by grouping all respondents from various professional classifications into one group to derive the factor

structure. There were approximately two respondents to every DMSI item, the lowest acceptable ratio for factor analysis techniques.

For subsequent data analysis, three subscales were created based on these collections of items. Initially, a factor loading criterion of .40 or higher was used; however, a secondary criterion for DMSI items with overall means of 2.5 or greater and factor loadings of .30 or greater were included into the factor structure so that items rated as highly important would not be omitted. Five items were added using this secondary criterion (Items #1 and 43 were added to Factor Three and Items # 6, 32, and 73 were added to Factor One). Two of these items (#1 and #43) were characteristic of maintaining professional ethical standards with individual clients and were rated as highly important by all provider setting and professional classification groups in the sample. If an item loaded higher than .40 on two or more factors, it was included in the factor with the highest loading. The following seven items did not meet any of these criteria and were deleted from further analyses:

2. Write case notes, summaries and reports so that others can understand the case.
10. Describe Social Security regulations and procedures regarding disability determination and benefits.
12. Prepare and present cases for mediation.
33. Read professional literature.
68. Apply published research results to professional practice.
70. Apply principles of disability related legislation to daily practice.
78. Develop and use criteria for the selection and evaluation of external service providers.

Computation of Cronbach's alpha revealed high internal consistency reliability coefficients for the three identified factors. Reliability coefficients were .97 for Importance Factor One, .96 for Importance Factor Two, .94 for Importance Factor Three. Chronbach's alpha was also computed on the three factors using preparedness data.

Reliability coefficients were .98 for Preparedness Factor One, .97 for Preparedness Factor Two, and .94 for Preparedness Factor Three.

Factor One: Fundamentals of Disability Management.

Factor One was labeled Fundamentals of Disability Management. This factor accounted for 30.5% of the total variance and consisted of 44 items. This factor identified employer-based strategies aimed at minimizing work place injury/disability and developing mechanisms for returning injured/disabled workers to the workplace. Using DMSI items loading highest on Factor One, specific competency areas were identified. Examples of specific competency areas describing Fundamentals of Disability Management were as follows: (a) developing, analyzing and using data to identify risks and promote injury and disability prevention; (b) facilitating a team approach and coordinating all parties for return to work; (c) understanding labor union issues regarding disability management and facilitating labor and management cooperation; (d) training and educating supervisors, managers and employees to prepare them for their roles in the disability management process and to facilitate attitudes compatible with a return to work philosophy; (e) developing and managing return-to-work programs and implementing return-to-work solutions; (f) modifying jobs and implementing ergonomic solutions for return to work; (g) consulting regarding disability legal compliance; and (h) developing programs and managing systems for program evaluation. The items and factor loadings for Factor One are listed in Table 9.

Factor Two: Elements of Vocational Rehabilitation.

Factor Two was labeled Elements of Vocational Rehabilitation. This factor accounted for 11.9% of the variance and consisted of 28 items. This factor identified many of the elements characteristic of career counseling, assessment, and job placement as

Table 9

Items in Factor One: Fundamentals of Disability Management

Item #	Item Description:	Load
5	Develop & integrate disability management policy consistent with the Family Medical Leave Act & the ADA	.59
6	Assess medical information, job restrictions and job requirements to determine modified duty to facilitate RTW	.37
11	Understand insurance claims processing & professional responsibilities in WC	.47
13	Coordinate the activities of all parties involved in the RTW plan	.43
17	Market DM services to businesses & organizations	.44
18	Review injury and disability data with company safety personnel to dev. prevention strategies	.72
19	Recommend modifications of job tasks to accomodate disabled workers functional limitations	.57
20	Analyze the physical work environment, employer recruitment practices and hiring procedures to determine conformance with ADA requirements	.66
21	Develop and manage transitional work programs	.63
22	Develop and maintain a system for program evaluation and documenting outcomes	.66
31	Possess knowledge of WC laws, compensable injuries, and employer disability benefit systems	.47
32	Understand the applications of current legislation affecting the employment of individuals with disabilities	.33
35	Assure regular contact with disabled workers who are experiencing lost work time	.49
36	Respond to employer's biases and concerns regarding employing persons with disabilities	.59
37	Prepare supervisors and managers to be informed participants in the prevention & management of disability in the workplace	.75
38	Promote ergonomic analysis of tasks and work stations and advocate the use of ergonomic interventions	.71
41	Establish a data gathering & information management system to monitor disability trends within the employer organization	.71
49	Possess knowledge of employer and labor union policies and regulations relating to safety, disability and RTW	.68
51	Identify stereotypic views toward persons with disabilities and provide education/training to company personnel to eliminate such stereotypes	.57

Table 9 (Cont'd).

Item #	Item Description:	Load
52	Coordinate a team approach to injury management by involving internal company personnel, union reps & external service providers	.57
55	Teach workers how to avoid injury and illness	.50
56	Explain the concepts and strategies of DM to employers	.80
58	Facilitate communication and cooperation across departments within the company to bring employees back to work	.80
59	Use company disability data to identify problem areas, causative factors and potentially costly cases	.80
60	Respond to new trends in DM	.71
67	Possess basic knowledge of organizational behavior, business operations and management strategies	.59
71	Provide an internal case management system that coordinates and monitors activities with health care providers, insurance carriers and other outside participants	.44
72	Provide follow-up to supervisors & employees after RTW to ensure that work duties are being performed within restrictions	.53
73	Provide information regarding the services you provide to persons with disabilities	.38
74	Provide orientation & training on ADA requirements to ensure implementation and employer compliance with regulations	.61
75	Negotiate with employers & labor union reps in order to reinstate/hire a disabled worker	.47
76	Apply knowledge of individual assistive devices & ergonomics & how they impact on job modification	.54
77	Recommend and implement modifications to existing jobs or job duties to accomodate worker restrictions	.57
87	Possess knowlege of the company served, including the jobs performed & the corporate culture	.55
88	Conduct a review of the rehabilitation, medical, or WC literature on a given topic or case problem	.46
90	Develop effective strategies for identifying work-related problems and risk factors which may lead to long-term disability cases	.63
91	Utilize a systematic process designed to meet the needs of disabled employees for the purpose of bringing them back to work	.53

Table 9 (Cont'd).

Item #	Item Description:	Load
92	Interpret the organization's policies and regulations to persons with disabilities and employers	.67
93	Develop cooperative relationships with physicians who serve company employees by educating them about the company's jobs and its capabilities to accomodate RTW	.77
94	Consult with company supervisors and management regarding accessibility and affirmative action issues	.70
95	Develop and implement RTW strategies for employees off work due to illness and injury	.69
97	Identify the current costs of disability problems in the company and demonstrate to top management how costs can be reduced by solving these problems	.80
100	Develop mechanisms for labor & management cooperation in DM	.73
101	Analyze benefit plans to ensure that they support the goals of DM & RTW	.72

they relate to persons with disabilities. Using DMSI items loading highest on Factor Two, specific competency areas were identified. Examples of specific competency areas describing Elements of Vocational Rehabilitation were as follows: (a) identifying transferable work skills and matching workers with jobs; (b) using local resources to assist in job placement; (c) interpreting and counseling workers in consideration of assessment results; (d) conducting job analyses; (e) instructing workers in systematic job search skills; (f) selecting and utilizing appropriate evaluation instruments; and (g) using labor market information to assist with job placement. The items and factor loadings for Factor Two are listed in Table 10.

Factor Three: Elements of Facilitative Counseling and Advocacy.

Factor Three was labeled Elements of Facilitative Counseling and Advocacy. This factor accounted for 4.1% of the total variance and consisted of 22 items. This factor identified adjustment counseling and advocacy functions that supported disability management efforts. Using DMSI items loading highest on Factor Three, specific competency areas were identified. Examples of specific competency areas describing Elements of Facilitative Counseling and Advocacy were as follows: (a) facilitating communication between workers and other parties involved in the return-to-work plan; (b) monitoring the medical management of cases; (c) initiating and coordinating communication between medical providers, other specialists, workers with disabilities, and company personnel; (d) developing a therapeutic relationship; and (e) providing counseling services to workers in order to facilitate timely and appropriate return to employment. The items and factor loadings for Factor Three are listed in Table 11.

Table 10

Items in FactorTwo: Elements of Vocational Rehabilitation

Item #	Item Description	Load
4	Interpret to disabled workers their diagnostic information	.48
7	Employ counseling techniques to facilitate the disabled worker's self exploration	.55
9	Use labor market information to assist the disabled worker in locating and obtaining suitable employment	.78
23	Asses the significance of workers disabilities in consideration of medical, psychological, educational and familial status	.44
25	Interview the disabled worker to verify the accuracy of case information	.44
26	Identify educational and training requirements for specific jobs	.78
27	Match the disabled worker's needs with job reinforcers and their aptitudes with job requirements	.79
28	Identify transferable work skills by analyzing work history, functional capacities and limitations	.83
29	Provide information in order to assist disabled workers to answer other individuals questions about their disabilities	.66
30	Use local resources to assist with external placement	.72
39	Utilize occupational information materials such as the DOT, OOH and other publications	.61
42	Prepare rehabilitation plans with disabled workers that consist of mutually agreed upon interventions and outcomes	.60
45	Document all significant vocational findings specific to the disabled worker which are sufficient for records and/or legal testimony	.64
46	Select evaluation instruments and techniques according to their appropriateness and usefulness for a disabled worker	.62
47	Counsel with disabled workers regarding educational and vocational implications of test and interview information	.80
54	Educate clients regarding their rights under federal and state laws	.42
57	Analyze the tasks of a job utilizing standard DOL or other methods	.51
61	Compile and interpret case information to maintain a current record	.43
62	Confront disabled workers with observations about inconsistencies between their goals and their behavior	.50
63	Recommend occupational and/or educational materials for disabled workers to explore vocational alternatives	.82
64	Determine appropriate community services for the disabled worker's stated needs	.56

Table 10 (Cont'd).

Item #	Item Description	Load
79	Clarify for the disabled worker mutual expectations and the nature of the counseling relationship	.65
80	Counsel disabled workers to help them appreciate and emphasize their personal assets	.74
81	Counsel with disabled workers regarding desirable work behaviors to help them improve and maintain employability	.72
82	Review medical information todetermine the disabled workers functional limitations and their vocational implications	.53
96	Identify essential job elements by analyzing job tasks and physical demands	.43
98	Instruct disabled workers in methods of systematic job search skills	.89
99	Monitor the disabled worker's progress using goal-attainment or other rating systems	.62

Table 11

Items in Factor Three: Elements of Facilitative Counseling and Advocacy

Item #	Item Description:	Load
1	Abide by ethical and legal considerations of case communication and recording	.34
3	Recognize psychological problems requiring consultation for referral	.58
8	Use assessment information to provide disabled workers with insights into personal dynamics	.47
14	Monitor the medical management of a case to determine if the disabled worker is receiving appropriate treatment and if treatment is helping in recovery	.51
15	Address the psychosocial impact of illness and injury to mitigate barriers to RTW and to refer for further intervention if necessary	.54
16	Identify social, economic and environmental forces that may adversely affect a disabled workers motivation toward RTW	.41
24	Develop a therapeutic relationship characterized by empathy and positive regard for the disabled worker	.49
34	Monitor the medical management of a case to determine if the disabled worker is satisfied with treatment	.63
40	Facilitate involvement with mental health and substance abuse service providers and incorporate these services into the RTW plan when necessary	.50
43	Identify and comply with ethical and legal implications of client relationships	.39
44	Adjust counseling approaches or styles according to the disabled worker's cognitive and personality characteristics	.52
48	Evaluate the disabled worker's social support system	.56
50	Consult with medical professionals regarding functional capacities, prognosis and treatment plans for workers with injuries or illnesses	.46
53	Facilitate communication between physicians and disabled workers to assure accurate information is transpired that facilitates recovery and RTW	.56
65	Assist disabled workers in modifying their lifestyles to accomodate functional limitations	.61
66	Assess a disabled workers ablility to perform independent living activities	.51
69	State clearly the nature of the disabled workers problems for referral to outside service providers	.49

Table 11 (Cont'd).

Item #	Item Description:	Load
83	Counsel with disabled workers to identify emotional reactions to disability	.57
84	Assist disabled workers in understanding stress and utilizing mechanisms for coping	.59
85	Apply psychological and social theory to develop strategies for rehabilitation intervention	.52
86	Counsel with disabled worker's families to provide information and support positive coping behaviors	.64
89	Refer disabled workers to appropriate specialists for special services	.60

Perceived importance and preparedness for factors.

Mean scores for the three importance factors demonstrated that, on average, respondent's perceived Fundamentals of Disability Management, Elements of Vocational Rehabilitation, and Elements of Facilitative Counseling and Advocacy to be highly important. Respondents, on average, viewed their level of preparedness in the three areas to be in the moderate to high level. Highest ratings of preparedness occurred in Elements of Vocational Rehabilitation and Elements of Facilitative Counseling and Advocacy. The lowest reported preparation occurred in Fundamentals of Disability Management. Table 12 shows the three factors for both importance and preparedness, their mean ratings, and reliability. The means and standard deviations on each factor according to provider setting and professional classification are summarized in Tables 13 and 14 respectively.

Differences According to Provider Setting and Professional Classification

To examine the relationship between importance and preparedness on the knowledge and skill areas associated with disability management practice and practitioner's provider setting and professional classification, a two-way multivariate analysis of variance (MANOVA) was conducted. Provider setting (three levels) and professional classification (six levels) were the independent variables and the importance and preparedness scores for the three factors (importance 1-3, preparedness 1-3) were the dependent variables. An alpha level of .05 was used. An initial run of the MANOVA revealed eight standardized residual scores with an absolute value greater than three across the six univariate analyses. A full three of these were attributable to one respondent. Upon further examination it was revealed that this respondent described himself as a business consultant and not a disability management provider. Therefore, he rated almost all of the items as not important. This respondent was deleted from the MANOVA. The final run yielded, with respect to provider setting, a significant Wilks'

Table 12

Factor Analysis Results for the DMSI

Factor	Description	# of Items	M	Reliability
Imp 1	Fundamentals of Disability Management	44	2.82	.97
Imp 2	Elements of Vocational Rehabilitation	28	2.94	.96
Imp 3	Elements of Facilitative Counseling & Advocacy	22	2.93	.94
Prep 1	Fundamentals of Disability Management	44	2.24	.98
Prep 2	Elements of Vocational Rehabilitation	28	2.77	.97
Prep 3	Elements of Facilitative Counseling & Advocacy	22	2.75	.94

Table 13

Means and Standard Deviations on Factor Scores by Provider Setting

	Internal Providers		External Providers		Insurance-Based Providers	
	M	SD	M	SD	M	SD
Imp. Factor 1	2.96	.69	2.76	.77	2.80	.83
Imp. Factor 2	2.63	.81	3.08	.66	2.84	.91
Imp. Factor 3	2.87	.71	2.96	.64	2.87	.71
Prep. Factor 1	2.32	.88	2.20	.84	2.31	.89
Prep. Factor 2	2.54	.88	2.87	.81	2.78	.90
Prep. Factor 3	2.64	.73	2.78	.67	2.80	.65

Table 14

Means and Standard Deviations on Factor Scores by Professional Classification

	Rehabilitation Counselors		Business Professionals		Psychologists & Social Workers		Nurses		Physical & Occupational Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp. Factor 1	2.80	.75	2.74	.86	2.23	.91	3.01	.73	2.89	.75	2.90	.59
Imp. Factor 2	3.20	.57	2.09	.91	3.01	.64	2.54	.86	2.62	.74	2.34	.81
Imp. Factor 3	2.96	.62	2.40	.84	3.02	.56	3.08	.67	3.04	.58	2.63	.85
Prep. Factor 1	2.22	.82	2.34	.82	2.03	1.08	2.30	.98	2.28	.97	2.40	.77
Prep. Factor 2	3.14	.57	2.17	.99	2.99	.62	2.01	.90	2.07	.80	2.18	.99
Prep. Factor 3	2.85	.57	2.26	.93	3.06	.60	2.73	.72	2.57	.76	2.38	.91

Lambda ($F(12, 448)=1.89$, $p<.03$). With respect to professional classification, a significant Wilks' Lambda ($F(30, 898)=8.53$, $p<.001$) was obtained. No interaction effects were found.

As a follow-up procedure to the MANOVA, six 2-way ANOVA's were computed in order to identify the dependent variables (factor scores) that differed significantly according to provider setting and professional classification (See Tables 15-20). An alpha level of .05 was used in each significance test. Post hoc comparisons were then made to determine which groups were significantly different from others. Tukey's Honestly Significant difference (HSD) method was used with an alpha level of .05. Simple pairwise comparisons revealed a number of significant differences.

With respect to provider setting (internal, external, insurance-based) and the three importance and three preparedness factors, only one significant difference was found. Respondents' ratings on Importance Factor Two (Elements of Vocational Rehabilitation) varied according to their provider setting. Post hoc comparisons revealed that external providers rated knowledge and skill areas associated with Importance Factor Two as more important than internal providers. No other significant differences were found between respondents' provider setting and perceived importance or preparedness on the three factors.

With respect to professional classification (rehabilitation counselors, business professionals, psychologists and social workers, nurses, physical and occupational therapists, others) on importance and preparedness for the three factors, a number of significant differences were found. Respondents' ratings on Importance Factor Two (Elements of Vocational Rehabilitation) varied according to their professional classification. Post hoc comparisons revealed that rehabilitation counselors rated Elements of Vocational Rehabilitation as more important than business professionals, nurses, physical and occupational therapists, and "other" professionals providing disability

Table 15

Two-way Analysis of Variance for Importance Factor1

Source	df	Sum of Squares	F Value	F Prob.
Professional Classification	5	4.771	1.653	.147
Provider Setting	2	1.285	1.113	.330
Error	229	132.192		

Table 16

Two-way Analysis of Variance for Importance Factor 2

Source	df	Sum of Squares	F Value	F Prob.
Professional Classification	5	24.919	11.953	.00*
Provider Setting	2	3.059	3.668	.027*
Error	229	95.482		

Table 17

Two-way Analysis of Variance for Importance Factor 3

Source	df	Sum of Squares	F Value	F Prob.
Professional Classification	5	5.785	2.936	.014*
Provider Setting	2	.386	.490	.613
Error	229	90.252		

Table 18

Two-way Analysis of Variance for Preparedness Factor1

Source	df	Sum of Squares	F Value	F Prob.
Professional Classification	5	1.554	.412	.840
Provider Setting	2	.477	.316	.729
Error	229	172.774		

*p<.05

Table 19

Two-way Analysis of Variance for Preparedness Factor 2

Source	df	Sum of Squares	F Value	F Prob.
Professional Classification	5	50.896	21.301	.00*
Provider Setting	2	.067	.070	.933
Error	229	109.434		

*p<.05

Table 20

Two-way Analysis of Variance for Preparedness Factor 3

Source	df	Sum of Squares	F Value	F Prob.
Professional Classification	5	6.663	3.206	.008*
Provider Setting	2	.313	.376	.687
Error	229	95.176		

*p<.05

management services. Furthermore, psychologists and social workers rated Elements of Vocational Rehabilitation as more important than business professionals. Respondents' ratings of preparedness on knowledge and skill areas associated with Preparedness Factor Two (Elements of Vocational Rehabilitation) varied according to their professional classification. Post hoc comparisons revealed that rehabilitation counselors rated their preparedness in Elements of Vocational Rehabilitation as higher than business professionals, nurses, physical and occupational therapists, and "other" professionals providing disability management services. Furthermore, psychologists and social workers rated their preparedness in Elements of Vocational Rehabilitation as higher than business professionals, physical and occupational therapists, and nurses.

When examining the relationship between professional classification and Importance Factor Three (Elements of Facilitative Counseling and Advocacy), significant differences were found. Business professionals rated the importance of Elements of Facilitative Counseling and Advocacy as less important than rehabilitation counselors, physical and occupational therapists, and nurses. On Preparedness Factor Three, business professionals rated their preparedness in Elements of Facilitative Counseling and Advocacy lower than rehabilitation counselors and psychologists and social workers. No differences were found on knowledge and skill areas associated with Importance Factor One or Preparedness Factor One (Fundamentals of Disability Management).

Chapter V

Discussion

Observations About Disability Management Providers

Respondents from a variety of professional backgrounds comprised the study's final sample. Rehabilitation counselors comprised over 60% of the study's respondents and were the largest professional group represented in the study. Nurses, physical therapists, and occupational therapists were the next largest groups of providers but comprised a much smaller proportion of the sample. Business professionals, psychologists, social workers and professionals with various other backgrounds also reported providing disability management services but were represented in much smaller numbers in the sample. Findings suggest that disability management service providers who responded to the survey represented various professional backgrounds but were predominantly professional rehabilitation counselors. Based on this representation of the rehabilitation counseling profession, many of the study's findings reflected the rehabilitation counselor's interpretation and perspective of disability management. Findings also provided information on how practitioners from other professional backgrounds viewed the importance of counseling and traditional rehabilitation functions within the context of disability management.

Disability management providers in this investigation were categorized as representing three employment settings. Individuals who work independently or as employees of firms providing services on a contractual or fee for service basis directly to an identified company were classified as external providers/consultants. Individuals who were employed by the identified company and who directly provided or administered disability management services within the company were classified as internal providers. Individuals employed by insurance carriers or third party administrators that insure or

administer the identified company's disability-related policies were classified as insurance-based providers. External disability management providers comprised the largest proportion of the obtained sample with almost three times the number of respondents than internal providers and almost four times the number of insurance-based providers. These findings closely parallel findings from the 1993 pilot study "The Role of the Rehabilitation Counselor in Disability Management" where the number of external providers outnumbered internal and insurance-based providers by approximately three to one. Disability management practitioners in this study more often provided services as consultants employed outside the company. When examining the professional background of respondents from the three provider settings, it was revealed that rehabilitation counselors represented a larger proportion of external providers and insurance-based providers than internal providers. This suggests that rehabilitation counselors providing disability management services for the most part are not employees of companies requesting services but that they must work to achieve the outcomes of employer-based disability management from a position outside of the company.

Disability management providers from this investigation were highly educated; the major portion of the sample had a masters degree or beyond. A masters degree appeared to be the educational level most characteristic of disability management providers who responded to the study as over 65% of the final sample was educated at this level. Over half of these respondents had a degree in rehabilitation counseling. Guidance and counseling was the next most frequently cited masters degree. When disability management providers in the study reported having an associates degree, they were most often nurses. Disability management providers with bachelors degrees were the most diverse group consisting of degrees in nursing, physical therapy, occupational therapy, sociology, psychology, and other areas. Providers with doctorates had most often had degrees in rehabilitation counseling and psychology. Given the focus of this study, and the

nature of competencies listed on the Disability Management Skills Inventory, it is understandable that professionals from a clinical or counseling background might be more likely to respond and comprise the biggest proportion of respondents.

The disability management providers studied demonstrated a high degree of professional commitment and concern for professional standards as was evidenced by their certification status. Over 90% of disability management providers in this study held some type of certification or credentials and many held more than one. This finding should be interpreted with some caution as one of the sources comprising the sampling frame for the study was a certifying commission for rehabilitation counselors. Most commonly reported certifications were Certified Rehabilitation Counselor, Certified Insurance Rehabilitation Specialist, Certified Case Manager, Licensed Physical Therapist, Registered Physical Therapist, Registered Occupational Therapist and Registered Nurse. Many respondents indicated that certification was not required for their job but that they viewed their credentials as advantageous for their current role in disability management. While not a requirement, disability management providers who responded to the survey clearly saw a need to maintain and demonstrate an adherence to standards developed by their respective professional groups. Service providers with credentials and certifications are believed to be highly desired by companies and firms requesting disability management services.

When considering the age and rehabilitation work experience of the disability management providers studied, they appeared to be an experienced group of professionals. The mean age of providers was 43.3 years with almost thirteen years of work experience in the rehabilitation field. These findings may suggest that those practitioners providing disability management services are experienced and not novices to the field of rehabilitation. In summary, it appears that practitioners providing disability management who participated in this study can be described as predominantly external/private providers with backgrounds in rehabilitation counseling. They are most often educated at the

masters level and hold one or more professional certifications. Disability management providers represented in the study also have a substantial amount of rehabilitation work experience.

Importance and Preparedness of Knowledge and Skill Areas Associated with Disability Management Practice

The 101 knowledge and skill items in the Disability Management Skills Inventory were collapsed into three distinct knowledge and skill domains using common factor analysis procedures. The three factors identified were as follows: (1) Fundamentals of Disability Management; (2) Elements of Vocational Rehabilitation; and (3) Elements of Facilitative Counseling and Advocacy. Respondents rated the perceived importance and their level of preparedness of items within each on these knowledge and skill domains. The three knowledge and skill domains which emerged reflected a comprehensive review of the competencies demonstrated by disability management providers within the context of this study. Tate, Habeck, and Galvin (1986) discussed disability management as an organizational strategy that combines clinical approaches with case management and utilizes a multi-disciplinary team approach of rehabilitation and the principles of organizational development. They indicated that these approaches are combined into a comprehensive framework of strategies that are managed within organizations. The three knowledge and skill domains identified by the factor analysis demonstrated the employer-based context of disability management along with the clinical orientation that supports the achievement of goals of the disability management model. The following discussion will address each of the factors individually with respect to both importance and preparedness.

Importance and preparedness in Fundamentals of Disability Management.

Factor One, Fundamentals of Disability Management describes the context in which disability management services are provided and the organization-based interventions utilized to achieve the goals of return to work and disability management. Fundamentals of Disability Management were characterized by organizational strategies aimed at preventing disability risks and bringing injured or disabled employees back to work should injury or disability occur. Factor One clearly demonstrated what Habeck, Leahy, Hunt, Chan, and Welch (1991) described as employer-based initiatives for injury and disability prevention, early intervention, and service coordination for cost effective restoration and return to work.

Specific competencies describing Fundamentals of Disability Management included: (a) developing, analyzing, and using data to identify risks and promote injury and disability prevention; (b) facilitating a team approach and coordinating all parties for return to work; (c) understanding labor union issues regarding disability management and facilitating labor and management cooperation; (d) training and educating supervisors, managers and employees to prepare them for their roles in the disability management process and to facilitate attitudes compatible with a return to work philosophy; (e) developing and managing return-to-work programs and implementing return-to-work solutions; (f) modifying jobs and implementing ergonomic solutions for return to work; (g) consulting regarding disability legal compliance; and (h) developing programs and managing systems for program evaluation.

Overall, the results from the final sample demonstrated that Fundamentals of Disability Management were highly important to achieving effective disability management outcomes. As a group, however, respondents felt only moderately prepared in these fundamentals. An interesting and important finding was revealed when examining the professional background and provider setting of respondents with respect to Fundamentals

of Disability Management. No significant differences were found among respondents from different provider settings and professional classifications regarding their ratings of importance and preparedness. All professionals and provider groups in the final sample agreed, on average, that competencies characterizing Fundamentals of Disability Management were critical to the disability management process. These various professionals and providers also agreed that they are not highly prepared in these knowledge and skill areas. Therefore, the disability management provider's distance from the actual work environment (internal, external/private consultant, insurance-based) or their professional background (rehabilitation counselors, nurses, physical therapists, occupational therapists, etc.) did not significantly affect perceptions of the importance or their individual preparedness in Fundamentals of Disability Management. A critical need is demonstrated here for all professionals providing disability management services and for those entering the disability management field. It would appear that all individuals providing services must be competent in Fundamentals of Disability Management, therefore making it appropriate to consider cross-disciplinary training programs for disability management practitioners in order to bridge this gap between highly important competencies and only moderate levels of preparation.

Importance and preparedness in Elements of Vocational Rehabilitation.

Elements of Vocational Rehabilitation were those career counseling, assessment, and placement competencies which focus on assisting workers with injuries or disabilities to identify and obtain appropriate alternative employment. These initiatives were characteristic of traditional rehabilitation counseling competencies. Specific competencies characterizing Elements of Vocational Rehabilitation were: (a) identifying transferable work skills and matching workers with jobs; (b) using local resources to assist in job placement; (c) interpreting and counseling workers in consideration of assessment

results; (d) conducting job analyses; (e) instructing workers in systematic job search skills; (f) selecting and utilizing appropriate evaluation instruments; and (g) using labor market information to assist with job placement. Overall, the sample of disability management providers felt that Elements of Vocational Rehabilitation were highly important to achieving effective disability management outcomes. Providers as a group also felt highly prepared in these elements. These elements traditionally associated with vocational rehabilitation were seen as critical to facilitating the disability management process and returning injured/disabled workers to productive employment.

However, examining the relationship between respondent's professional classifications and perceived importance of Elements of Vocational Rehabilitation revealed that rehabilitation counselors rated this domain as more important than did business professionals, nurses, physical and occupational therapists, and "other" professionals. Psychologists and social workers also differed significantly from business professionals in their view of the importance of traditional vocational rehabilitation competencies. Psychologists and social workers felt that this knowledge and skill area was highly important while business professionals saw this area as only moderately important. These findings are understandable given the professional orientation of these groups. Rehabilitation counselors, psychologists, and social workers are more likely to receive training and education in elements associated with vocational rehabilitation, such as career counseling and assessment. These professionals are more likely to operate from this framework when providing disability management services and incorporate these elements into their roles as disability management providers. This assumption can be confirmed when looking at the reported preparedness of these groups of professionals. Rehabilitation counselors felt that they were significantly more prepared in Elements of Vocational Rehabilitation than were business professionals, nurses, physical therapists, occupational therapists, and "other" professionals. Psychologists and social workers also

felt that they were significantly more prepared in these elements than did business professionals, physical and occupational therapists, and nurses. These findings suggest that professional orientation plays a substantial role how providers determine what competencies are important to the disability management process and also how they approach disability management service provision.

Examining the providers' work settings and their impact on ratings of Elements of Vocational Rehabilitation revealed that external providers viewed these vocational rehabilitation competencies as more important than internal and insurance-based providers. This finding makes sense given what is known about the nature of services in this provider setting group and its distance from their work environment. Internal and insurance-based providers concentrate efforts on developing the capacities within the company to accommodate workers with disabilities, including modified job development for accommodation (Habeck, Kress, Scully, and Kirchener, 1994). Although external providers concentrate return-to-work efforts through the development of transitional or modified work opportunities for return to work within the original company, they are often contacted after injury or disability occurs to explore vocational alternatives when the worker is not able to return to the prior employer. Habeck, Kress, Scully, and Kirchener (1994) stated that when private, external providers are contracted to provide services after onset, activities of external providers begin to resemble those activities associated more closely with the traditional model of vocational rehabilitation.

As previously discussed, this finding can also be explained in consideration of providers' professional backgrounds. External providers in this study had the highest proportion of rehabilitation counselors. It would make sense that they viewed Elements of Vocational Rehabilitation as more critical to the disability management process than other practitioners. However, no significant differences were found regarding the level of preparedness providers from the three work settings reported in Elements of Vocational

Rehabilitation. It would appear that, as a group, all respondents in the study felt adequately prepared to provide Elements of Vocational Rehabilitation. While external providers viewed the competency areas associated with Elements of Vocational Rehabilitation as more important than providers from the other work settings, it would appear that, on average, all respondents in the study feel adequately prepared in these areas. Respondents representing internal and insurance-based provider settings may possess the necessary competencies in vocational rehabilitation but may not utilize these competencies as frequently in their respective work settings. Respondent's provider setting or distance from the work environment and a reactive or proactive time of intervention may influence how important they view competencies related to vocational rehabilitation to be.

Importance and preparedness in Elements of Facilitative Counseling and Advocacy.

Elements of Facilitative Counseling and Advocacy were those competencies supporting workers with injuries and disabilities and mitigating barriers to return to work. Specific competencies characterizing Elements of Facilitative Counseling and Advocacy were: (a) facilitating communication between workers and other parties involved in the return-to-work plan; (b) monitoring the medical management of cases; (c) initiating and coordinating communication between medical providers, other specialists, workers with disabilities, and company personnel; (d) developing a therapeutic relationship; and (e) providing counseling services to workers in order to facilitate timely and appropriate return to employment. Overall, the sample of disability management providers felt that the competencies involved in Elements of Facilitative Counseling and Advocacy were highly important to achieving the outcomes of effective disability management. As a group, respondents recognized the importance of psychosocial factors and the need to address

these factors in order to minimize disability and facilitate return to work. Respondents, as a group, also felt that they were highly prepared in these competency areas.

When examining the professional background of disability management providers, and their perceived importance of Elements of Facilitative Counseling and Advocacy, rehabilitation counselors, physical and occupational therapists, and nurses felt that facilitative counseling and advocacy was more important to achieving the outcomes of effective disability management than did business professionals. Business professionals also felt that they were less prepared to provide facilitative counseling and advocacy than did rehabilitation counselors, psychologists, and social workers. This finding suggests that professionals from a counseling, therapy, or medical background were more likely to view these supportive services at the individual case level as critical to the disability management process than those professionals from a business orientation.

When examining provider's work setting, no significant differences were found regarding the importance of Elements of Facilitative Counseling and Advocacy. Internal, external, and insurance-based providers all felt that this set of supportive counseling initiatives were highly important to achieving the outcomes of effective disability management. Providers in all three work settings also reported a high level of preparation in these competencies but it is important to recognize the dominance of the rehabilitation counseling perspective when interpreting these findings.

It is important to recognize and acknowledge the dominance of the rehabilitation counseling perspective when considering all of the above mentioned findings. The Disability Management Skills Inventory was developed from the rehabilitation counseling perspective and the sample was predominantly rehabilitation counselors. Generalizations about the transferability of these competency areas to other professional groups providing disability management cannot be made based on these findings. Further, other professional groups providing disability management may deem additional competency

areas as important to the outcomes of disability management. Additional competency areas specific to other professional groups were not included on the Disability Management Skills Inventory.

Limitations

Results from this investigation should be considered within the context of several important limitations. First, the overall response rate for this study (39.4%) is recognized as a limitation. Babbie (1979) recommends response rates of at least 50% for adequate data analysis. Sampling procedures did take into account that survey research typically yields a 40-50% response rate after two mailings and the overall N obtained was adequate for subsequent data analysis procedures. While the overall response rate yielded an adequate number of respondents for data analysis, the final sample did contain substantially more rehabilitation counselors than any other professional group. This was attributable to the sampling frame used which consisted of two groups with a more heterogeneous group of disability management providers and two groups that were almost exclusively comprised of rehabilitation counselors. Based on the number of rehabilitation counselors in the study, one might logically conclude that the field of disability management is comprised of predominantly rehabilitation counselors, however, this cannot be deduced from this study. This investigation made a deliberate attempt to identify rehabilitation counselors providing disability management in order to elucidate and identify the nature of their involvement in this area of practice. It is important to recognize that the sample used for this study may be biased toward an rehabilitation counseling perspective in that all individuals currently comprising the population of disability management providers did not have an equal chance of being selected for inclusion in the study.

Another limitation is recognized in relation to the major categorical variable, provider setting. Four options were specified and respondents' were asked to identify the provider setting that best described their current employment setting. Upon receipt of completed surveys, it was discovered that the four provider setting options were not mutually exclusive and some respondents had difficulty choosing only one setting to best describe their current employment setting. Subsequently, some respondents chose two categories. Re-categorization was conducted when possible from other respondent data but some individuals may have been inaccurately reassigned to a provider category. In addition, the fourth provider category was designed to eliminate those professionals from the study who were not currently providing disability management services. Many respondents specifying this category were supervisors or administrators who closely monitor disability management services but did not consider themselves "providers". These respondents often completed the Disability Management Skills Inventory based on their involvement and knowledge of disability management. When respondents noted close supervisory involvement, efforts were made to include their responses in the analysis, however, some respondent data was lost due to the labeling of this category.

Finally, a limitation is recognized in the number of items comprising the Disability Management Skills Inventory. The large number of items may have contributed to the low response rate. Factor analysis procedures yielded three large knowledge and skill domains representing the 101 items on the DMSI. The level of specificity obtained in the study may have been compromised by condensing such a large number of items into three factors. In addition, had a higher response rate been obtained, a more optimal ratio of respondents to items would have existed and may have provided a more stable factor structure. The stability of the current factor structure is unknown based on the 2:1 respondent to item ratio. Further, rehabilitation counselors and various other professional classification groups were used to derive the current factor solution thus, leaving the

stability of the factor structure unknown for the larger population of disability management providers.

Conclusions

For the purpose of this investigation disability management was defined as a proactive approach in the workplace to reduce economic and human costs associated with disability by preventing disability incidence or remediating its effects and coordinating return-to-work strategies for retaining employees with disabilities in employment (Carruthers, 1993; Habeck, Leahy, Hunt, Chan, & Welch, 1991; Schwartz, Watson, Galvin and Lipoff, 1989). In order to be fully effective, the workplace should be the context of disability management service provision and should be a proactive approach. The goals of disability management are to reduce economic and human costs associated with disability, reduce disability incidence, and maintain the productivity of injured or disabled employees by coordinating return to work. It can be concluded that from the perspective of this sample, the three general competency areas found to be highly important to achieving the goals of disability management are: Fundamentals of Disability Management, Elements of Vocational Rehabilitation, and Elements of Facilitative Counseling and Advocacy.

At the same time, findings demonstrated that, while this group of disability management professionals felt highly prepared in Elements of Vocational Rehabilitation and Elements of Facilitative Counseling, on average, this group reported feeling only moderately prepared in Fundamentals of Disability Management. The competencies associated with the domain of Fundamentals of Disability Management may warrant special attention from educational and training programs that claim to prepare practitioners for disability management practice. The challenge seems to be that a number of different practitioner groups are involved in the provision of disability management

services. Training and education programs specific to these disciplines may be inclined to separately offer curriculums addressing the training needs of disability management providers. However, it may be appropriate to consider cross-disciplinary training programs that would prepare all disability management providers, regardless of their professional background, in the competency areas that characterize Fundamentals of Disability Management.

Respondents' professional classifications accounted for several of the differences found among the ratings within the sample of importance and preparedness in the competency areas associated with disability management. Professional groups tended to view the importance of the three competency areas (Fundamentals of Disability Management, Elements of Vocational Rehabilitation, Elements of Facilitative Counseling and Advocacy) somewhat differently based on their professional background and orientation. This is understandable given that the nature of their education and their professional identity and affiliation will impact their perspective on the disability management process.

Professional classification groups also reported varying levels of preparedness in the important competency areas. These findings suggest that additional and differential training is needed to prepare professionals to address important competency areas for supporting the goals of disability management. However, some professional groups may be better trained to provide the more specialized and clinical services such as vocational rehabilitation and facilitative counseling. For example, rehabilitation counselors, psychologists, and social workers may be better prepared in the competencies of counseling and assessment. Business professionals may be better equipped to handle administrative and program evaluation competencies. Thus, the question arises: should all disability management providers be skilled in all of the knowledge and skill areas or should professionals specialize in components of the process based on their professional

backgrounds? Further, is it critical that the competency areas identified in this study as highly important, be provided by one practitioner? These issues warrant further examination of the study's findings which indicated that as a group, all professional groups found the three competency areas highly important to the disability management process but all did not report being highly prepared in all areas.

The providers' work settings did not yield many differences with regard to respondents' ratings of importance and preparedness on the three competency areas associated with disability management service provision. However, one area of divergence occurred regarding the perceptions between external providers as compared to the other two provider groups regarding the importance of Elements of Vocational Rehabilitation. External providers viewed Elements of Vocational Rehabilitation as more important than their counterparts in internal and insurance-based settings. This may have occurred based on the large number of rehabilitation counselors in this provider category who typically become involved later in the process as providers of individual services. However, clarity needs to be achieved to determine how much weight should be given to Elements of Vocational Rehabilitation in the disability management process given the bias toward rehabilitation counselors in the study's sample. As a group, providers from the three settings felt highly prepared in the competency areas associated with the disability management approach. This finding is positive when looking at educational and training implications as specialized training may not be needed to prepare practitioners for disability management practice within various settings.

Despite its limitations, this investigation marks one of the first attempts to access a sample of disability management providers and to empirically delineate the competencies needed to provide effective disability management services. Although findings from this investigation may not mirror exactly the current state of practice within the larger population of disability management providers, it has many implications for further

defining the field of disability management. The respondents for this study were a group highly committed to disability management and its advancement as a viable professional field. The respondents' commitment to disability management was evidenced by their certification status, educational level, professional affiliations, attendance at disability management conferences, and their participation in the survey. Their perceptions of importance and their level of preparedness may not be indicative of the larger population of disability management providers but may be considered as a standard for practice at this time.

Implications for the Rehabilitation Counseling Profession

The findings from this investigation appear to have several potentially valuable applications for rehabilitation counselors and for the field of disability management. This investigation is just the first step in further defining the rehabilitation counseling perspective on disability management practice. The competency areas found to be important can be a basis for developing standards of practice for rehabilitation counselors in the field of disability management. Currently, no formal standards of practice exist for rehabilitation counselors in disability management. It is possible that services are being marketed to employers as disability management but are not truly employer-based disability management services. Further, rehabilitation counselors may be marketing typical private rehabilitation services as disability management. Findings from this study can be a first step in attempting to address these issues and developing a standard of practice for rehabilitation counselors providing disability management. Findings from this study can also be used for conducting needs assessments of rehabilitation counselor education programs. Habeck (1993) stated that in order for rehabilitation professionals to maintain a valued role as partners in disability management, the profession must examine its current service model. Results from this study can help rehabilitation counselors to

adapt their traditional service model so that it truly meets employer's needs and addresses employer's real disability problems. The findings can serve as a basis for developing job descriptions and writing service proposals that truly address employers needs. Professionals providing disability management services and those wishing to enter this area of practice can use the derived competency areas as a personal knowledge and skill assessment on which they can evaluate their level of personal attainment.

As public sector employment options for rehabilitation counselors continues to decrease and business and industry struggle to remain profitable in a global economy, employer-based disability management efforts are likely to provide viable employment options for rehabilitation counselors. Rehabilitation counselors will need to demonstrate competencies, not only in traditional vocational rehabilitation and counseling areas, but in the many competencies specific to the disability management work role. Rehabilitation counselor educators will need to analyze their programs to determine if these specific competency areas are or can be adequately addressed in their curriculums. Findings from this study can assist educators in structuring curriculums that will enhance employment options in disability management. It is also important to consider that preparation in the Fundamentals of Disability Management cannot be addressed in pre-service education in the depth needed to provide effective services. Rehabilitation Counselor Education Programs are already crowded and one might question the practicality of adding specialized courses in disability management to the existing curriculum. Educators will need to consider separate tracks or certification programs for rehabilitation counselors wishing to enter the disability management service arena. When considering these issues, it will be critical to review the competency areas identified in this study as Fundamentals of Disability Management and realize that the education and training needs for disability management providers go beyond the traditional preparation of rehabilitation counselors. Competencies in areas such as risk management, ergonomics, health and safety, benefit

and insurance systems, advanced job accommodation, data analysis, program evaluation, conflict resolution, labor union policies, and business operations/management are not typically addressed in rehabilitation counselor education but an in-depth working knowledge is needed for effective disability management service provision.

Respondents in this study had substantial rehabilitation work experience and this may provide a rationale for considering continuing education programs for training disability management service providers. After obtaining other rehabilitation work experience, rehabilitation counselors may wish to enter the disability management service arena and will seek training programs outside of pre-service education programs. The competency areas associated with Fundamentals of Disability Management were identified as highly important and the preparedness levels identified as moderate; this finding can be used to support the need for development of training and education programs aimed at preparing rehabilitation counselors for effective disability management service provision. Findings regarding the similarities and differences in importance and preparedness between professional disciplines can be examined and utilized as a preliminary step for further validating the competencies needed by various professionals. Developing appropriate educational and training models for disability management providers from various backgrounds will require further research and validation in the competencies needed by these professionals. A critical review of findings should be undertaken to determine if cross-disciplinary training programs are realistic or if individual professional groups should be trained within the context and scope of practice of their individual professions.

Implications for further research.

This investigation into the rehabilitation counseling competency areas associated with disability management practice is one of the first attempts to empirically identify competencies with respect to this area of practice. It is hoped that this study will provide

a stimulus for future research with broader implications for the larger population of disability management providers. Certain noted limitations in the present study could be addressed by future research. Rigorous attempts to define the population of disability management providers could yield a sample that is representative of the larger population and could provide valuable information about the many providers involved in disability management practice. A more heterogeneous sample could provide useful information about the current state of disability management practice and provide a better overall picture of the field of disability management. The present study uses self-report measures to infer the importance of disability management competencies and does not link strategies and interventions to actual disability management outcomes. Future studies can address and attempt to link disability management interventions with outcomes and assess competencies based on their known contributions to effective disability management outcomes.

APPENDICES

APPENDIX A

Disability Management Skills Inventory

You are asked in the enclosed *Disability Management Skills Inventory* to review a series of 105 knowledge and skill statements for their "importance" related to achieving the outcomes of effective disability management in your current employment setting. You are also asked to review these statements for your perceived "preparedness" as a result of your education and training.

Please rate the knowledge and skill statements for both importance and preparedness, using the following five-point scales:

Scale 1. **IMPORTANCE:** To what extent are these statements important to achieving the outcomes of effective disability management in your employment setting; how critical are these skill and knowledge statements in achieving the outcomes of effective disability management? Evaluate the "importance" as follows:

[0] None: Not at all important
[1] Little: Minor importance
[2] Moderate: Fairly important
[3] High: Substantial importance
[4] Maximal: Essential, crucial

Scale 2. **PREPAREDNESS:** To what degree do you feel prepared in the following skill and knowledge statements as a result of your education and training? Consider each statement in relation to the degree in which you feel prepared as a result of your education or training. Please consider your pre-service, in-service and continuing education. Evaluate your "preparedness" as follows:

[0] No preparation
[1] Little preparation
[2] Moderately prepared
[3] Highly prepared
[4] Very highly prepared

APPENDIX A

I = IMPORTANCE
[0] None: Not at all important
[1] Little: Minor importance
[2] Moderate: Fairly important
[3] High: Substantial importance
[4] Maximal: Essential, crucial

P = PREPAREDNESS
[0] No preparation
[1] Little preparation
[2] Moderately prepared
[3] Highly prepared
[4] Very highly prepared

I	P		
___	___	1.	Abide by ethical and legal considerations of case communication and recording (e.g. confidentiality)
___	___	2.	Write case notes, summaries, and reports so that others can understand the case
___	___	3.	Recognize psychological problems (e.g. depression, suicidal ideation) requiring consultation for referral
___	___	4.	Interpret to disabled workers their diagnostic information (e.g., tests, vocational and educational records, medical reports)
___	___	5.	Develop and integrate disability management policy consistent with the Family Medical Leave Act and the Americans with Disabilities Act
___	___	6.	Assess medical information, job restrictions and job requirements to determine modified duty to facilitate return to work
___	___	7.	Employ counseling techniques (e.g., reflection, interpretation, summarization) to facilitate the disabled worker's self-exploration
___	___	8.	Use assessment information to provide disabled workers with insights into personal dynamics (e.g., denial or distortion)
___	___	9.	Use labor market information to assist the disabled worker in locating and obtaining suitable employment
___	___	10.	Describe Social Security regulations and procedures regarding disability determination and benefits
___	___	11.	Understand insurance claims processing and professional responsibilities in workers' compensation and other internal benefit programs (e.g., STD, LTD, health/medical benefits)
___	___	12.	Prepare and present cases for mediation
___	___	13.	Coordinate the activities of all parties involved in the return-to-work plan
___	___	14.	Monitor the medical management of a case to determine if the disabled worker is receiving appropriate treatment and if treatment is helping in recovery

APPENDIX A

I = IMPORTANCE
[0] None: Not at all important
[1] Little: Minor importance
[2] Moderate: Fairly important
[3] High: Substantial importance
[4] Maximal: Essential, crucial

P = PREPAREDNESS
[0] No preparation
[1] Little preparation
[2] Moderately prepared
[3] Highly prepared
[4] Very highly prepared

I	P		
___	___	15.	Address the psycho-social impact of illness and injury to mitigate barriers to return-to-work and to refer for further intervention if necessary
___	___	16.	Identify social, economic and environmental forces that may adversely affect an disabled worker's motivation toward return-to-work
___	___	17.	Market disability management services to businesses and organizations
___	___	18.	Review injury and disability data with the company safety personnel to develop strategies for prevention
___	___	19.	Recommend modifications of job tasks to accommodate an disabled worker's functional limitations
___	___	20.	Analyze the physical work environment, employer recruitment practices and hiring procedures to determine conformance with ADA requirements
___	___	21.	Develop and manage transitional work programs
___	___	22.	Develop and maintain a system for program evaluation and documenting outcomes
___	___	23.	Assess the significance of workers' disabilities in consideration of medical, psychological, educational and familial status
___	___	24.	Develop a therapeutic relationship characterized by empathy and positive regard for the disabled worker
___	___	25.	Interview the disabled worker to verify the accuracy of case information
___	___	26.	Identify educational and training requirements for specific jobs
___	___	27.	Match the disabled worker's needs with job reinforcers and their aptitudes with job requirements
___	___	28.	Identify transferable work skills by analyzing work history, functional capacities and limitations
___	___	29.	Provide information in order to assist disabled workers to answer other individuals' questions about their disabilities
___	___	30.	Use local resources to assist with external placement (e.g., employer contacts, colleagues, state job service)

APPENDIX A

I = IMPORTANCE
[0] None: Not at all important
[1] Little: Minor importance
[2] Moderate: Fairly important
[3] High: Substantial importance
[4] Maximal: Essential, crucial

P = PREPAREDNESS
[0] No preparation
[1] Little preparation
[2] Moderately prepared
[3] Highly prepared
[4] Very highly prepared

I	P		
___	___	31.	Possess knowledge of workers' compensation laws, compensable injuries, and employer disability benefit systems
___	___	32.	Understand the applications of current legislation affecting the employment of individuals with disabilities
___	___	33.	Read professional literature (e.g., health care administration, safety and prevention, workers' compensation, and rehabilitation)
___	___	34.	Monitor the medical management of a case to determine if the disabled worker is satisfied with treatment.
___	___	35.	Assure regular contact with disabled workers who are experiencing lost work time
___	___	36.	Respond to employer's biases and concerns regarding employing persons with disabilities
___	___	37.	Prepare supervisors and managers to be informed participants in the prevention and management of disability in the workplace
___	___	38.	Promote ergonomic analysis of tasks and work stations and advocate the use of ergonomic interventions
___	___	39.	Utilize occupational information materials such as the D.O.T., O.O.H. and other publications
___	___	40.	Facilitate involvement with mental health and substance abuse service providers and incorporate these services into the return-to-work plan when necessary
___	___	41.	Establish a data gathering and information management system to monitor disability trends within the employer organization
___	___	42.	Prepare rehabilitation plans with disabled workers that consist of mutually agreed upon interventions and outcomes
___	___	43.	Identify and comply with ethical and legal implications of client relationships
___	___	44.	Adjust counseling approaches or styles according to the disabled worker's cognitive and personality characteristics

APPENDIX A

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[1] Little preparation
[2] Moderately prepared
[3] Highly prepared
[4] Very highly prepared

I	P		
___	___	45.	Document all significant vocational findings specific to the disabled worker which are sufficient for records and/or legal testimony
___	___	46.	Select evaluation instruments and techniques according to their appropriateness and usefulness for an disabled worker
___	___	47.	Counsel with disabled workers regarding educational and vocational implications of test and interview information
___	___	48.	Evaluate the disabled worker's social support system (family, friends, and community relationships)
___	___	49.	Possess knowledge of employer and labor union policies and regulations relating to safety, disability, and return to work
___	___	50.	Consult with medical professionals regarding functional capacities, prognosis and treatment plans for workers with injuries or illnesses
___	___	51.	Identify stereotypic views toward persons with disabilities and provide education/training to company personnel to eliminate such stereotypes
___	___	52.	Coordinate a team approach to injury management by involving internal company personnel, union representatives and external service providers
___	___	53.	Facilitate communication between physicians and disabled workers to assure accurate information is transpired that facilitates recovery and return to work
___	___	54.	Educate clients regarding their rights under federal and state laws
___	___	55.	Teach workers how to avoid injury and illness
___	___	56.	Explain the concepts and strategies of disability management to employers
___	___	57.	Analyze the tasks of a job utilizing standard D.O.L. or other methods
___	___	58.	Facilitate communication and cooperation across departments within the company to bring employees back to work
___	___	59.	Use company disability data to identify problem areas, causative factors and potentially costly cases
___	___	60.	Respond to new trends in disability management (e.g., 24-hour coverage and integration of benefits)

APPENDIX A

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P = PREPAREDNESS
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[1] Little preparation
[2] Moderately prepared
[3] Highly prepared
[4] Very highly prepared

I	P		
___	___	61.	Compile and interpret case information to maintain a current record
___	___	62.	Confront disabled workers with observations about inconsistencies between their goals and their behavior
___	___	63.	Recommend occupational and/or educational materials for disabled workers to explore vocational alternatives
__	___	64.	Determine appropriate community services for the disabled worker's stated needs
___	___	65.	Assist disabled workers in modifying their lifestyles to accommodate functional limitations
___	___	66.	Assess an disabled workers' ability to perform independent living activities
___	___	67.	Possess basic knowledge of organizational behavior, business operations, and management strategies
___	___	68.	Apply published research results to professional practice
___	___	69.	State clearly the nature of the disabled worker's problems for referral to outside service providers
___	___	70.	Apply the principles of disability-related legislation to daily practice
___	___	71.	Provide an internal case management system that coordinates and monitors activities with health care providers, insurance carriers and other outside participants
___	___	72.	Provide follow-up to supervisors and employees after return to work to ensure that work duties are being performed within restrictions
___	___	73.	Provide information regarding the services you provide to persons with disabilities and employers
___	___	74.	Provide orientation and training on ADA requirements to ensure implementation and employer compliance with regulations
___	___	75.	Negotiate with employers and labor union representatives in order to reinstate/hire a disabled worker

APPENDIX A

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P = PREPAREDNESS
[0] No preparation
[1] Little preparation
[2] Moderately prepared
[3] Highly prepared
[4] Very highly prepared

I	P		
___	___	76.	Apply knowledge of individual assistive devices and ergonomics and how they impact on job modification
___	___	77.	Recommend and implement modifications to existing jobs or job duties to accommodate worker restrictions
___	___	78.	Develop and use criteria for the selection and evaluation of external service providers
___	___	79.	Clarify for the disabled worker mutual expectations and the nature of the counseling relationship
___	___	80.	Counsel disabled workers to help them appreciate and emphasize their personal assets
___	___	81.	Counsel with disabled workers regarding desirable work behaviors to help them improve and maintain employability
___	___	82.	Review medical information to determine the disabled worker's functional limitations and their vocational implications
___	___	83.	Counsel with disabled workers to identify emotional reactions to disability
___	___	84.	Assist disabled workers in understanding stress and in utilizing mechanisms for coping
___	___	85.	Apply psychological and social theory to develop strategies for rehabilitation intervention
___	___	86.	Counsel with an disabled worker's family to provide information and support positive coping behaviors
___	___	87.	Possess knowledge of the company served, including the jobs performed and the corporate culture
___	___	88.	Conduct a review of the rehabilitation, medical or workers' compensation literature on a given topic or case problem
___	___	89.	Refer disabled workers to appropriate specialists for special services
___	___	90.	Develop effective strategies for identifying work-related problems and risk factors which may lead to long-term disability cases

APPENDIX A

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[4] Maximal: Essential, crucial

P = PREPAREDNESS
[0] No preparation
[1] Little preparation
[2] Moderately prepared
[3] Highly prepared
[4] Very highly prepared

I	P		
___	___	91.	Utilize a systematic process designed to meet the needs of disabled employees for the purpose of bringing them back to work
___	___	92.	Interpret the organization's policies and regulations to persons with disabilities and employers
___	___	93.	Develop cooperative relationships with physicians who serve company employees by educating them about the company's jobs and its capabilities to accommodate return to work
___	___	94.	Consult with company supervisors and management regarding accessibility and affirmative action issues
___	___	95.	Develop and implement return-to-work strategies for employees off work due to illness or injury
___	___	96.	Identify essential job elements by analyzing job tasks and physical demands
___	___	97.	Identify the current costs of disability problems in the company and demonstrate to top management how costs can be reduced by solving these problems
___	___	98.	Instruct disabled workers in methods of systematic job search skills
___	___	99.	Monitor the disabled worker's progress using goal-attainment or other rating systems
___	___	100.	Develop mechanisms for labor and management cooperation in disability management
___	___	101.	Analyze benefit plans (workers' compensation, short-term disability, long-term disability) to ensure that they support the goals of disability management and return to work)

APPENDIX B

Demographic Questionnaire

Please respond to the following questions. Your responses will be kept confidential.

IDENTIFYING INFORMATION:

1. **Age** _____

2. **Gender:** _____ **Male** _____ **Female**

EMPLOYMENT INFORMATION:

3. **Total number of years of paid rehabilitation work experience:** _____

4. **Please check the item that best describes your current employment setting when providing disability management services:**

   _____ **A) A company employee who directly provides/administers disability management services in-house (internal provider)**

   _____ **B) An independent, private provider or an employee of a firm that is contracted to develop and/or provide disability management consultation and/or services (external provider)**

   _____ **C) A provider employed by an insurance carrier or third party administrator that provides disability management services (insurance-based provider)**

   _____ **D) A rehabilitation or other professional not currently providing disability management services**

If you checked item D above, complete and return this Demographic Questionnaire only.

5. **Job title:** _____

6. **Total number of months employed in current position:** _____

APPENDIX B

EDUCATION INFORMATION:

7. Below is an educational history grid. Begin with your most recent educational experience and fill in the grid with the appropriate major and degree codes from the lists provided.

Degree	Major

Degree Codes
1 = Associates
2 = Bachelors
3 = Masters
4 = Doctorate

Major Codes
1 = Rehabilitation Counselor
2 = Voc. Rehabilitation Related
3 = Social Work
4 = Nursing
5 = Guidance/Counseling
6 = Psychology
7 = Occupational Therapy
8 = Physical Therapy
9 = Special Education
10 = Sociology
11 = Education
12 = Business
13 = Human Resources
14 = other, please specify_____

PROFESSIONAL IDENTITY/CREDENTIALS:

8. Specify/indicate the group of professionals that bests describes your professional identity *(check one only)*:

_____ Rehabilitation Counselor
_____ Human Resource Manager
_____ Social Worker
_____ Occupational Therapist
_____ Physician
_____ Risk Manager
_____ other, please specify _____
_____ Nurse
_____ Educator
_____ Psychologist
_____ Physical Therapist
_____ Business Manager
_____ Benefits Administrator

APPENDIX B

9. Specify/indicate your current certification/licensure status:

_____ CRC	_____ NCC
_____ CIRS	_____ CCM
_____ CVE	_____ Liscensed Professional Counselor (LPC)
_____ RN	_____ ARM, CRM
_____ Not Certified	_____ other, please specify _____

10. How desirable are such credentials in your present job?

_____ not needed _____ advantageous _____ mandatory

PROFESSIONAL ACTIVITIES:

To what degree are you involved in performing the following professional activities related to disability management? Use the following scale to rate your degree of involvement in each of the following professional activities:

0 = No involvement in this activity
1 = Indirectly involved: coordinate these activities and when appropriate refer to outside providers but do not directly perform them
2 = Directly involved: responsible for personally and directly performing and administering these activities

_____ personal and vocational counseling
_____ job analysis, accommodation and modification
_____ case management
_____ data analysis and program evaluation
_____ medical case management and monitoring
_____ marketing and developing disability management services
_____ safety and prevention strategies
_____ training and education of company personnel
_____ assessment and transferable skills analysis
_____ job placement with a different company
_____ management of return to work programs
_____ consulting with companies on implementing and developing disability management programs.

APPENDIX C

The Role Of The Rehabilitation Counselor In Disability Management

This questionnaire asks for information on the roles and functions of rehabilitation counselors who provide disability management services. The questionnaire will take about 20 minutes to complete. Your participation in this study is completely voluntary and your responses will be treated in strict confidence. The identity of participants will be confidential and not revealed in any report of research findings. By completing and returning this questionnaire, you indicate your voluntary agreement to participate.

Please return your completed questionnaire in the enclosed envelope by August 31, 1993, to:

Susan M. Scully
MSU Rehabilitation Counseling Program
335 Erickson Hall
East Lansing, MI 48824

If you have any further questions or concerns regarding this study please feel free to contact Susan Scully or Rochelle Habeck (517) 355-1838.

Thank you for your participation.

APPENDIX C

Section One

First, some questions about your role in the provision of disability management services

1. Please check the item that best describes your current involvement in the provision of disability management services. I am. . .
   - ____A) A company employee who directly provides/administers disability management services in-house (internal provider)
   - ____B) An independent, private consultant/provider or an employee of a consulting firm who provides disability management services (private consultant/provider)
   - ____C) A consultant/provider employed by an insurance carrier or third party administrator who provides disability management services (insurance based consultant/provider)
   - ____D) A rehabilitation educator, researcher, or administrator concerned with disability management issues
   - ____E) A rehabilitation professional, administrator or educator not currently directly involved in disability management.
   - ____F) Other; please specify: _____
     _____
2. If you checked A, B, or C above, please list the key tasks you perform in your job that relate to disability management.
   A) _____
   _____
   B) _____
   _____
   C) _____
   _____
   D) _____
   _____
3. If you checked A, B, C, or D above, which of the following are included in your work relevant to disability management (check all that apply):
   - ____A) Medical/Group Health Benefits
   - ____B) Workers' Compensation
   - ____C) Short Term Disability
   - ____D) Long Term Disability
   - ____E) Other; please specify: _____
     _____

APPENDIX C

Section Two

This series of items presents a number of skills, knowledges, and tasks that have been identified as being related to disability management. We are interested in finding out which of these you perform in the context of your job and how important they are to your work.

In rating the importance of these items to your job, consider factors such as significance, relevance and amount of time spent on each.

Use the following scale to rate each item:

0 - Not a part of my job/does not apply
1 - Under unusual circumstances may be a small part of my job
2 - A minor part of my job
3 - A substantial part of my job
4 - A most significant part of my job

____ 1. Having comprehensive knowledge of workers' compensation laws, compensable injuries, and employer disability benefit systems.

____ 2. Being knowledgeable of employer and labor union policies and regulations relating to safety, disability, and return-to-work.

____ 3. Having basic knowledge of organizational behavior, business operations, and management strategies.

____ 4. Being knowledgeable of the company served, including the jobs performed and the overall corporate culture.

____ 5. Establishing a data gathering and information management systems to monitor disability trends within the employer organization.

____ 6. Using company disability data to identify problem areas, causative factors, and potentially costly cases.

____ 7. Developing other strategies for identifying work-related problems and risk factors which may lead to long-term disability cases.

____ 8. Preparing supervisors and managers to be informed participants in the prevention and management of disability in the workplace.

____ 9. Teaching workers how to avoid injury and illness.

____ 10. Providing an internal case management system that coordinates and monitors activities with health care providers, insurance carriers, and other outside participants.

____ 11. Utilizing a systematic process designed to meet the needs of disabled employees for the purpose of bringing them back to work.

APPENDIX C

Use the following scale to rate each item:

0 - Not a part of my job/does not apply
1 - Under unusual circumstances may be a small part of my job
2 - A minor part of my job
3 - A substantial part of my job
4 - A most significant part of my job

____12. Developing and implementing return-to-work strategies for employees off work due to illness or injury.

____13. Coordinating a team approach to injury management by involving internal company personnel, union representatives, and external service providers.

____14. Monitoring the medical management of a case to determine if the injured worker is receiving treatment, if the worker is satisfied with treatment, and whether the treatment is helping in recovery.

____15. Reviewing medical information to determine functional limitations and their vocational implications.

____16. Assessing medical information, job restrictions, and job requirements to determine modified duty to facilitate return-to-work.

____17. Developing a positive working relationship with the injured worker which is characterized by empathy and positive regard.

____18. Analyzing the physical work environment, employer recruitment practices, and hiring procedures to determine conformance with ADA requirements.

____19. Providing orientation and training on ADA requirements to ensure implementation and employer compliance with regulations

____20. Addressing the psycho-social impact of illness and injury to mitigate barriers to return-to-work and referring for further intervention if necessary.

____21. Having knowledge of community resources and utilizing available resources as appropriate.

____22. Facilitating involvement with mental health and substance abuse service providers and incorporating these services into the return-to-work plan when necessary.

____23. Identifying transferable work skills by analyzing work history, functional capacities, and limitations.

____24. Assuring regular contact with injured workers who are experiencing lost work time.

APPENDIX C

Use the following scale to rate each item:

0 - Not a part of my job/does not apply
1 - Under unusual circumstances may be a small part of my job
2 - A minor part of my job
3 - A substantial part of my job
4 - A most significant part of my job

____25. Facilitating communication and cooperation across departments within the company to bring employees back to work.

____26. Recommending and implementing modifications to existing jobs or job duties to accommodate worker restrictions.

____27. Identifying essential job elements by analyzing job tasks and physical demands.

____28. Facilitating communication between physicians and injured workers to assure accurate information is transpired that facilitates recovery and return-to-work.

____29. Developing cooperative relationships with physicians who serve company employees by educating them about the company's jobs and its capabilities to accommodate return-to-work.

____30. Developing and using criteria for the selection and evaluation of external service providers.

____31. Providing follow-up to supervisors and employees after return-to-work to ensure that work is being performed within restrictions.

____32. Providing expert vocational testimony

____33. Auditing disability claims to prevent service duplication and ensure cost containment.

____34. Identifying the current costs of disability problems in the company and demonstrating to top management how costs can be reduced by solving these problems.

____35. Developing and maintaining a system for program evaluation and documenting outcomes.

APPENDIX C

Use the following scale to rate each item:

0 - Not a part of my job/does not apply
1 - Under unusual circumstances may be a small part of my job
2 - A minor part of my job
3 - A substantial part of my job
4 - A most significant part of my job

36. Are there other skills or tasks you perform which are critical to your role in disability management that aren't mentioned above?

_____Yes _____No

If yes, please list below, then use the scale rate the importance of each item:

Rating	Skills/Tasks
_____	a. _____
_____	b. _____
_____	c. _____
_____	d. _____
_____	e. _____

(If further space required, please use space below)

APPENDIX C

Section Three

The National Leadership Forum on Disability Management (1992), conducted by the Washington Business Group on Health with Michigan State University identified case management as a key component of disability management. However, further refinement of the concept of case management and its value was recommended.

1. Do you have a role in case management?
   _____Yes _____No If yes, please describe your role:
   _____
   _____
   _____
   _____
   _____

2. Consider the objectives of case management as practiced in your organization. Please prioritize the objectives according to the importance they have in your case management services. Place 1 next to the most important objective and proceed until all objectives are ranked.
   ____Facilitate return-to-work
   ____Coordination of services
   ____Cost containment
   ____Reduction of time in treatment
   ____Reduction of service duplication
   ____Secure employee involvement in return-to-work plan
   ____Other, Please specify _____

3. What particular issues or barriers do you face in regard to case management? Please describe:
   _____
   _____
   _____
   _____
   _____

4. Do you have a method for evaluating the outcomes of the case management process?
   _____Yes _____No If yes, please describe this method:
   _____
   _____
   _____
   _____
   _____

APPENDIX C

Section Four

Before concluding, we would like to learn more about you and your knowledge or skill needs relevant to disability management.

1. What degrees, licenses, or certifications do you hold relevant to rehabilitation? Please specify:

   _____
   _____
   _____
   _____
   _____

2. At this point, what are your specific knowledge or skill needs that relate to the provision of disability management services? Please describe:

   _____
   _____
   _____
   _____
   _____

3. What is your current job title:

   _____

APPENDIX C

In conclusion, we wish to inquire about your willingness to participate in the second phase of this study. This would involve a telephone interview that will take about 30 minutes. If you are willing to participate, please complete the following information:

Name _____

Name of firm _____

Address _____

Phone _____

We appreciate your assistance and cooperation in completing this questionnaire.

Means and Standard Deviations of Provider Categories for Survey Items

RATING SCALE:
0 - Not a part of my job, does not apply
1 - Under unusual circumstances may be a small part of my job
2 - A minor part of my job
3 - A substantial part of my job
4 - A most significant part of my job

A = Internal n = 11
B = Private Consultants n = 27
C = Insurance Based n = 10

	A		B		C		Total (n = 48)	
	m	sd	m	sd	m	sd	m	sd
1. Having comprehensive knowledge of workers' compensation laws, compensable injuries and employer disability benefit systems.	3.73	0.47	3.78	0.51	3.40	0.52	3.64	0.20
2. Being knowledgeable of employer & labor union policies & regulations relating to safety, disability and return to work.	3.45	0.69	3.19	0.74	2.90	0.74	3.18	0.28
3. Having basic knowledge of organizational behavior, business operations & mgt strategies.	3.27	0.47	3.19	0.74	2.30	0.95	2.92	0.54
4. Being knowledgeable of the company served, including the jobs performed and the overall corporate culture.	3.82	0.40	3.37	0.56	2.90	1.10	3.36	0.46
5. Establishing a data gathering and information management systems to monitor disability trends with n the employer organization.	2.64	0.92	1.81	1.27	1.60	1.07	2.02	0.55
6. Using company disability data to identify problem areas, causative factors and potentially costly cases.	2.73	0.90	1.72	1.30	1.95	1.21	2.13	0.53
7. Developing other strategies for identifying work-related problems and risk factors which may lead to long-term disability cases.	2.54	1.04	1.89	1.34	1.85	1.16	2.09	0.40
8. Preparing supervisors and managers to be informed participants in the prevention and management of disability in the workplace.	3.09	0.70	2.48	1.12	1.60	1.07	2.39	0.75
9. Teaching workers how to avoid injury and illness.	2.09	1.38	2.00	1.30	1.20	0.79	1.76	0.49
10. Providing an intenal case management system that coordinates and monitors activities with health care providers, insurance carriers and other outside participants.	2.64	1.03	2.07	1.59	2.60	1.35	2.44	0.32
11. Utilizing a systematic process designed to meet the needs of disabled employees for the purpose of bringing them back to work.	3.00	1.18	3.48	0.89	3.10	1.45	3.19	0.25
12. Developing and implementing return-to-work strategies for employees off work due to illness and injury.	3.18	0.98	3.67	0.62	3.70	0.67	3.52	0.28
13. Coordinating a team approach to injury management by involving internal company personnel, union representatives and external service providers.	3.09	0.94	3.00	0.88	2.80	1.03	2.96	0.15
14. Monitoring the medical mgt of a case to determine if the injured worker is receiving treatment, if the worker is satisfied with treatment & whether the treatment is helping in recovery.	2.09	1.14	2.96	1.19	3.00	1.05	2.68	0.51
15. Reviewing medical information to determine functional limitations & their vocational implications	3.36	1.03	3.48	0.75	3.60	0.52	3.48	0.12
16. Assessing medical information, job restrictions and job requirements to determine modified duty to facilitate return-to-work.	3.36	0.92	3.33	0.88	3.80	0.42	3.50	0.26
17. Developing a positive working relationship with the injured worker which is characterized	3.18	0.87	3.63	0.79	3.70	0.67	3.50	0.27

Means and Standard Deviations of Provider Categories for Survey Items

RATING SCALE:
0 - Not a part of my job, does not apply
1 - Under unusual circumstances may be a small part of my job
2 - A minor part of my job
3 - A substantial part of my job
4 - A most significant part of my job

A = Internal n = 11
B = Private Consultants n = 27
C = Insurance Based n = 10

	A		B		C		Total (n=48)	
	m	sd	m	sd	m	sd	m	sd
by empathy and positive regard.								
18. Analyzing the physical work environment, employer recruitment practices and hiring procedures to determine conformance with ADA requirements.	2.73	1.01	2.61	1.18	1.80	1.32	2.38	0.51
19. Providing orientation and training on ADA requirements to ensure implementation and employer compliance with regulations.	3.00	1.00	2.11	1.19	1.22	1.30	2.11	0.89
20. Addressing the psycho-social impact of illness and injury to mitigate barriers to return-to-work and referring for further intervention if necessary.	2.82	0.98	3.22	0.97	3.60	0.52	3.21	0.39
21. Having knowledge of community resources and utilizing available resources as appropriate.	2.73	0.90	3.48	0.80	3.40	0.70	3.20	0.41
22. Facilitating involvement with mental health and substance abuse service providers and incorporating these services into the return-to-work plan when necessary.	2.45	0.82	2.11	1.09	2.60	0.70	2.39	0.25
23. Identifying transferable work skills by analyzing work history, functional capacities & limitations.	2.73	0.65	3.41	0.97	3.40	0.70	3.18	0.39
24. Assuring regular contact with injured workers who are experiencing lost work time.	2.64	0.92	3.48	0.80	3.60	0.52	3.24	0.52
25. Facilitating communication and cooperation across departments within the company to bring employees back to work.	3.55	0.52	2.52	1.05	2.80	0.92	2.96	0.53
26. Recommending and implementing modifications to existing jobs or job duties to accommodate worker restrictions.	3.27	0.79	2.96	1.06	3.30	0.95	3.18	0.19
27. Identifying essential job elements by analyzing job tasks and physical demands.	2.73	0.65	2.93	1.17	2.60	1.26	2.75	0.17
28. Facilitating communication between physicians and injured workers to assure accurate information is transpired that facilitates recovery and return-to-work.	2.50	0.81	3.00	1.04	3.30	0.67	2.93	0.40
29. Developing coperative relationships with physicians who serve company employees by educating them about the company's jobs and its capabilities to accommodate return-to- work.	2.36	1.03	2.59	0.93	2.75	1.14	2.57	0.20
30. Developing and using criteria for the selection and evaluation of external service providers.	1.73	0.65	1.44	1.28	2.50	0.94	1.89	0.55
31. Providing :ollow-up to supervisors and employees after return-to-work to ensure that work is being performed within restrictions.	2.64	0.81	2.85	0.99	2.70	0.95	2.73	0.11
32. Providing expert vocational testimony.	0.91	0.83	1.81	1.64	1.10	1.10	1.27	0.47
33. Auditing disability claims to prevent service duplicatioon and ensure cost containment.	0.82	1.25	0.96	1.34	1.10	1.10	0.96	0.14
34. Identifying the current costs of disability problems in the company and demonstrating to top management how costs can be reduced by solving these problems.	2.18	1.08	1.48	1.34	1.50	1.27	1.72	0.40
35. Developing and maintaining a system for program evaluation and documenting outcomes.	2.09	1.30	2.07	1.41	1.65	1.60	1.94	0.25

APPENDIX E

INSTRUCTIONS

REHABILITATION PRACTITIONER SURVEY

You are asked in the enclosed *Rehabilitation Skills Inventory* to review a variety of 114 professional skills for their relative "importance" in your current job, and also for your present "attainment" of each skill. The type and level of skills needed will vary according to your employment setting and rehabilitation specialization.

Please answer all skill items using these five-point scales for both "importance" and "attainment":

Scale 1. **IMPORTANCE:** To what extent is this professional skill important for your primary work role, be it counseling, evaluation, or placement, in your current job setting; how critical to your clients' rehabilitation is your use of this skill in your job? Evaluate the "importance" of the skill in your own phase of the rehabilitation process as follows:

[0] **None:** Not at all important

[1] **Little:** Minor importance

[2] **Moderate:** Fairly important

[3] **High:** Substantial importance

[4] **Maximal:** Essential; crucial

Scale 2. **ATTAINMENT:** How would you rate your current proficiency in this professional skill in meeting rehabilitation client service needs; to what extent can you do this independently? Indicate your own level of ability, whether or not it is an important client service in the job you have now. It is essential for you to carefully consider and report accurately your skill "attainment" on this scale for each item:

[0] **None:** Unable to perform task (no knowledge or skill)

[1] **Little:** Limited proficiency (training or supervision needed)

[2] **Moderate:** Fairly proficient (training or supervision helpful)

[3] **High:** Very proficient (no training or supervision needed)

[4] **Maximal:** Outstanding (could train and supervise workers)

After you complete the *Inventory*, please fill in the *Demographic Questionnaire*, enclosed. All of your answers are confidential.

If possible, answer these items immediately while instructions are well in mind. Use this sheet for easy reference. At your earliest convenience, please return both questionnaires in our self-addressed, stamped envelope.

APPENDIX E

REHABILITATION SKILLS INVENTORY

- USE A NO. 2 PENCIL ONLY
- FILL CIRCLES COMPLETELY
- ERASE CHANGES CLEANLY
- RETURN IN ENVELOPE PROVIDED

SKILL RATINGS: 0 = None, 1 = Little, 2 = Mo, 3 = Hig, 4 = Ma

	IMPORTANCE	ATTAI
1. Assess the significance of clients' disabilities in consideration of medical, psychological, educational and familial status.	⓪①②③④	⓪①
2. Interview the client to verify accuracy of case information.	⓪①②③④	⓪①
3. Evaluate the client's social support system (family, friends and community relationships).	⓪①②③④	⓪①
4. Determine appropriate community services for clients' stated needs.	⓪①②③④	⓪①
5. Determine a client's ability to perform independent living activities.	⓪①②③④	⓪①
6. Identify transferable work skills by analyzing client's work history and functional assets and limitations.	⓪①②③④	⓪①
7. Assess clients' readiness for gainful employment.	⓪①②③④	⓪①
8. Select evaluation instruments and techniques according to their appropriateness and usefulness for a particular client.	⓪①②③④	⓪①
9. Design appropriate testing environments.	⓪①②③④	⓪①
10. Utilize statistical concepts associated with assessment instruments (mean, percentile, standard score).	⓪①②③④	⓪①
11. Adhere to the American Psychological Association Test Standards and Restrictions (classes A, B, C).	⓪①②③④	⓪①
12. Employ newer applications in vocational assessment including computerized techniques.	⓪①②③④	⓪①
13. Evaluate standardized instruments with respect to validity, reliability, and appropriate norming.	⓪①②③④	⓪①
14. Administer appropriate standardized tests and/or work samples.	⓪①②③④	⓪①
15. Interpret test and/or work sample results to clients and others.	⓪①②③④	⓪①
16. Identify client work personality characteristics to be observed and rated on an actual job or simulated work situation.	⓪①②③④	⓪①
17. Utilize measurable terms to systematically describe and record client behavior.	⓪①②③④	⓪①
18. Utilize behavior observation scales and techniques (e.g., time sampling, point sampling).	⓪①②③④	⓪①
19. Use behavioral observations to make inferences about work personality characteristics and adjustment.	⓪①②③④	⓪①
20. Adapt evaluation tools and systems to meet special client needs.	⓪①②③④	⓪①
21. Design work situations for observing specific client behaviors.	⓪①②③④	⓪①
22. Develop local norms for assessment instruments and techniques.	⓪①②③④	⓪①
23. Integrate assessment data to describe clients' residual capacities for purposes of rehabilitation planning.	⓪①②③④	⓪①
24. Match client needs with job reinforcers and client aptitudes with job requirements.	⓪①②③④	⓪①
25. Make logical job, work area or adjustment training recommendations based on comprehensive client information.	⓪①②③④	⓪①
26. Develop a therapeutic relationship characterized by empathy and positive regard for the client.	⓪①②③④	⓪①
27. Clarify for clients mutual expectations and the nature of the counseling relationship.	⓪①②③④	⓪①
28. Identify one's own biases and weaknesses which may affect the development of a healthy client relationship.	⓪①②③④	⓪①

APPENDIX E

SKILL RATINGS: 0 = None, 1 = Little, 2 = Moderate, 3 = High, 4 = Maximal

	IMPORTANCE	ATTAINME
29. Adjust counseling approaches or styles according to client cognitive and personality characteristics	0 1 2 3 4	0 1 2 3
30. Interpret to clients diagnostic information (e.g., tests, vocational and educational records, medical reports)	0 1 2 3 4	0 1 2 3
31. Apply psychological and social theory to develop strategies for rehabilitation intervention	0 1 2 3 4	0 1 2 3
32. Employ counseling techniques (e.g., reflection, interpretation, summarization) to facilitate client self-exploration	0 1 2 3 4	0 1 2 3
33. Identify social, economic and environmental forces that may adversely affect a client's motivation toward rehabilitation	0 1 2 3 4	0 1 2 3
34. Use assessment information to provide clients with insights into personal dynamics (e.g., denial or distortion)	0 1 2 3 4	0 1 2 3
35. Prepare with clients rehabilitation plans with mutually agreed upon interventions and goals	0 1 2 3 4	0 1 2 3
36. Assist clients in terminating counseling in a positive manner, thus enhancing their ability to function independently	0 1 2 3 4	0 1 2 3
37. Recognize psychological problems (e.g., depression, suicidal ideation) requiring consultation or referrals	0 1 2 3 4	0 1 2 3
38. Counsel with clients to identify emotional reactions to disability	0 1 2 3 4	0 1 2 3
39. Assist clients in verbalizing specific behavioral goals for personal adjustment	0 1 2 3 4	0 1 2 3
40. Explore clients' needs for individual, group or family counseling	0 1 2 3 4	0 1 2 3
41. Assist clients in modifying their lifestyles to accommodate functional limitations	0 1 2 3 4	0 1 2 3
42. Counsel clients to help them appreciate and emphasize their personal assets	0 1 2 3 4	0 1 2 3
43. Provide information to help clients answer other individuals' questions about their disabilities	0 1 2 3 4	0 1 2 3
44. Confront clients with observations about inconsistencies between their goals and their behavior	0 1 2 3 4	0 1 2 3
45. Use behavioral techniques such as shaping, rehearsal, modeling and contingency management	0 1 2 3 4	0 1 2 3
46. Assist clients in understanding stress and in utilizing mechanisms for coping	0 1 2 3 4	0 1 2 3
47. Counsel with a client's family to provide information and support positive coping behaviors	0 1 2 3 4	0 1 2 3
48. Counsel regarding sexual concerns related to the presence of a disability	0 1 2 3 4	0 1 2 3
49. Counsel with clients using group methods	0 1 2 3 4	0 1 2 3
50. Review medical information with clients to determine vocational implications of their functional limitations	0 1 2 3 4	0 1 2 3
51. Counsel with clients regarding educational and vocational implications of test and interview information	0 1 2 3 4	0 1 2 3
52. Counsel clients to select jobs consistent with their abilities, interests and rehabilitation goals	0 1 2 3 4	0 1 2 3
53. Recommend occupational and/or educational materials for clients to explore vocational alternatives	0 1 2 3 4	0 1 2 3
54. Relate clients' stated interests and values to vocational choices	0 1 2 3 4	0 1 2 3
55. Discuss with clients labor market conditions which may influence the feasibility of entering certain occupations	0 1 2 3 4	0 1 2 3
56. Discuss clients' vocational plans when they appear unrealistic	0 1 2 3 4	0 1 2 3

APPENDIX E

	SKILL RATINGS: 0 = None, 1 = Little, 2 = Mode, 3 = High, 4 = Maxir	
	IMPORTANCE	ATTAIN
57. Develop mutually agreeable vocational counseling goals	⓪①②③④	⓪①②
58. Identify and arrange for functional or skill remediation services for clients' successful job placements	⓪①②③④	⓪①②
59. Use supportive counseling techniques to prepare clients for the stress of job hunting	⓪①②③④	⓪①②
60. Instruct clients in methods of systematic job search skills	⓪①②③④	⓪①②
61. Instruct clients in preparing for the job interview (e.g., job application, attire, interviewing skills.)	⓪①②③④	⓪①②
62. Counsel with clients regarding desirable work behaviors to help them improve their employability	⓪①②③④	⓪①②
63. Develop acceptable client work behavior through the use of behavioral techniques	⓪①②③④	⓪①②
64. Conduct group activities and programs such as job clubs, vocational exploration groups or job-seeking skills groups	⓪①②③④	⓪①②
65. Monitor clients' post-employment adjustment to determine need for additional services	⓪①②③④	⓪①②
66. Apply labor market information influencing the tasks of locating, obtaining and progressing in employment	⓪①②③④	⓪①②(
67. Use local resources to assist with placement (e.g., employer contacts, colleagues, state job service)	⓪①②③④	⓪①②(
68. Use computerized systems for job placement assistance	⓪①②③④	⓪①②(
69. Inform clients of job openings suitable to their needs and abilities	⓪①②③④	⓪①②(
70. Identify educational and training requirements for specific jobs	⓪①②③④	⓪①②(
71. Analyze the tasks of a job, utilizing standard D.O.L. methods	⓪①②③④	⓪①②(
72. Classify local jobs using D.O.T. and/or other classification systems	⓪①②③④	⓪①②(
73. Recommend modifications of job tasks to accommodate a client's functional limitations	⓪①②③④	⓪①②(
74. Apply knowledge of individual assistive devices and how they impact on job modification	⓪①②③④	⓪①②(
75. Utilize occupational information materials such as the D.O.T., O.O.H. and other publications	⓪①②③④	⓪①②(
76. Determine the level of intervention necessary for job placement (e.g., job club, supported work, O.J.T.)	⓪①②③④	⓪①②(
77. Understand the applications of current legislation affecting the employment of disabled individuals	⓪①②③④	⓪①②(
78. Respond to employers' biases and concerns regarding hiring persons with disabilities	⓪①②③④	⓪①②(
79. Negotiate with employers or labor union representatives to reinstate/rehire an injured worker	⓪①②③④	⓪①②(
80. Provide prospective employers with appropriate information on clients' work skills and abilities	⓪①②③④	⓪①②(
81. Provide consultation to employers regarding accessibility and affirmative action issues	⓪①②③④	⓪①②(
82. Serve as a vocational expert to public agencies, law firms, and/or private businesses	⓪①②③④	⓪①②(
83. Provide expert opinion or testimony regarding employability and rehabilitation feasibility	⓪①②③④	⓪①②(
84. Provide information regarding your organization's programs to current and potential referral sources	⓪①②③④	⓪①②(
85. Coordinate activities of all agencies involved in a rehabilitation plan	⓪①②③④	⓪①②(

APPENDIX E

SKILL RATINGS: 0 = None, 1 = Little, 2 = Moderate, 3 = High, 4 = Maximal

	IMPORTANCE	ATTAINMENT
86. Describe Social Security regulations and procedures regarding disability determination and benefits	0 1 2 3 4	0 1 2 3 4
87. Report to referral sources regarding progress of cases	0 1 2 3 4	0 1 2 3 4
88. Monitor client progress using goal-attainment scaling or other rating systems	0 1 2 3 4	0 1 2 3 4
89. Collaborate with other providers so that services are coordinated, appropriate and timely	0 1 2 3 4	0 1 2 3 4
90. Consult with medical professionals regarding functional capacities, prognosis, and treatment plans for clients	0 1 2 3 4	0 1 2 3 4
91. Understand insurance claims processing and professional responsibilities in workers' compensation	0 1 2 3 4	0 1 2 3 4
92. Refer clients to appropriate specialists and/or for special services	0 1 2 3 4	0 1 2 3 4
93. State clearly the nature of clients' problems for referral to service providers	0 1 2 3 4	0 1 2 3 4
94. Select appropriate adjustment alternatives such as rehabilitation centers or educational programs	0 1 2 3 4	0 1 2 3 4
FOLD HERE ONLY		
95. Explain the services and limitations of various community resources to clients	0 1 2 3 4	0 1 2 3 4
96. Compile and interpret client information to maintain a current case record	0 1 2 3 4	0 1 2 3 4
97. Write case notes, summaries, and reports so that others can understand the case	0 1 2 3 4	0 1 2 3 4
98. Document all significant client vocational findings sufficient for legal testimony or records	0 1 2 3 4	0 1 2 3 4
99. Make sound and timely financial decisions within the context of your work setting	0 1 2 3 4	0 1 2 3 4
100. Negotiate financial responsibilities with the referral source and/or sponsor for a client's rehabilitation	0 1 2 3 4	0 1 2 3 4
101. Market rehabilitation services to businesses and organizations	0 1 2 3 4	0 1 2 3 4
102. Identify and comply with ethical and legal implications of client relationships	0 1 2 3 4	0 1 2 3 4
103. Abide by ethical and legal considerations of case communication and recording (e.g., confidentiality)	0 1 2 3 4	0 1 2 3 4
104. Read professional literature related to business, labor markets, medicine and rehabilitation	0 1 2 3 4	0 1 2 3 4
105. Conduct a review of the rehabilitation literature on a given topic or case problem	0 1 2 3 4	0 1 2 3 4
106. Apply published research results to professional practice	0 1 2 3 4	0 1 2 3 4
FOLD HERE ONLY		
107. Apply principles of rehabilitation legislation to daily practice	0 1 2 3 4	0 1 2 3 4
108. Explain the development and philosophical foundations of rehabilitation to the general public	0 1 2 3 4	0 1 2 3 4
109. Educate clients regarding their rights under federal and state laws	0 1 2 3 4	0 1 2 3 4
110. Interpret your organization's policy, laws, and regulations to clients and others	0 1 2 3 4	0 1 2 3 4
111. Participate with advocacy groups to promote rehabilitation programs	0 1 2 3 4	0 1 2 3 4
112. Promote public awareness and legislative support of rehabilitation programs	0 1 2 3 4	0 1 2 3 4
113. Identify and challenge stereotypic views toward persons with disabilities	0 1 2 3 4	0 1 2 3 4
114. Obtain regular client feedback regarding satisfaction with services delivered and suggestions for improvement	0 1 2 3 4	0 1 2 3 4

APPENDIX F

Dear Colleague,

I am writing to request your participation in a nationwide study of disability management practitioners to determine the perceived importance of specific knowledge and skill areas to the provision of disability management services, and the degree to which your education and training prepared you in these areas. As you may be aware, one of the goals of disability management is to reduce the human and economic costs associated with injury and disability in the workplace. In order to fully reach this goal and maximize the potential of disability management, it is necessary to obtain information from practitioners who are currently involved in the provision of disability management services.

You have been identified as an individual who may be currently providing disability management services and it is hoped that you will participate in this study. Disability management, for the purpose of this investigation, is a coordinated, comprehensive, employer-based approach to managing disability in the workplace. Furthermore, disability management is a preventive strategy to reduce the economic and human costs associated with disability by reducing disability incidence and coordinating return to work. Please consider this definition in relation to your current work role when assessing your involvement in the provision of disability management services. In order to obtain valid information that documents the nature of disability management practice and delineates the importance of specific knowledge and skills, it is important that you are currently providing disability management services. If you are not currently involved in the provision of disability management services, please indicate this and complete only the demographic questionnaire (do not complete the Disability Management Skills Inventory).

Enclosed you will find a **Demographic Questionnaire** and a **Disability Management Skills Inventory**. It is expected that completion of these instruments will take about 30 minutes of your time. Participation is voluntary and you indicate your voluntary agreement to participate by completing and returning the enclosed questionnaires. Your responses will be kept confidential. Please consider participating in this study as your responses are valued and critical to the continued advancement of disability management.

Please complete the enclosed questionnaires and return in the enclosed envelope by **July 17, 1995**. If you would like additional information or have any questions regarding this investigation, please feel free to contact me at (517) 355-1838.

Thank you in advance for your participation.
Sincerely,

Susan M. Scully, Doctoral Student
Rehabilitation Counselor Education, Michigan State University

APPENDIX G

Dear Colleague,

I am writing again to encourage you to participate in a nationwide study of disability management practitioners. The purpose of this study is to determine the perceived importance of specific knowledge and skill areas to the provision of disability management services. You have been identified as an individual who may be currently providing disability management services therefore making your involvement in this research necessary. Without your involvement, advancing the field of disability management will be difficult. I realize that your time is valuable, however, your responses are critical to the outcomes of the study. You may also find it helpful to review a comprehensive list of knowledge and skill areas thought to be associated with disability management.

Disability management, for the purpose of this investigation, is a coordinated, comprehensive, employer-based approach to managing disability in the workplace. Furthermore, disability management is a preventive strategy to reduce the economic and human costs associated with disability by reducing disability incidence and coordinating return to work. Please consider this definition in relation to your current work role when assessing your involvement in the provision of disability management services. In order to obtain valid information that documents the nature of disability management practice and delineates the importance of specific knowledge and skills, it is important that you are currently providing disability management services. If you are not currently involved in the provision of disability management services, please indicate this and complete only the demographic questionnaire (do not complete the Disability Management Skills Inventory).

Enclosed you will find a **Demographic Questionnaire** and a **Disability Management Skills Inventory**. It is expected that completion of these instruments will take about 30 minutes of your time. Participation is voluntary and you indicate your voluntary agreement to participate by completing and returning the enclosed questionnaires. Your responses will be kept confidential. Please consider participating in this study as your responses are valued and critical to the continued advancement of disability management.

To eliminate the cost of future mailings and follow-up, please complete the enclosed questionnaires and return in the enclosed envelope by **October 5, 1995**. If you would like additional information or have any questions regarding this investigation, please feel free to contact me at (517) 355-1838.

Thank you in advance for your participation.
Sincerely,

Susan M. Scully, Doctoral Student
Rehabilitation Counselor Education, Michigan State University

APPENDIX H

Dear Colleagues,

Attached are copies of the **Disability Management Skills Inventory** and **Demographic Questionnaire.** These questionnaires were developed for use in a nationwide study of disability management practitioners. The purpose of the study is to determine the perceived importance of specific knowledge and skill areas to the provision of disability management services and the degree that practitioner's education and training prepared them in these specific areas. One of the goals of disability management is to reduce the human and economic costs associated with injury and disability in the workplace. To fully reach this goal and maximize the potential of disability management, it is necessary to obtain information from practitioners who are currently involved in the provision of disability management services.

Your participation in this study is critical to advancing the field of disability management and to advancing our role as professionals in the provision of disability management services. You may recall participating in a similar study in 1993 at the Disability Management Conference at Michigan State University. Your responses proved invaluable and have been utilized by CARF to develop standards for disability management programs.

It is expected that completion of these questionnaires will take approximately 30 minutes of your time. Your participation is voluntary and your responses will be kept confidential. Please complete the attached questionnaires, seal them in the envelope provided and place them in the designated box that is located in the Kellogg Center **Lincoln Room.** If you are unable to complete the survey during the conference, please return it by mail in the envelope provided by July 5, 1995.

As part of a select and active group of professionals, your participation is extremely important to further advance the field of disability management. Thank you in advance for your participation and please feel free to contact me if you have any questions regarding the study.

Thank you,

Susan M. Scully
Doctoral Student, Rehabilitation Counselor Education
Michigan State University

APPENDIX H

Disability Management Conference Participant,

I hope that you found the conference to be interesting and informative. In order to advance the field of disability management it is essential to conduct meaningful research about the knowledge and skills needed to provide effective services. If you have completed your **Disability Management Survey** at the conference, thank you for your participation. If you have not returned your survey I am requesting that you please complete and mail by **July 17, 1995**. Returning your survey promptly will eliminate the cost of mailing another set of questionnaires. Thank you.

Susan M. Sally

Michigan State University
Rehabilitation Counselor Education
335 Erickson Hall
East Lansing, MI 48824

APPENDIX I

Means and Standard Deviations for Provider Settings on DMSI Items

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Imp 1	3.65	.55	3.63	.65	3.64	.63
Imp 2	3.37	.75	3.56	.63	3.46	.60
Imp 3	2.95	.97	3.06	.85	2.97	1.04
Imp 4	2.84	1.13	3.21	.90	2.77	1.18
Imp 5	2.95	1.12	2.73	1.04	2.56	1.29
Imp 6	3.58	.65	3.63	.75	3.67	.70
Imp 7	2.68	1.06	2.92	.91	2.64	1.22
Imp 8	2.42	1.07	2.52	.99	2.56	1.23
Imp 9	1.95	1.17	2.94	1.15	2.77	1.40
Imp 10	1.70	1.26	1.96	1.17	1.90	1.39
Imp 11	3.25	1.04	2.92	1.04	3.38	.88
Imp 12	1.77	1.28	2.07	1.28	2.05	1.39
Imp 13	3.33	.87	3.59	.73	3.62	.59
Imp 14	3.26	.99	3.03	1.11	2.90	1.21
Imp 15	3.11	.86	3.13	.92	3.26	.85
Imp 16	3.19	.90	3.23	.89	3.31	.83
Imp 17	1.88	1.50	2.79	1.09	2.28	1.45
Imp 18	2.39	1.33	2.37	1.35	2.10	1.45
Imp 19	3.23	.91	3.33	.82	3.26	.97
Imp 20	2.45	1.46	2.41	1.30	1.92	1.38

APPENDIX I

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Imp 21	2.30	1.46	2.29	1.38	2.18	1.71
Imp 22	3.11	1.23	2.53	1.33	2.38	1.37
Imp 23	2.86	1.11	3.11	.87	3.18	.97
Imp 24	3.26	.79	3.27	.92	3.10	.99
Imp 25	3.23	.82	3.49	.85	3.23	1.09
Imp 26	2.61	1.13	3.12	1.00	2.85	1.23
Imp 27	2.69	1.15	2.99	1.11	2.79	1.38
Imp 28	2.66	1.30	3.32	.98	3.23	1.29
Imp 29	2.25	1.26	2.71	1.20	2.79	1.30
Imp 30	2.00	1.41	2.92	1.05	2.67	1.32
Imp 31	3.40	1.01	3.43	.77	3.46	.72
Imp 32	3.20	.97	3.18	.92	3.18	.85
Imp 33	2.98	.97	2.99	.77	2.82	1.00
Imp 34	2.62	1.33	2.70	1.10	2.59	1.23
Imp 35	3.05	1.06	2.88	1.31	3.18	1.14
Imp 36	3.05	1.13	3.07	1.04	3.08	1.13
Imp 37	2.96	1.23	2.85	1.21	2.59	1.46
Imp 38	2.89	1.12	2.86	1.12	2.87	1.17
Imp 39	2.18	1.23	2.99	1.01	2.79	1.38
Imp 40	2.89	1.14	2.45	1.07	2.49	1.23
Imp 41	2.83	1.28	2.06	1.34	2.28	1.52

APPENDIX I

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Imp 42	3.09	1.26	3.45	.84	3.21	1.15
Imp 43	3.58	.76	3.61	.82	3.59	.68
Imp 44	2.98	1.22	3.29	091	3.10	1.05
Imp 45	2.79	1.23	3.19	1.03	2.82	1.35
Imp 46	2.31	1.34	3.03	1.08	2.46	1.45
Imp 47	2.23	1.39	3.07	1.08	2.49	1.54
Imp 48	2.55	1.26	2.91	.95	2.79	.83
Imp 49	3.11	1.05	2.88	.97	2.74	1.19
Imp 50	3.58	.78	3.50	.74	3.56	.79
Imp 51	2.59	1.11	2.53	1.09	2.56	1.33
Imp 52	3.21	1.17	2.86	1.26	2.95	1.30
Imp 53	3.21	.98	3.12	1.11	3.28	1.15
Imp 54	2.58	1.22	2.68	1.03	1.97	1.25
Imp 55	2.61	1.46	2.59	1.30	2.00	1.41
Imp 56	2.89	1.08	2.68	1.20	2.74	1.29
Imp 57	2.16	1.45	2.82	1.20	2.38	1.37
Imp 58	3.42	.89	2.81	1.29	2.97	1.25
Imp 59	2.85	1.22	2.34	1.48	2.64	1.42
Imp 60	2.86	1.09	2.41	1.30	2.90	1.25
Imp 61	3.39	.78	3.20	.82	3.34	.85
Imp 62	3.11	.95	3.24	.91	3.08	1.08

APPENDIX I

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Imp 63	2.46	1.16	2.94	1.02	2.47	1.47
Imp 64	2.41	1.33	2.77	1.02	2.76	1.26
Imp 65	2.36	1.30	2.73	1.03	2.34	1.34
Imp 66	1.93	1.46	2.30	1.28	2.08	1.34
Imp 67	2.91	1.02	2.77	1.12	2.68	1.21
Imp 68	2.07	1.15	2.33	1.18	2.00	1.34
Imp 69	2.77	1.33	3.07	.98	3.16	1.05
Imp 70	2.82	1.24	2.84	1.08	3.00	.93
Imp 71	3.30	1.19	2.87	1.34	3.32	.93
Imp 72	3.14	1.09	3.14	1.01	3.03	1.26
Imp 73	3.14	1.01	3.21	.90	3.29	1.04
Imp 74	2.61	1.29	2.32	1.27	2.21	1.47
Imp 75	2.50	1.36	2.60	1.22	2.63	1.44
Imp 76	2.79	1.20	2.85	.98	2.76	1.17
Imp 77	3.18	1.02	3.23	.89	3.08	1.17
Imp 78	2.63	1.18	2.29	1.16	2.97	1.22
Imp 79	2.61	1.29	3.10	1.01	2.76	1.24
Imp 80	2.46	1.26	3.10	.96	2.74	1.31
Imp 81	2.75	1.18	3.20	.93	2.92	1.26
Imp 82	3.40	.75	3.52	.75	3.61	.86
Imp 83	2.80	1.15	3.04	.90	2.66	1.19

APPENDIX I

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Imp 84	2.68	1.18	2.86	.92	2.45	1.16
Imp 85	2.47	1.25	2.55	1.06	2.39	1.20
Imp 86	2.05	1.41	2.43	1.10	1.95	1.35
Imp 87	3.47	.71	3.05	.96	3.16	1.03
Imp 88	2.43	1.32	2.47	1.15	2.39	1.37
Imp 89	3.02	1.22	3.00	1.04	3.05	1.23
Imp 90	3.05	1.11	2.68	1.22	2.79	1.54
Imp 91	3.32	1.01	3.15	1.02	3.15	1.16
Imp 92	3.16	1.03	2.46	1.22	2.59	1.31
Imp 93	3.21	1.12	2.81	1.36	2.95	1.38
Imp 94	2.75	1.30	2.30	1.24	2.28	1.41
Imp 95	3.49	.80	3.14	1.22	3.36	1.11
Imp 96	2.88	1.35	3.33	.94	3.18	1.12
Imp 97	2.98	1.24	2.51	1.47	2.72	1.52
Imp 98	2.23	1.48	2.94	1.22	2.64	1.55
Imp 99	2.40	1.42	2.76	1.07	2.46	1.37
Imp 100	2.45	1.33	2.12	1.37	2.49	1.55
Imp 101	2.77	1.24	2.17	1.45	2.67	1.42
Prep 1	3.25	.79	3.03	.97	3.18	.95
Prep 2	2.95	.99	3.06	.97	2.97	.88
Prep 3	2.49	1.02	2.71	.96	2.71	.73

APPENDIX I

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Prep 4	2.81	1.22	2.97	.94	2.82	.93
Prep 5	2.04	1.18	1.90	1.13	1.79	1.30
Prep 6	3.14	.95	3.14	1.02	2.97	1.20
Prep 7	2.59	1.19	2.97	1.06	2.87	1.09
Prep 8	2.21	1.24	2.53	1.08	2.58	1.03
Prep 9	1.87	1.25	2.57	1.38	2.70	1.35
Prep 10	.95	1.02	1.55	1.17	1.42	1.18
Prep 11	2.19	1.44	2.19	1.30	2.63	1.32
Prep 12	1.27	1.31	1.59	1.40	1.89	1.48
Prep 13	2.88	1.13	2.98	1.15	2.82	1.25
Prep 14	2.63	1.25	2.49	1.08	2.79	1.02
Prep 15	2.54	1.12	2.77	1.02	2.79	1.04
Prep 16	2.61	1.06	2.90	1.04	3.05	.87
Prep 17	1.39	1.34	1.89	1.31	1.63	1.32
Prep 18	1.84	1.47	1.72	1.27	1.84	1.42
Prep19	2.72	1.11	2.62	1.09	2.68	1.21
Prep 20	1.95	1.43	1.99	1.24	2.05	1.43
Prep 21	1.84	1.32	1.79	1.33	1.87	1.32
Prep 22	1.98	1.36	1.86	1.31	2.05	1.18
Prep 23	2.63	1.08	2.85	1.02	3.08	.88
Prep 24	3.33	.81	3.38	.93	3.34	.75

APPENDIX I

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Prep 25	3.21	.94	3.37	.93	3.37	.88
Prep 26	2.60	1.24	2.93	1.16	2.89	1.25
Prep 27	2.64	1.20	2.74	1.16	2.79	1.32
Prep 28	2.54	1.36	2.88	1.14	2.92	1.34
Prep 29	2.42	1.24	2.66	1.27	2.66	1.19
Prep 30	2.16	1.38	2.68	1.22	2.45	1.25
Prep 31	2.31	1.39	2.65	1.21	2.74	1.16
Prep 32	2.38	1.28	2.46	1.12	2.24	1.32
Prep 33	2.73	.99	2.76	.89	2.58	.95
Prep 34	2.33	1.28	2.49	1.11	2.45	1.11
Prep 35	2.71	1.21	2.62	1.29	2.87	1.21
Prep 36	2.75	1.34	2.65	1.15	2.79	1.26
Prep 37	2.31	1.41	2.35	1.19	2.39	1.31
Prep 38	2.13	1.32	2.00	1.25	2.08	1.34
Prep 39	2.45	1.34	3.04	1.10	2.97	1.28
Prep 40	2.61	1.20	2.40	1.08	2.16	1.03
Prep 41	1.70	1.40	1.50	1.19	1.55	1.20
Prep 42	2.63	1.35	3.18	1.03	3.16	.95
Prep 43	3.33	.92	3.34	.88	3.24	1.05
Prep 44	2.81	1.14	3.04	1.03	3.00	1.07
Prep 45	2.29	1.36	2.86	1.18	2.74	1.31

APPENDIX I

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Prep 46	2.28	1.43	2.84	1.14	2.50	1.25
Prep 47	2.27	1.48	2.82	1.31	2.68	1.38
Prep 48	2.54	1.17	2.89	1.02	3.00	.81
Prep 49	2.35	1.26	2.07	1.08	2.18	1.11
Prep 50	2.98	1.06	3.14	.94	3.13	.99
Prep 51	2.45	1.22	2.32	1.17	2.50	1.08
Prep 52	2.54	1.29	2.29	1.28	2.53	1.18
Prep 53	2.72	1.08	2.70	1.15	2.89	1.23
Prep 54	2.14	1.26	2.40	1.16	2.16	1.17
Prep 55	2.23	1.53	2.15	1.26	1.95	1.09
Prep 56	2.40	1.10	2.12	1.29	2.24	1.34
Prep 57	2.09	1.53	2.58	1.35	2.26	1.33
Prep 58	2.56	1.21	2.27	1.27	2.58	1.11
Prep 59	1.84	1.38	1.76	1.34	1.84	1.39
Prep 60	1.71	1.34	1.64	1.31	1.55	1.25
Prep 61	3.14	1.00	2.89	1.07	3.14	1.00
Prep 62	2.91	1.03	3.01	1.02	2.81	1.02
Prep 63	2.48	1.28	2.84	1.20	2.70	1.27
Prep 64	2.29	1.26	2.66	1.02	2.76	1.01
Prep 65	2.34	1.28	2.59	1.02	2.54	1.04
Prep 66	2.15	1.37	2.26	1.22	2.27	1.19

APPENDIX I

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Prep 67	2.32	1.17	2.28	1.27	2.41	1.28
Prep 68	2.16	1.08	2.27	1.22	2.24	1.14
Prep 69	2.71	1.20	2.94	1.04	3.24	.86
Prep 70	2.25	1.24	2.38	1.23	2.32	1.06
Prep 71	2.70	1.26	2.20	1.37	2.97	1.09
Prep 72	2.79	1.21	2.75	1.19	2.81	1.29
Prep 73	2.81	1.04	2.87	1.15	3.00	.94
Prep 74	2.30	1.28	2.01	1.33	1.89	1.52
Prep 75	1.93	1.26	1.81	1.23	2.14	1.49
Prep 76	2.18	1.25	2.14	1.11	2.14	1.11
Prep 77	2.60	1.18	2.57	1.07	2.57	1.09
Prep 78	2.27	1.12	1.90	1.22	2.73	1.10
Prep 79	2.63	1.18	3.00	1.08	2.78	1.16
Prep 80	2.68	1.22	2.99	1.08	2.86	1.18
Prep 81	2.73	1.18	3.01	1.03	2.78	1.20
Prep 82	3.11	1.08	3.23	.94	3.19	1.00
Prep 83	2.67	1.07	2.95	1.02	2.68	1.13
Prep 84	2.61	1.04	2.79	.95	2.62	1.11
Prep 85	2.40	1.24	2.60	1.05	2.59	1.17
Prep 86	2.09	1.28	2.53	1.09	2.54	1.26
Prep 87	2.70	1.24	2.40	1.09	2.49	1.10

APPENDIX I

	Internal Providers		External Providers		Insurance Based Providers	
DMSI Item	M	SD	M	SD	M	SD
Prep 88	2.41	1.26	2.55	1.13	2.51	1.24
Prep 89	2.82	1.09	2.78	1.07	2.84	1.07
Prep 90	2.24	1.32	2.21	1.25	2.35	1.21
Prep 91	2.57	1.23	2.57	1.14	2.66	1.05
Prep 92	2.53	1.27	2.00	1.14	2.32	1.07
Prep 93	2.57	1.19	2.28	1.28	2.39	1.28
Prep 94	2.14	1.21	1.83	1.21	2.08	1.30
Prep 95	2.81	1.23	2.56	1.29	2.87	1.17
Prep 96	2.75	1.34	2.79	1.22	2.84	1.13
Prep 97	2.02	1.24	1.74	1.36	1.89	1.31
Prep 98	2.29	1.38	2.74	1.32	2.53	1.45
Prep 99	2.11	1.40	2.40	1.15	2.24	1.34
Prep 100	1.65	1.19	1.44	1.20	1.87	1.53
Prep 101	1.89	1.32	1.47	1.31	1.84	1.37

APPENDIX J

Means and Standard Deviations for Professional Classification on DMSI Items

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 1	3.62	.60	3.67	.50	3.41	.71	3.86	.35	3.77	.53	3.46	1.20
Imp 2	3.54	.59	2.89	.60	3.18	1.19	3.46	.64	3.73	.55	3.54	.52
Imp 3	3.03	.90	3.78	.44	2.35	1.17	3.21	.77	3.05	.65	2.85	1.14
Imp 4	3.26	.79	3.67	.50	2.06	1.64	2.69	1.23	3.05	.79	2.54	1.39
Imp 5	2.68	1.13	2.78	.83	2.88	1.11	2.83	1.31	2.91	.97	3.15	.69
Imp 6	3.69	.64	3.11	.78	3.24	1.15	3.62	.68	3.82	.39	3.46	1.13
Imp 7	3.03	.85	3.56	.73	1.88	1.54	2.76	1.12	2.52	.60	1.92	.95
Imp 8	2.61	1.01	3.44	.88	1.88	1.58	2.48	.91	2.45	.60	1.85	.90
Imp 9	3.19	.89	2.50	1.07	1.47	1.46	1.90	1.29	1.73	1.32	1.77	1.42
Imp 10	2.03	1.14	2.63	1.51	1.71	1.31	1.62	1.50	1.68	1.25	1.00	.91

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 11	3.09	1.01	2.44	1.13	3.47	1.01	3.28	.92	2.45	1.18	3.38	.87
Imp 12	2.07	1.31	1.25	1.16	2.12	1.17	1.69	1.26	1.95	1.21	2.38	1.61
Imp 13	3.59	.66	3.11	.93	3.24	1.20	3.62	.62	3.50	.60	3.38	1.26
Imp 14	2.99	1.08	2.67	1.00	2.41	1.50	3.59	.95	3.45	.74	3.08	1.19
Imp 15	3.14	.86	3.65	.73	2.82	1.29	3.41	.68	3.09	.87	2.77	1.09
Imp 16	3.28	.80	3.67	.50	2.65	1.46	3.31	.89	3.27	.55	2.92	1.19
Imp 17	2.58	1.23	2.50	1.20	2.12	1.69	2.24	1.53	2.32	1.32	2.62	1.19
Imp 18	2.21	1.30	1.50	1.20	2.47	1.62	2.59	1.45	2.73	1.28	2.85	1.34
Imp 19	3.33	.83	3.00	1.32	3.06	.97	3.31	.85	3.50	.60	3.08	1.19
Imp 20	2.35	1.34	1.50	1.31	2.00	1.50	2.38	1.50	2.73	1.28	2.54	1.27

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 21	2.23	1.43	1.50	1.60	2.47	1.46	2.66	1.47	2.27	1.49	2.08	1.66
Imp 22	2.56	1.35	2.25	1.49	2.82	1.47	2.62	1.52	3.27	.88	2.54	1.13
Imp 23	3.24	.80	3.11	.78	2.47	1.28	2.90	1.26	2.77	.87	2.54	1.05
Imp 24	3.24	.85	3.44	1.01	3.00	1.17	3.52	.74	3.18	.96	2.85	1.21
Imp 25	3.55	.72	3.33	1.12	2.53	1.42	3.45	.69	2.95	.95	3.23	1.24
Imp 26	3.31	.82	3.22	.67	2.41	1.23	2.52	1.21	2.14	1.21	2.00	1.47
Imp 27	3.26	.88	3.44	.53	2.29	1.21	2.18	1.49	2.24	1.30	1.92	1.32
Imp 28	3.55	.70	3.44	.73	2.18	1.59	2.39	1.52	2.50	1.19	2.46	1.51
Imp 29	2.97	1.06	2.78	1.09	1.71	1.57	2.21	1.45	2.00	.98	1.69	1.32
Imp 30	3.07	.95	2.50	1.20	1.76	1.35	1.96	1.57	2.14	1.28	1.69	1.38

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 31	3.45	.79	2.67	1.00	3.65	1.00	3.43	.74	3.27	.98	3.77	.44
Imp 32	3.29	.85	2.89	.93	3.06	1.09	3.11	.88	2.68	1.17	3.62	.51
Imp 33	2.86	.86	2.89	.78	3.06	1.14	3.18	.72	3.14	.83	3.23	.73
Imp 34	2.62	1.13	1.89	1.36	2.00	1.32	3.29	1.08	2.86	1.04	2.85	1.21
Imp 35	2.99	1.12	2.22	1.72	2.59	1.54	3.50	.92	2.73	1.45	3.00	1.47
Imp 36	3.21	.93	2.89	1.17	2.76	1.39	2.86	1.33	2.77	1.23	3.08	.95
Imp 37	2.77	1.26	2.00	1.07	3.00	1.17	3.04	1.40	3.05	1.21	2.92	1.26
Imp 38	2.81	1.14	2.22	.67	2.88	1.05	2.96	1.29	3.23	1.02	3.15	1.07
Imp 39	3.05	.95	3.11	.78	1.41	1.50	2.50	1.32	2.59	1.10	2.08	1.44
Imp 40	2.50	1.11	3.33	.71	2.635	1.54	3.00	1.00	2.59	.96	2.08	1.12

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 41	2.25	1.38	1.44	1.42	2.59	1.42	2.46	1.53	2.32	1.32	2.38	1.19
Imp 42	3.58	.74	2.89	1.27	2.71	1.49	2.88	1.40	3.14	.89	2.92	1.26
Imp 43	3.64	.66	3.67	.71	3.18	1.42	3.75	.70	3.59	.59	3.31	1.25
Imp 44	3.37	.79	3.67	.50	2.00	1.71	3.30	1.03	2.73	1.03	3.00	1.22
Imp 45	3.34	.89	2.78	.97	2.24	1.35	2.39	1.59	2.77	1.19	2.62	1.33
Imp 46	2.95	1.10	3.25	.71	2.00	1.50	1.96	1.51	3.05	1.17	2.77	1.36
Imp 47	3.17	.99	3.56	.53	1.65	1.46	1.93	1.54	2.27	1.45	2.00	1.35
Imp 48	2.95	.89	.322	.67	2.06	1.52	2.96	1.07	2.59	1.10	1.92	.76
Imp 49	2.84	.97	2.44	1.24	3.06	1.30	3.31	1.17	2.82	1.05	3.23	.44
Imp 50	3.55	.67	3.44	.73	3.41	1.06	3.62	.86	3.36	.66	3.46	1.13

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 51	2.59	1.08	2.38	1.06	2.24	1.30	2.66	1.42	2.59	1.05	2.38	.96
Imp 52	2.83	1.27	2.13	1.64	3.24	1.30	3.28	1.19	3.36	.79	3.15	1.21
Imp 53	3.13	1.09	2.56	.88	3.06	1.39	3.52	.91	3.50	.91	2.92	1.26
Imp 54	2.68	1.00	2.11	1.05	2.53	1.42	2.21	1.40	2.50	1.22	1.92	1.32
Imp 55	2.32	1.29	1.88	.99	2.29	1.72	2.62	1.42	3.91	.29	2.69	1.60
Imp 56	2.61	1.20	2.00	1.00	2.65	1.46	3.17	1.10	3.09	.87	3.38	.87
Imp 57	2.75	1.22	2.11	1.17	1.59	1.58	2.25	1.55	2.90	1.22	2.75	1.22
Imp 58	2.84	1.26	2.67	1.12	3.24	1.35	3.45	1.06	3.18	1.01	3.00	1.22
Imp 59	2.34	1.44	1.75	1.39	2.82	1.29	3.00	1.36	2.95	1.36	2.69	1.38
Imp 60	2.51	1.31	1.67	1.00	2.65	1.32	3.14	1.11	2.59	1.14	3.00	.91

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 61	3.37	.74	2.89	.78	2.94	.97	3.45	.78	2.95	.92	2.92	1.12
Imp 62	3.30	.86	3.00	1.00	2.59	1.12	3.21	1.03	3.24	.83	2.69	1.25
Imp 63	3.13	.92	2.67	1.00	1.82	1.51	2.14	1.33	2.43	1.08	1.69	1.03
Imp 64	2.97	.98	2.44	1.13	1.94	1.34	2.61	1.31	2.24	1.22	1.54	.97
Imp 65	2.66	1.06	2.22	1.20	1.76	1.39	2.54	1.45	3.24	.77	2.15	1.14
Imp 66	2.00	1.27	1.88	1.36	1.76	1.68	2.43	1.43	3.38	.74	2.38	1.33
Imp 67	2.77	1.11	2.44	.73	2.59	1.33	3.03	1.09	2.71	1.23	3.23	.73
Imp 68	2.14	1.16	1.75	1.28	1.94	1.48	2.36	1.28	2.71	1.06	2.46	1.27
Imp 69	3.12	.94	2.33	1.41	2.18	1.63	3.07	1.09	3.05	1.16	3.17	1.11
Imp 70	2.96	1.05	2.56	1.24	2.69	1.14	2.62	1.27	2.57	1.21	3.38	.51

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 71	3.00	1.24	1.38	1.19	3.24	.83	3.72	.65	2.86	1.56	3.08	1.61
Imp 72	3.25	.97	2.33	1.41	2.71	1.21	3.34	.86	2.81	1.36	2.77	1.30
Imp 73	3.27	.85	2.67	1.22	3.24	1.09	3.17	1.10	2.90	1.22	3.46	.52
Imp 74	2.34	1.31	1.75	1.39	2.41	1.46	2.62	1.18	2.43	1.43	2.38	1.33
Imp 75	2.73	1.14	2.13	1.46	2.18	1.74	2.38	1.57	2.33	1.24	2.38	1.45
Imp 76	2.89	.99	2.00	1.32	2.24	1.25	2.75	1.24	3.43	.51	2.62	1.12
Imp 77	3.24	.88	2.44	1.13	2.53	1.37	3.24	1.02	3.71	.46	3.15	1.07
Imp 78	2.56	1.13	1.89	1.05	2.35	1.27	2.79	1.37	2.24	1.30	2.00	1.29
Imp 79	3.22	.98	2.78	.97	2.12	1.27	2.43	1.37	2.57	1.08	2.46	1.20
Imp 80	3.24	.92	3.33	.87	1.82	1.19	2.07	1.39	2.71	.78	2.08	1.12

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 81	3.39	.76	3.44	.88	2.06	1.30	2.25	1.43	2.86	.91	2.23	1.09
Imp 82	3.65	.63	3.44	.73	2.94	1.14	3.55	.63	3.43	.60	2.69	1.32
Imp 83	3.10	.85	3.33	.87	2.00	1.41	2.74	1.26	2.71	1.10	2.54	.97
Imp 84	2.93	.92	2.89	1.05	1.94	1.34	2.46	1.20	2.76	.89	2.31	1.11
Imp 85	2.63	1.07	2.89	.93	1.82	1.47	2.33	1.21	2.57	1.03	2.00	1.00
Imp 86	2.36	1.12	2.89	1.27	1.59	1.58	2.21	1.40	2.43	1.25	1.62	1.12
Imp 87	3.12	.91	2.56	.88	3.06	1.43	3.48	.87	3.24	.70	3.54	.66
Imp 88	2.55	1.17	1.25	1.04	2.41	1.18	2.62	1.29	2.19	1.25	2.23	1.42
Imp 89	3.08	1.04	2.56	1.01	2.65	1.41	3.28	1.16	2.76	1.04	2.92	1.44
Imp 90	2.68	1.33	2.38	1.41	2.94	1.14	3.11	1.20	3.14	.91	2.85	1.07

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 91	3.21	.98	2.56	1.24	2.76	1.60	3.32	.98	3.41	.73	3.33	1.15
Imp 92	2.68	1.18	2.22	1.48	2.76	1.48	2.90	1.26	2.32	1.09	2.31	1.38
Imp 93	2.78	1.38	1.88	1.81	3.00	1.12	3.52	.91	3.14	1.04	3.46	1.13
Imp 94	2.45	1.31	2.11	1.36	2.18	1.51	2.62	1.24	2.23	1.19	2.17	1.19
Imp 95	3.22	1.07	2.67	1.58	2.88	1.58	3.59	.87	3.55	.96	3.31	1.25
Imp 96	3.32	.90	2.67	1.12	2.35	1.54	2.89	1.52	3.68	.48	3.15	1.28
Imp 97	2.54	1.45	1.13	1.55	2.76	1.56	3.07	1.25	2.82	1.37	3.46	.78
Imp 98	3.28	.96	2.67	1.32	1.24	1.15	2.00	1.59	1.77	1.41	1.46	1.39
Imp 99	2.86	1.07	2.00	1.00	2.24	1.64	2.36	1.62	2.77	.75	1.38	1.12
Imp 100	2.37	1.36	1.13	1.55	2.06	1.68	2.28	1.44	2.18	1.37	2.08	1.26

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Imp 101	2.43	1.41	1.00	1.07	2.65	1.54	2.52	1.53	2.18	1.37	2.62	1.33
Prep 1	3.13	.91	3.22	1.20	2.76	.75	3.25	1.00	3.18	.80	2.85	1.21
Prep 2	3.19	.91	2.78	1.20	2.82	.88	2.93	1.12	3.14	.99	2.85	.99
Prep 3	2.73	.86	3.89	.33	2.12	1.41	2.75	.84	2.23	.81	2.23	.93
Prep 4	3.09	.82	3.78	.44	1.94	1.48	2.79	1.10	2.73	.98	2.15	1.14
Prep 5	1.86	1.19	1.78	1.30	2.12	1.05	1.93	1.39	2.00	1.07	2.15	.69
Prep 6	3.18	.96	2.89	1.27	2.94	.83	2.96	1.40	3.23	.92	3.00	1.15
Prep 7	3.26	.75	3.56	.73	2.29	1.31	2.25	1.14	1.52	1.03	2.23	1.54
Prep 8	2.72	.85	3.67	.71	2.00	1.46	2.14	1.04	1.45	1.30	1.69	1.49
Prep 9	3.03	.95	2.62	1.06	1.88	1.50	1.32	1.31	.64	.85	1.54	1.71

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 10	1.62	1.15	1.88	1.25	1.47	1.18	.79	.99	.55	.80	.92	.86
Prep 11	2.27	1.34	2.22	1.30	2.88	1.17	2.32	1.54	1.45	1.01	2.62	1.26
Prep 12	1.68	1.46	1.25	1.16	2.12	1.11	1.11	1.17	1.09	1.34	1.62	1.50
Prep 13	3.01	1.08	2.89	1.27	2.88	1.11	2.89	1.34	2.68	1.43	2.69	1.32
Prep 14	2.48	.97	2.22	1.39	2.06	1.25	3.43	1.10	2.91	1.31	2.23	1.17
Prep 15	2.81	.89	3.67	.71	2.18	1.42	2.71	1.24	2.41	1.22	2.38	1.12
Prep 16	2.95	.91	3.11	1.17	2.24	1.25	2.96	1.10	2.57	1.21	2.54	1.20
Prep 17	1.73	1.30	1.75	1.28	1.88	1.65	1.36	1.37	1.86	1.36	2.23	1.09
Prep 18	1.58	1.23	1.50	1.41	2.12	1.58	2.00	1.61	2.36	1.29	2.31	1.44
Prep19	2.74	1.05	2.11	1.36	2.41	1.06	2.43	1.32	2.86	1.21	2.54	1.13

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 20	2.07	1.27	1.13	1.36	1.82	1.33	1.57	1.48	2.23	1.41	2.31	1.18
Prep 21	1.71	1.23	1.50	1.69	2.24	1.20	2.00	1.47	1.91	1.60	2.00	1.53
Prep 22	1.85	1.28	2.25	1.75	2.00	.94	1.79	1.47	2.36	1.33	2.15	1.21
Prep 23	3.07	.84	3.11	.93	2.35	1.17	2.43	1.40	2.45	.96	2.08	1.12
Prep 24	3.41	.85	3.78	.44	3.29	.77	3.46	.79	3.14	.99	2.85	1.28
Prep 25	3.52	.73	3.44	1.01	2.88	.99	3.21	1.07	2.82	1.01	2.85	1.57
Prep 26	3.30	.83	3.67	.50	2.29	1.21	2.14	1.27	1.45	1.18	1.77	1.59
Prep 27	3.20	.79	3.33	.71	2.12	1.32	1.71	1.44	1.57	1.21	1.77	1.17
Prep 28	3.28	.83	2.89	1.36	2.00	1.54	1.67	1.47	2.00	1.20	2.15	1.21
Prep 29	2.92	1.07	2.89	1.05	1.94	1.56	1.89	1.40	2.18	1.18	1.85	1.41

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 30	3.07	.91	2.62	.92	1.76	1.15	1.22	1.34	1.45	1.14	1.54	1.39
Prep 31	2.61	1.24	2.44	1.24	3.06	.97	2.59	1.47	2.05	1.29	2.85	.99
Prep 32	2.54	1.15	2.11	1.17	2.41	1.18	2.07	1.49	1.82	1.14	2.69	.85
Prep 33	2.72	.87	2.33	1.12	2.88	.93	2.63	1.04	2.82	1.10	2.92	.86
Prep 34	2.39	1.10	2.33	1.50	1.88	1.17	3.04	1.26	2.77	.97	2.31	1.03
Prep 35	2.69	1.22	2.33	1.50	2.65	1.17	3.11	1.28	2.36	1.36	2.46	1.51
Prep 36	2.87	1.07	2.44	1.59	2.41	1.23	2.56	1.37	2.23	1.60	2.38	1.19
Prep 37	2.34	1.17	1.63	1.51	2.41	1.37	2.48	1.37	2.45	1.57	2.46	1.33
Prep 38	1.98	1.27	1.56	.88	1.94	1.25	2.00	1.39	2.82	1.33	2.15	1.07
Prep 39	3.32	.85	3.33	.71	2.12	1.41	1.89	1.37	2.05	1.43	2.33	1.44

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 40	2.46	1.01	3.22	.83	2.24	1.25	2.58	1.24	2.00	1.23	1.92	1.26
Prep 41	1.52	1.18	1.67	1.41	1.88	1.17	1.52	1.40	1.55	1.47	1.77	1.17
Prep 42	3.38	.92	2.78	1.30	2.35	1.27	2.48	1.29	2.68	.95	2.38	1.39
Prep 43	3.45	.78	3.56	.88	2.88	1.22	3.07	1.11	3.14	.89	3.23	1.30
Prep 44	3.24	.78	3.89	.33	2.19	1.56	2.58	1.21	2.41	1.18	2.54	1.39
Prep 45	3.08	1.01	2.56	1.24	2.24	1.25	1.78	1.50	2.09	1.51	2.15	1.41
Prep 46	3.06	.97	3.50	.53	2.00	1.37	1.12	1.24	2.27	1.28	2.23	1.17
Prep 47	3.29	.83	3.78	.44	1.71	1.57	1.07	1.24	1.36	1.40	1.69	1.38
Prep 48	3.13	.75	3.56	.53	2.06	1.25	2.74	1.10	1.77	1.34	1.92	1.04
Prep 49	2.10	1.06	1.56	1.33	2.71	1.05	2.46	1.53	1.86	.99	2.46	.78

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 50	3.09	.94	3.00	.71	2.53	1.01	3.43	1.07	3.32	.89	3.15	1.21
Prep 51	2.54	1.08	2.25	1.49	2.00	1.22	2.04	1.43	2.27	1.32	2.15	.80
Prep 52	2.32	1.25	2.25	1.39	2.71	1.05	2.25	1.60	2.68	1.13	2.77	1.17
Prep 53	2.68	1.11	2.56	1.13	2.65	1.06	3.14	1.18	2.82	1.22	2.69	1.44
Prep 54	2.55	1.03	2.00	1.41	2.53	1.07	1.57	1.40	1.50	1.34	2.15	1.14
Prep 55	1.86	1.15	1.63	1.06	2.00	1.46	2.64	1.42	3.68	.57	2.31	1.49
Prep 56	2.12	1.22	1.56	1.33	2.47	1.18	2.46	1.37	2.27	1.28	2.92	1.04
Prep 57	2.66	1.26	1.78	1.48	1.82	1.59	1.44	1.65	2.67	1.35	2.42	1.24
Prep 58	2.33	1.20	2.33	1.50	2.47	1.23	2.57	1.37	2.55	1.30	2.54	1.13
Prep 59	1.66	1.30	1.75	1.28	2.06	1.34	2.04	1.58	1.91	1.51	2.31	1.25

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 60	1.55	1.26	1.56	1.33	1.76	1.20	1.89	1.45	1.68	1.36	2.23	1.48
Prep 61	3.10	.93	2.89	1.05	2.65	1.11	3.07	1.33	2.76	1.09	2.38	1.33
Prep 62	3.14	.90	3.22	.83	2.59	1.06	2.41	1.28	2.90	.94	2.46	1.33
Prep 63	3.27	.81	2.22	.83	2.00	1.41	1.52	1.40	1.76	1.18	2.00	1.41
Prep 64	2.99	.78	2.33	1.00	1.82	1.29	2.19	1.27	1.67	1.20	1.54	1.05
Prep 65	2.65	.98	2.22	.97	1.65	1.46	2.22	1.31	3.19	.75	2.08	.95
Prep 66	2.25	1.15	1.25	.89	1.82	1.55	2.00	1.39	3.33	.97	1.92	1.19
Prep 67	2.21	1.23	1.89	.78	2.53	1.18	2.36	1.39	2.43	1.25	3.31	.85
Prep 68	2.22	1.09	2.38	1.41	1.94	1.30	2.00	1.27	2.76	1.30	2.54	1.27
Prep 69	3.07	.87	3.11	1.17	2.06	1.43	2.93	1.30	2.86	1.20	2.58	1.31

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 70	2.53	1.14	2.00	1.12	1.87	.96	1.89	1.40	1.95	1.40	2.77	.83
Prep 71	2.31	1.33	1.75	1.04	2.76	.83	3.29	1.01	2.29	1.55	2.62	1.56
Prep 72	2.87	1.12	2.11	1.36	2.47	1.28	2.89	1.34	2.57	1.29	2.46	1.51
Prep 73	2.90	1.09	2.56	1.51	2.82	.88	2.93	1.05	2.81	1.12	3.00	1.29
Prep 74	2.10	1.35	1.88	1.25	2.12	1.41	1.79	1.42	2.05	1.32	2.23	1.48
Prep 75	2.03	1.23	2.00	1.31	1.94	1.48	1.59	1.34	1.33	1.15	1.77	1.54
Prep 76	2.10	1.04	1.56	1.33	2.00	1.32	2.07	1.36	3.05	.80	2.08	1.32
Prep 77	2.62	.98	2.22	1.20	2.29	1.21	2.25	1.46	3.14	.91	2.62	1.26
Prep 78	2.17	1.14	2.22	1.09	2.00	1.12	2.56	1.40	1.81	1.29	1.38	1.39
Prep 79	3.24	.80	3.44	.53	2.18	1.24	1.93	1.44	2.00	1.18	2.62	1.33

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 80	3.32	.71	3.44	.73	2.41	1.37	1.74	1.35	1.90	1.14	2.31	1.44
Prep 81	3.27	.74	3.33	1.00	2.53	1.37	1.89	1.34	2.19	1.17	2.31	1.44
Prep 82	3.40	.78	3.00	1.32	2.18	1.19	3.14	1.15	3.19	.81	2.46	1.33
Prep 83	3.16	.81	3.44	1.01	2.12	1.22	2.19	1.10	2.14	1.15	2.31	1.25
Prep 84	2.91	.87	3.11	.93	2.41	1.37	2.22	1.05	2.33	.97	2.46	1.20
Prep 85	2.80	.90	3.33	.87	2.18	1.47	1.85	1.22	2.00	1.22	2.23	1.30
Prep 86	2.72	.95	3.33	1.32	2.00	1.54	1.81	1.18	1.62	1.20	1.77	1.17
Prep 87	2.37	1.05	2.11	1.69	2.71	1.16	2.82	1.19	2.48	1.29	3.08	.95
Prep 88	2.55	1.08	2.13	1.46	2.65	1.17	2.43	1.35	2.38	1.50	2.46	1.33
Prep 89	2.86	.95	2.44	1.33	2.41	1.18	3.07	1.27	2.57	1.03	2.69	1.55

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 90	2.11	1.21	2.25	1.75	2.29	1.31	2.67	1.27	2.57	1.33	2.38	.96
Prep 91	2.51	1.12	2.44	1.24	2.41	1.33	2.89	1.15	2.86	.99	2.75	1.42
Prep 92	2.17	1.10	2.11	1.45	2.47	1.33	2.32	1.33	2.14	1.21	1.77	1.36
Prep 93	2.17	1.23	2.00	1.60	2.53	1.07	2.86	1.30	2.95	1.00	2.69	1.44
Prep 94	2.05	1.17	1.89	1.36	1.88	1.50	1.75	1.43	1.73	1.12	1.67	1.30
Prep 95	2.58	1.26	2.56	1.59	2.47	1.33	2.96	1.17	2.91	1.23	3.00	1.29
Prep 96	2.93	1.09	2.11	1.54	2.35	1.37	2.15	1.68	3.32	.89	2.85	1.14
Prep 97	1.65	1.26	1.38	1.51	2.35	1.37	2.00	1.41	2.00	1.35	3.00	1.00
Prep 98	3.26	.84	2.78	.97	1.82	1.33	1.22	1.34	.86	.83	1.77	1.79
Prep 99	2.67	1.03	2.44	1.01	1.88	1.36	1.44	1.48	2.14	1.21	1.08	.95

APPENDIX J

	Rehabilitation Counselors		Psych. & Social Workers		Business Professionals		Nurses		Physical & Occ. Therapists		Other Professionals	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Prep 100	1.66	1.26	1.38	1.19	2.00	1.41	1.32	1.31	1.18	1.14	1.31	1.03
Prep 101	1.60	1.28	1.00	1.07	2.47	1.28	1.75	1.53	1.09	1.23	1.92	1.38

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