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The Effect of Social Support on Vocational Rehabilitation Outcome For Individuals with Disabilities

by

Rachelle Kalinsky

A dissertation submitted to the Graduate Faculty in Educational Psychology
in partial fulfillment of the requirements for the degree of Doctor of Philosophy,
The City University of New York

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This manuscript has been read and accepted for the Graduate Faculty in Educational Psychology in satisfaction of the dissertation requirement for the degree of Doctor of Philosophy.

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Abstract

The Effect of Social Support on Vocational Rehabilitation Outcome

For Individuals with Disabilities

by

Rachelle Kalinsky

Adviser: Professor Marian Fish

This study investigated whether level and type of social support, age, gender and/or severity of disability were related to employment rates for 70 students who were enrolled in employment training programs at a private vocational rehabilitation center. Participants were interviewed using the Inventory of Socially Supportive Behaviors (Barrera, Sandler, & Ramsay, 1981) and Circles of Support (Falvey, Forest, Pearpoint, & Rosenberg, 1997). Employment status was determined 90 days after participants finished their training program. Results of logistic regression analysis revealed that social support was not significantly associated with employment status at follow-up. There was a trend toward significance for severity of disability with individuals with disabilities that were not severe having a higher employment rate than individuals with severe disabilities. Gender was significantly associated with outcome with females having greater odds of finding jobs than males. Significance of women staff members as role models for female trainees is discussed.

Dedication

This dissertation is dedicated to the memory of my mother,

Ellen Kalinsky.

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Overview of the Study

"The enduring gap in employment levels remains the defining distinction between people with and without disabilities" (Harris & Associates, 1998, p. 1). In addition, the percentage of Americans with disabilities that are employed has been decreasing during the last decade (Harris & Associates, 1998). This trend stresses the need for strategies that will improve employment rates for individuals with disabilities. One of the ways to address this problem is to consider personal characteristics of individuals with disabilities that may be associated with greater chances for successful employment. Previous studies have concluded that social support has a positive effect on employment outcome following vocational rehabilitation services (e.g., Schalock, Wolzen, Ross, Elliott, Werbel, & Peterson, 1986). These studies demonstrate that individuals who receive more support from family, friends and other community members while in employment training programs have a higher rate of employment than individuals who receive less support.

This study investigated whether social support was related to improved vocational rehabilitation (VR) outcome for individuals with disabilities who were enrolled at a private VR program. The purpose of this study was to identify individuals who had a higher probability of employment following VR training. Knowledge that higher levels of social support are related to higher rates of employment will help VR professionals plan interventions that increase employability for individuals with disabilities. In addition, data specifying that certain aspects of support lead to improved employment outcome will help school professionals plan strategies that encourage these aspects of support before high school students with

disabilities transition to VR programs. Finally, information gained from this study may demonstrate the importance of including measures of social support in vocational evaluations (Kaplan, 1990).

Review of Literature. Recent literature has stated the importance of including parents, family members, and other support persons in the vocational rehabilitation process for individuals with disabilities, but there has been limited research in this area. Studies have shown that having the support of family members during vocational rehabilitation facilitates successful employment. In a review of research from 1980-1990, Kelly and Lambert (1992) found evidence suggesting better outcomes for clients when family members are included in the rehabilitation process.

While numerous studies have focussed on the effects of family support, fewer studies have investigated the effects of social support in general on vocational rehabilitation outcomes. Kaplan (1990) found that consumers who were more satisfied with their level of social support were more likely to be employed 1 year after vocational rehabilitation services ended. In addition, Alverson, Alverson, Drake, and Becker (1998) found that vocational rehabilitation outcomes may be better for individuals who have active involvement in social groups including friendship, work, and family relationships.

Transitioning youth also have demonstrated improved outcomes when they receive more support from family members. For example, Schalock et al. (1986) found that moderate-to-high family involvement was a strong predictor of work outcomes for students with disabilities including higher rates of employment, working more weeks per year, and receiving higher hourly wages.

Since the mid-1980's there has been an increase in employment outcome research for transitioning students. Several of these outcome studies found disappointing results: youth with disabilities find employment at rates lower than their peers without disabilities (Wagner et al., 1991); and even fewer post-school students with disabilities work full time or earn at least minimum wage (Hasazi, Gordon, & Row, 1885; Mithoug, Horiuchi, & Fanning, 1985). In addition, the employment outlook for young women with disabilities is even more discouraging: they have lower employment rates, earn lower wages, and work fewer hours than young men with disabilities (Blackorby & Wagner, 1996; Hasazi, Gordon, & Row, 1885; Sitlington, Frank, & Carson, 1992).

While researchers discuss at least three general social support domains: social networks (availability of support), perceived support (satisfaction with support), and received support (the content of supportive behaviors) (Barrera, 1986), this study looked at social network size (Wesolowski, 1987) and frequency of supportive behaviors (Barrera, 1981; Barrera et al., 1981). Subjective aspects such as need for social support and support satisfaction (Dunst & Trivette, 1990) were not examined.

Method. Participants included 70 individuals with disabilities who were enrolled in one of five VR training programs. Participants had the following disabilities: orthopedic disabilities (29%), mental illness (21%), substance abuse disorders (17%), other health impairments (11%), learning disabilities (9%), nerve/muscular disorders (7%), deaf/hearing impairments (3%), traumatic brain injury (1%), and mental retardation (1%). Sixty-four percent of participants were considered

to have severe disabilities, and 36% had disabilities that were not severe. All participants were at least 18 years of age.

Each participant was interviewed for ½ hour to complete two social support measures. Circles of Support (Falvey, Forest, Pearpoint, & Rosenberg, 1997), in which participants filled in four concentric circles with the names of individuals who gave them support while they were in vocational rehabilitation training, was used to determine participants' social network size. In addition, the Inventory of Socially Supportive Behaviors (ISSB; Barrera, Sandler, & Ramsay, 1981), a 40-item measure of the frequency of receiving supportive behaviors, was used to determine how frequently participants experience specific supportive actions from other individuals.

Vocational rehabilitation outcome was assessed through interviews with staff members 90 days after participants finished their training program. Individuals with a positive outcome were those reported to be employed at least 15 hours per week or attending a full-time school or training program. Gender, age, marital status, ethnicity, highest educational level, and severity of disability were also recorded.

Results and Discussion. The data were analyzed using the logistic regression statistical method. Each participant's score for size of social support network, type of support persons (natural vs. paid supports), frequency of support received, age, gender, and severity of disability was used as a predictor variable of whether the participant was successfully employed or still in training at follow-up. While it was hypothesized that participants' total number of support persons, percentage of paid support persons, and frequency of received support would be related to employment status at follow-up, results revealed that none of the social support variables were

significantly associated with outcome. Possible reasons why positive results were not found include the short length of time to follow-up; certain characteristics of the participants that were not studied, such as need for social support and support satisfaction; and lack of an objective measure of social support.

Of the other variables studied (age, gender, and severity of disability), there was a trend toward significance for severity of disability, while only gender yielded significant results. Similar to the results of previous studies, this study found a trend toward significance in that participants with severe disabilities were less likely to find employment than were participants without severe disabilities. This trend suggests that if more participants were interviewed, significant results would have been likely.

Finally, contrary to several previous studies demonstrating that men have better employment outcomes than women following VR training, this study found that females had greater odds of being employed or continuing with training than did males. An interesting hypothesis to explain this finding is that women participants in this study may have benefited from the unusually high number of women professionals employed by the VR center. If future research supported this hypothesis, there would be important implications for the further study of women staff members as role models for female trainees.

Chapter 1

Review of Literature

Introduction

"The enduring gap in employment levels remains the defining distinction between people with and without disabilities" (Harris & Associates, 1998, p. 1). The 1998 National Organization on Disability (N.O.D.)/Harris Survey of Americans with Disability, given to 25,000 households in the U.S., yielded a sample of 1000 Americans with disabilities aged 16 and older. Of the working-age adults with disabilities (aged16 to 64), only 29% were working full or part time, whereas 79% of individuals without disabilities were employed. The percentage of Americans with disabilities that were employed actually has been decreasing in recent years – down from 34% in 1986. While this trend may be due to the increased severity of disability found by the N.O.D./Harris Survey (Harris & Associates, 1998), it nevertheless stresses the continuing need for strategies that will improve employment rates for individuals with disabilities.

One of the ways to address this problem is to consider personal characteristics of individuals with disabilities that may be associated with greater chances for successful employment (Alverson, Alverson, Drake, & Becker, 1998). Previous studies have concluded that social support has positive effects on employment outcomes following vocational rehabilitation services (Kaplan, 1990; Schalock, Wolzen, Ross, Elliott, Werbel, & Peterson, 1986). These studies demonstrate that individuals who receive more support from family, friends, and other community

members during the rehabilitation process have a higher rate of employment than individuals who receive less support.

This study investigated whether social support is related to more successful employment outcomes for individuals with disabilities who were enrolled at a private vocational rehabilitation program. The purpose of this study was to identify individuals who have a higher probability of employment. Knowledge that higher levels of social support are related to higher rates of employment will help rehabilitation professionals plan interventions that seek to enhance employability for greater numbers of individuals with disabilities.

This chapter will include a review of the literature in three main areas: vocational rehabilitation, transition from school to work, and social support. Included in the section on vocational rehabilitation will be a review of outcome studies that look at the effects of vocational rehabilitation services for individuals with disabilities living in the United States. Following this, the section on transition from school to work will include post-school employment outcome studies on both the national and state level. The discussion of social support will include several definitions of social support that address many elements of this complex construct. Social support outcome studies, including those that focus on the support of family members, will also be reviewed. Finally, two methods of conceptualizing and measuring social support will be discussed.

Vocational Rehabilitation

Vocational rehabilitation (VR) services are provided to assist individuals with disabilities in finding and maintaining employment. VR services include, but are not

limited to: assessment; counseling; vocational training; job placement; supported employment; provision of materials such as books, equipment, vehicle modifications, or technological aids; and transportation to any of these services (Dowdy, 1996). VR services are available through a combination of federal and state funds for those individuals who are determined by their VR counselor to have a vocational impairment and are expected to receive benefit from VR services (Turnbull, Turnbull, Bronicki, Summers, & Roeder-Gordon, 1989). According to the 1998 amendments to the Rehabilitation Act of 1973, a person is eligible for VR services if he or she: 1) has a physical or mental impairment that would prevent employment, 2) can benefit vocationally from VR services, and 3) requires VR assistance in order to become employed (Dowdy, 1996).

Vocational Rehabilitation Outcome Studies. The VR program is overseen by the U.S. Department of Education's Rehabilitation Services Administration (RSA), a federal agency to which each state VR agency is accountable. VR offices on the local level are responsible for the provision of services (Dowdy, 1996). RSA collects data on success of employment at case closure for each individual who receives VR services (Butterworth, Gilmore, & Schalock, 1998; Walls & Fullmer, 1996). An individual is considered to be successfully employed if he or she has had 90 days of continuous employment. Other data recorded by RSA on employed individuals include occupational category and salary.

As an example of outcome data for a specific subset of individuals with disabilities, Butterworth, Gilmore, and Schalock (1998) reported the closure status for individuals with mental retardation and other developmental disabilities whose cases

were closed in 1985, 1991, and 1995. Types of closure included closed-successful, closed-not accepted for VR services, and closed-unsuccessful. While the rate of successful closures remained basically stable over the 10-year period reported (47.5% in 1985; 47.7% in 1991; 46.3% in 1995), there was a significant shift from closed-not accepted for services to closed-unsuccessful. More specifically, changes in the 1992 amendments of the Rehabilitation Act (later amended in 1998), which increased availability of VR services to individuals with disabilities, resulted in a dramatic decrease in the number of cases closed-not accepted (25.9% in 1985; 24.9% in 1991; 9.3% in 1995) and an equally dramatic increase in the number of cases closed-unsuccessful (26.7% in 1985; 27.4% in 1991; 44.4% in 1995). In other words, the rate of employment remained the same during this decade, but many more individuals were found to be eligible for VR services.

The closed-successful category included competitive, sheltered and supported employment, self-employment, other business concerns, homemaker, and unpaid family work. Individuals in the closed-successful group primarily (94%) found work in competitive or sheltered employment. However, in the ten-year period reported, there was an increase in the number of individuals finding competitive versus sheltered employment. Across level of disability, there was a 12% increase in rate of competitive employment from 1985 (74%) to 1995 (86%). More specifically, individuals with mild mental retardation had a 10% increase in rate of competitive employment; individuals with moderate mental retardation demonstrated a 23% increase; and individuals with severe mental retardation had the highest increase (33%). Butterworth, Gilmore, and Schalock (1998) also attribute these changes in

employment status to the 1992 amendments of the Rehabilitation Act which made VR services more available to individuals with severe disabilities.

Walls and Fullmer (1997) used RSA data from 1992 to study employment patterns of over 100,000 individuals who found competitive employment after vocational rehabilitation. These individuals represented 13 disability categories including sensory impairments (vision/hearing); physical disabilities (arthritis, spinal cord injury, and amputation); mental illness; mental retardation; substance abuse; learning disabilities; and other health-related disabilities (e.g., epilepsy).

Results of this study illustrate the 50 most frequently held jobs for post VR individuals. The top 10 of these 50 occupations include (1) janitors, (2) chefs/cooks, (3) hospital and health care attendants, (4) porters/cleaners, (5) kitchen workers, (6) steno, typing, and filing (7) waiters/waitresses, (8) miscellaneous sales, (9) cashiers/tellers, and (10) packaging/materials handling. Walls and Fullmer (1997) suggest that even though many of these occupations require little training and low skill levels, the primary purpose of vocational rehabilitation is competitive employment; and having a job, even an entry level one, enhances an individual's sense of being a productive member of the community.

Rank orders for the top 50 occupations for each of the 13 disability categories were quite similar. In particular, individuals with mental illness, learning disability, substance abuse, epilepsy, visual impairment and hearing impairment were highly correlated with each other for type of employment achieved. Thus, disability categories may not be as significant as functional abilities when it comes to occupational placement.

Transition from School to Work

The VR system of services is available to support individuals of all ages. The youngest "consumers" of these services are students with disabilities who are approaching graduation (i.e., "transition") from high school to the world of work (Michaels, 1998). Transition from school to work has been defined as "an outcome oriented process, which promotes movement from school to post-school activities, including postsecondary education, vocational training, integrated employment, continuing and adult education, adult services, independent living, or community participation" (Fabian, Lent, & Willis 1998, p. 311). Research has shown that early vocational training facilitates students' transition to employment (Phelps & Hanley-Maxwell, 1997). Thus, vocational rehabilitation should be an integral part of the transition process for students who are ready to think about post-school employment.

Post-school Employment Outcome Studies. Since the passage of recent education legislation related to transition-to-work for students with disabilities, a number of recent employment outcome studies have focused on transitioning students (Dowdy, 1996; Fabian, Lent, & Willis, 1998; Getzel & deFur, 1997). PL 101-476, the Individual's with Disabilities Education Act of 1990 (IDEA) expanded PL 94-142, the Education for All Handicapped Children Act, to include mandated transition planning for students with disabilities age 16 and older (Wehman, 1996). The 1997 amendments of the IDEA require that transition planning begin at age 14 to ensure that active planning for the future starts before students enter high school (Collet-Klingenbergh, 1998).

The increase in employment outcome research for students in transition programs began in the mid-1980's with statewide follow-up studies. One of the first states in which researchers studied post-school employment of students with disabilities was Colorado. Mithaug, Horiuchi, and Fanning (1985) conducted a follow-up survey of 234 special education students in Colorado who graduated in 1978 and 1979. Although the majority of graduates (69%) reported working at the time of the survey, only 32% of the respondents held full-time jobs and 43% earned less than minimum wage. Unfortunately, the Colorado study only surveyed graduates; drop-outs and students who stayed in school until age 18 but did not graduate would not have been likely to demonstrate the same levels of employment.

In a study that considered these differences, Hasazi, Gordon, and Roe (1985) surveyed 462 youth from nine districts in Vermont who graduated, dropped out, or left special education placements between 1979 and 1983. Employment status after five years was significantly related to manner of leaving special education with graduates employed at a higher level (60%) than both drop-outs (51%) and those who left after age 18 (30%). However, employment status was disappointing for students with disabilities as a whole: Of those in the entire sample who reported having paid employment (55%), many held part-time, seasonal, and below minimum-wage jobs. Hasazi et al. also found gender differences in employment rates with men employed at two times the rate of women (66% and 33%, respectively).

The above statewide studies combined disability groups in their analyses (e.g., learning disabilities, mild behavioral disorders, and mild mental retardation). More recent outcome studies have begun to report findings by disability category in order to

avoid problems associated with combining all special education students into one group (Levine & Nourse, 1998; Schalock, Wolzen, Ross, Elliott, Werbel, & Peterson, 1986; Sitlington, Frank, & Carson, 1992). Although "labeling" students' disability category was previously considered stigmatizing, meeting individual students' needs requires an understanding of the predicted outcome for unique groups of students (Levine & Nourse, 1998).

One group of investigators that looked at different categories of mild disability reported results from a statewide follow-up study of Iowa youth (Sitlington, Frank, & Carson, 1992). Participants who graduated in 1985 and 1986 were surveyed 1 year following graduation. The results of this study indicated that students with learning disabilities fared significantly better in the job market (77% employment rate) than students with both behavior disorders (58%) and mental disabilities (62%). However, differences across groups were not found for number of hours worked per week, hourly pay, or length of time working on current job. Similar to Hasazi et al. (1985), Sitlington et al. also found that males were employed more often than were females, with the largest difference among students with behavior disorders (62% and 43%, respectively). In addition, females in the learning disability and mental disability groups earned significantly less per hour than males in those groups, and females were more likely to work part-time than were males.

The above studies reported employment rates for post-school students with disabilities at about 60%. Similarly, the National Longitudinal Transition Study (NLTS), the first nationwide survey of youth with disabilities, found a comparable rate of 57% employment for post-school students with disabilities 3-5 years after

graduation (Blackorby & Wagner, 1996). However, the NLTS employment rates for post-school students immediately following graduation were lower than this. The NLTS found that only 46% of post-school youth with disabilities were employed 1-2 years after graduation (Wagner et al., 1991).

Investigators have highlighted the importance of comparing employment outcome data for youth with disabilities to youth without disabilities (Levine & Nourse, 1998; Phelps & Hanley-Maxwell, 1997). A comparison group of youth from the general population was selected from the National Longitudinal Survey of Youth (NLSY, U.S. Department of Labor) to match the NLTS group on key demographic variables such as gender and ethnicity. While only 59% of these students in the general population were employed 1-2 years after graduation, the difference was significantly greater than the 46% employment rate for students with disabilities (Wagner et al., 1991). Consistent with the 1998 N.O.D./Harris Survey of Americans with Disability, post-school students with disabilities are not finding employment at the same rate as their peers without disabilities.

The National Longitudinal Transition Study (NLTS), a comprehensive survey of more than 8,000 special education students ages 13-21 reported other discouraging findings about employment rates for post-school students with disabilities (Blackorby & Wagner, 1996). The NLTS data set consisted of a weighted, stratified, random sample of US high school students in 1985, allowing for generalization of findings to youth with disabilities across the US. Similar to earlier studies, findings from a subsample of almost 2,000 students from the NLTS data indicate that, while the

overall employment rate for students with disabilities was 57%, only 44% were employed full-time.

Looking at separate disability categories, it is clear that not all students with disabilities are finding employment at the same rate. On the one hand, it is encouraging that youth with learning disabilities found work at a rate competitive with nondisabled peers (71% versus 69%, respectively). Those with speech impairments also were employed at a similar rate (65%). On the other hand, youth with serious emotional disturbance (47%), mental retardation (37%), and those who were hard of hearing (42%), deaf (44%), or had other health impairments (40%) were less likely to be employed. Students with several other disability categories were even less likely to be employed 3-5 years after graduation (visual impairment, 29%; orthopedic impairment, 22%; multiple disabilities, 17%; and deaf/blindness, 16%). Thus, students with learning disabilities and speech impairments are finding employment at rates that are comparable to their peers without disabilities while students with most other disabilities are having more difficulty finding work.

In addition, the NLTS found that while young women in the general population show greater increases over time than young men in finding employment (increase of 12% versus 9% after 3 years), women and men with disabilities demonstrate the opposite finding (9% and 12%, respectively). The 12% increase for males with disabilities was significant whereas the 9% increase for females was not, indicating that young women are lagging behind young men with disabilities as well as the general population in reaping the employment benefits of post-school experiences. In other words, while young men with disabilities generally find jobs

after a few years of training experiences, young women with disabilities do not "catch up" to their nondisabled peers at the same rate. According to Blackorby and Wagner (1996), this trend may be due to a greater incidence of marriage and parenthood for young women with disabilities compared with young women in general.

Lastly, an encouraging finding from the NLTS data is that although only 9% of youth with disabilities earned more than $6.00 per hour when they were less than 2 years out of high school, 40% earned this amount 3 years later. These wage increases were also demonstrated by most of the disability categories despite the poor rates at which many of these youth found employment. For example, while youth with serious emotional disturbance were much less likely to be working 3-5 years after graduation than were students with learning disabilities (47% versus 71%), they were more likely to earn more than $6.00 per hour if they were working (49% versus 45%). Youth in the deafness category demonstrated the greatest gains with a 41% increase, from 4% earning more than $6.00 per hour soon after graduation, to 45% earning this wage 3 years later. On the other hand, students with mental retardation and orthopedic impairments were least likely to earn more than $6.00 per hour after 3 years (13% and 14% respectively). However, it should be kept in mind that the median hourly wage for all students with disabilities was $5.72 representing a full-time annual income of less than $12,000 (Blackorby & Wagner, 1996).

Blackorby and Wagner (1996) conclude that while there is a general trend toward significant gains for youth with disabilities, there are still substantial gaps when the data are compared with the general population. Employment rates for

young women with disabilities are particularly disappointing. The results of this comprehensive study suggest that transition planning must address each individual's goals, strengths, and needs. Disability category is thus an important factor in determining the focus of future plans. For example, while youth with learning disabilities may require a focus on finding jobs with higher wages, students with orthopedic impairments and mental retardation still need significant help in simply finding competitive employment. The authors call for future research that investigates the role of different approaches to transition planning on post-school outcomes for students with specific disabilities.

In summary, individuals with disabilities of all ages receive vocational rehabilitation services with the youngest being those who are ready to leave high school and begin working. Much of the recent literature on vocational rehabilitation outcomes focuses on this age group due to the passage of new legislation aimed at improving transition services for high school students with disabilities. The statewide and national studies of youth in transition, discussed above, have found that employment outcomes for post-school students with disabilities are disappointing, especially for young women, individuals with more serious impairments, and those who did not graduate. In addition, while overall employment rates may seem encouraging, the rates are much lower for individuals with full-time employment and those who earn at least minimum wage.

Social Support

Recent literature has stated the importance of including parents, family members, and other support persons in the vocational rehabilitation process for

individuals with disabilities (Phelps & Hanley-Maxwell, 1997; Wehman, Kregel, & Barcus, 1985). Social support can play an important role in successful outcomes for both transitioning students and older consumers. In a review of documents on best practices in transition, Kohler (1993) identified 21 components of the transition process. According to Kohler, some of the factors include vocational assessment, early transition planning, interagency collaboration, interdisciplinary transition teams, and parental support. Kohler found that parental support, a specific type of social support, was the most important of these and other factors in determining transition success. And, as mentioned, adult consumers of VR services also benefit from supportive relationships while they are receiving VR training (Wesolowski, 1987). In fact, Wesolowski found that as consumers get older, their need for social support increases.

A number of theoretical approaches to the definition of social support have been proposed. Aspects of social support presented by various researchers generally fall into one of three domains: the social connections one has to those who provide support (social networks), the individual's subjective feelings of receiving support (perceived support), and events (i.e., behaviors) that take place while support is given (received support) (Barrera, 1986).

Many researchers focus on the third domain, received support, which refers to the content of support. Content can include tangible items such as monetary assistance, or intangible actions performed by the giver of support such as giving advice or emotional support. An early definition by Cobb (1976) considered only the emotional content of support. Cobb defined this concept as information that a person

is loved, valued, and involved with others in mutually supportive relationships. Barrera proposed a broader definition of the content of support to include tangible aid such as money and services as well as intangibles such as guidance (Barrera, 1981; Barrera, Sandler, & Ramsay, 1981). Researchers usually include common elements such as tangible and instrumental assistance (e.g., money and child care help), information (e.g., advice, behavioral feedback), and emotional and psychological help (e.g., listening, expressing feelings of caring, esteem, and understanding) (Barrera & Ainlay, 1983; Cohen & Syme, 1985; Dunst & Trivette, 1990; Dunst, Trivette, & Cross, 1986).

A comprehensive definition that not only refers to the content of the support, but also to the recipient of that aid is given by Dunst and Trivette (1990): "Social support refers to the resources – potentially useful information and things – provided to individuals or social units (e.g., a family) in response to the need for aid and assistance" (p. 326). In addition, Dunst and Trivette (1990) state that the primary source of support is the "personal social network" (p. 326), the network of persons and services with which families and individuals come into contact.

Researchers have provided several models to distinguish between these different aspects of support. Cohen and Syme (1985) propose a structural versus functional approach. The structural aspect of social support refers to relationships with those who provide support. These social networks consist of personal and social interconnections including marital status, friendships, and quantity of personal ties between network members. The functional aspect of social support refers to types of support such as emotional support or tangible aid. Although it is not always the case,

structural measures of support generally measure objective aspects of social networks such as number of social contacts and number of clubs and groups of which an individual is a member. On the other hand, functional measures of support usually look at subjective aspects such as perceptions of available support and satisfaction with support received.

Dunst and Trivette (1990) provide a second, more comprehensive model for distinguishing aspects of social support that includes five components. The first two components, relational support and structural support, are similar to Cohen and Syme's (1985) structural perspective and refer to the provider of support. Relational support consists of the existence and quantity of social relationships that are important to an individual such as spouse, coworkers, friends, and religious groups. Structural support refers to the quantifiable aspects of these relationships such as physical proximity to support persons, length and quality of relationships, and reciprocity – the giving as well as receiving of support. The third component of social support, functional support, similar to Cohen and Syme's functional perspective, refers to aspects of the aid and assistance given. This component looks at the type of support (such as information, material and instrumental assistance, and emotional aid) as well as the quantity and quality of the support.

Dunst and Trivette's (1990) fourth and fifth components of social support refer to aspects of the individual who receives the support: constitutional support and support satisfaction. Constitutional support indicates the need for assistance as well as the match between the subjective experience of needing support and the level and type of support given. Support satisfaction is the subjective interpretation of the

helpfulness of the support received. These two dimensions seem to be closely tied to one another. Clearly, satisfaction with support depends on more than simply the level and type of assistance that is offered and received. Due to the inherent differences among individuals, needs for social support will vary (DiMatteo & Hays, 1981). Thus, individuals will vary in the number of persons from whom they seek support. An individual's need for support (DiMatteo & Hays, 1981), personality characteristics such as social competence (Cohen & Syme, 1985), and the availability of support networks all contribute to level of satisfaction.

In a review of prior research on social support, Barrera (1986) noted that measures of social support have focussed on one of the three aspects of support discussed above: the giver of support, the receiver of support, and the content of the support itself. Barrera concluded that due to its many components, social support should not be viewed as a unified construct. Measures of different aspects of social support correlate only mildly with each other (e.g., Barrera, 1981; Barrera et al., 1981) and cannot be used interchangeably. Thus, researchers need to use measures that match their research questions (Barrera, 1986; Cohen & Syme, 1985). This study focused on social networks (the providers of support) (Wesolowski, 1987), and the frequency of supportive behaviors (the content of support) (Barrera, 1981; Barrera et al., 1981). Subjective aspects of social support such as satisfaction with support received were not examined due to the many variables that contribute to this complex component.

Social Support Outcome Studies. Investigators have examined the effects of social support on adjustment to various problems including teenage pregnancy

(Barrera, 1981), marital problems (Wilcox, 1981), serious illness (DiMatteo & Hays, 1981), adolescent behavior problems (Barrera & Li, 1996), parent-adolescent conflict (Barrera, 1998), and mental illness (Coyne & Downey, 1991). The presence of social support also has been linked to improved outcomes following job loss (Cobb, 1976). However, few studies have investigated the role that social support plays in VR outcome. In a review of research on the effects of social support on various life stressors, one area of research noted to be missing was vocational outcome for individuals with disabilities (Cobb, 1976).

More recently, investigators have begun to study the effects of social support on vocational rehabilitation outcomes in select population groups. Kaplan (1990) found that social support, as measured by the Social Support Questionnaire (SSQ; Sarason, Levine, Basham, & Sarason, 1983), was positively related to vocational outcome at 1-year follow-up in individuals with brain injuries. The SSQ measures satisfaction with one's social support network. For this 6-point Likert-type questionnaire, respondents give the names of individuals who support them in various ways and then rate their satisfaction with this support. Kaplan defined high versus low social support as scoring above or below the mean SSQ score of 3.1 (range 1.6 to 5.1). Thirty-six individuals with brain injury were given the SSQ as part of a vocational rehabilitation assessment. About 1 year following the evaluation, VR counselors were asked to report the employment status for consumers in the study. Individuals with positive outcome were those reported to be employed at least 20 hours per week in a nonsheltered work situation or attending a full-time school or training program. Individuals who were more satisfied with their level of social

support were more likely to be employed or in school or training program 1 year later. This study was correlational and thus cannot state causal attributions. However, according to Kaplan, the possible influence of social support on VR outcomes justifies inclusion of the measure of social support as part of standard vocational evaluations.

Social support has also been found to be beneficial for vocational rehabilitation outcomes for individuals with serious mental illness. Within this field, there has been long-standing interest in employment as a treatment strategy (Alverson, Alverson, Drake, & Becker, 1998). There has been a recent shift to the study of consumer characteristics that may be associated with greater chances for successful employment. In a series of ethnographic studies of individuals with severe mental illness, Alverson, Alverson, Drake, and Becker (1998), found that vocational rehabilitation outcomes may be better for those who have the following three predictors: active involvement in social groups such as family, friendships, and work relationships; willingness to seek professional help for managing mental illness; and possessing adequate funds to afford these necessities. Thus, out of 11 characteristics judged to be related to finding work, the above three may form a profile that suggests improved success with vocational rehabilitation efforts.

Alverson and colleagues (Alverson, Becker, & Drake, 1995) also found that one of several strategies needed for successful vocational rehabilitation for consumers with serious mental illness was having family members who supported the consumer through the difficulties of finding and maintaining work. In fact, this review of the literature found that while there are relatively few outcome studies in this field, most

of the studies have focussed on family support in particular, rather than social support in general.

While adolescents are not the focus of this review, the importance of family support, a type of social support, was stressed by Barrera and Li (1996) as the type of social support that must be considered when investigating the provision of support for adolescents. Research has shown that adolescents consider their parents' support most influential when it comes to making life's major decisions such as choosing educational and occupational goals (Barrera & Li, 1996). Family support may also be crucial for adults with disabilities who are in vocational rehabilitation and thus, are also in the process of planning educational and occupational goals.

Family Support Outcome Studies. A rare, early study by Neff (1959), cited in Lindenberg (1980) reported that subjects having high family support were more likely to be employed 1 year after completion of a vocational rehabilitation program. In a review of research from 1980-1990, Kelly and Lambert (1992) found some evidence suggesting better outcomes for clients when family members are included in the rehabilitation process. Reviewed studies included individuals with physical disabilities, mental illness, substance abuse disorders, and developmental disabilities. Of 17 studies selected for review, several studies (Arnold & Orozco, 1988; Kaplan, 1990; Moore, 1984; Roessler & Bolton, 1985) found that increased family support led to improved employment outcomes.

More specifically, Roessler and Bolton (1985) conducted a follow-up survey with vocational rehabilitation clients whose cases were closed either successfully or unsuccessfully. Participants were 57 former VR clients who were identified from

Arkansas Rehabilitation Services files. At the time of the follow-up, about one-half (49%) of the former clients were competitively employed, while 41% were unemployed. An additional 10% were in sheltered employment programs. Each participant was administered a semistructured personal interview that asked about work history, health, perceptions about employer attitudes, time spent in social and leisure activities, and perceptions about family support. Interviews took place between 13 and 46 months after participants finished their rehabilitation programs.

The employment histories of the former clients indicated that while almost one-half were working, weekly salaries ranged from $8 to $300 with an average of $125; and employees worked an average of 33 hours per week with a range of 4 to 60 hours. Thus, many former clients considered to be successfully employed were not working many hours or making a substantial salary. In addition, while most employed participants liked their jobs (64%), disliking their jobs was related to making too little money. The findings indicated that family support factors such as moral support, financial assistance, help finding available jobs, transportation, and teaching job skills were significantly related to success in finding employment. On the other hand, participants responded that neighbors did not provide any help in finding employment. Roessler and Bolton state that due to research findings indicating the importance of informal contacts in conducting a job search, VR counselors should inform their clients of this valuable source of support.

An obvious drawback to this study was that the results depended on interviews that took place anywhere between 1 and almost 4 years after clients were finished with their VR programs. Thus, not only did these researchers have to rely on

participants' memories of events that took place while they were in rehabilitation, but also, there was a great difference in the amount of time that former clients had been out of rehabilitation and looking for work. There are numerous factors that can affect both participants' perceptions of family support and success in finding employment that might have occurred due to the time difference.

In another study that relied on follow-up interviews, Moore (1984) studied the effects of family attitudes toward blindness/visual impairment on the rehabilitation process. To measure client's perceptions of family attitudes, Moore developed a semantic differential scale, a set of 25 items in which subjects are given a continuum between two alternative concepts and asked to chose the location along the continuum that represents their family members' attitude during the rehabilitation process. Examples of alternative concepts include Active-Passive, Encouraging-Discouraging, and Supportive-Nonsupportive. The results of the semantic differential scale for 108 blind and visually impaired former rehabilitation clients indicated that vocational rehabilitation for individuals who are blind or visually impaired is facilitated when family members are more supportive of each other. More specifically, clients who were competitively employed demonstrated higher ratings of family attitudes, including supportiveness, than did clients who were not competitively employed.

As in the Roessler and Bolton (1985) study, clients were interviewed following the rehabilitation process, making it impossible to directly control independent variables that may have had an influence on employment outcomes. Moore suggests that certain demographic variables that might have had a significant impact on outcomes were age, education, marital status, and age at disability onset.

In a study that was able to consider the effects of these and other independent variables, Arnold and Orozco (1988) investigated the effects of family interaction patterns among Mexican-American families with a disabled member. This study looked at the effects of family interaction patterns, as measured by the Family Environment Scale (FES), on vocational rehabilitation progress. One pattern, supportiveness of family members, was measured by the Cohesion subscale of the FES. Other independent variables were age, sex, family size, education, socioeconomic level, disability, and level of acculturation.

Participants included 38 vocational rehabilitation clients from rural south Texas. Individuals had various physical disabilities such as spinal cord injury, cerebrovascular accident (CVA), closed head injury, etc., with 86% designated as having a severe disability. Subjects were scheduled for individual appointments in which they were administered the Acculturation Rating Scale for Mexican Americans, a background data sheet, and the Family Environment Scale. Six months after referral to the study, each subject's rehabilitation counselor completed the Goal Attainment Rating Scale to measure the counselor's judgement of client's progress in reaching his or her vocational potential. Arnold and Orozco reported better vocational potential in more supportive families. The authors note that while the Goal Attainment Rating Scale may be subject to observation error due to bias in counselor ratings, other studies have supported this type of rating system.

Although Kelly and Lambert (1992) conclude that there is evidence for positive effects of including family members in rehabilitation, their review demonstrated that systematic, well-controlled studies of the effects of family support

on outcomes are rare. They found that the studies they reviewed used various definitions of family and social support, making it difficult to compare outcome results. Some studies defined support in general terms such as client-family interaction (e.g., Arnold & Orozco, 1988) while other studies focussed on specific supportive functions such as teaching job skills and providing transportation (e.g., Roessler & Bolton, 1985). Thus, they were unable to determine specifically how support affects adjustment and outcome or what aspects of support are most effective. Kelly and Lambert also had difficulty with comparison of findings due to the different measures of support used in the studies. Many of the investigators utilized instruments that were specific to the individual studies such as the Cohesion subscale of the Family Environment Scale (e.g., Arnold & Orozco, 1988) and the Supportive-Nonsupportive dimension of a semantic differential scale (e.g., Moore, 1984).

In addition, Schalock, Wolzen, Ross, Elliott, Werbel, and Peterson (1986) conducted a five-year longitudinal study that looked at level of family involvement as one of many predictors of employment for post-school students with disabilities. Subjects were 108 high school graduates from 1979-1983 who were given the following classifications: specific learning disability (SLD), educable mentally handicapped (EMH), or mentally retarded (MR). In agreement with the employment outcome studies mentioned earlier in this review (Blackorby & Wagner, 1996; Sitlington, Frank, & Carson, 1992), 61% of students with disabilities were employed at least 1 year after graduation, and students with specific learning disabilities were more successful at finding jobs than either the students who were educable mentally

handicapped or mentally retarded. Males were also more likely to be employed than were females.

Eleven outcome measures were collected yearly through personal interviews with either the graduates or their family members. Present employment status was defined as 3 months of uninterrupted work. Eight additional employment variables were measured (Schalock et al., 1986, p. 298):

1) average hours per week
2) average hourly wage (minimum wage = $3.40 per hour)
3) weeks employed per year (number of weeks worked/number of weeks since graduation)
4) number of jobs since graduation
5) total months employed since graduation
6) total earnings since graduation (in thousands)
7) job types (101 jobs mostly falling into 3 categories: farming, manufacturing, and retail-trade)
8) reasons for losing jobs (too slow, employer went out of business, quit, no transportation, change of job [voluntary], laid off, other, seasonal work)

Family involvement was rated independently by two teachers during the student's last year. A 3-point scale of involvement was used with a score of 3 representing high involvement: "Parent attends all IEP meetings, annual reviews, and/or assumes an active role in assisting student with vocational plans/needs". A score of 2 represented moderate involvement: "Some of the previous, but not all". And a score of 1 indicated low involvement: "Parents show little interest in student's

program and/or vocational training or placement" (Schalock et al., 1986, p. 296). Moderate-to-high family involvement was one of the most reliable predictors of successful employment across all outcome measures with students having moderate-to-high involvement demonstrating higher rates of employment, working more weeks per year, and receiving higher hourly wages. Schalock et al. conclude that their data confirm other findings "indicating the significant influence of family support on both community integration and programmatic success, and suggests a critical need to involve the student's family in the job-exploration, training, and placement process" (Schalock et al., 1986, p. 302).

Finally, in a review of studies that examined employment outcomes for post-school youth with disabilities, Phelps and Hanley-Maxwell (1997) referred to several studies that reported a reliance on family and friends, not job placement services, for finding work. More specifically, in a study of employment outcomes in Vermont, Hasazi, Gordon, and Roe (1985) found that a large percentage (84%) of employed youth with disabilities secured their jobs through what they called the "self-family-friend network". These individuals were able to find work through informal family and friendship relationships as opposed to vocational placement agencies with which many were involved. According to Bellamy (1985), the Hasazi et al. results may be due to Vermont's inclusive educational system: "The high reliance on resource rooms and the absence of segregated special schools means that most students with handicaps attend school in their own neighborhood, so that family and neighborhood networks are more likely to develop" (Bellamy, 1985, p. 476). Although the trend toward inclusion has been more widespread recently than it was in the mid-1980's,

the idea of schooling students in their own neighborhoods to facilitate the development of community networks makes the Vermont system an early advocate for reliance on natural supports.

Social Network Size

It has been stated in the literature (Knox & Parmenter, 1993; Wesolowski, 1987) that individuals with disabilities, who are often isolated from social groups, do not have the number of support persons that individuals without disabilities have. Those with disabilities also do not engage in everyday community activities to the extent that individuals without disabilities do (Mank & Buckley, 1989). Furthermore, individuals without disabilities have many more informal support persons such as family, friends, coworkers, and neighbors, rather than formal support networks, such as professionals, from whom they seek assistance (Michaels, 1998; Wesolowski, 1987).

The concept of employing family, friends, and community members as support persons for individuals with disabilities is referred to as natural supports (Nisbet, 1992). There are several benefits of relying on natural supports as opposed to the traditional use of professional support persons. First, natural supports are generally not paid to assist the individual with disabilities. Also, they are more likely to stay involved with the individual for a longer time, leading to more satisfying relationships. In addition, there is often a sense of mutual involvement when the support person is a friend, neighbor, or coworker for whom the individual with disabilities may return favors or provide companionship. Finally, dependence on

natural supports is most similar to the way individuals without disabilities receive assistance (Michaels, 1998).

To some extent it is due to the lack of natural supports that individuals with disabilities depend heavily on paid professionals. Following the growing interest in natural supports, size of social networks, one of the many ways to conceptualize and measure social support, is increasingly being used to determine the types of support persons that individuals with disabilities can count on for assistance. In an effort to compare the size of social networks of individuals with and without disabilities, Wesolowski gave the Social Network Inventory (SNI; Wesolowski, 1985) to 203 vocational rehabilitation clients with disabilities and 71 evening university students without disabilities (Wesolowski, 1987). The SNI is a self-report questionnaire that generates names of all individuals who are potential sources of support. The size of an individual's social network is the total number of names entered on the inventory. Quality of an individual's social network is determined to some extent by report of the number of support persons who are employed.

Using this inventory, Wesolowski (1987) compared individuals with and without disabilities on the number of listed support persons. For each respondent, the number of total contacts, friends, and family; and total employed contacts, employed friends, and employed family were generated. For each of these six variables, clients (individuals with disabilities) had significantly fewer contacts than did nonclients. Thus, individuals without disabilities consistently demonstrated larger social networks than did individuals with disabilities.

While type of disability had no effect on network size, Wesolowski found that interactions between age and client status were significant for five of the six inventory variables. More specifically, nonclients' social networks increased as they got older while clients' social networks diminished with time. Apparently, unlike nonclients who gain friends as they get older, clients have mostly family members in their social networks; and since family members die as an individual ages, network size naturally decreases. Given the magnitude of the results found in this study, it is not surprising that Wesolowski hypothesized that social supports may be as important a factor in vocational rehabilitation as are other individual factors such as level of disability and vocational skill. In fact, for at least one of the clients participating in Wesolowski's study, social isolation, not lack of employable skills, was the reason for seeking out vocational rehabilitation services.

Circles of Support. Another way of conceptualizing network size is with the use of support circles. Support circles are theoretically based in an area of vocational rehabilitation research known as Person-Centered Planning. Person-Centered Planning is a team approach to developing and implementing future goals for individuals with disabilities based on a collaboration of family, school/professional, and community resources (Stineman, Morningstar, Bishop, & Turnbull, 1993). This process focuses on creatively meeting the needs of the individual and his/her family as opposed to traditional Program-Centered Planning in which individuals are placed into available jobs and situations without systematic participation of the individuals themselves and their family members. In person-centered planning, the process and

outcomes of vocational rehabilitation are individualized to the needs of the consumer and his/her available supports.

There are several methods of person-centered planning currently in use. Mount and Zwernik (1988) developed Personal Futures Planning in which a team of support persons is established to help the individual meet his or her future goals. Maps and personal profiles are used to identify the individual's special interests and abilities. The McGill Action Plan (Vandercook, York, & Forest, 1989) is a strategy in which a team of supporters answers questions that lead to a central view of the individual's goals for the future. The concept that a team of support persons is central to the process of planning future goals has been stated by other researchers. Hosack and Malkmus (1992) propose viewing the family as members of a "team" that may include "a wide variety of community players (p. 12)." Depending on the individual's interests, needs, and activities, community members such as friends, teachers, coworkers, supervisors, and merchants may play a crucial role in supporting the vocational rehabilitation plan for the consumer.

Stineman, Morningstar, Bishop, and Turnbull (1993) have outlined the steps necessary for creating a "shared vision" for transitioning students and working out the plan until it leads to optimal outcomes. Included in these steps is the development of a relationship diagram. The diagram looks like a series of concentric circles with the student's name in the center. The circle closest to the center includes those people who are closest to the student such as family members and friends. Each circle contains the names of individuals who are closer to the student than those in the next, outer circle, and so on. As many circles as needed are used. This diagram identifies

the individuals who are important to the student and who may be available to give support in helping the student reach his or her goals. It also clearly demonstrates when an individual lacks social support and may need assistance in developing social contacts.

Similarly, Falvey, Forest, Pearpoint, and Rosenberg (1997) have developed Circles of Support, along with other tools used for the development of personal profiles to aid in futures planning. This method utilizes a limited number of concentric circles. The consumer's name goes in the center circle. The first circle away from the consumer includes his/her closest friends and family members. At the next level are relatives not in the last circle and other friends. The next level, the third circle away from the consumer, includes those individuals who are involved in his or her life in various situational relationships. The number of individuals at this level depends on the consumer's "community presence" (Bates & Miner, 1996) and includes those who are known through school, church, gym, clubs, stores, library etc. The greater the consumer's involvement in the community, the more individuals may be included at this level. The fourth circle away from the consumer includes individuals who are paid for their involvement with the individual such as therapists, teachers, job coaches, and other service personnel.

While individuals without disabilities may have many friends in circle two and several community members with whom they are involved in circle three, the individual with disabilities often has few support persons available from circles two and three and many paid professionals in circle four (Michaels, 1998). The goal of using a method such as Circles of Support is in developing personalized outcomes

that include as much "community presence" as possible for each individual (Michaels, 1998). For consumers who lack a network of friends and community support persons, the planning team can help facilitate the development of such a network.

Frequency of Supportive Behaviors

Although social network size is an important measure of the support available to an individual, network size alone cannot completely explain the amount of support a person receives: it does not tell us how often helping behaviors are experienced, nor does it tell us specifically what types of support are received. A full understanding of how support persons give assistance in day to day routines requires a more behaviorally specific tool (Barrera, Sandler, & Ramsay, 1981). One widely used instrument is the Inventory of Socially Supportive Behaviors (ISSB; Barrera, Sandler, & Ramsay, 1981), a 40-item scale of the frequency of receiving specific helping behaviors. Items include both tangible and intangible sources of support. All items on the ISSB have behavioral specificity in order to eliminate subjective responding. Subjects are asked to rate how often each of the items happened in the last month. A 5-point scale is used to rate frequency. Examples of items include "let you know that you did something well" and "pitched in to help you do something that needed to get done".

Studies that have used the ISSB as a measure of social support vary considerably with respect to their focus. Pickens, Field, Prodromidis, Pelaez-Nogueras, and Hossain (1995) were interested in social support as a buffer against posttraumatic stress disorder (PTST) in college students who experienced different

levels of impact and damage from Hurricane Andrew. Although the ISSB did not predict PTSD, it did predict anxiety in the group considered to be the highest risk for PTSD outcomes. When severity of impact of the hurricane was considered in the analyses, students hardest hit by the storm were found to have utilized more tangible assistance as well as more directive, nondirective, and positive types of social support than did students impacted less by the hurricane. Pickens et al. conclude that social support as measured by the ISSB was an important factor in the recovery process for students hardest hit by the natural disaster.

Another study that utilized the ISSB investigated the role of social support on behavioral parent training for child conduct problems (Dadds & McHugh, 1992). Social support from friends predicted treatment response of parents. Only those parents with high levels of social support from friends responded well to the training program.

Summary

This literature review has examined research in the areas of vocational rehabilitation (VR) outcome, transition from school to work, social support, and family support. Recent literature has stated the importance of including parents, family members and other support persons in the vocational rehabilitation process for individuals with disabilities, but there has been limited research in this area.

In the area of vocational rehabilitation outcome, there have been several studies that reported data from the U.S. Department of Education's Rehabilitation Services Administration (RSA), a federal agency that oversees local and state VR programs. Butterworth, Gilmore, and Schalock (1998) found that following the 1992

changes to the Rehabilitation Act (later amended in 1998), there was an increase in the rate at which individuals with disabilities were found eligible for VR services. These legislative changes also increased availability of VR services for individuals with severe disabilities, resulting in a shift for many of these individuals from sheltered to competitive employment. Walls and Fullmer (1997) used RSA data to report employment patterns and found that several disability categories (including mental illness, learning disability, substance abuse, epilepsy, visual impairment, and hearing impairment) demonstrated similar rank orders for types of competitive employment following rehabilitation. Thus, functional abilities may be considered more important than disability categories in selecting occupational placements.

Since the mid-1980's there has been an increase in employment outcome research for transitioning students. Part of this increase is due to changes in federal legislation including the Individual's with Disabilities Education Act of 1990 (IDEA) that included mandated transition planning for students with disabilities age 16 and older, and the 1997 amendments to IDEA which require that transition planning begin at age 14. Several of these outcome studies found disappointing results: youth with disabilities find employment at rates lower than their peers without disabilities (Wagner et al., 1991); and even fewer post-school students with disabilities work full time or earn at least minimum wage (Hasazi, Gordon, & Row, 1885; Mithoug, Horiuchi, & Fanning, 1985). In addition, the employment outlook for young women with disabilities is even more discouraging: they have lower employment rates, earn lower wages, and work fewer hours than young men with disabilities (Blackorby & Wagner, 1996; Hasazi, Gordon, & Row, 1885; Sitlington, Frank, & Carson, 1992).

While researchers discuss at least three general social support domains: social networks (availability of support), perceived support (satisfaction with support), and received support (the content of supportive behaviors) (Barrera, 1986), this study will look at social network size (Wesolowski, 1987) and frequency of supportive behaviors (Barrera, 1981; Barrera et al., 1981). Subjective aspects of social support such as satisfaction will not be examined.

Studies have shown that having the support of family members during vocational rehabilitation facilitates successful employment. In a review of research from 1980-1990, Kelly and Lambert (1992) found evidence suggesting better outcomes for clients when family members are included in the rehabilitation process. Transitioning youth also have demonstrated improved outcomes when they receive more support from family members. For example, Schalock et al. (1986) found that moderate-to-high family involvement was a strong predictor of work outcomes for students with disabilities including higher rates of employment, working more weeks per year, and receiving higher hourly wages.

However, fewer studies have investigated the effects of social support in general on vocational rehabilitation outcomes. Kaplan (1990) found that consumers who were more satisfied with their level of social support were more likely to be employed 1 year after vocational rehabilitation services ended. In addition, Alverson, Alverson, Drake, and Becker (1998), found that vocational rehabilitation outcomes may be better for individuals who have active involvement in social groups including friendship, work, and family relationships.

This study sought to extend the current literature and investigate whether social support is related to improved vocational rehabilitation outcome for individuals with disabilities who were enrolled at a private VR program. The purpose of this study was to identify individuals who have a higher probability of employment following VR training. Knowledge that higher levels of social support are related to higher rates of employment will help rehabilitation professionals plan interventions that seek to enhance employability for greater numbers of individuals with disabilities. In addition, data specifying that certain aspects of support lead to improved employment outcome will help program developers plan strategies that encourage these aspects of support. Finally, information gained from this study may demonstrate the importance of including measures of social support in vocational evaluations (Kaplan, 1990). This study sought to answer the following questions:

(1) Is there a relation between size of social support network and vocational rehabilitation outcome?

(2) Is there a relation between type of support persons (natural vs. paid supports) and vocational rehabilitation outcome?

(3) Is there a relation between frequency of support received and vocational rehabilitation outcome?

(4) Is there a relation between age and vocational rehabilitation outcome?

(5) Is there a relation between gender and vocational rehabilitation outcome?

(6) Is there a relation between severity of disability and vocational rehabilitation outcome?

Based on the literature review and the research questions listed above, the following hypotheses were tested:

(1) The probability of employment at follow-up is directly related to the total number of support persons available during VR training.

(2) The probability of employment at follow-up is directly related to having a higher percentage of natural support persons than paid support persons during VR training.

(3) The probability of employment at follow-up is directly related to the frequency of supportive behaviors received during VR training.

(4) The probability of employment at follow-up is directly related to age.

(5) The probability of employment at follow-up is directly related to gender.

(6) The probability of employment at follow-up is directly related to severity of disability.

Chapter 2

Method

Participants

Participants included 70 individuals with disabilities (consumers) who received VR services from a private vocational rehabilitation center in Albertson, NY. Approximately 750 consumers are referred to this center for services each year. Most consumers are referred to the center from the New York State Office of Vocational and Educational Services for Individuals with Disabilities (VESID), while some are referred from the Veterans Administration, private insurance companies, and other private referrals. After receiving vocational evaluations, about 250 of these consumers participate in vocational training programs and at least half of these 250 consumers graduate each year. Consumers who were enrolled in any of the VR center's training programs were invited to participate in this study. The 70 consumers who agreed to participate in the study were enrolled in the following training programs: laboratory assistant training (60%), business skills training (27%), skills training for individuals with limited work experience (called STEP – i.e., basic clerical, retailing, maintenance, and food service skills; 9%), and personal computer (PC) training (4%). (See Appendix A for entrance requirements for each program.) Programs at the center last between 13 weeks and 6 months and start continuously throughout the year. Participants had been in their training programs between 11 and 26 weeks ($M = 14$, $SD = 2.84$) at the time of interview. While consumers repeat the same training program in rare cases, none of the participants in this study repeated training.

All demographic information was retrieved from the VR center's consumer files and reported to the principal investigator by staff members. The age range for the 70 participants was 18 to 60 years. Fifty-one percent were male. Forty-six percent of participants were White, 33% were African American, 10% were of Hispanic origin, 3% were Asian/Pacific Islander, and 9% identified themselves as having some other ethnicity. Forty-four percent of participants were never married, 26% were married, 20% were divorced, 6% were widowed, and 3% were separated from their spouse. Participants' had received the following education: less than high school (11%), high school or equivalent (53%), post high school training (23%), associates degree (3%), bachelors degree (9%), and post bachelors degree (1%).

Participants had the following disabilities: orthopedic disabilities (29%), mental illness (21%), substance abuse disorders (17%), other health impairments (11%), learning disabilities (9%), nerve/muscular disorders (7%), deaf/hearing impairments (3%), traumatic brain injury (1%), and mental retardation (1%). Sixty-four percent of participants were considered to have severe disabilities, and 36% had disabilities that were not severe. Severity of disability was determined by VESID (Vocational and Educational Services for Individuals with Disabilities) criteria which states that a disability is severe if the consumer's impairments seriously limit one or more of his or her functional capacities (e.g., mobility, self-care, cognition) and if the individual needs multiple VR services over an extended period of time. A consumer's disability is considered not severe if he or she does not meet the criteria for severely disabled.

This study's sample can be considered similar in ethnicity, educational level, and level of disability to the 751 consumers who were referred to the VR center between January and December 2000 (demographic data were available only for the larger group of referred consumers, not for the approximately 250 consumers who participated in training). For example, of the 509 consumers for whom ethnicity data were available, 51% were white (this study's sample = 46%), 27% were African-American (33%), 12% were Hispanic (10%), 3% were Asian/Pacific Islander (3%), and 7% had some other ethnicity (9%). Also, of the 519 consumers for whom severity of disability data were available, 57% had disabilities that were severe (64%) while 43% had disabilities that were not severe (36%). In addition, of the 484 consumers for whom educational level data were available, 61% had a high school diploma or equivalent (53%), 15% had less than high school education (11%), 12% had post high school training (23%), 2% had an associate degree (3%), 7% had a bachelors degree (9%), 1% had a post bachelors degree (1%), and 2% had some other type of training (0%).

This study's sample was dissimilar to the population of consumers who were referred to the VR center in marital status and primary disability. For example, of the 491 consumers for whom marital status data were available, 66% were never married, whereas only 44% of this study's sample were never married. Also, of the 433 consumers for whom type of disability data was available, a greater percentage had mental retardation (9%) and learning disabilities (27%) than did this study's sample (1% and 9% respectively). Consumers in the larger population were referred to the VR center but did not necessarily begin training programs. The data suggest that

consumers who either were not accepted or did not follow through with VR training were less likely to be secure in personal relationships and were more likely to have cognitive disabilities.

Measures

Social Support. The Circles of Support method based on Falvey, Forest, Pearpoint, and Rosenberg (1997) was used to determine consumer's social network size (See Appendix B). The Circles of Support is a diagram with concentric circles that consumers fill in with the names of people who are close to them or important in their lives. Participants were asked whom they wished to include in the four concentric circles. The first circle includes the closest friends and family members; the second circle includes other friends and family members not included in the first circle; the third circle consists of individuals that the participant knows from involvement in the community; and the fourth circle includes individuals who are paid for their time with the consumer. Scores for each circle were determined by the number of individuals included within each circle. For example, the first circle might include mother, father, and two close friends for a score of 4; the second circle might include two uncles, two aunts and four cousins for a score of 8; the third circle might include four neighborhood store employees, six classmates, and ten support group members for a score of 20; and the fourth circle might include three doctors, one teacher, one case manager, and one hairstylist for a score of 6. Each participant's total score was the sum of the four circle scores. Thus, the total score for the above example would be 38.

If individuals were included in more than one circle (e.g., a teacher can also be a close friend), they were only counted once in the total score. Consumers were asked to place the individual in the circle that best represented his or her relationship with that person (e.g., "Is this person more of a friend or more of a teacher to you"). In addition to the total number of support persons, percentage of paid professionals (circle four) was compared across participants. While having more support persons overall may be beneficial in finding employment, having a higher percentage of paid individuals in one's life may have a different effect than having a higher percentage of natural supports.

The Inventory of Socially Supportive Behaviors (ISSB; Barrera, Sandler, & Ramsay, 1981) is a 40-item scale of the frequency of receiving specific helping behaviors (See Appendix C). The ISSB was read to each participant to facilitate understanding. Participants were asked to rate how often each of the items happened in the last month. Examples of items include "let you know that you did something well" and "pitched in to help you do something that needed to get done". The ISSB asks participants to recall helpful behaviors from all support persons, not specific groups of individuals. The total score was the sum of the 5-point ratings of each item. Test-retest reliability of the ISSB, after a 2-day interval, was .88 for the total test (Barrera et al., 1981). Individual item coefficients ranged from .44 to .91. Several studies of internal consistency reliability have found coefficients above .9 (Barrera, 1981; Barrera et al., 1981; Stokes & Wilson, 1984).

Vocational Rehabilitation Outcome. VR outcome was assessed through interviews with staff members 90 days after participants finished their training

program. Employment status for each consumer in the study was then reported. While successful employment at the VR center is considered to be 90 days of continuous employment, for this study a shorter follow-up had to be used and also had to take into account that many consumers continue with additional training after they finish their programs. For example, many computer students (PC training) complete more than one training segment. Ninety days after being interviewed, many consumers were still enrolled in training programs. Thus, for this study a positive outcome was recorded if participants a) were working at time of follow-up, or b) were still in training at time of follow-up. For Kaplan's (1990) study, individuals with a positive outcome were those reported to be employed at least 20 hours per week or attending a school or training program. Since the rehabilitation center used in this study reports successful employment as 15 hours per week or more, for this study positive outcome included at least 15 hours per week employment or continuation of training program.

Finally, background data were gathered from participant's files (see Appendix D). This included gender, age, severity of disability, marital status, ethnicity, and highest educational level. Type of training program and start date were also recorded. Dichotomous variables were recoded as dummy variables.

Procedures

The principal investigator was given permission to conduct interviews at the VR center. Recruitment was conducted by staff members. When consumers had been in their training classes for 10 weeks, staff members (the associate director and her assistant) went into the classes to inform consumers that they were eligible to

participate in a research study being conducted by a student researcher for which they would be paid five dollars. Consumers were told that if they participated in the study, they would be asked about the people who help them and the kinds of things that they are helped with. Consumers were also told that the study was voluntary and they would not lose any benefits or services if they chose not to participate. In addition, they were told that if they participated in the study, information about them would be kept confidential and could not be used to identify them.

The staff members gave each interested consumer an appointment with the principal investigator for an interview. Participants were instructed to meet the principal investigator in one of several locations within the VR center at a specific time. The closest empty conference room or office to the participant's classroom was chosen for each interview. The individually conducted interviews took approximately 20 minutes to complete. Interviews took place in the morning, before classes; during lunch; or in the afternoon, after classes were over. Participants were asked to sign a consent form (see Appendix E) prior to being interviewed. Participants were paid $5 immediately after they signed the consent form. The outcome measure was recorded from information in consumers' files by staff members 90 days after participants finished their training program.

All 74 consumers who completed 10 weeks of training between January 2000 and October 2000 were asked if they wanted to participate. Four consumers who were invited to participate chose not to participate. No interested consumers were eliminated from the study. Participants were interviewed within 1 week of agreeing to take part in the study. Interviews were conducted from January 2000 to October

2000. There were months when numerous interviews were conducted and months when few interviews were conducted. Recruitment continued until 70 participants were interviewed.

Data Analysis

This study utilized a correlational design in order to attempt to answer several questions concerning the effect of social support on vocational rehabilitation outcome. Data were analyzed with the logistic regression statistical method. This model contained six potential predictors which were: total number of support persons, percentage of paid support persons, frequency of support received, age, gender, and severity of disability. Each participant's number of weeks in training prior to interview was controlled statistically. The binary outcome variable was positive or negative employment status at follow-up. Positive employment status at follow-up included participants who were still in training as well as those who were employed.

Chapter 3

Results

Frequencies for age, gender, severity of disability, and employment outcome can be seen in Table 1. The age range for participants was 18 to 60 years (M = 38.7, SD = 11.46). The majority of participants (63%) were between 31 and 50 years of age. Fifty-one percent of participants were male. Sixty-four percent of participants' disabilities were severe, while 36% were not severe. Sixty-six percent of participants were employed or still in training at the 90-day follow-up.

Table 2 shows descriptive statistics for the social support measures. Results of the Circles of Support revealed that the total number of support persons available to participants during training (total of circles 1, 2, 3, and 4) ranged from 6 to 211 (M = 49.9, SD = 38.92). While there were a few outliers, the majority of participants (83%) had between 15 and 90 support persons (see Figure 1). The percentage of paid support persons (circle 4) ranged from 3 to 71 (M = 20.4, SD = 12.29). ISSB scores relating to the frequency of supportive behaviors received during the month prior to interview ranged from 58 to 163 (M = 104.7, SD = 23.72).

Each participant's score for total number of support persons, percentage of paid support persons, frequency of support received, age, gender, and severity of disability was used as a predictor variable of whether the participant was successfully employed or still in training at follow-up by means of logistic regression analysis. As seen in Table 3, results revealed that none of the social support variables were significantly associated with employment status at follow-up. Specifically,

Table 1

Frequencies for Age, Gender, Severity of Disability and Employment Outcome

	n	%
Age		
18-20	7	10
21-30	9	13
31-40	20	29
41-50	24	34
51-60	10	14
Gender		
Males	36	51
Females	34	49
Severity of Disability		
Severe	45	64
Not Severe	25	36
Employment Outcome		
Positive[a]	46	66
Negative[b]	24	34

[a]Positive employment outcome = employed or in training at 90-day follow-up.

[b]Negative employment outcome = not employed/not in training at 90-day follow-up.

Table 2

Descriptive Statistics for Social Support Variables

	M	SD	Min	Max
Circles of Support				
Total Support Persons	49.9	38.92	6	211
% Paid Support Persons	20.4	12.29	3	71
ISSB[a]	104.7	23.72	58	163

[a] Inventory of Socially Supportive Behaviors

Figure 1

Histogram: Total Number of Support Persons

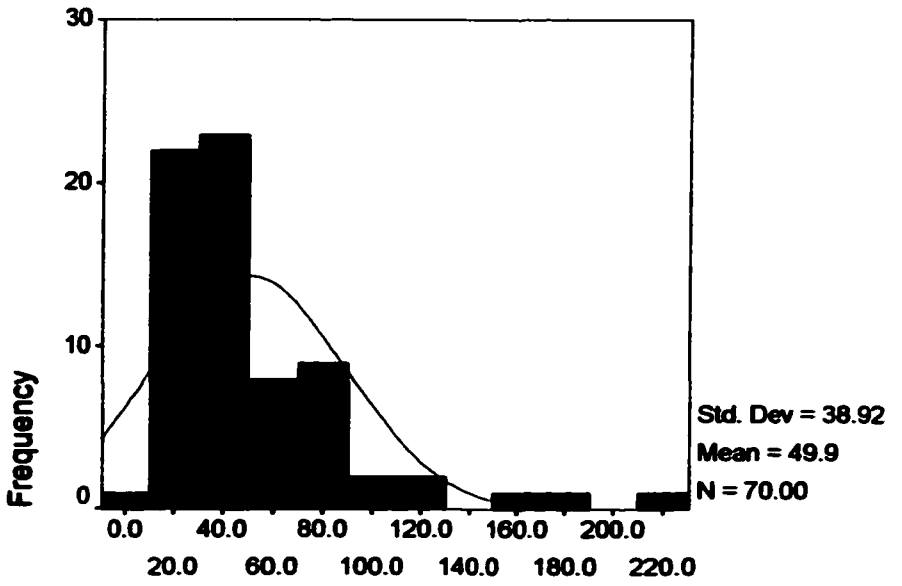


Table 3

Logistic Regression Analysis: Predictors of Vocational Rehabilitation Outcome

	B	S.E.	Wald	df	P	Exp (B)
Circles of Support						
Total Support Persons	.01	.01	.69	1	.41	1.01
Percent Paid Supports	.03	.03	1.03	1	.31	1.03
ISSB[a]	.00	.01	.04	1	.84	1.00
Age	.01	.03	.18	1	.67	1.01
Gender	1.61	.60	7.10	1	.01	4.99
Severity of Disability	-1.16	.65	3.14	1	.08	.32
Number of Weeks in Training	-.11	.11	.97	1	.32	.90

[a]Inventory of Socially Supportive Behaviors

Hypothesis 1, which states: the probability of employment at follow-up is directly related to the total number of support persons during VR training was not supported. In addition, Hypothesis 2, which states: the probability of employment at follow-up is directly related to having a higher percentage of natural support persons than paid support persons during VR training was not supported. And finally, Hypothesis 3, which states: the probability of employment at follow-up is directly related to the frequency of supportive behaviors received during VR training was not supported.

Of the three additional independent variables: age, gender and severity of disability, only one variable, gender, was significantly associated with outcome. More specifically, Hypothesis 4, which states: the probability of employment at follow-up is directly related to age was not supported. Hypotheses 5, which states: the probability of employment at follow-up is directly related to gender was supported. In this study, females had greater odds of being employed or continuing with training than did males (Employment Outcome Exp {b} = 4.99, $p < .01$). That is, for females, the odds that participants were successfully employed or still in training at follow-up increased by a factor of 5 over the odds for males. In addition, Hypotheses 6, which states: the probability of employment at follow-up is directly related to severity of disability was not supported. However, there was a trend toward significance for severity of disability in that individuals with disabilities that were not severe had greater odds of finding employment than did individuals with severe disabilities (Employment Outcome Exp {b} = 0.32, $p < .08$). Finally, it was thought that number of weeks in training prior to interview needed to be controlled. However,

results revealed that this variable was not significantly associated with employment status at follow-up and so it was unnecessary for it to be controlled.

Follow-up analyses were conducted because of potential confounds. The first additional analysis redefined the outcome variable so that participants who were unemployed at follow-up were compared with only those participants who were employed, not those who were still in training. Fifty-four participants (30 employed, 24 unemployed) were included in this logistic regression which did not yield significant findings for any additional predictor variables. Gender was still significantly associated with employment outcome (Employment Outcome Exp {b} = 5.80, $p < .05$). The second follow-up analysis added highest educational level to the logistic regression. When educational level was added as the seventh predictor variable, results revealed that it was not significantly associated with employment outcome. The next additional analysis looked at participants who took only one of the training programs. The majority of participants were enrolled in the laboratory assistant training program (60%). When only these 42 cases were considered in the logistic regression, there were no additional significant predictors. The gender variable continued to demonstrate significant differences (Employment Outcome Exp {b} = 10.94, $p < .01$). Another follow-up logistic regression considered only the first two circles of the Circles of Support measure. When the sum of circle 1 and circle 2 was used as a predictor variable instead of the total of all four circles, this new variable was not significantly associated with employment status at follow-up.

Finally, since the gender variable was consistently significant, several analyses were conducted to see how males and females differed. Of the seven additional

analyses conducted, two were t-tests: gender by age and gender by severity of disability. The other five additional analyses were chi-square tests: gender by type of disability, gender by highest educational level, gender by ethnicity, gender by marital status, and gender by type of training program. However, results revealed that males and females did not differ on any of the variables considered.

Chapter 4

Discussion

Social Support

Contrary to previous studies (Alverson, Alverson, Drake, & Becker, 1998; Arnold & Orozco, 1988; Kaplan, 1990; Moore, 1984; Roessler & Bolton, 1985) individuals in this study did not have better odds of finding employment if they had more social support. Unfortunately, there were many aspects of this study that may have led to the lack of positive findings. Possible reasons why positive results were not found include short length of time to follow-up, characteristics of the participants, and lack of a more objective measure of social support.

Length of Time to Follow-up. Due to the time-limited nature of this study, it was necessary to employ a relatively short follow-up of 90 days. While successful employment at the rehabilitation center is considered to be 90 days of continuous employment, for this study it was necessary to consider that consumers might continue with training at the VR center. In fact, approximately 37% of participants did go on to additional training following the program that they were in at the time of interview. In addition, it may take consumers more than 90 days to find employment. It would be difficult to get an accurate account of each participant's employment status, using the criteria of 90 days of continuous employment, without waiting a significant amount of time for participants to find employment. Participants who were interviewed at the early part of this study took up to 9 months to find employment. While it is unknown what the ideal follow-up period is, 90 days is probably too short for many participants who might have found employment if a

longer time to follow-up was used. Future studies should include a longer length of time to follow-up (at least 9 months) to ensure that participants interviewed at the beginning and end of the study period all have an adequate length of time to find employment.

Participant Characteristics. There may be factors related to aspects of the participants themselves such as need for support that made them less vulnerable to varying amounts of support during training. Due to the inherent differences among individuals, needs for social support will vary (DiMatteo & Hays, 1981). Thus, individuals will vary in the number of persons from whom they seek support. Future studies may want to investigate how much support participants need, not only how much they receive.

Closely tied to this is the match between the need for support and the level and type of support given (Dunst & Trivette, 1990). While not explored in this study, it would have been interesting to ask participants how much social support they thought they needed, and then ask them if they received as much as they needed. Instead of comparing the amount and type of support participants actually receive, future researchers may find it useful to study whether participants receive what they think they need.

Finally, another aspect of the participant, support satisfaction, is the subjective interpretation of the helpfulness of the support received (Dunst & Trivette, 1990). While participants may have received the amount of support that was needed while in training, they may not have been satisfied with the level or quality of the support they received. For example, a participant who had numerous paid support persons may not

have been satisfied with this type of help. As with need for support, future researchers might want to investigate individuals' satisfaction with the support they receive during the training process.

Social Support Measure. It is possible that using participant's subjective views of how much support was received led to different results than more objective measures would have yielded. Schalock, Wolzen, Ross, Elliott, Werbel, and Peterson (1986) utilized a 3-point rating by teachers of family involvement in their study of transitioning students. Using a more objective measurement such as having one of the VR center's employees rate the level or quality of participants' received support would have eliminated the problem of each individual's subjective interpretation of social support.

However, according to Cohen and Syme's (1985) criteria, this study did measure some objective aspects of social support. They consider that a more objective approach to the measurement of support looks at aspects of social networks such as number of social contacts and number of clubs and groups of which an individual is a member. More subjective measures of support usually look at aspects such as perceptions of available support and satisfaction with support received. Thus, while this study used more objective measures of support than could have been used, it is possible that measurement tools that were even more objective might have yielded significant results.

Participants' scores for number of available support persons illustrate the subjective nature of this type of participant responding. Circles of Support total scores ranged from 6 to 211. While most participants reported having under 100

support persons available to them, 5 participants reported having between 116 and 211 support persons. The reason for this large range of scores is that while these 5 participants had more typical scores for the other three circles, they reported having between 87 and 159 individuals in Circle three, people that you know from your community. Some participants counted each person from large groups such as all of one's church membership, or an entire Alcoholics Anonymous group as individual support persons. One participant assured the interviewer that she knew over 100 individuals from her old and new neighborhoods well enough to consider them all available to her for some type of support. She reported knowing these individuals through "singing with the girls, basketball and rap with the guys" and with other activities such as "dancing and putting on shows".

It is possible that since variability in responses for Circle three may have led to the lack of positive findings for the Circles of Support, positive results may have been found if only Circle one (closest family and friends) and Circle two (other family and friends) were considered for types of natural supports. While this approach would not have yielded information about community members available for support, it would still have been possible to compare the number of paid supports (Circle four) for each participant. While this would not have been an ideal method for determining the size of support networks since valuable information would have been left out, it is nevertheless important to consider alternative methods that may have proven useful.

A second alternative method that would have considered all types of supports, including community members, would have been to compare participants' number of social groups with which they were involved rather than each individual support

person within the groups. Thus, for example, an individual might have been involved with a church group, an AA group, and a large group of neighbors. The actual number of support persons within each of these three groups would not have been considered with this method. While there was a great deal of variability in counting each participant's individual support persons in Circle three, there would not have been as much variability if each group were only counted one time. Once again, it is possible that if an alternative method such as this were used, positive results may have been found.

Age

In considering the background data variables (age, gender, and severity of disability), Wesolowski (1987) found that as individuals with disabilities get older, their need for social support increased. This was probably because their social networks are mostly family members and they tend not to gain friends as they get older as do individuals without disabilities. And, as family members die, social supports become more rare. This study hypothesized that age would be a predictor of VR outcome. However, the results did not find that younger participants had better outcomes than did older participants.

As with the social support measures, one possible reason for lack of significant findings may be that the sample size was too small to yield positive results. In addition, individuals in this study may not have lost as many social supports with increasing age, as Wesolowski's study would have suggested. It is possible that participants in this study had a greater network of non-family social supports than did the clients in Wesolowski's study. It is interesting to note that participants in this

study often stated during interviews that they found the social contacts made at the rehabilitation center important to them. Many talked about the friends they made while in training and the availability and supportiveness of the staff. The friendship circle, community circle, and paid supports circle of the Circles of Support measure were generally filled with individuals that consumers met through their participation at the VR center. It is possible that just being involved in this organization led to an overall increase in number of non-family social supports. Future researchers interested in the type of supports available to consumers as they get older might want to compare consumers with and without access to a rehabilitation center such as the one in this study.

Gender

Previous studies found that males were more likely to find employment following vocational rehabilitation training than females (Blackorby & Wagner, 1996; Hasazi, Gordon, & Roe, 1985; Sitlington, Frank, & Carson, 1992). In an unusual reversal of this common finding, this study found that female consumers were significantly more likely to find employment following training than were males.

One reason for the difference in results for this study is that the participants were a mixed-age group including individuals at many different stages of life and employment. The earlier studies were of post-school youth just entering the job market. It may be that while young women with disabilities do more poorly than young men with disabilities in finding employment, more mature women have prior work experience and other life events that may have been more important in later job success than gender alone.

An additional hypothesis that might account for the reversed finding for gender is that women consumers at the private rehabilitation center used for this study may have benefited from the presence of an unusually high percentage of women staff members. This VR center has a predominance of women employees who may serve as role models to the women trainees. While it is usual to find a high proportion of women to men in the helping professions, women are seen in large numbers at all levels of administration and instruction in this organization. There is a woman as executive director, and the three directors who report to her are women as well. All of the placement staff and case managers are women as are almost all of the instructors. The one exception to this trend is that the president is male.

In addition, these women staff members are a diverse group in terms of ethnic background, race, marital status and disability status, making them important role models for the women consumers at the VR center. For example, in terms of balancing employment with other responsibilities such as family, the women staff members had numerous life situations to demonstrate to the trainees. Consumers have direct and frequent contact with staff members at all levels of this organization, making it likely that they can benefit from this wealth of knowledge and experience. In fact, numerous participants in this study told the interviewer how approachable and helpful the staff was during their training. Future researchers interested in female/male differences in employment success may want to evaluate the gender ratio of the organizational staff involved with their participants. Studying the number of female staff members and its effect on employment rates for women consumers has

not been done and would be an interesting addition to research on gender, disabilities and employment.

Severity of Disability

Blackorby and Wagner (1996) found that while students with less severe disabilities such as learning disabilities and speech impairments found employment at rates that were comparable to their peers without disabilities, students with more severe disabilities had more difficulty finding work. Similarly, this study found a trend toward significance in that participants with non-severe disabilities were more likely to find employment than participants with severe disabilities. This study's trend toward significance suggests that if more participants were interviewed, significant results would have been likely.

There may be several reasons why consumers with severe disabilities seemed to have more difficulty finding employment than did consumers without severe disabilities. For example, it may be that job opportunities were more limited for consumers with severe disabilities in this study. It is possible that due to limited skills and work experience, consumers with severe disabilities did not have as much variety in their employment options as consumers without severe disabilities. On the other hand, it might be that employers can find consumers with basic skills at other vocational rehabilitation centers, but the center participating in this study may have more consumers graduating with advanced skills than other rehabilitation centers due to their unique training programs. In other words, individuals without severe disabilities who graduate with more advanced skills may have less competition in the job market than individuals with severe disabilities who have more basic skills.

It is also possible that individuals with severe disabilities needed more time to find a job after they finished their training programs than did individuals without severe disabilities. Clearly, individuals with severe disabilities have more obstacles to finding employment. These obstacles can include physical, cognitive and emotional factors that may interfere with all aspects of finding employment including searching for a job, interviewing, and maintaining employment. If it is true that consumers with severe disabilities need more time in finding employment, it may be that the short lag time between interview and follow-up in this study negatively affected the outlook for these participants.

Another reason for the trend toward significance for consumers with severe disabilities not finding employment at the same rate as consumers without severe disabilities may be that this study considered successful employment to include continuing with job training. Due to the short lag time from interview to follow-up, this study had to consider that many consumers would still be in training at the time of follow-up. It is possible that individuals without severe disabilities were more likely to continue with training than individuals with severe disabilities. If this were the case, then a greater proportion of consumers without severe disabilities would have been considered to be successfully employed at follow up due to continuing with training than would consumers with severe disabilities.

Several follow-up analyses were conducted because of potential confounds in the data such as: the outcome variable considered that positive outcome include participants who were still in training at follow-up as well as those who found employment; educational level could have been a predictor of employment outcome,

but was not included in the original analysis; participants were enrolled in four very different training programs; and the great variability in scores for circle three of the Circles of Support measure. Four additional logistic regression analyses were conducted to address these potential confounds. However, while gender continued to be significantly associated with employment status, none of the follow-up analyses resulted in additional significant findings.

Further follow-up analyses were then conducted to reexamine the gender variable to determine how males and females differed. Males and females were compared on age, severity of disability, type of disability, highest educational level, ethnicity, marital status, and type of training program. T-tests and Chi-square analyses did not result in any significant differences for males and females. Thus, while females continued to demonstrate significantly better employment outcomes than males, follow-up analyses did not offer additional suggestions for why these results were found.

Conclusion

Individuals with disabilities (consumers) enrolled at a private vocational rehabilitation (VR) center were interviewed regarding their level and type of social support during VR training. While it was hypothesized that participants' total number of support persons, percentage of paid support persons, and frequency of received support would be related to employment status at follow-up, results did not support these hypotheses. Possible reasons why positive results were not found include the short length of time to follow-up, certain characteristics of the participants that were

not studied such as need for social support and support satisfaction, and lack of a more objective measure of social support.

Of the other variables studied (age, gender, and severity of disability), there was a trend toward significance for severity of disability, while only gender yielded significant results. Similar to the results of previous studies, this study found a trend toward significance in that participants with severe disabilities were less likely to find employment than were participants without severe disabilities. This trend suggests that if more participants were interviewed, significant results would have been likely. While it may seem natural for consumers with severe disabilities to have a harder time finding and maintaining employment than consumers without severe disabilities, this trend may have important implications if employment options for individuals with severe disabilities are seen to be lagging behind those available for consumers with disabilities that are not severe.

Finally, contrary to several previous studies demonstrating that men have better employment outcomes than women following VR training, this study found that women found jobs at a higher rate than men. An interesting hypothesis to explain this finding is that women participants in this study may have benefited from the unusually high number of women professionals employed by the VR center. If future research supported this hypothesis, there would be important implications for the further study of women staff members as role models for female trainees.

Appendix A

ABILITIES, INC.

Skill Training Program

Entrance Requirements

STEP

Motivation to work
Potential for learning basic clerical, retailing, maintenance, or food service skills, as demonstrated during vocational assessment

Business Skills

Potential for learning business skills, as demonstrated during vocational assessment

PC Training

High school diploma or GED
Minimum keyboarding of 15 WPM
At least 7th grade reading and math skills
Prior office experience or recent business skills training
Ability to attend 5 days per week
Desire to work in an office setting

IT (information systems technology)

High school diploma or GED (College a plus)
Knowledge of DOS, Windows 95, or Windows NT Operating System
Basic keyboarding skills

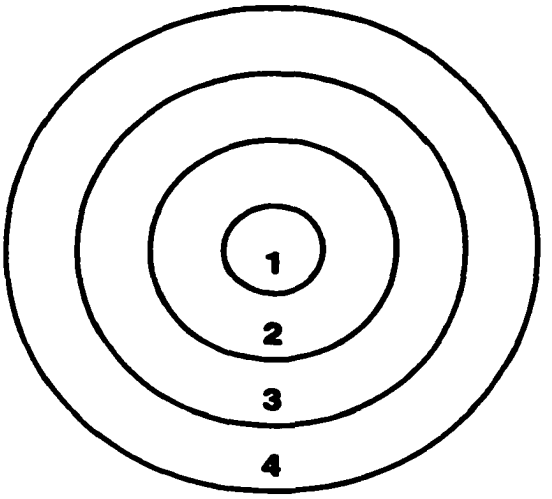
Laboratory Assistant

High school diploma or GED (or ability to earn GED while in training)
8th grade math skills (or ability to attain this level with remediation)
Demonstrated aptitude and ability based on vocational assessment
Ability to attend 5 days per week
Ability to work with minimal supervision
Willingness to acquire basic keyboarding and computer (Word, Excel) skills
Willingness to work flexible hours

Appendix B

Forest, Pearpoint, Falvey & Rosenberg

CIRCLE OF SUPPORT (FRIENDS)



First Circle: ***Circle of INTIMACY***

Second Circle: ***Circle of FRIENDSHIP***

Third Circle: ***Circle of PARTICIPATION***

Fourth Circle: ***Circle of EXCHANGE***

Fill Circles from the Outside–In!

This exercise is a social scan. It will give a quick picture of who is in your life. It is very useful to gain clarity about who might be involved in certain activities, or circles that need to be filled. We recommend it personally and consider it an essential preventive health check for students, teachers and citizens. The hidden key question is: *"Who loves this person?"*

Instructions:

- *Draw four concentric circles.*
- *Put yourself in the middle then take a few minutes to fill in the people in each of your four circles.*

- ***FIRST Circle: The Circle of INTIMACY***
  List the people most intimate in your life – those you cannot imagine living without.
- ***SECOND Circle: The Circle of FRIENDSHIP***
  List good friends – those who almost made the first circle.
- ***THIRD Circle: The Circle of PARTICIPATION***
  List people, organizations, networks you are involved with (work colleagues, the choir, the square dance club, your soft ball team, etc. – people/groups you participate in.
- ***FOURTH Circle: The Circle of EXCHANGE***
  List people you PAY to provide services in your life. (medical professionals, tax accountants, mechanics, hair dressers, barbers, teachers, etc.)

Note: People can be in more than one circle. Example: your doctor or teacher could also be a very close friend; a deceased parent/friend or even a pet, might be an intimate personal supporter, etc.

Appendix C

Inventory of Socially Supportive Behaviors (ISSB)

INSTRUCTIONS

We are interested in learning about some of the ways that you feel people have helped you or tried to make life more pleasant for you over the *past four weeks*. Below you will find a list of activities that other people might have done for you, to you, or with you in recent weeks. Please read each item carefully and indicate how often these activities happened to you during the *past four weeks*.

Use the following scale to make your ratings:

A. Not at all
B. Once or twice
C. About once a week
D. Several times a week
E. About every day

Make all of your ratings on the answer sheet that has been provided. If, for example, the item:

45. Gave you a ride to the doctor.

happened once or twice during the past four weeks, you would make your rating like this:

A B C D E
45. □ □ □ □ □

Please read each item carefully and select the rating that you think is the most accurate

During the past four weeks, how often did other people do these activities for you, to you, or with you:

1. Looked after a family member when you were away.
2. Was right there with you (physically) in a stressful situation.
3. Provided you with a place where you could get away for awhile.
4. Watched after your possessions when you were away (pets, plants, home, apartment, etc.).
5. Told you what she/he did in a situation that was similar to yours.
6. Did some activity with you to help you get your mind off of things.
7. Talked with you about some interests of yours.
8. Let you know that you did something well.
9. Went with you to someone who could take action.
10. Told you that you are OK just the way you are.
11. Told you that she/he would keep the things that you talk about private - just between the two of you.

Appendix C (continued)

12. Assisted you in setting a goal for yourself.
13. Made it clear what was expected of you.
14. Expressed esteem or respect for a competency or personal quality of yours.
15. Gave you some information on how to do something
16. Suggested some action that you should take.
17. Gave you over $25.
18. Comforted you by showing you some physical affection.
19. Gave you some information to help you understand a situation you were in.
20. Provided you with some transportation.
21. Checked back with you to see if you followed the advice you were given.
22. Gave you under $25.
23. Helped you understand why you didn't do something well.
24. Listened to you talk about your private feelings.
25. Loaned or gave you something (a physical object other than money) that you needed.
26. Agreed that what you wanted to do was right.
27. Said things that made your situation clearer and easier to understand.
28. Told you how he/she felt in a situation that was similar to your.
29. Let you know that he/she will always be around if you need assistance.
30. Expressed interest and concern in your well-being.
31. Told you that she/he feels very close to you.
32. Told you who you should see for assistance.
33. Told you what to expect in a situation that was about to happen.
34. Loaned you over $25.
35. Taught you how to do something.
36. Gave you feedback on how you were doing without saying it was good or bad.
37. Joked and kidded to try to cheer you up.
38. Provided you with a place to stay.
39. Pitched in to help you do something that needed to get done.
40. Loaned you under $25.

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Appendix D

ABILITIES, INC.

Background Data Sheet

ID#_____

Gender: (M/F) Date of Birth (Month/Day/Year): _____/_____/_____

Marital Status: _____

1. Married
2. Widowed
3. Divorced
4. Separated
5. Never Married
6. Not Known

Ethnicity: _____

1. Caucasian
2. African American
3. Native American
4. Asian/Pacific Islander
5. Hispanic Origin
6. Other

Primary Disability: _____

Severely Disabled: (Y/N) Date of Disability Onset: _____

Highest Educational Level: _____

1. Less than High School
2. High School or Equivalency
3. Post High School Training
4. Associates Degree
5. Bachelors Degree
6. License or Certificate
7. Professional License or Certificate
8. Post Bachelors Degree
9. Special Education Certificate
10. Specialized Vocational Training
11. Education Acquired Outside of the United States

Appendix D (continued)

Work Status at Referral: _____

1. Employed Part or Full Time in Competitive Employment
2. Employed, Non Competitive
3. Unemployed for a Period of Less than 3 Months
4. Unemployed for a Period of 3-6 months
5. Unemployed for a Period of More than 6 months
6. Other (Working in the Home, Homemaker, Unpaid Family Worker)
7. Unemployed Looking for Work
8. Unemployed Not Looking for Work

PROGRAM:

Program_____Start Date_____

Program_____Start Date_____

Program_____Start Date_____

Program_____Start Date_____

Appendix E

CONSENT FOR PARTICIPATION

My name is Rachelle Kalinsky and I am a student in the Educational Psychology Department at the Graduate School and University Center at the City University of New York (CUNY). I am the principal investigator of this project called **the Effect of Social Support on Vocational Rehabilitation Outcome**. For this research study I will try to learn if individuals who get more social support while in vocational training programs are more likely to get a job after they finish the training program. I would like permission to interview you about the people who help you and the kind of activities that they help you with. This interview will take about ½ hour and I will pay you $5 for your participation.

The following background information will be gathered from participant's files: gender, age, marital status, ethnicity, highest educational level, work status at referral, primary disability, severity of disability, and date of disability onset. Type of training program will also be recorded. All information will be kept strictly confidential (your name will not be recorded), and will be stored in a locked file cabinet. I will be the only one with access to this cabinet. At any time during the interview you can refuse to answer any questions or you can end the interview without penalty. **Taking part in this study is voluntary**. If you choose not to participate, there will be no penalty and no loss of services to which you are entitled.

The only risk involved in this study is that you may feel uncomfortable answering questions about people you know. To make you feel more comfortable, you will not have to give any information about the people who help you; you only need to say who they are. In addition, you do not have to use real names; you can make up names if you wish. The benefit of your participation is that, in the future, there will be more information about how to help people with disabilities get jobs.

I may publish the results of this study, but names of people, or any identifying information, will not be used. If you would like a copy of the study, please provide me with your address and I will send you a copy in the future.

If you have any questions about this research, you can call me at (718) 997-3652 or my advisor at (212) 817-8290. If you have any questions about your rights as a participant in this study, you can contact Hilry Fisher, Sponsored Research, Graduate School/City University of New York, (212) 817-7523.

Thank you for your participation in the study. I will give you a copy of this form to take with you.

_____ _____

Participant's (Guardian's) Signature Date

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