

THE ROLE OF WORK RELATED SELF-EFFICACY IN SUPPORTED
EMPLOYMENT FOR PERSONS WITH SERIOUS MENTAL ILLNESS

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ABSTRACT

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This study tested whether higher self-efficacy would predict the achievement of a competitive employment goal in supported employment programs for persons with serious mental illness. It also examined if the experience of actually working increased self-efficacy for program participants who became employed. A total of 105 individuals with serious mental illness were recruited from five state funded SE programs in New Jersey. Participants were required to be unemployed and seeking employment to be eligible to enter the study. Research staff met with the individuals at baseline and collected demographic information and data on self-efficacy and psychiatric symptoms. For the follow-up assessments at 6-months and 12-months, data was collected on the participants, self-efficacy, psychiatric symptoms and employment activity. The study utilized a self-efficacy measure, the Work-related Self-Efficacy Scale that was designed for persons with serious mental illness in four domains of the employment process, including: 1) vocational service access and career planning, 2) job acquisition, 3) work-related social skills, and 4) general work skills (Waghorn, Chant, & King, 2005). Results found that 38% of the participants obtained an employment goal at the 6 month interval, while 55% obtained an employment goal at the 12 month interval. However, self-efficacy was not a positive predictor of an employment outcome at either interval. Surprisingly, one of the subscales, work-related social skills self-efficacy was a negative predictor of employment at the 6 month interval. Another unexpected finding was that higher psychiatric symptoms at the 6 month interval were predictive of achieving an employment goal at the 12 month interval. Further, participants who were working at the time of assessment at both the 6 month and 12 month interval did not have increased self-efficacy. These findings suggest that greater self-efficacy may not be a predictor of employment at the outcome level for this population. However, the findings imply that with the support of an effective supported employment program, individuals experiencing significant psychiatric symptoms can return to work.

Introduction and Background

Employment is an expectation for most adults in our society. Yet, a majority of persons with serious mental illness (SMI) do not work, nor do they consider employment as a realistic recovery goal. Rates of participation in the workforce for this population have ranged from 10% to 35% (Baron & Salzer, 2000; Bertram & Howard, 2006; Salkever et al., 2007). Historically, employment is seldom a concern of mental health providers who tend to focus on the treatment of symptoms (Torrey et al. 1998; Waynor, Pratt, Dolce, Bates & Roberts, 2005). However, it is clear that there are many benefits to returning to work for persons with SMI, including: enhancing skills, improving self-esteem, increasing income, gaining a valued social role, and fostering greater community integration and reducing internalized stigma (Pratt, Gill, Barrett & Roberts, 2007; Yanos, Roe, & Lysaker, 2010). Furthermore, evidence suggests that working may decrease psychiatric symptoms (Bond et al., 2001; Kukla, Bond, & Xie, 2012; Mueser et al., 1997; Murphy, Mullen & Spagnolo, 2005; Yanos et al., 2010).

Although employment has not been a major priority of community mental health providers and many consumers, a considerable sub-group of consumers recognize the critical role of employment in their recovery process, and there are vocational rehabilitation services for this population. Consumers with SMI are eligible for services from the State-Federal vocational rehabilitation system, and supported employment (SE) services have been developed for this population (Fleming, Del Valle, Kim, & Leahy, 2012; Drake & Bond, 2011). Yet, in spite of the development of high quality vocational interventions for persons with SMI, numerous barriers to employment exist, including: issues related to public disability entitlements, employer discrimination, lack of

education, labor market conditions, lack of appropriate clinical and vocational services and co-morbid physical health problems (Anthony, 1994; Cook, 2006; Waghorn, Lloyd, Abraham, Silvester & Chant, 2009). Additionally, there is substantial variation in the quality of vocational rehabilitation services. Many vocational rehabilitation services utilize “a step-wise train then place model” that has not proven effective at moving consumers into competitive employment (Bond, 2004). A major criticism of the “train then place” approach is that consumers are not learning skills that translate to real life employment settings in the community (Twamley, Jeste & Lehman, 2003). Research has indicated that only about 5% of consumers with SMI receiving sheltered workshop services, which is one of the most prominent step-wise employment programs, ever graduate into competitive employment (Twamley et al., 2003).

Evidence of a systemic barrier is the fact that persons with SMI historically achieve poorer employment outcomes in the State-Federal rehabilitation system than persons with physical disabilities (Anthony, 1994; Cook, 2006). Further, the State-Federal rehabilitation systems history of performance has been harshly criticized by the National Alliance for the Mentally Ill (NAMI) for failing to meet the needs of people with SMI (Twamley et al., 2003). Lee, Chronister, Tsang, Ingraham, and Oulvey (2005) contend that State-Federal rehabilitation (SVR) counselors are not adequately trained to work with persons with SMI. They theorize that the deficiency in training leads to a lack of understanding of the needs of persons with SMI. In addition, Lee et al. contend that SVR counselors’ could benefit from training in the principles and practices of psychiatric rehabilitation. They argue that a better understanding of psychiatric rehabilitation

principles could increase the likelihood of SVR counselors' developing a positive working alliance with clients' with SMI (Lee et al. 2005; Waynor, 2008).

Supported Employment

SE is defined by the 1986 Rehabilitation Act Amendment as “competitive work in integrated work settings” consistent with the strengths, interests and informed choice of consumers. SE utilizes a “place then train” approach to vocational rehabilitation.

Individual Placement and Support (IPS) is a manualized form of SE that was developed to work with persons with SMI (Bond, Drake, & Becker, 2008; Drake, & Bond, 2011).

The principles of the IPS model of SE are: (1) a rapid job search, (2) integration of rehabilitation and mental health treatment, (3) attention to consumers' preferences, (4) competitive employment as the goal, (5) continuous and comprehensive assessment, (6) time-unlimited support, (7) benefits planning, and (8) job development services are provided (Dartmouth IPS Supported Employment Center, January 17, 2010).

Nevertheless, many consumers do not have access to SE services, as evidence-based practices such as SE are not always available in many community mental health settings (Bond et al., 2014; Torrey et al., 2001). Consequently, many individuals with SMI who would like to work receive few or no vocational rehabilitation services (Cook, 2006).

Another important issue regarding the efficacy of employment services is that only around half of the individuals who register for SE services obtain a job (Bond, Drake, & Becker, 2012; Roberts & Pratt, 2007; Twamley et al., 2003). Therefore, a substantial proportion of SE participants do not achieve an employment goal. This is a crucial issue that the psychiatric rehabilitation field must address. Given the numerous and substantial barriers to employment, the psychiatric rehabilitation literature has

posited that interventions that improve employment related self-efficacy may help more consumers achieve employment success (Fabian, 2000; Strauser, 1995; Waghorn, Chant, & King, 2005). In addition, social cognitive career theory has been proposed as a potentially useful theoretical framework to explain employment related issues for persons with psychiatric disabilities (Fabian, 2000; Waghorn et al., 2005).

Application of SCCT

Bandura's (1997) self-efficacy theory has been applied to vocational issues for persons with SMI (Fabian, 2000; Waghorn et al., 2005). Self-efficacy, which refers to an individual's belief that he or she will be able to effectively perform a specific task, is a critical construct in Lent, Brown and Hackett's (1994) Social Cognitive Career Theory (SCCT). SCCT is a complex theory that considers the role of important person inputs, contextual factors and environmental factors that interact with cognitive processes, including self-efficacy and outcome expectations to influence the career development process. Contextual factors, which refer to factors outside of the individual, such as societal attitudes towards gender roles or persons with disabilities, can either be barriers or supports to an individual's career development process. Persons with SMI confront numerous contextual barriers, which impact their cognitions about whether or not to consider an employment goal. Therefore, SCCT is a potentially useful theoretical framework for the career development process for persons with SMI. SCCT will be discussed further in the next chapter.

Leading figures in the psychiatric rehabilitation field have proposed self-efficacy as a key variable in the career development process for persons with SMI, including: Arns & Linney (1993), Anthony (1994), Fabian (2000), Regenold, Sherman and Fenzel

(1999), and Waghorn, Chant, and King (2005). In addition, Lent, Brown and Hackett (2000) suggest future research in SCCT should focus more on the role of contextual barriers and supports for marginalized populations.

Utilizing the SCCT framework, this study will examine the relationship of person input factors and contextual variables the literature considers most relevant to persons with SMI. The role of critical person input factors, past employment history and psychiatric symptoms will be measured, along with a recently developed self-efficacy measure, the work-related self-efficacy scale for individuals seeking employment in an SE program. Unlike most of the SCCT literature, which focuses on the development of career interests and choice, this study will assess the effect of significant person input and contextual factors for participants actively seeking an employment goal. Therefore, study participants will be assessed on the relationship of SCCT variables and whether or not they actually achieve an employment goal, in an employment program.

In addition, the complex SCCT model posits a continuous reciprocal interaction of personal and environmental factors, in which cognitive processes play a crucial role. This interactive system is synchronized by cognitive processes, of which self-efficacy beliefs are crucial, and impact the environments and activities one chooses to pursue. Therefore, this study will examine whether participants who are employed *at the time of assessment* at the 6 month and 12 month interval have higher work-related self-efficacy than participants who are not employed at those intervals. Examining these relationships will test the SCCT principle that cognitive processes are altered through experiences of successfully mastering a behavior, in this case actually working.

Research Hypotheses

1. Work-related self-efficacy will be predictive of the achievement of a future employment goal for persons with SMI in SE programs.
2. Study participants who are employed at the time of assessment at the 6 month and 12 month intervals will have significantly higher work-related self-efficacy than participants not employed at those intervals.

Review of the Literature

Self-efficacy Theory

Bandura (1986) proposed a social cognitive theory that explains human behavior. In the social cognitive perspective, individuals are not driven by internal forces or impulses, and are not pummeled at the whim of their environment. Rather, behavior can be explained in terms of a continuous reciprocal interaction of personal and environmental factors. In addition, cognitive processes assume a critical role within the reciprocal interaction system, and from the social cognitive perspective, psychological changes will occur through these cognitive processes (Bandura, 1986). Further, cognitive processes are most readily altered through experiences of successfully mastering a behavior. These mastery experiences change efficacy expectations, which are a belief that one can effectively perform a behavior required for a given task (Bandura, 1997). Bandura (1997) considers people's beliefs in their abilities to perform tasks and achieve desired outcomes crucial to human agency. Therefore, self-efficacy plays a major role in social cognitive theory, and how effectively individuals interact and adapt to their own environments.

According to Bandura (1997), self-efficacy refers to an individual's perception of their skills and abilities to perform a specific task. These efficacy beliefs play an essential role in the regulation of self-motivation, which in turn influences the actions, coping behaviors, and environments one chooses to access. Therefore, the level of effort and persistence one is willing to expend to perform a task to achieve a goal is influenced by one's self-efficacy.

Bandura (1997) contends that there are four sources of self-efficacy information: enactive mastery experience, vicarious experience, verbal persuasion, and physiological and affective states. Enactive mastery experience is the most influential source of efficacy information. By performing a task well, an individual has the most genuine evidence that they can succeed. Enactive mastery experiences are the strongest source of efficacy information, and can help individuals persist through difficulties to achieve success.

The following three sources of efficacy information are less robust than mastery experiences. Nonetheless, each source can play an important role in enhancing self-efficacy beliefs. Vicarious experiences are an additional source of efficacy information. An individual can gain self-efficacy from behaviors modeled by others. Role models can provide an important source of efficacy information, as the imagined participation in another's performance can lead to the development of efficacy beliefs in one's own capabilities. Verbal persuasion is another source of efficacy information. Bandura (1997) argues that one is more likely to maintain a sense of efficacy, especially when faced with difficulties, when significant others express faith in one's capacity to achieve a specific task or goal. Finally, physiological and affective states can play a significant role in how individuals judge their capacity to achieve goals or tasks. An extremely high emotional arousal can lead to a debilitating level of anxiety. People also judge their physical reactions, such as fatigue or aches and pains as indicating physical inefficacy.

Bandura (1997) argues that self-efficacy theory plays a vital role in the career development process, and beliefs of personal efficacy often determine what career an individual will pursue. Further, occupational activities are a major component of an

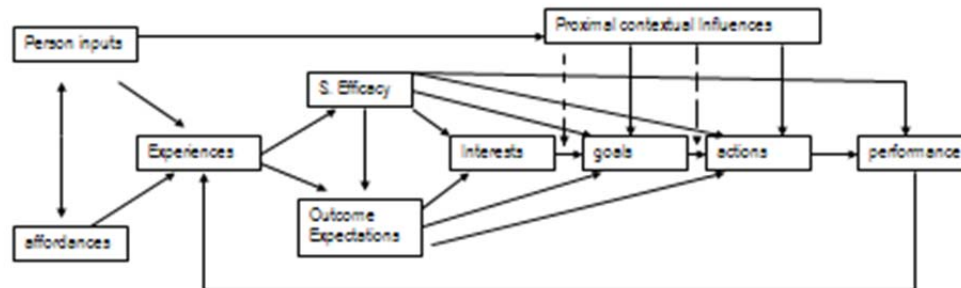
adult's life in our society. Self-efficacy theory was applied to career development theory by Betz and Hackett (1981) regarding career choices of women. Hackett later included self-efficacy theory in her work with Lent and Brown in the development of the SCCT. Of the various researchers and writers on this topic, the most prominent development in the adaptation of self-efficacy theory in the career development literature has been the SCCT proposed by Lent et al. (1994). SCCT is currently one of the most researched theories in the career development literature (Sharf, 2010).

Social Cognitive Career Theory

Lent et al. (1994) developed SCCT based on Bandura's social cognitive theory (Bandura, 1986). In this theory, a triadic reciprocal interaction system focuses on interactions among the person, their environment and behavior. This interactive system is regulated by cognitive structures that include: self-efficacy beliefs which refer to an individual's belief that they can successfully accomplish a task, and outcome expectations, which is an individual's belief that their effort will lead to a particular outcome. In addition, individuals set goals which organize their behavior and guide their actions (Sharf, 2010). Goals provide motivation and play an important role in self-regulation and behavior (Lent et al., 1994). Thus, SCCT is concerned with how these cognitive factors interact with environmental factors to influence the career development process. Figure 1 provides a schematic representation of SCCT.

Figure 1

SOCIAL COGNITIVE CAREER THEORY



Adapted from "Toward a Unifying Social Cognitive Theory of Career and Academic Interest, Choice, and Performance",
Lent Brown, and Hackett, 1994, *Journal of Vocational Behavior*, 45, p. 93.

SCCT is a complex theory that provides theoretical pathways to predicting the development of career interests, career choices, career goals and finally the level of performance attainment. An individual's background plays a crucial role in the theory. Lent et al. (1994) consider person input factors such as gender, ethnicity, or disability status as crucial factors that influence how individuals learn about and interact with their culture. Furthermore, person input factors influence learning opportunities, experiences, environments, and play a significant role in the development of career interests and choices.

SCCT factors outside of the individual are defined as contextual factors (Sharf, 2010). Contextual factors play a major role in the career development process in the SCCT model. Lent et al. (1994) contend that there are background contextual factors, and contextual factors that are proximal to choice behavior. Background contextual factors occur as individuals learn about and interact with their culture and gender role expectations. Family socio-economic status and the level of support and encouragement for participation in stimulating learning environments are examples of background contextual factors (Sharf, 2010).

According to Lent et al. (1994) proximal contextual factors refer to factors that occur at a time when a career choice or action occurs, and may include a family's ability to pay for a college education, or job opportunities in the community. Further, proximal contextual factors such as a supportive family or encouraging friends can also be important supports during the time of a career choice or action. These factors are critical in determining the career interests, choices and goals one is likely to consider.

Therefore, according to SCCT, both background contextual factors and proximal contextual factors will interact and influence an individual's learning experiences, which will impact the career interests one is likely to develop and career choices one is likely to consider. These background contextual factors and proximal contextual factors will influence the development of self-efficacy and outcome expectations for participating in activities related to the career development process. In turn, the level of self-efficacy and outcome expectations will affect the development of career interests, and the environments one is willing to explore to pursue these interests.

Lent et al. (2000) argue that contextual supports or barriers influence personal agency. Contextual influences can be either supportive of pursuing a particular career goal, or a barrier. In turn, these factors can influence one's self-efficacy and outcome expectations of success in a particular career. Furthermore, the career development process is influenced by both objective and perceived contextual factors. Thus, how one perceives one's environment would impact self-efficacy beliefs, which in turn influences the development of interests in pursuing a particular career goal.

In addition to the salient role of barriers, Lent et al. (2000) recognize the importance of contextual supports. The availability of good role models, a high quality education and financial resources to attend the college of one's choice are highly supportive contextual factors. Moreover, from a SCCT view, the availability of career development programs and interventions can be conceived as proximal contextual supports. Nonetheless, in spite of the presence of barriers or supports, Lent et al. point out that "not every rich kid is a success" and that many individuals who confronted numerous barriers achieve career success. SCCT explains this by a complex interplay of variables, including one's development of self-efficacy beliefs in their abilities to pursue interests in different activities that may lead to career choices and the development of an expectation that participation in educational or vocational pursuits will lead to a successful outcome.

SCCT as a Theoretical Framework for Persons with Disabilities

In spite of a focus on traditionally marginalized groups in the SCCT literature, there is less emphasis in this research on the development of career interests, choices, goals and performance of persons with disabilities than other groups. However, the SCCT variable of self-efficacy has consistently appeared in the rehabilitation literature for

individuals with psychiatric and other disabilities for the past two decades (Arns & Linney, 1993; Fabian, 2000; Strauser, 1995). In addition, the rehabilitation literature has focused on the relationship of self-efficacy to performance outcomes in employment settings for persons with disabilities.

Strauser (1995) proposed self-efficacy theory as a theoretical framework that could guide the work of rehabilitation counselors. Strauser presented his perspective on self-efficacy theory roughly concurrently to Lent et al. (1994) proposing SCCT. However, Strauser held to a narrower focus on the social cognitive variable of self-efficacy, and how rehabilitation counselors could provide practical interventions designed to enhance self-efficacy, which could ultimately improve rehabilitation outcomes.

According to self-efficacy theory, the level of effort and persistence one is willing to expend to perform a task to achieve a goal is determined by one's self-efficacy beliefs (Bandura, 1997). Strauser (1995) believes that individuals who are not successful in vocational rehabilitation and appear to lack motivation in the rehabilitation counseling process, lack self-efficacy in the career development domain. However, Strauser points out that a key feature of self-efficacy theory is that cognitive processes can mediate behavioral change. Therefore, positive change can be induced with effective counseling interventions. Thus, enhancing consumer's self-efficacy is conceived as an important goal for vocational rehabilitation interventions.

Fabian (2000) argues that the psychiatric rehabilitation field lacks a unifying theory to explain career development issues for persons with SMI. She contends that SCCT provides a useful framework from which to view the career development and vocational rehabilitation process for persons with SMI. Persons with SMI must contend

with challenging person input factors such as the impairment caused by symptoms, medication side effects and a poor work history. In addition, persons with SMI must confront contextual barriers including: societal stigma, becoming accustomed to attending a day treatment program and receiving Social Security benefits. The combination of these person input and contextual barriers will impact whether or not an individual chooses to pursue a vocational goal (Fabian, 2000).

Additionally, SCCT considers the construct of self-efficacy beliefs to be crucial for an individual to engage in career oriented behaviors. Fabian (2000) believes that a lack of exposure to meaningful learning experiences in the career development domain may lead consumers with SMI to have unrealistic self-appraisals of their self-efficacy related to employment. Fabian contends that an unrealistically high self-appraisal can lead to failure and discouragement, while an unrealistically low self-appraisal can lead to avoidance behavior and ultimately apathy towards the pursuit of a career goal. Therefore, the research on employment services for persons with SMI can be viewed from a SCCT perspective, with factors such as symptoms, diagnoses, and a lack of work history conceived as person inputs factors, and employment programs such as SE viewed as contextual supports.

The rehabilitation literature has embraced the important role of self-efficacy and a number of researchers studied the relationship of person input and contextual variables with self-efficacy. Contextual factors such as relationship status, which denotes having a significant other is an important indicator of social support, participant response to a vocational training program, and a person input variable work personality were all significant predictors of self-efficacy for consumers with multiple disabilities receiving

vocational rehabilitation services (Hergenrather, Rhodes, Turner, & Barlow, 2008; Matt, Bellardita, Fischer, & Silverman, 2006; Strauser, Ketz, & Keim, 2002). Table 1 shows the effect size of significant relationships found in the studies.

Table 1
Study Findings of the Relationship between personal and contextual variables and Self-efficacy for Persons with Disabilities receiving vocational rehabilitation services

Study	Sample (n)	IV	DV	Effect Size (r^2)
Hergenrather et al. (2008)	577 Multiple Disabilities Receiving Vocational Rehabilitation Services	Relationship Status	Job-seeking Self-efficacy	$r^2 = .04^{**}$
Matt et al. (2006)	1133 Difficult to Employ Receiving Pre-employment Training	Program Graduation	General Self-efficacy	$r^2 = .06^{***}$
Strauser, Ketz, and Keim (2002)	110 SMI and Cognitive Disabilities Receiving Vocational Rehabilitation Services	Work personality	General self- efficacy	$r^2 = .10^{***}$

* Overall effect significant at the .05 level

** Overall effect significant at the .01 level

***Overall effect significant at the .001 level

Self-Efficacy as a Recovery Variable for Persons with Psychiatric Disabilities

The vision of recovery has been inspiring the field of psychiatric rehabilitation for the past several decades (Deegan, 1988; Anthony, 1993). The recovery models in the literature universally acknowledge that the recovery process involves regaining the capacity to pursue life goals. The ability to seek interpersonal, educational and career goals after acute illness denotes confidence that one can return to a productive and fulfilling life. A critical component of this stage of recovery is the development of risk tolerance. In order to take the initial steps towards pursuit of a goal, one must be willing to accept the possibility that things may not always proceed as planned. The ability to accept reasonable risks becomes a prominent factor during this stage of the recovery process (Andresen, Oades, & Caputi, 2003).

Accordingly, the construct of self-efficacy has been recognized by a number of theorists in the psychiatric rehabilitation field as an essential component of the recovery process (Carpinello, Knight, Markowitz, & Pease, 2000; Spaniel, Wewiorski, Gagne, & Anthony, 2002; Yanos, Roe, & Lysaker, 2010; Young, & Ensing, 1999). The social-cognitive variable of self-efficacy has been considered critical for persons with psychiatric disabilities to move beyond the devastating effects of psychiatric illness. Further, the pursuit of an employment goal for a person with a psychiatric disability has almost universally been regarded as an indicator of being actively engaged in the recovery process. Consequently, the variable of self-efficacy and the career development theory SCCT are highly relevant to the concept of recovery.

Self-Efficacy in Employment for Persons with Disabilities

There are a number of studies that assessed the role of self-efficacy on the performance domain in the SCCT model among individuals with disabilities. Miller (2009) studied the validity of a self-efficacy measure for persons with spinal cord injury with a sample of 162 participants. One of her chief goals was to assess whether or not self-efficacy was positively correlated with employment status in this population. Miller found a positive relationship between self-efficacy and employment status among individuals with spinal cord injury. Additionally, self-efficacy was a stronger factor in predicting employment than other personal and contextual variables. Frain, Bishop and Tschopp (2009) studied self-efficacy and other personal and contextual variables in a larger study of empowerment variables and rehabilitation outcomes, including employment with a sample of 114 consumers with multiple disabilities receiving vocational rehabilitation services. These researchers conceived of the social-cognitive variable of self-efficacy as an empowerment variable in their model. Self-efficacy was found to be a positive predictor of employment status, as SCCT would contend.

Arns and Linney (1993) studied the relationship between self-efficacy and change in vocational status for 138 consumers receiving psychiatric rehabilitation services. Arns and Linney argued that subjective quality of life outcome variables such as self-efficacy are consistently correlated with employment status in the general population. However, previous research failed to find links between employment status and quality of life measures for persons with SMI. Accordingly, they used change in vocational status, that is going from being unemployed to employed as a predictor variable to assess subjective client outcomes related to life satisfaction. Their findings indicated that a change in

vocational status was positively and significantly related to self-efficacy, providing more evidence of a direct link between self-efficacy to the career performance domain in SCCT for persons with disabilities.

Regenold, Sherman and Fenzel (1999) studied the relationship between self-efficacy and employment outcomes for 60 individuals with SMI in an SE program. This study directly tested the relationship between self-efficacy and the performance domain of SCCT for individuals receiving the contextual support of a vocational intervention. Their study utilized prior employment history, symptomatology, and career search self-efficacy as the predictor variables. The criterion variable was whether or not the individual achieved an employment goal. The results supported their hypothesis that self-efficacy was a significant predictor of whether or not the employment goal was achieved.

Waghorn, Chant and King (2007) assessed the relationship between a domain specific measure of self-efficacy for persons with SMI, work-related self-efficacy (WSS), other person input and contextual variables, with current employment status for 104 consumers with schizophrenia spectrum disorder. Waghorn et al. (2007) conceived their measure of self-efficacy as a component of SCCT. They found that work-related self-efficacy was positively associated with current employment status.

Szczebak (2012) studied the relationship of self-efficacy with participation in an employment program for persons with SMI. She utilized the WSS as the self-efficacy measure and found that participants in the employment program had significantly higher self-efficacy than a control group. Further, she also found that among the individuals participating in the employment program, those who became employed also had significantly higher self-efficacy. From a SCCT perspective, a major strength of these

rehabilitation studies is that they assessed the relationship of self-efficacy directly to the career performance domain of the model by using employment outcomes as the criterion variable. Further, the findings of studies with consumers with multiple disabilities, including psychiatric, indicates a direct link between self-efficacy and employment. Thus, the findings in these studies support a critical theoretical link in SCCT. Table 2 shows the effect size of significant relationships found in the studies above.

Table 2
Study Findings of the Relationship between Self-efficacy and Employment Outcomes for Persons with Disabilities

Study	Sample (n)	IV	DV	Effect Size (r^2)
Arns and Linney (1993)	138 SMI	Change in Vocational status	General self-efficacy	$r^2 = .15^{***}$
Frain et al. (2009)	114 Multiple Disabilities Receiving Vocational services	General Self-efficacy	Work Status	$r^2 = .04^{**}$
Miller (2009)	162 Spinal Cord Injury	Moorong Self-efficacy Scale	Work Status	$r^2 = .05^{***}$
Regenold, Sherman, & Fenzel (1999)	60 SMI Receiving Vocational services	Career search Self-efficacy	Whether or not an employment goal was achieved	$r^2 = .07^*$
Waghorn, Chant and King (2007)	104 SMI	Work-related self-efficacy	Work status	$r^2 = .15^{***}$

* Overall effect significant at the .05 level

** Overall effect significant at the .01 level

***Overall effect significant at the .001 level

Future Directions for Self-efficacy Theory Research

The literature on SCCT demonstrates a clear link between self-efficacy and the development of career interests and choices. Additionally, the rehabilitation literature exhibits a clear trend linking self-efficacy as positive predictor of employment for

persons with disabilities. Nevertheless, there are a number of limitations to these studies. The definition of the employment outcome is different in these studies, as Frain et al. (2009), Miller (2009) and Waghorn et al. (2007) all utilized work status as the criterion variable, Regenold et al. (1999) and Szczebak (2012) used whether or not the employment goal was achieved in a vocational program. Finally, Arns and Linney (1993) used change in vocational status for individuals in psychiatric rehabilitation services.

Additionally, the studies also used different measures of self-efficacy. Arns and Linney (1993) and Frain et al. (2009) used general measures of self-efficacy, while Miller (2009), Regenold et al. (1999), Szczebak (2012) and Waghorn et al. (2007) all utilized domain specific measures of self-efficacy. A major assumption of self-efficacy theory is that the construct is most robust when domain specific (Bandura, 1997; Lent et al. 1994). Nonetheless, in the studies cited, there appeared to be no difference in the effect size in relationship to whether or not the self-efficacy variable was domain specific or not.

Arns and Linney (1993), Miller (2009) and Waghorn et al. (2007) did not evaluate the contribution of a critical contextual support, vocational rehabilitation services and its relationship, along with self-efficacy towards an employment outcome. Thus, from a SCCT perspective, it is not clear how many participants had an interest or goal of employment. Assessing self-efficacy with employment for participants receiving vocational rehabilitation would ensure that participants have both an interest and goal of employment. Furthermore, the Waghorn et al. study failed to find a positive relationship between self-efficacy and change in employment status. Thus, their findings contradicted the earlier study by Arns and Linney (1993), signifying that further research is indicated to elucidate this issue.

The Frain et al. (2009), Regenold et al. (1999) and Szczebak (2012) studies assessed consumers who were receiving vocational rehabilitation services. Further, the Regenold et al. and Szczebak studies focused on individuals with SMI, and they both began their studies with participant's unemployed and seeking employment at baseline, directly testing the efficacy of the vocational intervention for this population. Nonetheless, both of these studies assessed vocational programs that produced employment outcomes roughly in the 20% range, well below outcomes published in the IPS literature. Of the 2 studies, only the recent Szczebak study reported the number of participants who became employed, which was $N = 9$. Thus, the strongest evidence of self-efficacy as a predictor of an employment outcome in vocational rehabilitation services for persons with SMI is based on only a handful of participants.

Social-cognitive and self-efficacy theory has received a great deal of attention in the general psychology literature on employment. However, self-efficacy theory is not without its critics. Judge, Jackson, Shaw, Scott, and Rich (2007) contend that other personal factors impact self-efficacy related to employment, including: intelligence, experience, conscientiousness, emotional stability and other personality traits. These personal factors potentially moderate self-efficacy and ultimately explain work performance. Judge et al. (2007) argue that individual differences, which from a SCCT perspective can be conceived as person input factors, may play a more cogent role in determining work performance. Therefore, Judge et al. argue that person input factors primarily explain employment related outcomes.

Judge et al. (2007) conducted a meta-analysis of the literature for non-disabled individuals on the role of self-efficacy in work-related performance. Using a hierarchical

multiple regression, demographic and personality traits were entered in the first block, self-efficacy was added in the last step to predict work performance. The findings indicated that self-efficacy added little variance to the model $R^2 = .012$ (*ns*). In addition, their review of the literature indicated that self-efficacy predicted performance of jobs and tasks of low complexity, but did not for jobs or tasks of medium or high complexity. Furthermore, self-efficacy predicted task, but not job performance. Consequently, these findings imply that more research on the salience of the role of self-efficacy for persons with disabilities is indicated.

SCCT Variables

Person Input and Contextual Factors

A number of studies in the psychiatric rehabilitation literature assessed employment outcomes for consumers with SMI. From an SCCT perspective, these studies assessed person input and contextual variables with employment. Additionally, from an SCCT viewpoint, a major limitation of these studies is not including social-cognitive variables such as self-efficacy or outcome expectations. Nevertheless, these studies reveal important person input and contextual variables that are essential for future SCCT research with consumers with SMI.

Wewiorski and Fabian (2004) conducted a meta-analysis using 17 studies that focused on demographic and diagnostic factors and employment outcomes for persons with SMI. This meta-analysis study provided insight into the role of a number of key person input variables related to performance outcomes in the career development of persons with SMI. In their review of the literature, Wewiorski and Fabian found that past work history has tended to be one of the strongest predictors of vocational success.

In their meta-analysis, Wewiorski and Fabian (2004) found that younger individuals were significantly more likely to be employed, although this finding did not occur in all of the studies. Additionally, Caucasians are more likely than persons of color to obtain employment. Further, individuals with schizophrenia were generally less successful in achieving vocational outcomes than persons with other diagnoses. However, regarding diagnoses, this was not the case in all studies and depended on which outcome variable was used. Further, Wewiorski and Fabian found no difference in employment outcomes related to gender. Although many of the studies used different outcome criteria, this meta-analysis was able to provide evidence supporting the role of a number of important person input and contextual variables related to vocational outcomes for persons with SMI.

Rogers, Anthony, Lyass and Penk (2006) conducted a randomized controlled trial (RCT) comparing the outcomes of a model of psychiatric vocational rehabilitation (PVR) based on a choose-get-keep approach and enhanced state vocational rehabilitation services (ESVR) for persons with SMI. The study sought to compare the effectiveness of important contextual supports, vocational service models. The PVR condition included educational interventions designed to assist consumers with choosing an appropriate career goal, assistance with job placement and provided job coaching if needed. The ESVR condition included a master's level clinician assisting the participants "in whatever way necessary" to facilitate the state vocational rehabilitation process.

Rogers et al. (2006) found no differences between the employment outcomes or any other outcomes assessed between the two conditions. Participants in the PVR obtained a 37% rate of competitive employment, and a 60% rate of all employment.

Rogers et al. argue that the outcomes obtained in both conditions in the study were significant improvements in vocational activity, and demonstrate that vocational rehabilitation programs can be effective contextual supports for assisting persons with SMI with goal and performance attainment in their career development process.

Bond, Drake and Becker (2008) conducted a review of 11 studies of high fidelity IPS SE programs with control conditions primarily consisting of traditional vocational rehabilitation services. The outcomes measured included competitive employment rates, days to first job, hours worked, annualized weeks worked, and job tenure in the longest job held during the follow-up period. The goal of these researchers was to determine the efficacy of the IPS SE model. Bond et al. (2008) found that in all 11 studies that the IPS condition had a significantly higher rate of competitive employment. The mean rate of employment for the IPS condition was 61%, while the mean employment rate for the control condition was 23%. The findings presented by Bond et al. (2008) demonstrate that the IPS SE model is an effective proximal contextual support for assisting persons with SMI with goal attainment and performance in their career development process.

Anthony (1994) reviewed the literature on characteristics that are predictive of employment for persons with SMI. He concluded that past employment history was identified as the demographic variable most predictive of future vocational success. Additionally, people with a longer work history benefit more from vocational services than people with little or no work history. As mentioned above, the more recent Wewiorski and Fabian (2004) review also found past work history as the strongest predictor of employment success for consumers with SMI in vocational rehabilitation services. Thus, from a SCCT perspective, the experience of past work history is a crucial

person input variable that denotes life experience, and should be related to self-efficacy expectations.

Psychiatric Symptoms

Demographic variables and the quality of the vocational program have been demonstrated to predict successful employment outcomes for persons with SMI. However, a key person input and potential barrier to employment for persons with SMI is psychiatric symptoms. Psychiatric symptoms provide an indication of impairment caused by psychiatric illness, and a number of studies have reported outcome data regarding the impact of psychiatric symptoms on employment outcomes. Although the symptom measures of the outcome variables are not identical, there is a clear trend in the research indicating an inverse relationship between psychiatric symptoms and employment for persons with SMI. Table 3 shows the effect size of psychiatric symptoms on employment in recent studies. Despite these findings supporting an inverse relationship between psychiatric symptoms and employment, these findings are not universal, as some studies have failed to find any relationship (Anthony, 1994; Szczebak, 2012; Wewiorski & Fabian, 2004).

Table 3
Study Findings of the Relationship between Psychiatric symptoms and Employment Outcomes

Study	Sample (n)	IV	DV	Effect (r^2)
Mueser et al. (1997)	143	BPRS Total	Work Status	$r^2 = .06^*$
Razzano et al. (2005)	1273	PANSS General	Work Status	$r^2 = .01^{**}$
Regenold et al. (1999)	60	BSI	Obtained Employment	$r^2 = .05^*$
Mueser et al. (2001)	262	BPRS (1yr) Anergia	Work Status	$r^2 = .03^{***}$
Waghorn et al. (2007)	104	CSI Severity Score	Work Status	$r^2 = .15^{**}$

* Overall effect significant at the .05 level

** Overall effect significant at the .01 level

***Overall effect significant at the .001 level

Therefore, from a SCCT framework, person input and contextual factors are critical components in determining self-efficacy, and ultimately, work performance. There is a paucity of research on individuals with SMI within the SCCT literature. The current study utilizes a work-related self-efficacy measure that was designed for persons with SMI. Additionally, the study participants will all be receiving the proximal contextual support of vocational rehabilitation services from community based SE programs. This study will examine work-related self-efficacy, past work history and psychiatric symptoms for persons receiving SE services on employment performance,

testing the relevance of the career development theory SCCT to the field of psychiatric rehabilitation.

Additionally, this study will examine the SCCT concept of a continuous reciprocal interaction of personal, environmental and cognitive factors by assessing whether concurrent employment among participants in the study is linked to greater work-related self-efficacy, as SCCT would contend.

Method

Participants

The sample consists of 105 individuals with SMI recruited from five state funded SE programs in New Jersey. To participate in the study, individuals were required to be unemployed and enrolled in SE at baseline, and have a DSM-IV axis I diagnosis of mental illness (as required by SE programs). Self-reported diagnoses were categorized as: 1) Schizophrenia spectrum disorder, 2) Bi-polar disorder, 3) Major depressive disorder, and 4) Other. Table 4 displays the demographic characteristics of the study participants.

Table 4
Participant characteristics $N = 105$

Demographics	n (%)	<i>Mean</i>	<i>SD</i>
<u>Gender</u>			
Men	62(59%)		
Women	43(41%)		
<u>Age</u>	105	44	10.8
<u>Race</u>			
White	60(57.1%)		
African American	38(36.2%)		
Hispanic	3(2.9%)		
Asian	1(.9%)		
Other	3(2.9%)		
<u>Benefit Status</u>			
SSDI	40(38.5%)		
SSI	20(19.2%)		
Both SSI & SSDI	14(13.5%)		
General Assistance	11(10.6%)		
Other	13(12.5%)		
None	6(5.8%)		
Not reported	1		
<u>Educational Level</u>			
No HS diploma	10 (9.5%)		
HS grad or GED	42 (40%)		
Some college	27(25.7%)		
Associate's degree	6(5.7%)		
Bachelor's degree	14(13.3%)		
Master's degree	5(4.8%)		
Professional degree	1(1%)		
<u>Diagnoses</u>			
Schizophrenia	41(39.8%)		
Spectrum d/o			
Bi-polar d/o	34(33%)		
Major Depressive d/o	24(23.3%)		
Other	4(3.9%)		
Not reported	2		
<u>Marital status</u>			
Never married	61(58.1%)		
Married	7(6.7%)		
Living as married	1(1%)		
Separated	7(6.7%)		
Divorced	27(25.7%)		
Widowed	2(1.9%)		

Procedure

The study protocol and SE program sites were approved by the University IRB. Several faculty members and a recent graduate from the Universities Department of Psychiatric Rehabilitation and Counseling Professions agreed to work on the study team as research assistants (RA). The author met with SE program site staff and explained the purpose and protocol of the study, and provided them with a script (appendix A) to notify SE participants of the study. If interested, the SE participant signed the form that indicated they were willing to be contacted by a member of the study team to learn more about the study. If the participant indicated interest in entering the study, a meeting was set up at a time and place convenient to the participant. During the face to face meeting with the potential participant, the RA confirmed that they were not employed for at least 1 month, and were seeking competitive employment. Individuals who did not meet these criteria could not enroll in the study. The RA then discussed details of the study protocol with the qualified participants. The RA used the informed consent form which included detailed information on the eligibility criteria, study sponsor, purpose, risks and benefits, confidentiality, record keeping process, payment, and the procedure to withdraw from the study. The participant was encouraged to ask any questions regarding any aspect of the study and protocol before being asked to sign the informed consent form. If the individual decided to enter the study, they were asked to sign and date the consent form and received a copy. The participant was assigned an identification number which was used in place of their name for all study records. The informed consent process made it clear that participation was completely voluntary, and that the participant could choose to leave the study at any time.

After giving informed consent, participants were asked to complete an intake questionnaire (appendix B) to gather data on demographic information including education, benefit status, diagnoses, disability history, time receiving SE services and employment history. Additionally, participants were asked to complete a questionnaire measuring psychiatric symptom levels, the Brief Psychiatric Inventory (BSI; Derogatis & Melisarato, 1983), and the Work-related Self-Efficacy Scale (WSS; Waghorn et al., 2005). Research staff met with the individuals at baseline, and for follow-up assessments at 6-months and 12-months, regardless of SE program participation. At the follow-up assessments, research staff collected data on work-related self-efficacy, psychiatric symptoms and on employment activity. An employment activity form was designed for the project (appendix C), and participants were asked to report on their employment activity, including, participation in job seeking activities such as filling out applications, participating in job interviews, number of days employed, title and type of job, type of industry in which the job falls, number of hours per week employed, salary and benefits, and date of job termination (if applicable). Study participants received a payment of \$10 for their time after each meeting with an RA.

Due to the inherent difficulty in maintaining participants in a study for a period of a year, the following protocol was put in place. In the event that research staff could not contact participants, research staff was instructed to reach out to SE program staff to attempt to gather follow-up addresses or phone contact information. In the event that SE staff were unable to provide this information, and participants became lost to the study, research staff gathered any further information on the participant on their reason for leaving SE, and whether or not the participant became employed from SE staff.

Measures

Work-related Self-efficacy Scale

The WSS (Waghorn et al., 2005) (appendix D) is a 37- item measure of self-efficacy for persons with psychiatric disabilities in four domains of the employment process, including: 1) vocational service access and career planning, 2) job acquisition, 3) work-related social skills, and 4) general work skills (Waghorn et al., 2005). This scale uses a structured interview process that allows individuals to assess themselves on 37 work related tasks. Example items include asking individuals how confident they are in their ability to complete a given task related to employment, items include “Find new ways to manage the added stress of working” and “Look for and recognize own mistakes.” This instrument uses a 10 point scale labeled from 0 to 100 in intervals of ten. The higher numbers indicate a greater degree of self-efficacy for the item. Waghorn et al. (2005) reported alpha coefficients for the four separate domains of the instrument ranging from .85 to .94, and .96 for the entire scale. In the current study, alpha coefficients for the four separate domains of the instrument ranged from .76 to .90, the alpha coefficient was .94 for the entire scale.

Brief Symptom Inventory

The Brief Symptom Inventory (BSI; Derogatis & Melisarato, 1983) (appendix E) is a 53-item self-report measure of psychiatric symptoms. This scale uses a five point scale ranging from 0 = not at all, to 4 = extremely. This scale asks if the individual experienced any of the following problems for a period within one week, items include, “Nervousness or shakiness inside” and “The idea that someone else can control your thoughts.” The developers of the instrument reported alpha coefficients for the nine

separate domains of the instrument ranging from .70 to .85 (Derogatis & Melisarato, 1983). Additionally, a Global Severity Index (GSI) is computed, and an average score of 1.39 among all items answered is considered to be clinically significant. In the current study, the alpha coefficient was .96 for the entire scale.

Past Employment History

For this study, past employment history was collected by self-report as part of the demographic data collection interview. Past employment history was defined as how many months the individual worked in a competitive employment setting for the past five years. This interval was chosen because it has appeared in the recent literature (Gao, Gill, Schmidt, & Pratt, 2010).

Time in SE

For this study, the contextual support variable will be the time enrolled in SE at baseline. The time enrolled in SE variable will be measured as months receiving SE services at baseline.

Employment Outcome

The criterion measure for hypothesis I is a dichotomous variable of whether or not an employment goal was achieved. Therefore, at the 6 month interval participants who obtained employment at any time during that time period in either a part-time or full-time competitive job would be placed in the employed group. For the 12 month interval, participants who were still working at a job from the first assessment period into the second assessment period, or who obtained employment during the previous 6 month period would be in the employed group. They do not necessarily need to be employed

during the assessment meeting with RA staff at either interval. The not employed group includes those participants who did not obtain employment during each 6 month interval.

The predictor variable for hypothesis II is a dichotomous variable of employment status *at the time of assessment*. Therefore, the employed group is defined as those participants who are *employed at the time of assessment* in either a part-time or full-time competitive job at the six month and twelve month meetings with RA staff. The not employed group includes those participants who were not employed *at the time of assessment* during the six month and twelve month meetings.

Data Analysis

To test hypothesis I, simultaneous logistic regression will be utilized to assess whether a model of predictor variables including work-related self-efficacy, psychiatric symptoms, past work history and time in SE predicts whether or not a study participant obtained an employment goal at the six and twelve month intervals. Additionally, each of the four work-related self-efficacy subscales, including work-related social skills self-efficacy, general work skills self-efficacy, job acquisition skills self-efficacy, and career planning skills self-efficacy will be included in logistic regression analysis with the other study variables. The goal of logistic regression is to predict the category of outcome for individual cases using the most parsimonious model of predictor variables. Logistic regression requires a DV that is both discrete and dichotomous, while the IVs can be either continuous or discrete. In addition, logistic regression calculates the probability that a case will fit into a category based on the scores of the predictor variables in the form of an odds ratio (Tabachnick, & Fidell, 2007). The four SCCT variables will each be assessed to determine which variable or variables are significantly related to predicting

the group membership outcome. Thus, only variables that are significantly related to the outcome will be included in the final model.

To test hypothesis II, a one way ANOVA will be utilized to determine if there is a difference in the mean score of the DV between the groups. The study participants will be placed into one of two groups based on their employment status at the *time of assessment* with RA staff. Thus, one group will be “employed,” and the other group “not employed.” The dependent variable will be work-related self-efficacy. Additionally, due to the relationship found in the literature between psychiatric symptoms and self-efficacy, ANCOVA analysis will be utilized. The goal of ANCOVA is to determine if there is difference in the mean score of the DV between the groups while controlling for one or more covariate. The concurrent BSI score will be utilized as the covariate at the 6 and 12 month interval to determine whether or not there is a difference in self-efficacy between participants who are employed, and those not employed at the *time of assessment*. Therefore, this analysis will test whether the experience of working is associated with increases in self-efficacy, while controlling for psychiatric symptoms.

Power Analysis

For a logistic regression analysis with a sample of $N=88$, with an odds ratio of .5, for a one tailed test the power would be .80. For an ANOVA to detect a small effect size of $f=0.1$ with a power of .70 and an alpha level of .05 will require a total sample of $N=80$.

Results

Data was collected on $N= 80$ (76%) participants at the 6 month follow-up, and on $N= 65$ (62%) at the 12 month follow-up. Two study participants did not meet for the 6 month follow-up, but did meet with study staff at the 12 month interval. The employment outcome data for the 6 month interval was collected at this time. Therefore, this data was used for the 6 month analyses. Further, there was missing data for 3 participants on the WSS, one at baseline, one at the 6 month interval and one at the 12 month interval. At the 6 month interval, $N= 31$ (38%) out of the 82 participants obtained an employment goal during this time period. For the 12 month follow-up $N= 36$ (55%) out of the 65 participants obtained an employment goal during that time interval, or were still working from a job obtained in the first 6 month period. There was considerable overlap between those employed at both intervals $N= 23$, and $N= 13$ obtained their first employment goal during the 12 month interval. Further, 5 participants obtained more than one job during the study period. Participants obtained employment in a variety of jobs, including: maintenance and janitorial work, construction, retail sales, clerical and office work, computer technician, peer provider and actor. Table 5 includes wage data for those who gained employment, while table 6 includes descriptive statistics of the SCCT variables.

Table 5
Employment data

Time interval	<i>n</i>	<i>Mean</i> hourly wages	<i>SD</i>
6 months	31	\$8.97	3.4
12 months	36	\$9.58	3.9

Table 6
SCCT measures

Measure	<i>n</i>	<i>Mean</i>	<i>SD</i>
<u>Self-efficacy</u>			
WSS baseline	104	81.7	11.2
WSS 6 m	79	80.5	14.4
WSS 12 m	64	81.6	12.0
<u>Psychiatric Symptoms</u>			
BSI baseline	105	0.95	0.69
BSI 6 m	80	0.82	0.62
BSI 12 m	65	0.82	0.63
<u>Months employed in the previous 5 years</u>			
Work history	105	17.9	17.5
<u>Months receiving SE services</u>			
Baseline time is SE	105	8.3	13.5

Hypothesis testing

To test hypothesis I, simultaneous logistic regression was utilized to assess if self-efficacy, psychiatric symptoms, and employment history and baseline time in SE were significant predictors of an employment outcome. Two analyses were performed, using the baseline WSS, baseline BSI, employment history and baseline time in SE as independent variables, and whether or not an employment outcome was achieved as the dependent variable at both the 6 month and 12 month intervals. The 3rd analysis included the 6 month WSS, 6 month BSI, employment history and baseline time in SE as independent variables, and whether or not an employment outcome was achieved at the 12 month interval as the dependent variable. The results indicated that none of the baseline variables were significant predictors of an employment outcome at either the 6 or 12 month intervals. However, surprisingly the 6 month BSI was a significant predictor of employment at the 12 month interval. Tables 7, 8, and 9 display the results.

Table 7
Results for baseline predictors & 6 month employment outcome

Variables	<i>N</i> = 82	Wald	<i>df</i>	<i>p</i>
WSS		1.8	1	ns
BSI		0.18	1	ns
Employhx		0.67	1	ns
Time in SE		1.0	1	ns

Nagelkerke R Square .05
Hosmer and Lemeshow Chi-square = 9.1, *p*= ns

Table 8
Results for baseline predictors & 12 month employment outcome

Variables	<i>N</i> = 65	Wald	<i>df</i>	<i>p</i>
WSS		0.26	1	ns
BSI		0.22	1	ns
Employhx		0.73	1	ns
Time in SE		0.21	1	ns

Nagelkerke R Square .03
Hosmer and Lemeshow Chi-square = 6.0, *p*= ns

Table 9
Results for 6 month predictors & 12 month employment outcome

Variables	<i>N</i> = 65	Wald	<i>df</i>	<i>p</i>
WSS 6		0.36	1	ns
BSI 6		4.1	1	.04
Employhx		0.79	1	ns
Time in SE		0.05	1	ns

Nagelkerke R Square .13
Hosmer and Lemeshow Chi-square = 18.1, *p*= .02

WSS subscales

Simultaneous logistic regression analyses were performed that included the data of the four WSS subscales at baseline, including work-related social skills self-efficacy, general work skills self-efficacy, job acquisition skills self-efficacy, and career planning skills self-efficacy with the baseline BSI, employment history and baseline time in SE predicting whether an employment outcome was achieved at the 6 month and 12 month intervals. The same subscales at the 6 month interval were also included in a simultaneous logistic regression analysis with the 6 month BSI, employment history and baseline time in SE predicting whether an employment outcome was achieved at the 12 month interval. The results indicated only one significant predictor variable, baseline work-related social skills self-efficacy was a significant predictor of obtaining employment at the 6 month interval, Wald X^2 (1 *df*) = 4.1, $p = .04$, with a Nagelkerke R Square .09, and a Hosmer and Lemeshow Chi-square = 7.7, $p = .ns$ for the model.

Additionally, to assess the univariate relationship between the significant predictor variable and employment outcome, a point-biserial correlational analysis was run with the baseline work-related social skills self-efficacy subscale and employment outcome at 6 months, the findings indicated an inverse relationship $r(80) = -.24$, $p = 0.03$. This relationship indicates that lower work-related social skills self-efficacy was a predictor of an employment outcome.

Accounting for Attrition

Information on employment activity for participants who were lost to contact during the study was obtained from SE staff at the program study sites from all, but one of the small sites. This site had 4 individuals who were lost to contact, however, there

was data at the 6 month interval for one of these participants, and that individual did become employed. Therefore, employment outcome data was collected for 102 participants, regardless of whether or not they were lost to contact, or time interval. This follow-up process with SE program staff revealed that a total of $N=53(50.4\%)$ of participants who entered the study, including those lost to contact became employed. All participants who became employed were coded as 1, while those who did not become employed were coded 0. Below are the results of a simultaneous logistic regression including, the baseline WSS, baseline BSI, employment history and baseline time in SE as independent variables, and whether or not an employment outcome was achieved at any interval as the dependent variable. Table 10 displays the non-significant results.

Table 10
Results for baseline predictors & employment outcome

Variables	$N= 102$	Wald	df	p
WSS		0.33	1	ns
BSI		0 .08	1	ns
Employ History		1.1	1	ns
Time in SE		0.11	1	ns

Nagelkerke R Square .02

Hosmer and Lemeshow Chi-square = 14.3, $p= ns$

To test hypothesis II, one way ANOVA was utilized at the 6 and 12 month intervals to determine whether or not there was a difference in work- related self-efficacy between those employed, and those not employed at the *time of assessment*. An $N= 25$ (30%) were employed at the 6 month *time of assessment*, and an $N= 20$ (31%) were employed at the 12 month *time of assessment*. Results at the 6 month interval were not significant $F(1, 80)=.39, p = .53$. In addition, results at the 12 month interval were also not significant $F(1, 63)=.31, p = .58$.

Further, due to the relationship between self-efficacy and psychiatric symptoms found in the literature, the concurrent BSI score was utilized as a covariate for one way ANCOVA to determine whether or not there was a difference in work- related self-efficacy between participants who are employed, and those not employed at the *time of assessment*. Results at the 6 month interval indicated that the covariate was significant $F(1, 80)=16.2, p < .001, \eta^2 = .18$, however, for the employment status predictor the results were not significant $F(1, 80)=0.01, p = .91$. In addition, results at the 12 month interval for the covariate were a significant $F(1, 63)= 16.0, p < .001, \eta^2 = .22$, yet, for the employment status predictor the results were not significant $F(1, 63)= 0.55, p=.46$. Thus, the results confirmed the expected relationship between psychiatric symptoms and self-efficacy. However, these findings indicate no relationship between concurrent employment status and self-efficacy. Additionally, each of the four work-related self-efficacy subscales at the 6 month and 12 month intervals were included as the dependent variable to determine whether or not there was a difference in self-efficacy between those employed, and those not employed at the *time of assessment*. The findings were not significant.

Demographic differences between groups

To test if there were differences on demographic characteristics between participants who became employed, and those who did not during the study, a number of univariate analyses were run. The employment outcome data used for these analyses were from hypothesis I, whether or not an employment goal was obtained. At the 6 month interval, an independent samples t test found age was significant $t(80) = -2.3, p = .02$, with older individuals more likely to obtain employment. However, at the 12 month interval the finding $t(63) = -0.61, p = .55$ was not significant. An independent samples t test at the 6 month interval also found that participants who achieved a higher educational level were more likely to obtain an employment goal, $t(80) = -2.9, p = .006$, further the finding was also significant at the 12 month interval $t(63) = -2.0, p = .05$. Finally, an independent samples t test found work history was not significant at the 6 month interval $t(80) = -0.39, p = .70$, nor at the 12 month interval $t(63) = -0.67, p = .51$.

Chi square analysis indicated no significant difference in employment outcome for gender at the 6 month interval $\chi^2(1, 82) = 0.47, p = .49$, nor at the 12 month interval $\chi^2(1, 65) = 0.19, p = .67$. Additionally, diagnoses were recoded into two groups: schizophrenia spectrum disorder and other diagnosis, and chi square analysis indicated no significant difference in employment outcome at the 6 month interval $\chi^2(1, 82) = 2.2, p = .14$, or at the 12 month interval $\chi^2(1, 65) = 2.8, p = .09$. Further, race was recoded into two groups, white and non-white, $\chi^2(1, 82) = 4.5, p = .03$ was significant at the 6 month interval, and $\chi^2(1, 65) = 9.3, p = .002$ was significant at the 12 month interval with whites more likely to obtain employment at both intervals.

Outcome by Program

Chi square analyses were performed to determine if there was a difference in the proportion of participants who obtained employment by program. Because the majority of participants are from one program, which accounts for about half of the study participants $N= 51$ (48.6%), and the number of participants from the remaining four programs are each small, with the total equaling about half of the participants among the four programs $N= 54$ (51.4%), the SE program variable was recoded into two levels: SE1 and SE2. SE1 denoted participants from the large program, while SE2 included participants from all of the other programs. The chi square analysis indicated no difference in the proportion of participants becoming employed by program at the 6 month interval $\chi^2(1, 82) = 0.003, p = .96$, nor at the 12 month interval $\chi^2(1, 65) = 0.95, p = .33$.

Characteristics of Participants Lost to Contact

Of the 40 participants who were lost to contact, the chief barrier to maintaining participation in SE, and the study was housing instability, as around 20 of the participants left SE because they had to move. Additionally, SE staff confirmed that at least 2 participants left SE because they became homeless. On numerous occasions study staff attempted to follow-up with participants whose phones were no longer in service, and who program staff had no information on a forwarding address or number. In addition, staff provided information on another dozen or so who they knew who were hospitalized for either mental or physical illnesses, or were unable to work because of psychiatric or physical symptoms. Several participants were lost to contact because they lost interest in pursuing employment. Further, 1 participant passed away, and 2 individuals chose to

leave SE services, but continued to participate in the study. Interestingly, program staff was able to verify that 9 of the study participants who were lost to contact during the study did obtain employment, and in many of these cases left SE services because they no longer needed the support. These participants were included in the analysis above including participants who were lost to contact.

Nonetheless, to determine if there are differences between participants who were lost to contact after the baseline interview $N= 25$, and participants with longitudinal data in the study, several chi square analyses were performed. Chi square analysis indicated no significant difference in proportion between the two groups in whether or not those participants who were lost to contact were from the large SE program, or one of the other smaller programs at baseline $\chi^2(1, 105) = 0.28, p = .60$. Additionally, the diagnoses were not significant $\chi^2(1, 105) = 0.31, p = .58$. Also, race was not significant $\chi^2(1, 105) = 0.02, p = .90$. Further, gender was also not significant $\chi^2(1, 105) = 0.13, p = .72$.

In addition, independent samples t tests found no difference between the two groups on psychiatric symptoms on the baseline BSI score $t(103) = 0.84, p = .41$, nor for work-related self-efficacy with the baseline score on the WSS $t(102) = 0.47, p = .64$. Further, there were no group differences for baseline time in SE $t(103) = -0.68, p = .50$, or employment history $t(103) = 0.97, p = .34$. Additionally, the groups also did not differ on age $t(103) = 0.17, p = .86$, or educational level $t(103) = 0.84, p = .40$. Moreover, to determine if there were any differences among the participants who completed all three meetings with study staff $N= 63$, and those who did not. The same comparison measures were run and the all of the findings were non-significant.

Correlations among SCCT variables

Zero-order correlations were performed among the study variables. There was a significant inverse relationship between self-efficacy and psychiatric symptoms, with the baseline WSS and BSI, $r(102) = -.30, p = .002$. The relationship at the 6 month interval was $r(79) = -.42, p < .001$, and $r(63) = -.45, p < .001$ at the 12 month interval. Further, these relationships proved to be predictive over time, with $r(79) = -.30, p = .006$ for WSS baseline and BSI 6 months, $r(63) = -.36, p = .003$ for BSI baseline and WSS 12 months, and $r(63) = -.43, p = .001$ for BSI 6 months and WSS 12 months. Finally, there was a significant relationship $r(63) = .30, p = .02$ for BSI 12 months and baseline time in SE. Interestingly, employment history was not correlated with any of the study variables.

For exploratory purposes, correlations were run to test if the WSS predicted another employment outcome variable, weeks employed. The correlations between the baseline WSS and weeks employed at the 6 month interval, and the 6 month WSS and weeks employed at the 12 month interval were not significant. Another correlation was run the using the baseline WSS with the total weeks employed from only the 44 participants who gained employment in the study. The findings $r(42) = -.34, p < .02$ indicated that baseline self-efficacy was a significant negative predictor of greater employment tenure.

Discussion

The findings in this study did not support hypothesis I. In addition, the two findings where self-efficacy was predictive of employment, it was in the inverse direction. The baseline work-related social skills self-efficacy subscale predicted successful employment outcome at the 6 month interval, indicating that participants with perceived poorer work-related social skills were more likely to obtain an employment goal at the 6 month interval. The finding of lower work-related self-efficacy predicting greater employment tenure among the participants who obtained employment was unexpected, and contrary to the SCCT model. Therefore, the results indicate that higher perceived self-efficacy had no relationship to whether or not an employment goal was achieved, or once a goal was achieved, it was not related to greater tenure. One plausible explanation is that the majority of participants lacked the experience or ability to accurately assess their own ability to perform the employment related tasks that the WSS measures.

This issue of inaccurate self-assessment of abilities has appeared in the literature (Fabian, 2000; Nemec, 2010). Individuals with poor skills tend to lack the ability to recognize proficient performance. Essentially, they lack the knowledge required to accurately assess their own performance (Burson, Larick, & Klayman, 2006; Nemec, 2010). An additional factor that likely contributed to a tendency for participants to over-rate their employment related abilities was the contextual supports provided by SE staff. SE staff routinely provides verbal persuasion to help increase program participants self-efficacy. According to Bandura (1997), this is an important source of efficacy information. Strauser (1995) argues that rehabilitation staff should utilize verbal

persuasion as a counseling intervention to increase self-efficacy. However, in the current study increased self-efficacy beliefs were not necessarily related to increased job seeking skills, nor did those beliefs translate to actually becoming employed. It is important to note that verbal persuasion is only one of four sources of efficacy information, and Bandura argues that mastery experiences are the strongest source of efficacy information. It is conceivable that the utilization of verbal persuasion without the other sources of efficacy information, especially the mastery experience source of efficacy information may have limitations in SE services.

The finding that psychiatric symptoms at the 6 month interval were predictive of achieving an employment outcome at the 12 month interval was completely unexpected. However, an important point to consider is that the total sample was not highly symptomatic. At the 6 month interval the mean BSI score was .82, which is considerably lower than the 1.39 required to be considered clinically significant on this measure of psychiatric symptoms. However, 10 of the 36 participants who became employed during the 12 month interval had BSI scores above the clinically significant threshold, with a mean of 1.9. Additionally, these individuals tended to have high BSI scores throughout the 12 month duration of the study, with 5 having clinically significant scores for all 3 assessments, and 3 more with clinically significant scores during 2 of the 3 assessments.

Although this was a small sample, this is a potentially important finding as it indicates that the contextual support of SE can help individuals with considerable symptoms successfully gain employment. It is conceivable that the SE participants who were successful at obtaining employment may have utilized their awareness that symptoms could negatively impact their ability to obtain an employment goal; therefore,

these SE participants may have worked more closely with SE staff on developing a successful employment support plan. Further, this finding is also important because psychiatric symptoms are often cited as a major reason why people with SMI are unable to work in many community mental health programs (Waynor et al., 2005). Thus, this study provides empirical evidence that consumers experiencing a high level of psychiatric symptoms can indeed return to work with proper support.

Yet, another way to interpret these findings is that psychiatric symptoms appeared to be an irrelevant factor for the study participants regarding employment. Although psychiatric symptoms were hypothesized to be a critical person input barrier to employment, the mean BSI score of .61 for the not employed group at the 6 month interval indicates that psychiatric symptoms were not likely a factor in their lack of success in obtaining an employment goal. Although there have been findings suggesting that psychiatric symptoms are a critical barrier to employment (Mueser et al., 1997; Razzano et al., 2005; Regenold et al., 1999), overall, the role of psychiatric symptoms on employment success in the literature has been inconsistent (Szczepak, 2012; Wewiorski, & Fabian, 2004). The current findings add to this discrepancy suggesting that psychiatric symptoms are not a factor in limiting employment success for persons with SMI in SE. More comprehensive research on the role of psychiatric symptoms on employment for persons with SMI is indicated to elucidate this critically important issue.

The findings also did not support hypothesis II. The experience of employment did not increase self-efficacy as SCCT would contend. Although the person input variable of psychiatric symptoms was related to self-efficacy, gaining employment in an SE program produced no increase in work-related self-efficacy, or in any of the self-

efficacy subscales. The self-efficacy variable was remarkably stable over the 12 month study period, the mastery experience source of efficacy information; in this case actually being employed did not lead to enhanced self-efficacy. Interestingly, the exploratory analysis including only participants who gained employment found that among that group, lower self-efficacy predicted greater tenure. It is conceivable that 12 months is not enough time for any work experience to positively impact self-efficacy for persons with SMI in SE. This is an important issue for SCCT, as this theory purports to explain career development over the life span; it is vague on the time frame of the relationships between its many variables. The theory provides no guidance of how much work experience is required to increase self-efficacy beliefs. However, the findings of the current study suggest that inconsistent and sporadic work experience may not improve self-efficacy.

The SCCT literature is clear that higher self-efficacy is a predictor of interests and goals, and the study participants were interested in obtaining employment and expressed having a goal. However, there was no link between higher self-efficacy and gaining employment in the current study. Is it that special populations such as persons with SMI are unable, due to multiple person input and contextual barriers to progress through the model in the predicted linear mode, as the SCCT model would contend? The SCCT literature is concerned with the career development process of traditionally disenfranchised groups, primarily ethnic minorities and women. Racial minorities and woman may face discrimination in the workforce, however, it is unlikely that racial or gender differences are as ruthlessly stigmatized as persons with SMI in our society. Further, there is research indicating that persons with SMI are highly susceptible to internalizing this societal stigma (Yanos, Roe, Markus, & Lysaker, 2009).

It is plausible that an extreme level of contextual barriers may confound the ability of a population to conform to the theory. Additionally, Judge et al. (2007) contend that self-efficacy is a weak predictor of employment outcomes at best, and even question the utility of the theory by challenging whether self-efficacy is really other personality traits. If self-efficacy is determined to be a weak predictor for individuals without significant barriers, it would not be surprising to find that self-efficacy may be ineffective at predicting employment outcomes for persons with substantial barriers, as in the current study. These are important issues SCCT researchers must consider.

The findings regarding how demographic variables impact employment outcomes in SE were mainly consistent with the literature. The demographic variable of educational level was predictive of achieving an employment goal. The finding that this human capital variable was predictive of employment is supported in the recent literature (Gao et al., 2010; Sharf, 2010). Additionally, for race non-white participants, who in this study meant primarily African Americans, were less successful in obtaining employment. This finding was consistent with the literature, and also with the employment participation rate in general for African Americans (Sharf, 2010; Wewiorski, & Fabian, 2004). An observation regarding the demographic make-up of the study participants, Hispanic and Asian Americans appeared to be underrepresented for a sample in the ethnically diverse state of New Jersey. The above findings related to demographic outcomes and participation may potentially represent a policy concern for the state mental health authorities. An additional finding related to demographics was age, which in the current study meant that older participants were more likely to obtain an employment outcome.

This finding contradicts the more common finding that younger participants are more likely to be successful in vocational services (Wewiorski, & Fabian, 2004).

In addition to SCCT, the variable of self-efficacy is also important in the psychiatric rehabilitation recovery literature. (Spaniel et al., 2002; Yanos et al., 2010). The findings of the current study did not support the hypothesized relationship of this important recovery variable with achieving an employment outcome. Therefore, considering the critical role of employment on the recovery process, more research is indicated to determine the relationship of recovery variables to employment outcomes. Additionally, the variable baseline time in SE was predictive of symptoms at the 12 month interval. A plausible explanation of this finding is that individuals with greater symptoms have more support needs and thus receive SE services for a longer period of time.

Limitations

The major limitation of this study is the high attrition rate of the participants. 23% of the study participants at baseline did not meet for the 6 month follow-up. In addition, another 21% of the participants did not meet for the 12 month follow-up. Thus, the final sample of $N= 65$ was significantly smaller than the baseline group of $N= 105$.

Nonetheless, the follow-up information on the participants who were lost to contact from the SE programs was able to mitigate this limitation to some extent, as the follow-up analysis was able to link baseline data for the vast majority of the participants who were lost to contact to whether they became employed or not. Follow-up with the SE programs provided some compelling explanations of why so many participants left. While housing instability is not a surprise given the vulnerability to homelessness that people with SMI

confront, the fact that program staff confirmed 28% of those who were lost to contact became employed was not expected. However, this point raises a further limitation, because these participants were no longer in the study, there is no information on their employment, or the other study variables. Additionally, these were only the participants the staff knew of, it is probable that some of the other participants who were lost to contact and moved may have also eventually obtained employment. Thus, the program staff explanation still provides an incomplete story regarding participant attrition.

Another issue was related to participant recruitment. The participants in the study agreed to participate after being notified by program staff of the SE study. However, not everyone receiving SE services agreed to be in the study, and there is no data on SE program participants who did not enter the study. It is not clear if the characteristics of the individuals in the study differ from those who did not participate. Further, the study programs were in 4 counties in New Jersey, and although there were no differences among the programs in the current study, the state has at least 1 SE program in each of its 21 counties. It is possible that SE programs elsewhere have better retention or produce employment outcomes at different rates than those in the current study.

Although this study covered a 12 month time interval, this may not be long enough to effectively study SCCT variables and employment outcomes for people with SMI. It is possible that longitudinal research for the complex SCCT model may require significantly more time than 12 months to clarify the relationship between the critical variables and work experience for persons with SMI. Additionally, the complex SCCT model contains many variables including outcome expectations and work-related

subjective experiences, the current study did not assess all of the possible SCCT variables.

Another limitation was that a large proportion of SE participants do not become employed, therefore it was not feasible to utilize employment tenure as an outcome for hypothesis I. Also, the sample of individuals who became employed was small. A larger sample would allow the utilization of multivariate statistical analyses to address many of the issues in the complex SCCT. Future research on SCCT and persons with SMI can assess the impact of employment tenure on the SCCT variables. A further limitation may have been choosing only participants in the study seeking employment in SE. Individuals seeking employment appear to already have high self-efficacy, which may have produced a restriction of range of this critical study variable. Waghorn et al. (2007) found that individuals who were working scored significantly higher on the WSS than individuals who had not been in vocational rehabilitation for at least 1 year. The recent study by Szczebak (2012) found the mean WSS for the control group ranging from 55 to 58, while the group in the employment program started with a mean of 62 and ended with a mean of 77. Additionally, the 9 individuals who actually became employed had a mean of 81. These findings suggest that individuals who are interested in work already have high work related self-efficacy,

Finally, the study took place during the “great recession” and it is not clear how this may have impacted both study outcomes, but also the participant attrition rate. Individuals registering for SE were bombarded by a constant barrage of negative news in the media about the terrible state of the economy. This may have been a confounding factor in the study.

Conclusion

The major limitation of this study was participant attrition. However, the analyses comparing those who were lost to contact to participants who remained in the study for the full duration found no differences. Additionally, from the follow-up with SE staff, a substantial proportion of those who were lost to contact during the study became employed. These unanticipated results have important implications for SE. Although the SE literature emphasizes the models utility as an evidence-based practice that helps consumers with SMI return to work, using the SCCT framework these findings suggest that SE is an important contextual support that provides important career development learning experiences for participants (Fabian, 2000).

The findings of the current study did not support the SCCT model hypothesis that higher self-efficacy would be predictive of employment at the outcome level. Judge et al. (2007) found that self-efficacy was not predictive of employment at the outcome level in a meta-analysis on employment for people without disabilities. Additionally, the literature in the rehabilitation field on self-efficacy directly related to employment outcome for persons receiving vocational services was limited. Nevertheless, the SCCT literature demonstrates that self-efficacy is effective at predicting the interest to pursue an employment goal. The participants in this study all expressed an interest in becoming employed by registering for SE services, and all SE participants must have an employment goal to receive services. The study participants were primarily on Social Security Administration benefits, had limited recent work experience, and were mostly only qualified for entry level jobs within the secondary labor market. It is plausible that these numerous personal and contextual barriers confounded any possible relationship

between self-efficacy and actually becoming employed. SCCT is a career development theory, and in the current study virtually all of the participant's career development process had been disrupted by the onset of psychiatric disability. Although SCCT theorists call for more research on disadvantaged populations, it is conceivable that too many contextual barriers may confound the relationship between the SCCT variables.

Another serious concern with SCCT research is it is almost entirely concerned with student populations and how the SCCT variables are predictive of the development of interests and choices in the academic domain. There is limited research on the action and outcome phases of the theory. Therefore, the current findings may validate Judge et al. (2007) and other critics of the utility of self-efficacy theory to employment outcomes. Future SCCT research needs to validate the model to the action and outcome phases with both disabled and non-disabled samples.

Currently, it appears that the key SCCT variable self-efficacy is an effective predictor of career interests and goals. The ability to effectively enhance work related self-efficacy in psychiatric rehabilitation settings can be conceived as a vital step to help consumers consider the crucial recovery goal of pursuing employment in the community. Therefore, future research can directly assess whether or not the SCCT variable of self-efficacy is predictive of expressing an interest in employment for consumers with SMI, and consider other person input and contextual barriers directly related to the unique experiences of persons with SMI.

The findings of the study indicated that significant numbers of participants with numerous barriers did obtain competitive employment through the contextual support of SE services, and many participants who left the study also ended up working. Interests

and goals are critical first steps towards engaging consumers to begin to experience the many benefits of competitive employment. Thus, future psychiatric rehabilitation research needs to continue to study the application of career development theories such as SCCT for persons with SMI, as an increased focus on career development can lead to increasing numbers of consumers to begin to pursue career goals as a central component of their recovery.

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Appendix A



**SCHOOL OF HEALTH
RELATED PROFESSIONS**

University of Medicine & Dentistry of New Jersey

Department of Psychiatric Rehabilitation & Behavioral Health Care

SCRIPT FOR INFORMING NEW CLIENTS OF THE UMDNJ RESEARCH STUDY

The University of Medicine and Dentistry of New Jersey (UMDNJ) is conducting a study to try to figure out what contributes to successful outcomes in supported employment.

SUGGESTED PROBE:

- **DO YOU KNOW WHAT I MEAN WHEN I SAY SUCCESSFUL OUTCOMES IN SUPPORTED EMPLOYMENT?**

OFFERED DEFINITION:

- **SUCCESSFUL OUTCOMES REFER TO GETTING A JOB THAT YOU LIKE, KEEPING A JOB THAT YOU LIKE.**

We ourselves are very interested in finding out about this, too. That is why our program has agreed to participate in this study.

As a new client coming into our program you are eligible to participate in this study and we encourage you to explore the opportunity that this provides you.

NOTE TO STAFF-

- **“NEW CLIENT” INCLUDES INDIVIDUALS WHO MAY HAVE PREVIOUSLY BEEN IN THE PROGRAM BUT HAD FOR SOME REASON BEEN DISCHARGED AND ARE NOW RETURNING TO THE PROGRAM.**

In order for you to learn about the study and to determine whether you want to participate, we are asking your permission to give UMDNJ research staff your contact information. Therefore, may I have your permission to give your name, home telephone number, address, email and/or other contact information to a research interviewer who will contact you to set up an appointment to discuss the study?

Giving permission does *not* mean you're agreeing to do the study, just that you're willing to speak with a research interviewer to learn more about the study.

Any conversation and/or information that you share with the research staff will not be shared with us. You will receive services from us regardless of whether you decide to participate in the study.

However, you will be paid for participating in the study, if you decide to participate. You will need to ask the UMDNJ research staff about what you will be expected to do and how much you might be paid.

Check one of the two boxes provided below and then sign your name with today's date.

☐

I ***agree*** to being contacted by the UMDNJ research staff. I ***would like*** to learn more about the research. My contact information is:

Home Phone #: _____ Cell Phone #: _____

Email Address: _____ Other : _____

Address : _____

☐

I ***do not want*** to be contacted by the UMDNJ research staff. I am ***not interested*** in participating in any research.

Signature of participant: _____ Date: _____

Witness (program staff): _____

Appendix B



UMDNJ
UNIVERSITY OF MEDICINE &
DENTISTRY OF NEW JERSEY

SELF-EFFICACY STUDY CLIENT BASELINE INTERVIEW

The purpose of this interview is to learn more about the role self-efficacy plays in employment tenure. I will ask you questions about yourself such as your age and where you live as well as questions about how you are feeling right now and your opinions about working. Some of the questions will ask you how much you agree and disagree with a statement. Other questions will ask you to give me some detailed information. I will write down your answers for each question so we can compare your answers to those given by other people participating in this study.

DEMOGRAPHICS

I would like to begin by asking you some questions about yourself.

1. What is your birth date? ____/____/____ 0 00
mm dd yy don't know refused
2. What is your gender? 1 Male 2 Female 0 Don't know 00 Refused
3. Which of the following groups best describes you?
- 1 American Indian/Alaska Native
2 Asian/ Pacific Islander
3 Black/African American
4 Hispanic
5 White (non Hispanic)
6 Other (Specify)_____
0 Don't Know
00 Refused
4. What language do you speak most of the time?
- 1 English only
2 Spanish only
3 Both English and Spanish
4 Both English and Other
5 Only other (Specify)_____
0 Don't Know
00 Refused

5. What is your current marital status?

- 1 Never married
- 2 Married
- 3 Living as married
- 4 Separated
- 5 Divorced
- 6 Widowed
- 0 Don't Know
- 00 Refused

6. What is the highest grade in school that you completed?

- 1 No formal schooling
- 2 Some elementary schooling
- 3 Some high school
- 4 Completed high school or GED
- 5 Some college or technical school
- 6 Completed Associate's degree
- 7 Completed Bachelor's degree
- 8 Some graduate school
- 9 Completed Master's degree
- 10 Completed Doctoral degree
- 0 Don't Know
- 00 Refused

7. Have you ever been in a special education classroom or enrolled in special education services?

- 1 No
- 2 Yes
- 0 Don't Know
- 00 Refused

8. Are you currently enrolled in school?

- 1 No
- 2 Yes (specify)_____

9. Are you interested in attending classes and/or pursuing an educational goal?

- 1 No
- 2 Yes (specify)_____
- 3 I am currently attending classes
- 0 Don't Know
- 00 Refused

10. What is your current employment status?

- 1 Unemployed
- 2 Volunteer Job
- 3 Part-time Job
- 4 Full-time Job

11. (If unemployed) How long ago was your last job?

_____ months

12. In the past 5 years, how many months have you been competitively employed?

_____ months

13. How many months did you hold your longest job?

_____ months

14. Are you interested in obtaining a competitive job at this time?

- 1 No
- 2 Yes (specify) _____
- 3 I am currently employed
- 0 Not sure
- 00 Refused

15. What type of benefits (if any) do you currently receive?

SSI	1 No	2 Yes	Amount: _____
SDI	1 No	2 Yes	Amount _____

VA Benefits	1 No	2 Yes	Amount _____
-------------	------	-------	--------------

Food Stamps	1 No	2 Yes	Amount _____
-------------	------	-------	--------------

Other _____

16. Do you have children?

- 1 No
- 2 Yes (specify total amount) _____

17. Current psychiatric diagnosis?

18. Have you been hospitalized for a psychiatric condition?

- 1 No
- 2 Yes

19. If you have, how old were you when you were first hospitalized?

(specify age) _____

20. How many times have you been hospitalized for a psychiatric condition?

(specify total amount) _____

21. When were you last hospitalized? / /
 mm dd yy

22. How many days have you spent hospitalized in the past year?

(specify total) _____

23. Do you currently use medication to treat a mental illness?

- 1 No
- 2 Yes
- 0 Don't know
- 00 Refused

24. Do you have any employment related physical limitations or medical conditions?**25. Present living arrangement?**

- 1 own home/apt
- 2 family members' home/apt
- 3 community residence
- 4 assisted housing (HUD)
- 5 other (please specify)_____

26. How long have you been receiving Supported Employment Services?

Length of time in months:_____

Total # of Jobs:_____

Thank you for providing us with this important information. The next time we speak will be in six months. I will contact you to set up an appointment similar to the one we had today. At our next meeting, I will be asking you follow-up questions regarding your employment status. Do you have any questions about what we did today?

Appendix C
6 & 12 Month Follow-Up Form

*Employment Status and Program Activity Level of client
as reported by client*

Client ID #: _____

Chart Diagnosis: Axis 1-_____ DSM-IV Code: _____

_____ DSM-IV Code: _____

Axis 2- _____ DSM-IV Code: _____

_____ DSM-IV Code: _____

Staff ID#: _____

SE Program ID #: _____

Date of Follow-up: _____

Circle or fill in the blank

- | | | |
|---|-------|------|
| 1. Any job applications submitted: (Y/N) | YES | NO |
| 2. Any job interviews: (Y/N) | YES | NO |
| 3. Date of any job start: | _____ | NONE |
| 4. Job Title of new job start: | _____ | NONE |
| 5. Job Industry of new job start: | _____ | NONE |
| 6. Number of days hired at new job: | _____ | NONE |
| 7. Number of hours hired at new job: | _____ | NONE |
| 8. Wages hired at new job: | _____ | NONE |
| 9. Health Benefits received at new job: (Y/N) | YES | NO |
| 10. Vacation, sick leave benefits
received at new job: (Y/N) | YES | NO |

11. Job Developer accompanied to interview
for new job start: (Y/N) YES NO
12. Client disclosed to employer
at new job start: (Y/N) YES NO
13. Date of any job terminations during month: _____ NONE
14. Reasons for any job terminations during month: _____ NONE
(NOTE: Refer to list of reasons and choose the one reason that MOST reflects the
program staff's understanding of the reason for the client's job termination)

Appendix D

Participant ID: _____

Date: _____

Work-related Self-efficacy Scale (WSS-37)

(Note: Intended as a structured interview, not as a self-report questionnaire)

Instructions to users

The questionnaire consists of 37 rating-style questions followed by three optional open-ended questions. Each rating-style question begins with a brief description of an activity related to employment. For each question you are asked to circle the number which best describes how confident you are that you could do this activity. Although your confidence may change at times please rate your current confidence based on how confident you feel at this time.

CONFIDENCE RATING (%)

0-----10-----20-----30-----40-----50-----60-----70-----80-----90-----	100
(No confidence)	(Total
Confidence)	

A score of 0% means that you have no confidence in your ability to do the task or activity. A score of 100% means that you are totally confident in your ability to do that activity or task.

All listed numbers between 0 and 100 may be used to accurately express your confidence in your ability to do that activity. For example, if a particular activity required a great deal of effort or concentration, you might rate your confidence as 10 or 20% that you could do that task. On the other hand if you are reasonably sure, but not 100% certain, that you could do a task, you might rate your confidence at 70 or 80%.

Practice Example

Before attempting the questionnaire, please complete the example below to ensure you understand how to answer each question.

Search a newspaper for job vacancies.	<div style="display: flex; justify-content: space-between;"> <u>No confidence</u> <u>Total confidence</u> </div> <div style="text-align: center; margin-top: 5px;"> 0-----10-----20-----30-----40-----50-----60-----70-----80-----90-----100 </div>
---------------------------------------	---

If you generally think you could do this, but are unsure, you might score your confidence as 40 or 50%. However, if you are certain you cannot do this, score it 0%. If this is something you do regularly without any trouble, score it 100%.

If you understand how to respond to this item, continue on the next page. Please respond to every item. If you work carefully and steadily you should complete the questionnaire in about 10 minutes. If you need assistance with any item please ask the interviewer.

The interview (WSS-37)

<i>How confident are you in your ability to:</i>	
	<u>No confidence</u> <u>Total confidence</u>
1. Manage your health well enough to work for 8 or more hours per week	0---10---20---30---40---50---60---70---80---90---100
2. Find new ways to manage the added stress of working	0---10---20---30---40---50---60---70---80---90---100
3. Identify organisations that can assist you to obtain employment	0---10---20---30---40---50---60---70---80---90---100
4. Arrange an interview with an agency that may assist you	0---10---20---30---40---50---60---70---80---90---100
5. Attend all appointments on time	0---10---20---30---40---50---60---70---80---90---100
6. Cooperate closely with people helping you prepare for work	0---10---20---30---40---50---60---70---80---90---100
7. Identify your personal work values	0---10---20---30---40---50---60---70---80---90---100
8. Identify personal barriers to employment	0---10---20---30---40---50---60---70---80---90---100
9. Identify your work skills	0---10---20---30---40---50---60---70---80---90---100
10. Identify realistic career options	0---10---20---30---40---50---60---70---80---90---100
11. Research career options prior to searching for a job.	0---10---20---30---40---50---60---70---80---90---100
12. Identify your job and career preferences	0---10---20---30---40---50---60---70---80---90---100
13. Identify employers with job opportunities that you want	0---10---20---30---40---50---60---70---80---90---100

14. Use your social network to identify job opportunities	0---10---20---30---40---50---60---70---80---90---100
15. Ask an employer (in person or by telephone) for information about a job	0---10---20---30---40---50---60---70---80---90---100
16. Prepare a personal resume	0---10---20---30---40---50---60---70---80---90---100
17. Prepare for a job interview	0---10---20---30---40---50---60---70---80---90---100
18. Dress appropriately to attend a job interview	0---10---20---30---40---50---60---70---80---90---100
19. Participate appropriately in a job interview	0---10---20---30---40---50---60---70---80---90---100
20. Ask relevant questions during a job interview	0---10---20---30---40---50---60---70---80---90---100
<i>How confident are you in your ability to:</i> <div> <div>No confidence</div> <div>Total confidence</div> </div>	
21. Request urgent leave from the supervisor	0---10---20---30---40---50---60---70---80---90---100
22. Check instructions with the supervisor	0---10---20---30---40---50---60---70---80---90---100
23. Decline a request to work overtime	0---10---20---30---40---50---60---70---80---90---100
24. Request a change of hours or days of working	0---10---20---30---40---50---60---70---80---90---100
25. Resolve a conflict with a colleague	0---10---20---30---40---50---60---70---80---90---100
26. Resolve a conflict with supervisor	0---10---20---30---40---50---60---70---80---90---100
27. Decline a request to exchange duties or work-days	0---10---20---30---40---50---60---70---80---90---100
28. Help to instruct or demonstrate a task to a new colleague	0---10---20---30---40---50---60---70---80---90---100
29. Cooperate with other workers to perform a group task	0---10---20---30---40---50---60---70---80---90---100
30. Start work soon after arriving	0---10---20---30---40---50---60---70---80---90---100
31. Work required hours	0---10---20---30---40---50---60---70---80---90---100
32. Work accurately and efficiently	0---10---20---30---40---50---60---70---80---90---100
33. Look for and recognise own mistakes	0---10---20---30---40---50---60---70---80---90---100
34. Learn how to do tasks within a given time frame	0---10---20---30---40---50---60---70---80---90---100

35. Follow directions without resistance	0---10---20---30---40---50---60---70---80---90---100
36. Stick to a routine or schedule at work	0---10---20---30---40---50---60---70---80---90---100
37. Work to a consistent quality and pace	0---10---20---30---40---50---60---70---80---90---100

1. For one of the activities in which you had low confidence (Q number _____), what do you think causes your current low confidence?

2. For one of the activities in which you had high confidence (Q number _____), what do you think causes your current high confidence?

Thank you for providing this information

Appendix E

9/2/2003G:\FosterCare_Linares\samhsa\Samhsa Measures\Time 1 Protocols\BM_E_T1_2-5-03.doc

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E. BSI

Below is a list of problems people sometimes have. Please tell me how much that problem has distressed or bothered you DURING THE PAST 7 DAYS, including today.

	Not at all	A little bit	Some- what	Quite a bit	Extremely
L1. Nervousness or shakiness inside	0	1	2	3	4
L2. Faintness or dizziness	0	1	2	3	4
L3. The idea that someone else can control your thoughts	0	1	2	3	4
L4. Feeling others are to blame for most of your troubles	0	1	2	3	4
L5. Trouble remembering things	0	1	2	3	4
L6. Feeling easily annoyed or irritated	0	1	2	3	4
L7. Pains in heart or chest	0	1	2	3	4
L8. Feeling afraid in open spaces or on the streets	0	1	2	3	4
L9. Thoughts of ending your life	0	1	2	3	4
L10. Feeling that most people cannot be trusted	0	1	2	3	4
L11. Poor appetite	0	1	2	3	4
L12. Suddenly scared for no reason	0	1	2	3	4
L13. Temper outbursts that you could not control	0	1	2	3	4
L14. . Feeling lonely even when you are with people	0	1	2	3	4
L15. Feeling blocked in getting things done	0	1	2	3	4
L16. Feeling lonely	0	1	2	3	4
L17. Feeling blue	0	1	2	3	4
L18. Feeling no interest in anything	0	1	2	3	4
L19. Feeling fearful	0	1	2	3	4
L20. Your feelings being easily hurt	0	1	2	3	4
L21. Feeling that people are unfriendly or dislike you	0	1	2	3	4
L22. Feeling inferior to others	0	1	2	3	4
L23. Nausea or upset stomach	0	1	2	3	4

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9/2/2003

	Not at all	A little bit	Some- what	Quite a bit	Extremely
L24. Feeling that you are watched or talked about by others	0	1	2	3	4
L25. Trouble falling asleep	0	1	2	3	4
L26. Having to check and double-check what you do	0	1	2	3	4
L27. Difficulty making decisions	0	1	2	3	4
L28. Feeling afraid to travel on buses, subways, or trains	0	1	2	3	4
L29. Trouble getting your breath	0	1	2	3	4
L30. Hot or cold spells	0	1	2	3	4
L31. Having to avoid certain things, places, or activities because they frighten you	0	1	2	3	4
L32. Your mind going blank	0	1	2	3	4
L33. Numbness or tingling in parts of your body	0	1	2	3	4
L34. The idea that you should be punished for your sins	0	1	2	3	4
L35. Feeling hopeless about the future	0	1	2	3	4
L36. Trouble concentrating	0	1	2	3	4
L37. Feeling weak in parts of your body	0	1	2	3	4
L38. Feeling tense or keyed up	0	1	2	3	4
L39. Thoughts of death or dying	0	1	2	3	4
L40. Having urges to beat, injure, or harm someone	0	1	2	3	4
L41. Having urges to break or smash things	0	1	2	3	4
L42. Feeling very self-conscious with others	0	1	2	3	4
L43. Feeling uneasy in crowds, such as shopping or at a movie	0	1	2	3	4
L44. Never feeling close to another person	0	1	2	3	4
L45. Spells of terror or panic	0	1	2	3	4
L46. Getting into frequent arguments	0	1	2	3	4
L47. Feeling nervous when you are left alone	0	1	2	3	4

