CHAPTER 1

Work, Cognitive Functioning, and Vocational Rehabilitation in People with Mental Illness

Problems in cognitive functioning constitute an important obstacle to achieving personal goals for people with serious mental illnesses. However, recent advances in cognitive enhancement and vocational rehabilitation now make it possible for the vast majority of people to return to work or complete educational degrees that are the key to better paying and more interesting jobs. The Thinking Skills for Work (TSW) program is an evidence-based cognitive enhancement intervention that was developed to help people with a major psychiatric disorder improve their cognitive functioning in order to achieve their vocational goals. These include getting and keeping a competitive job and advancing within their chosen field of work. The TSW program was designed to be integrated into vocational rehabilitation services, such as supported employment, and to incorporate a wide range of cognitive enhancement strategies. These strategies include computer-based cognitive practice exercises (cognitive training), strategy coaching to improve performance on the exercises, self-management skills to optimize cognitive functioning in everyday life, and increasing metacognitive awareness of thinking and how to improve it. TSW has been implemented successfully in a wide range of treatment and rehabilitation settings, such as psychiatric rehabilitation programs, psychosocial clubhouses, community mental health centers, and inpatient treatment programs. This book describes in detail how to implement the TSW program.

This chapter begins with a discussion of the value and benefits of work for people with a major mental illness. Next, we describe the impact of psychiatric disorders on cognitive abilities, including the subjective experience of cognitive challenges and their effects on daily functioning. We also discuss the impact of cognitive difficulties on the ability of

people to benefit from psychosocial treatment and rehabilitation programs, including vocational rehabilitation. The primary objective of the TSW program is to enhance cognitive functioning in order to get and keep a job.

THE IMPORTANCE OF WORK FOR PEOPLE WITH MENTAL ILLNESS

People with serious mental illnesses, such as schizophrenia, bipolar disorder, major depression, and posttraumatic stress disorder (PTSD), are much more likely to be unemployed than the general population, with rates of work typically in the 10–20% range (Davidson et al., 2016; Evensen et al., 2016; Jonsdottir & Waghorn, 2015; Marwaha et al., 2007; Warner, Girolamo, & Bellini, 1998). However, despite these low rates of employment, surveys consistently indicate that the majority of these individuals want to work and endorse competitive work as their goal. As illustrated in Figure 1.1, most surveys find that between 55 and 77% of people with a serious mental illness want to work (Froundfelker, Glover, Teachout, Wilkniss, & Whitley, 2010; Knaeps, Neyens, van Weeghel, & Van Audenhove, 2015; Macias, DeCarlo, Wang, Frey, & Barreira, 2001; McQuilken et al., 2003; Mueser, Salyers, & Mueser, 2001; Ramsay et al., 2011; Rogers, Walsh, Masotta, & Danley, 1991; Westcott, Waghorn, McLean, Statham, & Mowry, 2014; Woltmann, 2009).

In addition, work is associated with a broad range of benefits. For many people, work provides important meaning and structure in their lives, which *reduces* stress rather than increasing it. As Marrone and Golowka (1999) wrote, "If you think work makes people with mental illness sick, what do unemployment, poverty, and social isolation cause?"

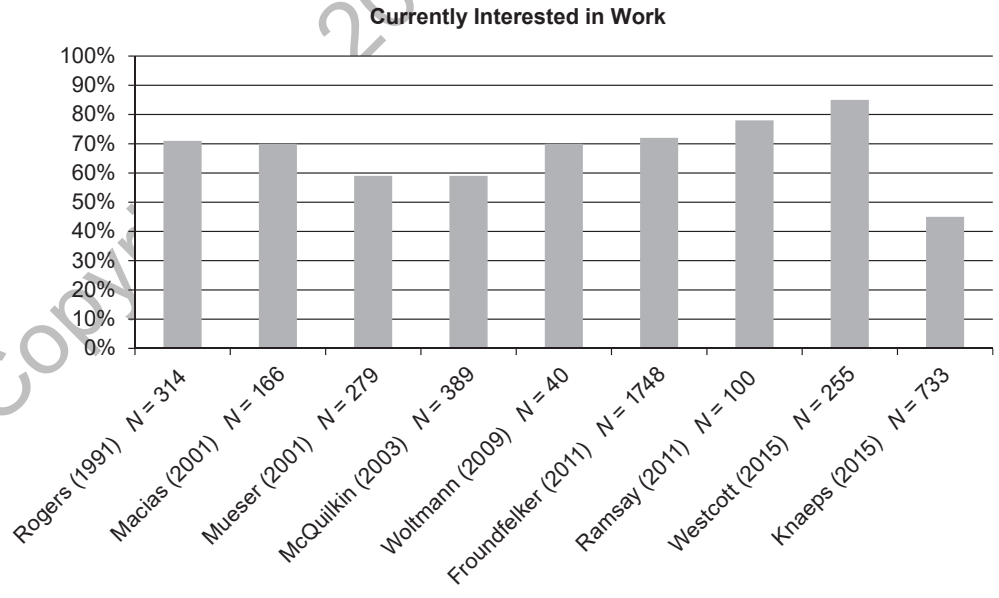

FIGURE 1.1. Rates of interest in competitive employment in surveys of persons with serious mental illness.

Specifically, research shows that employment leads to modest reductions in psychotic symptoms, depression, and other symptoms in people with a psychiatric disability (Bouwmans, Sonneville, Mulder, & Hakkaart-van Roijen, 2015; Luciano, Bond, & Drake, 2014). The clinical benefits of work also translate into reduced vulnerability to relapses and hospitalizations (Burns et al., 2009; Hoffmann, Jäckel, Glauser, Mueser, & Kupper, 2014; Luciano et al., 2016). Furthermore, the more people work and become integrated into their communities, the fewer the inpatient and outpatient mental health services they utilize (Bush, Drake, Xie, McHugo, & Haslett, 2009; Hoffmann et al., 2014).

Work can alleviate the economic burden associated with relying on disability income and family for meeting one's needs, and it improves satisfaction with finances (Mueser, Becker, et al., 1997). Work has also been found to contribute to better quality of life (Bouwmans et al., 2015; Jäckel, Kupper, Mueser, Glauser, & Hoffmann, 2017) and to enhanced feelings of self-worth, self-esteem, and general life satisfaction (Arns & Linney, 1993, 1995; Torrey, Mueser, & Drake, 2000). Because work is broadly accepted and socially valued in society, returning to work can also reduce the stigma and self-stigma of mental illness (Farina, 1998; Sibitz, Unger, Woppmann, Zidek, & Amering, 2011). For all of these reasons, work plays a critical role in the personal recovery of many persons with mental health conditions (Krupa, 2004; Provencher, Gregg, Mead, & Mueser, 2002; Vogel-Scibilia et al., 2009).

COGNITIVE FUNCTIONING AND MENTAL ILLNESS

Challenges in cognitive functioning are common in people with psychiatric disorders for several reasons. These include the facts that reduced cognitive abilities increase the risk of developing a major mental illness, that the onset of some psychiatric disorders is accompanied by a decline in cognitive functioning, and that different symptoms can interfere with cognitive performance.

Impaired Cognitive Functioning and Vulnerability to Mental Illness

People who have poorer cognitive abilities are more vulnerable to developing psychiatric disorders than those with better cognitive reserves. In large population studies in which IQ and other measures of cognitive ability have been routinely assessed in all children, those with lower performance scores are more likely to develop psychiatric disorders such as schizophrenia and PTSD (Breslau, Lucia, & Alvarado, 2006; Khandaker, Barnett, White, & Jones, 2011). Consistent with this association, there is a significantly higher prevalence of psychiatric disorders in people who have an intellectual disability (Cooper et al., 2015; Deb, Thomas, & Bright, 2001; Reiss, 1990).

Cognitive Decline in Psychiatric Disorders

Reduced cognitive performance is a common feature of some psychiatric disorders. The most prominent example of this is schizophrenia. There is strong evidence that the vast

majority of people with schizophrenia experience some decline in their cognitive skills compared with premorbid levels (Harvey, 2013; Heinrichs & Zakzanis, 1998). This is true even among individuals who had superior cognitive functioning before the onset of their illness (Vaskinn et al., 2014). Furthermore, this reduction in cognitive functioning frequently precedes the development of symptoms (e.g., hallucinations, delusions) by several years (Kahn & Keefe, 2013; MacCabe et al., 2013; Meier et al., 2014).

Individuals with schizophrenia differ from one person to the next in the specific cognitive challenges they experience. However, most people experience difficulties across the broad range of cognitive abilities rather than in specific focal areas of cognitive functioning, such as attention or memory (Dickinson & Harvey, 2009; Dickinson, Ragland, Gold, & Gur, 2008; Sponheim, Surerus-Johnson, Spoont, & Dieperink, 2003). Although there is on average a greater decline in cognitive functioning in schizophrenia than in other disorders, a reduction in cognitive performance in bipolar disorder, which shares many overlapping features with schizophrenia, is also common (Dickerson et al., 2004b; Vöhringer et al., 2013).

Symptoms and Cognitive Performance

Many of the symptoms of psychiatric disorders interfere with optimal cognitive functioning. Depression can sap people's energy, fill their minds with negative and pessimistic thoughts, and reduce their ability to focus and concentrate on any task, including work tasks. The symptoms of anxiety can interfere with the ability to focus attention and, therefore, to remember important things. For example, when people have high levels of social anxiety, their thoughts are often preoccupied with how other people are evaluating them and not on accomplishing tasks they are trying to do. Similarly, the intense physiological symptoms of anxiety, such as rapid breathing, racing heart, and muscular tension, can distract people from what they need to attend to. For people with a significant trauma history, symptoms of PTSD, such as the distracting effects of intrusive memories, can interfere with cognitive functioning, as can avoidance of trauma-related stimuli that can interfere with effective problem solving.

Psychotic symptoms can also interfere with optimal cognitive functioning. Hallucinations (such as hearing voices) can distract people from what they need to attend to. Preoccupation with paranoid and other types of delusional thinking can make it difficult to sustain one's attention on work or school-related tasks. Manic symptoms, such as a flight of ideas, can also interfere with effective cognitive functioning; thoughts may come to the person so fast that he or she cannot keep up with them, and it becomes difficult to focus on anything for very long. The intense goal-directed behavior common during periods of mania, combined with the overestimation of one's own abilities (or outright grandiosity), can interfere with both effective planning and problem solving and create a host of new problems as well.

COGNITIVE FUNCTIONING AND WORK

In the general population, people who have higher levels of cognitive ability tend to have better work functioning (Herrnstein & Murray, 1994; Richardson & Norgate, 2015; Schmidt

& Hunter, 1998). They are more likely to be employed at interesting jobs that are more cognitively demanding, pay higher wages, and have greater potential for advancement (Fisher et al., 2014; Francisca et al., 2014; O'Reilly & Chatman, 1994). Furthermore, individuals who work at more cognitively demanding jobs tend to experience a slower rate of age-related decline in their cognitive abilities (Fisher et al., 2014).

Among people with serious mental illness, cognitive functioning is also related to work outcomes (Evans et al., 2004; McGurk & Mueser, 2004; Tsang, Leung, Chung, Bell, & Cheung, 2010). For example, people who are employed, as well as people who have a work history (e.g., having worked at a job for a year or more), tend to have better cognitive functioning than those who are not working or who have not ever worked at a job (Dickerson et al., 2004a, 2007; McGurk & Meltzer, 2000; McGurk & Mueser, 2003). In addition, because cognitive functioning tends to be relatively stable over time in the absence of cognitive remediation, cognitive ability is a strong predictor of employment over time, even after controlling for other factors such as demographic characteristics, education level, diagnosis, symptoms, and past work (Bell, Tsang, Greig, & Bryson, 2009; Cook et al., 2007; Dickerson et al., 2008; Lysaker, Bryson, Davis, & Bell, 2005; Mueser, Salyers, & Mueser, 2001; Reddy & Kern, 2014). When people do get jobs, those with better cognitive abilities are more likely to get more challenging, interesting, and higher paying jobs (McGurk & Mueser, 2006a; McGurk, Mueser, Mischel, et al., 2013).

Vocational rehabilitation programs such as supported employment try to provide the supports and teach the skills necessary to help people achieve their work goals, despite their symptoms and associated cognitive challenges. Although vocational rehabilitation helps many people get and keep jobs, those individuals with greater cognitive challenges tend to benefit the least from these programs (Kurtz, 2011; McGurk et al., 2018; McGurk & Mueser, 2004). Specifically, people with greater cognitive impairment who are enrolled in vocational rehabilitation programs are less likely to obtain competitive work and tend to work less time and earn less in wages than those with more intact cognitive abilities (Allott et al., 2013; Bryson & Bell, 2003; Gold, Goldberg, McNary, Dixon, & Lehman, 2002; Landolt et al., 2016; McGurk & Mueser, 2006a; McGurk, Mueser, Harvey, Marder, & LaPuglia, 2003). In addition, among people who get jobs while receiving vocational services, those who have more cognitive challenges require more intensive job supports per hour of work than people with fewer cognitive challenges (McGurk & Mueser, 2006a). Thus, there is a need for effective interventions that can help people both obtain and keep competitive employment and enhance their cognitive functioning in work and other practical daily situations.

A BRIEF OVERVIEW OF THE TSW PROGRAM

The TSW program was designed to enhance cognitive functioning of people with serious psychiatric disorders who want to work and who are receiving vocational services. Its goal is to increase clients' ability to achieve their employment goals. TSW is provided at the same time that individuals are receiving work services and pursuing their work goals in order to maximize their learning and benefit from those vocational services.

The TSW program is usually provided by a *Cognitive Specialist,* who works closely with members of the vocational team (i.e., *Employment Specialists*) or who is a member of that team providing vocational supports to clients. Clients who are offered TSW may be individuals who have been unsuccessful in getting or keeping jobs despite receiving vocational rehabilitation, or they may be new referrals to the vocational program who could benefit from cognitive enhancement. Vocational rehabilitation and cognitive enhancement are provided in an integrated fashion, based on the shared goal of helping the client achieve sustained competitive work.

The majority of time spent in the TSW program is devoted to enhancing cognitive functioning through a combination of cognitive training with computerized practice exercises facilitated by the Cognitive Specialist and teaching cognitive self-management strategies for use in everyday work-related situations. A specific set and sequence of cognitive training exercises has been standardized in a curriculum of 24 sessions, with approximately 1-hour sessions usually conducted once or twice a week. A standardized curriculum of cognitive self-management strategies has also been developed that can be taught in either a group or individual format over approximately 12 sessions. Alternatively, these strategies can be taught on an as-needed basis.

Depending on whether the computerized cognitive training and teaching of cognitive self-management are conducted concurrently or sequentially, most clients complete these two cognitive enhancement components of the TSW program in 6–9 months. However, even after this part of TSW is over, the client continues his or her involvement in the program as long as needed, collaborating with the Cognitive Specialist and Employment Specialist. The focus of this work can be on job finding, addressing problems that occur at the workplace, or optimizing work performance in order to increase satisfaction and potential for advancement.

Overview of This Book

In the rest of this chapter, we review different approaches to vocational rehabilitation that have been developed for people with psychiatric disorders over the past several decades. Chapter 2 describes different methods for enhancing cognitive functioning, including those used in the TSW program, and the evidence supporting cognitive enhancement for persons with serious mental illness. Chapter 3 provides a more in-depth description of the TSW program and the evidence supporting it and concludes with a detailed vignette of a client who participated in the program. Chapter 4 provides practical information about how to explain the TSW program to clients who may benefit from it and how to orient interested clients to the overall program.

Part II focuses on assessment and treatment planning for TSW. This part begins with a review of different factors that can influence cognitive functioning, such as symptoms and medication side effects (Chapter 5), and is followed by specific methods for assessing the role of cognitive challenges to clients' ability to obtain and keep a job (Chapter 6). The final chapter of this part (Chapter 7) provides guidelines for putting together all of the information collected during the assessment into a service plan, which serves to guide the implementation of the TSW program.

Part III is focused on the computerized cognitive training component of TSW, beginning with the principles of training and logistical aspects such as computer software (Chapter 8). The next chapter addresses how to conduct the cognitive training sessions (Chapter 9), including how to use the TSW curriculum of Lesson Plans (available online; see the box at the end of the table of contents). The final chapter of this part describes how to provide strategy coaching to improve performance on cognitive exercises during training (Chapter 10).

Part IV focuses on the cognitive self-management strategies component of TSW. Chapter 11 addresses logistical considerations, gives an overview of the self-management strategies covered in 10 educational handouts for clients, and describes general teaching methods. The next chapter provides in-depth guidelines and tips for teaching self-management strategies aimed at harnessing motivation and self-efficacy (Chapter 12), which are inextricably linked to cognitive functioning. Chapter 13 provides similar guidelines and tips for teaching self-management strategies that focus on improving cognitive functioning in everyday work and other situations.

The last part addresses TSW consultation, which involves the monthly meetings between the Cognitive Specialist, the Employment Specialist, and the client. Chapter 14 focuses on consultation to overcome cognitive obstacles to the client's finding a job, and Chapter 15 addresses consultation about challenges to the client's keeping a job and doing his or her best on the job.

VOCATIONAL REHABILITATION

We focus primarily on the supported employment model because it has the strongest evidence base for improving work outcomes in people with serious mental illness. However, the TSW program has been shown to improve competitive employment when integrated into a variety of different vocational rehabilitation programs, including supported employment and other vocational programs.

Supported Employment

Most approaches to vocational rehabilitation have traditionally been based on a *train–place* approach, in which the primary emphasis is on training vocational and interpersonal skills for the workplace, often conducted in a variety of settings that may include simulated or sheltered work settings, followed by helping people find and keep competitive jobs. However, most individuals who participate in these programs never progress from the skills training stage to competitive work. Instead, they often languish in these settings, sometimes for years, or get frustrated and quit (Bond, 1992).

Supported employment was developed as an alternative to vocational programs based on the train–place philosophy, and thus it is sometimes described as a *place–train* approach. The emphasis in supported employment is on first helping individuals who want to work get competitive jobs as soon as possible and then providing the training and supports needed to help them keep their jobs or move onto other ones. Supported employment

is practical in that it focuses on helping people get jobs based on their preferences and skills (thereby maximizing the person's motivation to seek and keep work) and on enlisting natural supports that may be available to the person, such as family members, employers, or coworkers.

The most standardized and rigorously studied approach to supported employment for persons with serious mental illness is the *Individual Placement and Support (IPS) model* (Becker & Bond, 2004; Becker & Drake, 2003; Drake, Bond, & Becker, 2012; Swanson & Becker, 2011; Swanson, Becker, Drake, & Merrens, 2008), developed by Deborah Becker and Robert E. Drake. This model has also been adapted to help people with a recent onset of psychosis pursue educational goals, either in addition to or instead of work goals (Becker, Swanson, Drake, & Bond, 2016; Lynde, Gingerich, McGurk, & Mueser, 2014). As no other model of supported employment has been articulated to the level of detail even approaching the IPS model, and most of the research on supported employment has specifically evaluated this model, we use the term *supported employment* in this book to refer to programs that are based on or similar to the IPS model.

In IPS programs, the full range of vocational services are provided to a client by a single person, called an Employment Specialist. This range of services includes assessment of job interests and experience, job finding, and ongoing job support. Employment Specialists usually work full time on a supported employment team with at least one other Employment Specialist and a supervisor, with the majority of the work taking place in the community (Becker & Drake, 2003). With the exception of the following section, which is specific to supported employment, in this book we use the term *Employment Specialist* more broadly to refer to vocational rehabilitation counselors delivering any model of vocational rehabilitation.

Principles of Supported Employment

The IPS model of supported employment is governed by a core set of principles, which are described below.

1. *Zero exclusion criteria to participate in supported employment.* Vocational rehabilitation programs often have restrictive criteria for enrolling in services, such as ruling out people with substance use problems or unstable symptoms. In contrast, eligibility for supported employment is determined by the client's interest in working, regardless of other challenges he or she may be experiencing. People are viewed as capable of working and are provided with the supports they need to help them do so. The rationale for this principle is that everybody who wants to work deserves a chance (Beard, Propst, & Malamud, 1982) and that clinicians, vocational rehabilitation counselors, and standardized tests are not very accurate at predicting who is capable of competitive work (Anthony & Jansen, 1984).

2. *Integration of vocational and clinical services.* Vocational services are most effective when they are integrated with clinical services at the level of the treatment team. This includes Employment Specialists participating in regular, in-person meetings with the

treatment team to coordinate services. Other features of integration include colocation of offices and maintaining an integrated client chart.

The integration of clinical and vocational services has three broad functions. First, it maximizes engagement and retention of clients in vocational services because the Employment Specialist can collaborate with the clinical team to ensure initial contact with the client and can maintain engagement over time, including during periods when motivation to work may wax and wane (Mueser et al., 2004). Second, involvement in treatment team meetings can provide Employment Specialists with valuable information about clients' symptoms, medication side effects, and other challenges and about how clients manage their illness, which can inform the identification of job types and work settings that will support recovery. Employment Specialists can also convey information about how the person is functioning during the job search or at work, which can inform treatment decisions, such as medication changes to reduce side effects or fend off a relapse. Third, the presence of the Employment Specialist at treatment team meetings can ensure that the client's work goals are given the credence and attention they deserve and are not viewed as secondary in importance to symptom management or relapse prevention. This can contribute to a recovery-oriented culture of work shared by all team members and facilitate the Employment Specialist's obtaining valuable input from the clinical team regarding issues such as potential job leads or vocational supports (Becker & Drake, 2003).

3. *Focus on competitive work*. The goal of supported employment is competitive work, as opposed to sheltered or other types of work. Competitive work is defined as jobs that pay competitive wages, occur in integrated community settings, are "owned" by the person rather than the vocational program, and are not set aside for people with a disability (Cook et al., 2005). Client ownership of a job is distinguished from *transitional employment jobs,* which pay competitive wages but are secured by an agency that guarantees the quality of work to the employer (sometimes requiring a staff member to perform the job when the client is unable to) and which are fulfilled by clients for a temporary period of time in order to build up their work experience (Macias, Kinney, & Rodican, 1995). Client ownership of a competitive job is also distinguished from contract work obtained by a vocational agency and fulfilled by clients, such as *enclave jobs,* which pay competitive wages, and *sheltered employment,* which pays subminimum wages. This principle is based on client preferences for competitive employment over other types of paid work (Bedell, Draving, Parrish, Gervey, & Guastadisegni, 1998).

4. *Rapid job search*. The search for work begins soon after the client joins the supported employment program, typically within a month. This principle is based on research showing that the longer the job search is delayed, the less likely it is that the client will obtain a competitive job (Bond, Dietzen, McGrew, & Miller, 1995). Thus, clients are not required to participate in lengthy prevocational training or assessments. Instead, the Employment Specialist spends several weeks meeting with the client to collect information and develop a vocational profile for identifying job types and work settings, formulating a plan for finding the desired job, and determining the responsibilities of each person in the job search.

5. *Respect for client preferences.* The initial meetings between the client and Employment Specialist typically involve discussions about the types of jobs the client wants, as well as preferences regarding work setting (size and location of the business), work schedule (morning vs. afternoon or evening work hours), number of hours per week (part vs. full time), distance from work, and amount and type of social interactions required for job tasks. These meetings also include a review of the client's resumé to highlight relevant work history and available job references. Research shows that job tenure is longer when clients obtain competitive jobs that match their vocational preferences than when they do not (Becker, Drake, Farabaugh, & Bond, 1996; Mueser, Becker, & Wolfe, 2001).

In addition to identifying job preferences and relevant work experiences, the Employment Specialist and client discuss the nature of employment services desired, including when, where, and how often they will meet. This discussion also involves weighing the pros and cons of whether the client wants to disclose his or her mental illness to a prospective employer and, if so, the level of disclosure the person is comfortable with. The Employment Specialist helps the client weigh the pros and cons of disclosure to ensure that an informed decision is made and respects that decision, which can always be revisited in the future when new information is obtained during the job search. Research suggests that client disclosure of a psychiatric disorder to a prospective employer in supported employment is associated with better work outcomes (DeTore, Khare, Hintz, & Mueser, 2019).

6. *Systematic job development.* Employment Specialists continually develop relationships with a growing network of employers in their community. Aside from employers, they also network with other Employment Specialists and other people they encounter in their or their clients' everyday lives, including treatment team members, family members, friends, and their friends' networks, to identify job leads that are consistent with client preferences. By constantly being on the lookout for available work, Employment Specialists maximize their ability to help clients find jobs that match their interests and preferences.

7. *Follow-along supports.* After a job has been obtained, individualized job supports are provided by the Employment Specialist for as long as necessary. Ongoing supports include contacts with the client and employer (if the client has chosen to disclose his or her mental illness) and natural supports, such as family and friends. Follow-along supports are provided to address a wide range of client needs, such as learning new job tasks, helping clients solve problems at work, accessing their clinical treatment team, obtaining supervisor feedback regarding the performance of new job tasks, and negotiating job accommodations with employers to help clients improve their job performance. Many supports are delivered behind the scenes and off the work site. A higher frequency of job support contacts after obtaining work is associated with a longer job tenure (Bond & Kukla, 2011). If a job ends, the Employment Specialist helps the client learn from the experience and plan for the next work opportunity.

8. *Benefits counseling.* Concern about the impact of work on disability and health insurance benefits is an important issue for many clients contemplating or pursuing work

(MacDonald-Wilson, Rogers, Ellison, & Lyass, 2003). Providing practical information about this is critical to helping clients make informed decisions about seeking work and how much work they choose to do. Individualized benefits counseling includes discussion about the effects of work income on governmental disability and health benefits, as well as potential incentive programs that are designed to encourage work in special populations. Research shows that the provision of benefits counseling is associated with better employment outcomes (Delin, Hartman, & Sell, 2012; Rosen et al., 2014; Tremblay, Smith, Xie, & Drake, 2006).

Research on Supported Employment

Over the past two decades, extensive research has been conducted comparing supported employment for persons with serious mental illness with other vocational rehabilitation models. More than 25 randomized controlled trials (RCTs) have been conducted in the United States and abroad, with most of the studies evaluating the IPS model of supported employment (Bond & Drake, 2014; Bond, Drake, & Becker, 2012, 2020; Drake et al., 2012; Frederick & VanderWeele, 2019). One very large controlled trial comparing supported employment with usual services in Social Security Disability Insurance beneficiaries included more than 2,000 participants (Drake et al., 2013). All but one study focused on clients who wanted to work (Lehman et al., 2002), with most studies obtaining comprehensive information on all paid employment over a 1- to 2-year period.

The results of these studies provide overwhelming evidence for the effectiveness of supported employment over other vocational programs at improving a range of competitive work outcomes. For example, persons who are enrolled in supported employment programs are significantly more likely to obtain competitive work than those in other vocational programs, and as a result they tend to obtain more jobs, work more hours and weeks, and earn more wages. Rates of getting at least one competitive job for persons in supported employment typically range between 55 to over 75% over a 1- to 2-year period, compared with between 10 and 40% for individuals in other vocational programs.

Limitations of Supported Employment

Despite the strong evidence for supported employment, it does not help everyone who wants to return to work to find a job. Across all studies of supported employment, a significant number of clients never get a competitive job (e.g., 25–55%). Furthermore, among those who get competitive work, job tenure is often relatively brief, typically averaging 3–4 months, and many clients lose their jobs much more quickly, after only a few weeks. There is a variable pattern among the clients who lose their first jobs: Some clients go to another job or a series of jobs, culminating in one that is retained for a significant period of time; other clients have one or two unsuccessful job endings; and still others never get another job.

A variety of factors can contribute to the significant number of clients who don't get competitive jobs in supported employment programs, or who get jobs and lose them. Psychotic symptoms, depression, substance abuse, low educational level, limited prior work

experience, and lack of active follow-through by the client with employment services can all contribute to problems getting and keeping jobs. However, impaired cognitive functioning is one of the most important obstacles to competitive work for people in supported employment.

Among persons who are enrolled in supported employment programs, reduced cognitive abilities are related to lower success getting competitive jobs, fewer hours and weeks of work, and lower cumulative wages earned (McGurk et al., 2003, 2018; Mueser, 2000). When individuals with cognitive impairments do get jobs, they require more intensive supported employment services per hour of competitive work (McGurk & Mueser, 2006a; McGurk et al., 2003), driving up the cost of services associated with follow-along supports. Finally, individuals with more cognitive challenges have greater difficulty maintaining their jobs, and so they tend to have shorter job tenures than persons with more intact cognitive functioning (Gold et al., 2002). Thus, interventions that improve cognitive functioning have the potential to increase the number of people who benefit from supported employment and to increase the efficiency of vocational services by reducing the intensity of follow-along supports necessary to help individuals keep their jobs.

Other Vocational Rehabilitation Programs

Access to supported employment programs varies both within and across different states and countries. However, in most regions where mental health services are available, there are also vocational rehabilitation programs, and often multiple programs are available. Impaired cognitive functioning can interfere with the ability of people to benefit from these programs, as it does in supported employment. Some of the most common vocational programs are briefly described below.

Psychosocial Clubhouses and Transitional Employment

One of the oldest and most influential models of psychiatric rehabilitation was developed over 60 years ago at Fountain House, a psychosocial clubhouse in New York City devoted to helping persons with serious mental illness reclaim their lives (Doyle, Lanoil, & Dudek, 2013). A fundamental tenet of this approach is that work is an important part of everyday life and that everyone can benefit from working (Beard et al., 1982; Norman, 2006). Thus, vocational rehabilitation is incorporated into the model. The principles of the clubhouse model have been standardized, and a formal certification process has been established by the International Center for Clubhouse Development (ICCD; Propst, 1992), with hundreds of clubhouse programs now operating in the United States and more in other countries.

To prepare people to work, clubhouses are centered on the *work-ordered day,* in which *members* are given specific work assignments involved in running the clubhouse, such as food preparation, washing dishes, cleaning up the clubhouse, hosting visitors, or working in the accounting office. As individuals grow accustomed to performing jobs at the clubhouse, they become prepared to take the next step of working in *transitional employment jobs* in

the community. These jobs are obtained by the clubhouse, and they involve working at regular jobs that pay competitive wages. An individual may work in a transitional job for a limited period of time, such as 3–6 months (although longer periods are possible), before moving on to another transitional job to gain further work experience or on to an independent competitive job. A variety of entry-level transitional jobs are often available, such as work at a fast-food restaurant, clerical work in an office, working in a warehouse, or janitorial work.

The clubhouse model has a number of positive features (Henry, Barreira, Banks, Brown, & McKay, 2001; Macias et al., 1995; Rutman & Armstrong, 1985). By familiarizing themselves with work at the clubhouse, people can begin to develop a routine, which can prepare them for paid employment. Many individuals with psychiatric disorders have not worked for a long period of time and feel insecure about their ability to work in a paying job. Transitional employment can provide a remedy to these concerns by offering people the opportunity to build their work experience while providing a safety cushion of backup staff if they have difficulties completing their job responsibilities. Such work opportunities can also offer people a variety of different work experiences, which may be useful in choosing the types of jobs they would like on a more permanent basis. In addition to the many ICCD-certified clubhouses, there are other noncertified psychosocial clubhouses that have adopted the transitional employment model.

Work Enclave Programs

Work enclaves are jobs in which people with psychiatric disorders work together in a community setting. These jobs are usually developed by a vocational rehabilitation agency that obtains contracts to provide specific services for companies and then fulfills the terms of the contracts by employing individuals with psychiatric (or other) disabilities. For example, a work enclave might provide janitorial services at a number of office buildings, in which people with psychiatric disorders work in supervised crews to provide those services.

Most work enclaves pay competitive wages and offer a degree of community integration. At the same time, work enclaves can protect people from stressful demands on their work performance because the terms of the work are negotiated by the vocational rehabilitation agency. Work enclaves can also provide social support and a sense of camaraderie because coworkers share the common challenge of coping with a psychiatric disorder. SourceAmerica (formerly called National Industries for the Severely Handicapped) is one national nonprofit organization that assists companies in providing enclave positions that are set aside by the U.S. government for individuals with disabilities.

Consumer-Operated Businesses

In some communities, individuals with mental illness (or *consumers* of psychiatric services) own and operate businesses that employ other consumers. A wide variety of such businesses exist, such as coffee shops and clothing stores. Consumer-operated businesses offer the unique opportunity of working for and with other individuals with psychiatric disabilities,

who share the goal of promoting positive public attitudes toward mental illness, including the ability of such persons to work (Allen & Granger, 2004).

Social Enterprises

Social enterprises often have overlapping features with consumer-operated businesses. Social enterprises are businesses that are established for the primary purpose of providing employment opportunities to persons with serious mental illness, rather than for making money, although clearly they need to at least break even in order to succeed (Dewa et al., 2019; Ferguson, 2013; Gilbert et al., 2013; Mandiberg, 2016). The jobs provided in these businesses may serve as a training or learning opportunity that is eventually followed by competitive work in the community, or they may become an individual's permanent job. In contrast to consumer-operated businesses, social enterprises are not necessarily owned and operated by consumers, but such persons often have important roles in running the business.

Sheltered Employment

Sheltered employment (or *sheltered workshops*) is work that is conducted in a protected environment under the supervision of a vocational or mental health agency. It is intended to be free from many of the stresses associated with competitive employment in the community, while providing the structure and meaningfulness of work as a normalizing activity (Koletsi et al., 2009; Watzke, Galvao, & Brieger, 2009). In sheltered employment, people usually work at their own pace, receive lots of support and encouragement, and are paid based on the amount of work they produce rather than on an hourly wage. This usually results in wages below the minimum-wage level. Most sheltered employment programs provide some ongoing training and supervision with the goal of helping people move on to competitive employment, although such progression is not the norm (Bond, 1992).

Sheltered employment programs have dwindled in recent years, especially in the United States, as priority has shifted to newer models of vocational rehabilitation that attach greater importance to community integration. However, sheltered work programs continue to operate, such as in developing countries, where they may be the only viable option for any type of work for people with serious mental illness (Ito, Setoya, & Suzuki, 2012; Petersen et al., 2015).

Department of Veterans Affairs Compensated Work Therapy Programs

A range of different Compensated Work Therapy programs have been developed by the U.S. Department of Veterans Affairs (VA) with the broad goal of providing veterans with meaningful, paid opportunities with local businesses and industries. The availability of different vocational programs varies somewhat across VA centers, but they frequently include supported employment and transitional work programs. They may include prevocational employment options as well, such as incentive therapy and sheltered workshops. The veteran's choice determines which program a client is eligible for.

SUMMARY AND CONCLUSIONS

Competitive work is a common goal among people with serious mental illness, and work is associated with clinical benefits and an improved quality of life. However, despite the widespread desire for work and the benefits of work in terms of improved clinical functioning, financial standing, and self-esteem, employment rates remain very low in these individuals. Cognitive challenges are common in people with psychiatric disorders and interfere with their ability to achieve their work goals, even when they are receiving vocational services. To address this need, the Thinking Skills for Work (TSW) program was specifically designed to enhance cognitive functioning in people receiving vocational services in order to help them achieve their employment goals.

A wide range of different vocational rehabilitation programs have been developed to help people achieve their work goals. Among these different approaches, the IPS model of supported employment has the strongest evidence for improving work outcomes, with more than 25 RCTs conducted throughout the United States and abroad. Specifically, people who enroll in supported employment are more likely to get competitive work, to work more hours and weeks at competitive jobs, and to earn more money than people who receive other vocational services. Cognitive enhancement approaches, such as the TSW program, have the potential to improve the ability of people to benefit from vocational rehabilitation, including supported employment programs. The next chapter provides an introduction to cognition and cognitive enhancement methods, including methods employed in the TSW program.