

# Identifying relationships between functional limitations, job accommodations, and demographic characteristics of persons with psychiatric disabilities

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**Abstract.** *Objective:* Years after the passage of the Americans with Disabilities Act, little empirical information exists about the relationship between the functional limitations experienced by individuals with psychiatric disabilities, and related reasonable accommodations provided on the job.

*Design:* A multi-site, longitudinal study was conducted with 191 employees in 22 supported employment programs across 3 states during a 1-year study period. Data were gathered prospectively in a structured, narrative form designed to describe both the functional limitations and accommodations of participants.

*Results:* The most frequent functional limitations among this group of employed persons with psychiatric disabilities were cognitive in nature, followed by social, physical, and emotional/other. There was a significant relationship between the type of functional limitation and the number and type of accommodations received. There was a marginally significant relationship between type of functional limitation and a diagnosis of schizophrenia. There were no significant relationships between any other clinical or demographic factors, functional limitations or reasonable accommodations.

*Conclusion:* Functional limitations and their associated accommodations can be defined and categorized. Cognitive limitations were the most prevalent in this sample and the best predictor of the number of accommodations provided. Implications of these findings for accommodations under the ADA, eligibility for Social Security Disability benefits, and vocational assessment and planning are discussed.

**Keywords:** Functional limitations, psychiatric disability, reasonable accommodations, work

## 1. Introduction

The Americans with Disabilities Act (ADA) mandates that employers provide reasonable accommodations to employees with disabilities who need them

when their disabilities interfere with performing some aspects of a job. However, employers are only required to accommodate known physical or mental limitations in functioning that can be attributed to a medical condition [1]. While it may be relatively easy to identify the physical limitations and accommodations needed by employees with a physical disability, for people with psychiatric disabilities, the limitations and accommo-

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ditions are often times more ambiguous.

The areas of functioning affected by psychiatric conditions are believed to be in the social/interpersonal, emotional, and cognitive domains [8,15,16,19,23,28]. Interpersonal and emotional problems, more than the quality of work, are often cited as the main reasons that people with psychiatric disabilities leave jobs [2,27,29]. While there is some literature on social skills assessment and interventions for people with psychiatric disabilities [16,28], less is known about the emotional skills needed to be successful in the workplace. In many respects, the components of emotional functioning are the least well defined and least understood compared to physical, cognitive, or even interpersonal functioning. Hodel and colleagues [14] have recognized that people with schizophrenia and other psychoses lack skills in emotion recognition, processing, regulation, and expression [14,26]. Motivation and ability to experience pleasure are other emotion-related functions [14]. The field is just beginning to identify particular skills and limitations in this domain of functioning.

More recent literature has appeared on cognitive limitations in functioning, particularly related to people with diagnoses of schizophrenia. In a review of recent literature and meta-analysis, Green and colleagues [11,12] found that secondary memory, immediate memory, vigilance, and executive functioning were significantly related to social and occupational functioning and independent living. Visuo-spatial processing in particular was related to increased work functioning [4]. Verbal memory accounted for 20% of the variance in work performance in a vocational rehabilitation program while executive functioning as measured by the Wisconsin Card Sorting Test was related to amount of work performed [5,17]. Gold et al. [9] found no differences in neuropsychological function between individuals in a vocational study who became employed and those who did not, but cognitive measures, particularly intelligence, attention, working memory and problem solving were related to total numbers of hours employed.

While there is some understanding of the broader functions that are affected by psychiatric conditions, studies conducted to date do not identify specific work behavior limitations that are manifested in a competitive work environment necessitating accommodations or interventions such as skill development or development of accommodations.

Situational assessment instruments used in work situations for people with psychiatric disabilities have specified particular behaviors and skills relevant to the social, emotional, and cognitive domains of function-

ing [3,6,13,18,22,24]. Items common to these tools include: maintaining a consistent work pace, following directions, concentrating on work tasks, interacting with supervisors, responding to feedback, cooperating with coworkers, adjusting to changes in work routine, making decisions, prioritizing tasks, and initiating new tasks, among others. Most of these items fall into the social, emotional or cognitive domains of functioning.

In the disability determination process, the Social Security Administration assesses a person's residual functional capacities (RFCs) for work if the severity of the condition in the Medical Listings of Impairments is not met. The RFCs for mental impairments are similar to the situational assessment items above, and include the capacity to: 1) understand and remember job related procedures or instructions, 2) get along with the public, coworkers and peers and maintain appropriate social behaviors, 3) sustain concentration and persistence in order to complete a normal work day, and 4) adapt and be reasonably independent [25]. These limitations in functioning must be attributed to the psychiatric impairment in order for an individual to qualify for disability benefits.

One study mentions reasons for termination from jobs and possible accommodations that might have helped mitigate job loss. More than half of the individuals in supported employment jobs had unsatisfactory reasons for leaving (that is, they quit before being fired, or had been fired). The problems identified that led to leaving the job included interpersonal functioning, mental illness, dissatisfaction with the job, and quality of work [2]. Although these authors do not specify behaviorally oriented limitations in work functioning, they also asked those who left for unsatisfactory reasons what types of accommodations might have prevented job termination. The most frequently identified accommodations were flexible hours, and miscellaneous items such as more training, more support from the employer, more feedback, and different working conditions. These accommodations are similar to those named in other studies as being important [10,19,20]. Primarily, accommodations for people with psychiatric disabilities involve interpersonal support or human assistance from job coaches, supervisors or coworkers, flexibility in scheduling, or changes in training and supervision. And while one study on accommodations identified some of the limitations experienced by these employees [19], there has been no examination of the relationship between these limitations and specific types of accommodations to address those limitations.

To summarize, limitations in the domains of social/interpersonal, emotional, and cognitive function-

ing appear critical among people with psychiatric disabilities in the workplace. Recent ADA case law has underscored the need for specifying those limitations in major life activities caused by psychiatric conditions that are not alleviated by treatment [7,21]. Knowledge of these functional limitations is also central to the Social Security Administration's rules on determination of residual functional capacity of people with a mental illness [25]. In addition, a lack of understanding of these limitations interferes with the ability of professionals and people with psychiatric disabilities in efficiently and effectively identifying the needed skills, supports, and accommodations to improve employment success.

We conducted this study to investigate the relationship between the accommodations used and functional limitations experienced by employees with psychiatric disabilities and to develop a taxonomy of work limitations and accommodations. Our hypothesis was that certain functional limitations would be associated with specific job accommodations.

## 2. Method

This study was an exploratory, descriptive, longitudinal, multi-site investigation of functional limitations and reasonable workplace accommodations for individuals with psychiatric disabilities involved in supported employment programs.

### 2.1. Participants

At the time of the study, four participating vocational agencies in three states had a potential pool of up to 500 clients. The inclusion criteria for entering the study were: 1) having a diagnosis of a serious mental illness; 2) being involved in supported employment services; 3) having a job during the study recruitment period; and 4) having at least one functional limitation related to employment, and at least one reasonable accommodation provided by the employer. During the study period, 194 clients became eligible for and were enrolled in the study. Three individuals who were enrolled were later dropped from the analyses because of missing data.

### 2.2. Measures

A number of instruments were developed for the purposes of this study and completed by the service provider, unless otherwise indicated. They were pilot-tested and refined based on expert review.

- The *Client Demographic Questionnaire* was completed when participants entered the study. Data included information about the age, gender, marital status, educational status, living status, diagnosis, hospitalization history, health problems and employment status of each participant.
- The *Functional Limitation and Reasonable Accommodation Form* was completed each time a reasonable accommodation was made for a study participant. The form captured: 1) functional limitations, 2) type of accommodation, 3) cost, and 4) when the accommodation was identified, and who was involved in the development and implementation of the accommodation.
- The *Quarterly Update* was completed every three months after the client entered the study and included a subset of the information contained in the Demographic Questionnaire and the Functional Limitation and Reasonable Accommodations forms.
- The *SE Program Characteristics Form* was completed once by the program director at baseline. Data included information about program structure, staffing levels and backgrounds, program activities and clientele.

### 2.3. Procedures

Twenty-two sites nested within four agencies provided complete data on 194 employees with psychiatric disabilities who obtained jobs with one or more accommodations during the study period. Clients on whom data were collected received the services normally provided by each site; no intervention or service was changed for the purposes of this study. Data were collected at baseline, which was defined as the point at which the employee with a psychiatric disability obtained a job with one or more reasonable accommodations. Ongoing status assessments were completed for each study participant by service providers every three months for the next twelve months, or until the end of the study, whichever came first. These ongoing status assessments recorded any additional functional limitations that were noted relative to the individual's employment and accompanying accommodation provided. Programs were provided with training and operational definitions so that they could accurately capture functional limitations and reasonable accommodations data. Supported employment personnel were asked to record both the type of functional deficit or limitation that led to the need for reasonable accom-

Table 1  
Taxonomy of functional limitations by category and specific limitations

Domain	Category	Examples of functional limitations as provided by SE staff			
Social	Interacting with others	Interviewing/job search skills			
		– Disclosing previous difficulties			
		– Explaining past difficulties/limitations			
		– Describing work experience			
		– Presenting self positively/describing strengths/limitations			
		Communicating with supervisor			
		– Clarifying instructions			
		– Asking questions			
		– Explaining financial benefits			
		– Asking for help			
Social	Socializing with others	Socializing with others			
		– Conversing, making small talk			
		– Interacting with public/coworkers			
		– Giving orders			
		Responding to feedback/criticism			
		– Listening to feedback			
		– Asking for feedback			
		– Interacting with supervisors			
		– Displaying relevant affect			
		– Attending to personal appearance			
Social	Interpreting work/social cues	– Noticing social cues (dress code, etiquette)			
		– Recognizing personal space boundaries			
		– Choosing conversation topics			
		– Modifying routines			
		Emotional	Adjusting to work situations	– Meeting new people	
		– Identifying need for support			
		– Generalizing work performance			
		– Relaxing			
		Emotional		Managing symptoms/tolerating stress	– Managing/expressing anger
		– Regulating emotions			
– Managing internal distractions					
Cognitive	Learning the job	– Clarifying tasks			
– Understanding job tasks					
– Following instructions					
– Recognizing task standards					
– Completing tasks sequentially					
Cognitive		Concentrating	– Remembering work routine		
– Completing tasks through interruptions					
– Refocusing/redirecting attention					
– Sustaining attention					
– Screening out extraneous environmental stimuli					
Cognitive	Following schedule/attending work		– Returning from breaks on time		
– Scheduling appointments					
– Negotiating schedule changes					
Emotional			Assessing own work performance	– Judging work pace	
– Identifying areas of confusion					
– Comparing work performance to standards					
– Initiating areas of improvement					
Cognitive		Solving problems/organizing work		– Planning work tasks	
– Prioritizing tasks					
– Breaking down tasks					
– Making decisions about work tasks					
– Managing time					
Cognitive	Using basic language/literacy skills			– Reading job application/test questions	
– Telling time					
– Working independently					
– Asking for another task when one completed					
– Selecting new tasks					
Physical		Maintaining work stamina	– Maintaining work pace		
– Taking scheduled breaks					
– Completing tasks in time allotted					

Table 1, continued

Domain	Category	Examples of functional limitations as provided by SE staff
Physical	Miscellaneous*	<ul style="list-style-type: none"> <li>– Maintaining safe driving standard</li> <li>– Bending over/picking up heavy objects</li> <li>– Preventing physical injury</li> <li>– Availability of public transportation</li> <li>– Continuing Social Security/health insurance benefits</li> </ul>

\*Note: While we did not consider many of these functional limitations, they were listed by Supported Employment providers as functional limitations.

modation and a description of the accommodation itself. In an extensive process to develop a classification scheme, three research staff at the Center independently categorized functional limitations and accommodations. When agreement among the three raters did not exist, a consensus process was used to make the final classifications.

#### 2.4. Data analysis

This study used two methods to gather and analyze data. First, data were gathered prospectively on the characteristics of the employees, their jobs, and on the range of accommodations, functional limitations, environmental demands, and specific accommodations for each participant. Next, content analyses were conducted to identify the categories of functional limitations and reasonable accommodations. Finally, quantitative analyses were conducted to describe relationships between employee characteristics, jobs, limitations and accommodations.

### 3. Results

#### 3.1. Demographic characteristics of client participants

More than two-thirds of the sample (69%) was male, with ages ranging from 18 to 65 years, and an average age of 35 years ( $SD=9$ ). The participants were predominantly white (81%) and single (78%). In terms of education, 24% of the sample was reported as having less than a high school education, 36% had a high school diploma, 29% had at least some college or other post-high school education, and 9% held a Bachelor's degree or beyond. Educational status was unknown on 2% of the sample. About half were receiving SSI and half were receiving SSDI (some individuals received both). Thirty-nine percent of the group had a primary chart diagnosis of schizophrenia or other psychotic disorder, 23% had an affective disorder (including bipo-

lar and depressive disorders), 19% schizoaffective disorder, 16% other (anxiety disorders, personality disorders or miscellaneous), and 3% of diagnoses were missing. At baseline, 23% of the sample was reported to have a substance abuse problem. More than half (57%) of the group was reported to have a co-occurring condition, some having more than one. The most frequently reported co-occurring conditions were physical problems, learning disability, and mental retardation. Most participants in the study (87%) were taking psychotropic medications.

Data were also collected on hospitalization history. The mean number of months since the most recent discharge from a psychiatric facility was 36 ( $Mdn=24$ , range 0 to 216). The median number of weeks of the most recent hospitalization was 3 (mean=16 weeks) and participants had an average of 5 hospitalizations with a median number of 3 months (mean=12) spent in an inpatient facility in their lifetime. Seventeen percent of the sample was reported to have some involvement with the criminal justice system. Thirty-nine percent lived in supported or supervised housing, while 61% were in private housing (including living with family members).

#### 3.2. Employment status at study entry

Employees had worked an average of 14 months ( $Mdn=6$ ) in the five years prior to the study but eighty-seven percent of participants were unemployed when they first came to the agency for assistance. At recruitment into the study, which required that the individual be employed, participants were working an average of 18 hours ( $SD=10.13$ ) per week with a range of 2–40 hours per week. Among those that were employed, average reported earnings were \$109 ( $SD=\$70.04$ ) with a range of \$4 to \$320 a week.

#### 3.3. Classification of functional limitations

Table 1 contains the results of analysis and categorization of functional limitations. The functional

Table 2

Frequency of individuals in study ( $n = 191$ ) with different types of functional limitations<sup>1</sup>

Type of limitation	Number of individuals	Percent of individuals
Cognitive	126	70%
Social	91	41%
Emotional	50	26%
Physical/Other	61	32%

<sup>1</sup>There are more functional limitations than individuals in the study because each participant could have more than one limitation.

limitations were coded as: social (e.g., interacting with others); 2) emotional (e.g., managing symptoms); 3) cognitive (e.g., assessing one's own work performance); and physical (e.g., maintaining work stamina). Supported employment providers occasionally listed a problem that was external to the person as a limitation, such as lack of public transportation to the job site. All such problems were coded into a miscellaneous category because they did not meet the definition of a functional limitation.

Individuals in the study could have functional limitations in each of the four areas; they were not mutually exclusive. Table 2 presents the number and percent of individuals who had limitations in the cognitive, social, emotional and physical areas. Most employees had cognitive limitations, followed by social limitations, physical/other limitations, and emotional limitations. More than half of the individuals in the study ( $n = 105$ ) had more than one type of functional limitation.

### 3.4. Classification of reasonable accommodations

The reasonable accommodation was theoretically to flow from the identification of the functional limitation. A similar process of classification was conducted as described above for functional limitations. Reasonable accommodations were categorized broadly into: 1) the presence of a job coach, either on the job or in the hiring process (which we named "Human Assistance"); 2) flexible scheduling; 3) extra or modified training and/or supervision; 4) modified job duties; 5) and other.

### 3.5. Diagnosis and functional limitations

In theory, functional limitations can be attributed to (or caused by) the impairment, or the psychiatric condition of the client. We examined whether there was a relationship between type of functional limitation and diagnostic category. We collapsed all individuals with a diagnosis of schizophrenia, schizoaffective disorder

or other psychotic disorders into one category and all others into another category. A chi-square test revealed that a diagnostic category of schizophrenia was significantly related to cognitive limitations ( $\chi^2(1) = 5.97$ ,  $p = 0.01$ ). Fifty-nine percent (66/112) of individuals diagnosed with schizophrenia, schizoaffective, or psychotic disorder experienced cognitive limitations whereas 76% (60/79) of individuals without a diagnosis of schizophrenia had cognitive limitations. Other than these findings, there were no significant relationships between diagnostic category (schizophrenia or other psychotic disorders versus other disorders) and type of limitation ( $p > 0.10$ ).

### 3.6. Demographic characteristics and accommodations

We analyzed whether demographic characteristics of the clients served by the agencies would have any bearing on the number of accommodations provided. Using Wilcoxon Rank Sum tests for comparisons between groups, there were no significant differences between gender, race (white versus non-white), education level (high school graduate, some college, college graduate), diagnostic group (grouped into schizophrenia, schizoaffective or mood disorders), substance abuse (yes versus no), and length of employment, with respect to the number of accommodations provided per job (all  $p > 0.25$ ; data not shown).

We also analyzed whether demographic variables would have a bearing on types of accommodations provided. For each type of accommodation (human assistance, flexible scheduling, modified job duties, extra training/supervision on the job, we excluded "other" accommodations from this analysis) there were no significant differences in gender, race, education level, diagnostic groups, substance abuse, or months of previous employment with respect to the accommodation's occurrence, as assessed by Fisher's Exact test (all  $p > 0.05$ ).

### 3.7. Program characteristics and accommodations

Spearman correlations were conducted to determine if program variables such as number of staff, number of supervisors, number of clients served, number of contact hours per client, or staff/supervisor experience were related to the prevalence of each type of accommodation. There was a significant correlation between the number of accommodations involving flexible scheduling and supervisor experience. Specifically,

supervisors with more experience working with people who have a psychiatric disability and supervisors with more experience working in the program under study tended to have a greater number of clients with flexible scheduling ( $r = 0.519$ ,  $p = 0.027$ ;  $r = 0.555$ ,  $p = 0.021$ ) than did program supervisors with fewer years of experience. Other than these relationships, the number of each type of accommodation was not significantly related to the other program variables, including number of staff, number of supervisors, number of clients, number of contact hours, staff years of experience ( $p > 0.05$  for these correlations, data not shown). Further analysis suggested there were no significant differences by program site in number of accommodations provided (Kruskal-Wallis test,  $p = 0.427$ ), nor was there a relationship between client-to-staff ratio and number of accommodations ( $p = 0.264$ ) as we had hypothesized. In an analysis of type of accommodation by client-to-staff ratio, we found that flexible scheduling was provided when the ratio was high, but no other relationships between client-to-staff ratio and type of accommodation were discernible.

### 3.8. Functional limitations and reasonable accommodations

In order to determine which category of functional limitation was the most important in determining the number of accommodations received, a regression was performed on the number of accommodations provided, with 4 indicator variables representing type of limitation as the independent variables. All variables were highly significant in a forced-entry regression ( $p < 0.001$ ). The order in which variables were entered in a stepwise model was: cognitive, social, physical/other, and emotional.

To verify that this model was robust and would hold up when participants' limitations were more uncomplicated, we repeated the regression, but for only those clients who were reported to have exactly one functional limitation ( $n = 26$  for cognitive;  $n = 24$  for social;  $n = 17$  for emotional;  $n = 19$  for physical/other). All variables were significant at the 0.10 level in the following order of importance: cognitive, physical/other, social, and emotional.

In order to examine the relationship between number of functional limitations and the accommodations provided, clients were categorized according to whether or not they had 1 ( $n = 86$ ), 2 ( $n = 74$ ), 3 ( $n = 25$ ), or all 4 ( $n = 6$ ) limitations. The mean number of accommodations for each limitation was as follows:

clients with exactly 1 limitation had an average of 1.19 accommodations; clients with 2 limitations had 1.75; clients with 3 limitations had 2.28; clients with 4 limitations had 2.50, suggesting that as the number of functional limitations increased, there was a corresponding increase in number of accommodations provided. This was confirmed by an ANOVA comparing the four groups that was significant ( $p < 0.001$ ). Using Scheffe post-hoc comparisons, we found that clients with exactly 1 limitation had significantly lower mean number of accommodations than did clients with 2, 3, or 4 limitations. Clients with 2 limitations had significantly lower number of accommodations than did clients with 3 limitations.

We also examined functional limitations and their relationship to the provision of extra supervisor and/or coworker support (measured in hours per month) as part of the accommodation. In order to determine which limitation was the most important in determining the number of hours of co-worker and supervisor assistance received, a stepwise regression was conducted with 4 indicator variables representing category of limitations. The order in which variables were entered in a stepwise model was cognitive, physical/other, social and emotional (all met the 0.10 level of significance). As before, the above stepwise regression was repeated, but for only those clients who had exactly one limitation. Variables were significant in the following order of importance: cognitive, social, and physical/other (no other variables entered the model at a significance level of 0.10). Taken together, results of these regressions and those done on number of accommodations suggest that cognitive limitations are the strongest and most consistent predictor of accommodations.

The mean number of total extra coworker and supervisor hours per month provided per functional limitation was as follows: clients with 1 limitation received 1.73 hours of extra support; clients with 2 limitations received 3.64 hours; clients with 3 limitations received 6.40 hours; clients with 4 limitations received 11.58 hours. Not surprisingly, the overall ANOVA comparing the four groups was significant ( $p < 0.001$ ). Using Scheffe post-hoc comparisons, we found that the clients with one limitation had significantly lower mean total extra coworker plus supervisor hours than did clients with 2, 3 or 4 limitations.

In order to determine the type of accommodation most often brought to bear for different functional limitations, we examined the type of accommodation for all clients with exactly one limitation. We examined only the 2 most prevalent accommodations. There was

a significant difference across functional limitation categories with respect to the provision of human assistance and with respect to flexible scheduling, as assessed by a logistic regression ( $p < 0.001$ ). Individuals with functional limitations in the cognitive and social areas were more likely to receive accommodations involving human assistance (62% and 92%, respectively) while those with physical limitations were more likely to receive flexible scheduling (65%).

Finally, stepwise multiple regressions were performed in order to assess whether type of diagnosis and type of limitation were related to job tenure (number of months employed in a particular job) or to employment tenure (total number of months employed in various jobs during the study). No variables entered the stepwise models using a significance level of entry of 0.10, indicating that neither diagnostic category nor the type of limitation was significantly related to job or employment tenure.

#### 4. Discussion

This study is among the first to provide empirical data about functional limitations and reasonable accommodations for persons with psychiatric disabilities receiving services in supported employment programs. This study is also among the first to develop a taxonomy to classify functional work limitations. This taxonomy should be helpful in future studies wishing to classify and examine both functional limitations and their associated accommodations.

This study confirms recent literature suggesting that people with severe psychiatric disabilities have limitations in cognitive functioning that affect work performance (i.e., learning, memory, attention, executive functioning). We found that the largest proportion of functional limitations in this sample was classified as being cognitive in nature. Much of the earlier literature on functional impairments suggested that individuals with psychiatric disabilities experienced predominantly social, interpersonal or emotional limitations. More recent studies have begun to shed light on the nature and types of cognitive limitations people with psychiatric disabilities experience in relation to work [9, 12]. Our findings suggest that cognitive limitations are more common in the workplace than interpersonal or social limitations.

Surprisingly, in this study individuals diagnosed with a psychotic type disorder (schizophrenia, schizoaffective or other psychotic disorders) had somewhat fewer

cognitive and more emotional limitations needing accommodations than people without psychotic disorders. This finding was difficult to explain but we speculate that perhaps emotional limitations in the workplace became more salient (for example, adjusting to work, managing symptoms, tolerating stress, managing internal distractions) than cognitive limitations (for example, concentrating on the job, solving problems, organizing work tasks, initiating work tasks). Differences in how we defined and operationalized emotional and cognitive limitations for this study could also account for the differences we found compared to other studies. For example, some researchers have used categories related to emotion recognition, emotion processing, regulation, and expression [14,26] whereas we defined emotional limitations specifically in relation to workplace tasks. Further study is needed to examine these functions and their relation to work limitations experienced and to further investigate the relationship between diagnosis and type of functional limitations.

Conversely, we were not surprised by the large percentage of reasonable accommodations that involved human assistance, or the presence of a job coach, especially since this study focused on employees receiving services in supported employment programs. We found no differences in the number or type of accommodations provided by any demographic variable, by diagnosis, by co-occurring substance abuse problems, or any program-related variables, with the exception of supervisor experience. Supervisors with more experience in providing services tended more often to use the accommodation of flexible scheduling and this accommodation tended to be provided more often within programs having higher staff-to-client ratios.

We found that the presence of a cognitive limitation was the most consistent predictor of the number of accommodations provided, and that the presence of such limitations was also associated with the receipt of more co-worker and supervisor training and oversight. Individuals with multiple limitations received substantially more hours of supervisor and co-worker attention as part of their accommodations. There was a predictable relationship between the number of functional limitations described and the number of accommodations provided: that is, as the number of limitations increased the number of accommodation provided increased. We also found that social and cognitive limitations were most likely to be paired with accommodations involving human assistance while physical limitations were more likely to be paired with the accommodation of flexible scheduling. In general, the more limitations



one had, especially if they were cognitive or social in nature, the more likely that human assistance involving job coaches, coworkers, and supervisors, was provided. Furthermore, we found that neither diagnostic category nor type of functional limitation predicted job or employment tenure.

#### 4.1. Limitations of the study

This study focuses on employees with psychiatric disabilities participating in supported employment programs, working part-time in entry level, unskilled jobs, so that caution must be used in generalizing these findings to other groups of people with psychiatric disabilities, or those working in different types of jobs. These participants also tended to be Caucasian, in their mid-30's, and without significant co-occurring substance abuse disorders. In addition, approximately 60% of this group had a diagnosis of schizophrenia or schizoaffective disorder, and 40% had either mood disorders, or other disorders not typically considered to be severely disabling. Limitations reported also included physical limitations that were attributable to other physical or medical conditions, as well as resource deficits that were not related to functioning.

In spite of these study limitations, information about the functional difficulties and resulting accommodations for individuals with psychiatric disabilities is important, since under the ADA, accommodations must be provided only when there is a known mental, physical, or emotional limitation that is due to a disability. Service providers must be able to articulate the functional limitations needing accommodation so that they can more effectively serve clients seeking work. Knowledge of these functional limitations is also central to the Social Security Administration's new rules on determination of residual functional capacity of people with a mental illness, which are similar to the limitations identified in this paper. This study provides a preliminary taxonomy for this purpose.

Anecdotally, we found that supported employment personnel, though often trained in the tasks and behaviors needed in the workplace, needed a substantial amount of guidance and structure to accurately report functional limitations, and then to tie those limitations to an appropriate accommodation. This has important practice implications, since knowledge of specific functional limitations may assist providers in planning accommodations and other supports to improve success in employment outcomes. Further study is necessary to examine the nature of these work limitations and their relationship to cognitive, social, emotional, and physical functioning, as well as to employment outcome.

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