Students with Psychiatric Disabilities on Campus: Examining Predictors of Enrollment with Disability Support Services

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Abstract

Because of advances in psychotropic medications, psychiatric rehabilitation methods, the implementation of civil rights legislation, and empowerment movement of consumers with psychiatric disabilities, students with mental illnesses are increasingly able to access and complete higher education. Disability services offices on college campuses can be an important resource to these students. This article reports the results of a survey of disability services offices at colleges and universities in 10 states. Data were collected from 275 disability services offices regarding the number of students with psychiatric disabilities seeking assistance, characteristics of the disability services office, and the services provided. We tested a multivariate model examining the relationship between a set of predictor variables (characteristics of the school and disability services office) and the number of students with psychiatric disabilities enrolled with the disability services office. Significant predictors included size of school, school type, and having an outreach/recruitment policy regarding students with psychiatric disabilities. Also significant were several characteristics of the disability service office.

Although the rights of students with psychiatric disabilities to higher education have been established for several years, barriers in the college environment can prevent students from taking full advantage of their rights. Disability services offices have a pronounced role in providing the needed supports for students with psychiatric disabilities, as well as for students with other types of disabilities. In earlier work we examined state policy regarding supporting students with psychiatric disability in higher education (Collins & Mowbray, 2005a). We also have reported descriptive data from a survey of disability services offices regarding the services provided and the number of students served (Collins & Mowbray, 2005b). In this article we utilize this survey data to test bivariate relationships and a multivariate model predicting the number of students with psychiatric disabilities served by disability services offices.

Literature Review

It is unknown how many students with psychiatric disabilities are in post-secondary education. Some researchers suggest that the combination of a rising population of younger adults with a psychiatric diagnosis and a growth in the number of nontraditional students, including those with disabilities, has led to an increase in the number of college students with mental illness (Mowbray, Megivern, Mandiberg, et al., 2006). Several factors have likely interacted to lead to increasing numbers of students with psychiatric disabilities on college campuses. Federal protections via Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990 protect these students from discrimination in higher education. Developments in the recovery movement and self-determination provide the context for an empowered approach (Carpenter, 2002; Cook & Jonikas, 2002). Advances in medications and effective psychiatric rehabilitation methods make it

increasingly possible for individuals with a psychiatric disability to undertake and succeed at the challenges related to higher education (Haefner & Maurer, 2000; Harrington & Clark, 1998). Specific interventions, such as supported education, provide programming supports to assist in enrollment and completion (Collins, Bybee, & Mowbray, 1999). Moreover, individuals themselves increasingly recognize their potential for higher education. For example, Stein (2005) studied college aspirations, perceived ability, and supports of adults with serious mental illness. These consumers expressed strong aspirations for college, positively assessed their intellectual abilities and reported mixed feelings about their emotional capacity to attend college. Also, they were optimistic about the level of acceptance they expected from faculty as well as students and support from family and friends if they decided to attend college.

Yet barriers to accessing and completing higher education remain. Across several studies, students with mental illness reported the following as individual barriers to succeeding in higher education: side effects of psychotropic medication, poor concentration, and the cyclical nature of their illness (Mowbray, Bybee, & Collins, 1999; Unger, 1993; Loewen, 1993; Weiner & Wiener, 1996). In addition, numerous structural obstacles exist: interpersonal discrimination (lack of awareness or understanding of mental illness by faculty and peers), gaps in service provision (lack of campus-based mental health services or information about disability services), and difficult social relationships due to fears of stigma following disclosure of illness (Loewen, 1993; Unger, 1994; Weiner & Wiener, 1996; Stanley & Manthorpe, 2001). Moreover, there are greater challenges regarding diagnosis and documentation for psychiatric disabilities compared to other types of disabilities (Gordon, Lewandowski, Murphy, & Dempsey, 2002).

Recently, Megivern, Pellerito and Mowbray (2003) conducted a study specifically designed to examine barriers to higher education for individuals with psychiatric disabilities. Using qualitative methods, they determined that academic performance was related to psychiatric symptoms, which subsequently led to college attrition. Yet, the data also revealed that many participants in the study showed persistence in pursuing their academic goals; nearly two thirds enrolled in college at least three times and intended to pursue higher education in the future. Few had disclosed their psychiatric disability to faculty or staff at their college or university. Similarly, over 90 % had not sought assistance from campus-based counseling services or the disability services office. The authors suggest that students may perceive the disability services office as reserved for people with physical disability or staff in these offices may lack knowledge or competence regarding the needs of students with psychiatric disabilities. A recent review suggested all the aforementioned barriers continue to exist and suggested that college mental health services have yet to adapt to effectively serving these students (Mowbray, Megivern, Mandiberg, et al., 2006).

Disability services offices exist in most community colleges and four-year institutions of higher education and can play a key role in helping students with disabilities access and remain in higher education (Enright, Conyers, & Szymanski, 1996). Megivern (2002) noted that provision of disability-related services to college students with psychiatric disabilities has several challenges, including identification and outreach to students, specification of appropriate academic accommodations, and creation of linkages between disability services and other mental health related service providers. In a study of undergraduates with psychiatric impairments, she found that while mental health service utilization was common among participants, they were not likely to have used campus-based disability services. Specifically, nearly all (97%) were involved in outpatient therapy, but only 47% had sought services from the university counseling center in the past year and only two respondents (4%) received services from the disability office. Few students were even aware that there was a campus disability office or that the office would serve students with psychiatric disability.

Another support that may be available to students in some localities is a supported education program. In general, supported education is a psychiatric rehabilitation intervention that provides assistance, preparation, and support to persons with mental illness in enrolling and completing a postsecondary educational program. Although supported education programs may vary in their approach, they are designed to assist individuals in making choices about education and training, help them get into a selected education or training program, and assist them in maintaining their student status in the program until their goals are achieved (Mowbray, Brown, & Szilvagyi, 2002).

Mowbray, Megivern and Holter (2002) conducted a survey of all identified supported education programs in the United States to examine the current status of these programs. One hundred and three programs participated in the survey and the authors concluded the supported education programs were doing well and expanding. Differences were found in the variety and

scope of program offerings, number of participants, level of involvement, staffing, and funding levels. Such programs may be based on a college campus or in a community setting that provides linkage to the campus. Increasingly, several models of supported education are arising, often reflecting collaboration between service providers in the community and campuses (Hain & Gioia, 2004; McDiarmid, Rapp, & Ratzlaff, 2005 Weiss, Maddox, Vanderwaerden, & Szilvagyi, 2004).

Conceptual Framework

To investigate sources of variation in how colleges and universities respond to students with psychiatric disabilities, our inquiry utilized the theoretical framework of the new institutionalism (DiMaggio & Powell, 1983, 1991). Education has been widely researched within this framework in part because it is a field with a strong institutional context and weak technical environment (Scott, 1987). Characteristics of the new institutionalism include a tendency of organizations to persist rather than change, to conform to the larger field (i.e., higher education) rather than innovate, and to become increasingly homogenous to similar organizations (DiMaggio & Powell, 1991). Components of organizations (e.g., disability services offices) also show homogeneity and stability. The legitimacy of organizations is obtained from conformity to the overall field; deviations or innovations can present costs to legitimacy (Meyer & Rowan, 1983).

Disability services offices appear to have become a legitimized component of postsecondary institutions but may serve as myth and ceremony (Meyer & Rowan, 1983); that is, although these offices have become institutionalized within the academic environment, they may lack the ability to operate effectively and efficiently. True inclusion of students with psychiatric disabilities would be a major change in higher education and has not yet fully taken place. A simplified framework is provided below that identifies key concepts and examples of variables to measure the concepts.

Figure 1:

Conceptual framework

Independent Variables	Intervening Variables	Dependent Variable
Coercive processes	*Outreach efforts of disability offices*	
- laws/statutes		
- advocacy community	- orientation for students	
- response to media accounts	- information to faculty	# of students w/psychiatric disability registered in disability services office
Mimetic processes	*Student supports provided*	
- institutional type/mission	- supported education	
- regional initiatives	- support groups	
Normative processes	*Written products developed*	
- access to prof. training	- existence of brochures/handbooks	
- sharing of prof. resources	- website information	

In a previous paper we examined primarily the "coercive processes" with an analysis of state policy relevant to supporting individuals with psychiatric disabilities in higher education (Collins & Mowbray, 2005a). In the current study we examined the visibility of the disability services offices and addressed the role of these offices as an intervening variable between the school context for students with psychiatric disabilities and the number of students enrolled in disability offices. Multivariate regression analysis was used to predict the independent variable: number of psychiatrically disabled students enrolled in disability services offices. A set of predictor variables included contextual variables: school type, school size, tuition per year, school policies. A second set of predictor variables focused on intervening variables related to the visibility of disability support services. These variables included the characteristics of the disabilities services office and the services provided.

Method

Sample Selection

Ten states were selected for study. Earlier research had identified existing supported education programs in each of the 50 states (Mowbray, et al., 2003). Using this information we selected five states that had three or more supported education programs and identified a similar state (geographic area and population size) with no known supported education programming. The five states with three or more supported education programs included Massachusetts, Michigan, North Carolina, Utah, and California. The five matched states with no known supported education programs included: Maryland, Indiana, Georgia, Iowa, and Oregon.

In each of the 10 states postsecondary institutions were identified through a search of the National Center for Education Statistics database (www.nces.ed.gov). This database identified all institutions in the state and provided the city and size of the student population. The list of schools was stratified into two-year public, four-year public, and four-year private. The list also included two-year private schools, but these were not included in the present study. In all states, except California, all schools with more than 1,000 students were included in the sample. Because of the large number of schools in California, 50% were randomly selected for inclusion in the study. A total of 587 schools were identified and constituted the sample.

Survey Instrument

The survey used was eight pages long and consisted of six main sections: descriptive characteristics of the disability services office, school policies regarding students with psychiatric disabilities, understanding of state and federal policies regarding this population, services provided by the school to students with psychiatric disabilities, access to supported education programs, and number of students with psychiatric disabilities served by the disability services office and the types of psychiatric disorder. A limited number of open-ended questions were also asked to gather brief qualitative responses.

Instructions printed on the survey indicated that the survey should be filled out by the person with the most knowledge regarding support services for students with psychiatric disabilities. Psychiatric disability was defined as "a mental impairment that limits one or more major life activities. Psychiatric disabilities include, but are not limited to, depression, anxiety, schizophrenia, and autism."

Survey Procedures

The websites of the 587 target institutions were searched to identify the appropriate contact to receive the mail survey. This task involved searching for the disability services office or the student support services office and identifying its address and director. Although this was a straightforward process in some cases, in approximately half of the cases disability services were housed within another type of entity (e.g., Academic Enrichment Center), and in many other cases a specific individual was not identified as the director. Thus, some surveys were mailed to a generic "Director" at the office we identified as serving disabled students. In cases where neither disability services nor student support services offices were identified, the letter and survey were addressed to the Dean of Students.

After appropriate addresses were found, the surveys were mailed in spring 2002 to the 587 schools. The mailing included the survey, cover letter, and a return postage paid envelope. A follow-up postcard was sent 2-3 weeks after the initial mailing. Additionally, in mid-summer we contacted via email or telephone all persons or offices that had not returned a survey. Response rates are provided in Table 1.

Table 1

Response Rate by State and Type of School

	# Schools in Sample	# Surveys Returned	Response Rate
Utah	11	7	64%
Indiana	48	27	56%
North Carolina	89	50	56%
California	94	48	52%
Oregon	27	14	52%
Iowa	37	18	49%
Georgia	78	35	45%
Massachusetts	74	31	43%
Maryland	39	16	41%
Michigan	79	26	33%
Two-year public	247	127	51%
Four-year public	121	61	50%
Four-year private	217	83	39%

Analysis Strategy

Analysis first examined differences in services by state and school type. The dependent variable then was examined by contextual variables (state, school) and services provided. Further analysis examined several predictor variables, organized within the larger contextual variables: state, school type, size, tuition, and school policies regarding students with psychiatric disabilities. The second category focused on specific characteristics of the offices and the services provided: designated disability services office, the number of full-time equivalent (FTE) personnel in the disability services office, whether there was a specialized person with experience in psychiatric disabilities, access to supported education programming, referral source, and types of services provided. Additionally, a composite average was computed from the list of possible services (scale: 1 = do not at all provide to 4 = definitely provide).

Results

The number of enrolled students with psychiatric disabilities (as identified by the disability services offices) ranged from 0 to 420, with a mean (M) of 40.91, a standard deviation (SD) of 60.27, and a median of 17. Slightly over half of the respondents (57%) reported these figures to be estimates. The most common psychiatric disorder reported was anxiety (34%), followed by affective disorders (25%), psychotic disorders (15%), mixed disorders (15%), "other" disorders (5%), and eating disorders (3%).

Contextual Variables: State and School

Table 2 provides the bivariate results examining the relationship of the dependent variable and the contextual variables. As illustrated, the number of students was related to each of the contextual variables: state, school type, size, and annual tuition. Significant differences were found between states ($F = 5.90$, $p<.001$). The greatest number of students with psychiatric disability were found on campuses in the states of California (M = 91 per campus), Utah (M = 65), Oregon (M =58), Massachusetts (M = 40), and Michigan (M = 34). States in the lower half included: North Carolina (M = 31), Indiana (M = 30), Maryland (M = 26), Iowa (M=18), and Georgia (M = 11).

School type was also related to number of students with psychiatric disability ($F = 9.29$, $p<.001$). Specifically, two-year public and four-year public schools both reported an average of 52 enrolled students, compared to 18 at four-year private schools. School size (as measured by number of students) was positively correlated with the number of students with psychiatric disability ($r =.46$, $p<.001$); annual tuition was negatively correlated with the number of these students ($r = -.23$, $p<.01$).

Schools reporting having specific policies regarding outreach/recruitment, documentation, and leave of absence, with regard to psychiatric disability reported more students enrolled, with the difference for outreach being significant at the .05 level. Also, while there was no difference between those reporting the schools' support for such students, there was a difference regarding the perceived change in support for these students. That is, in schools where the respondent's perception was that the support for students with psychiatric disabilities was increasing, the mean number of students was 55 compared to 22 at schools where the level of support was the same or decreasing ($t = 4.98$, $p<.001$).

No relationship was found between the number of reported students and the offices' difficulty interpreting federal policy regarding disability rights. However, there was a negative correlation between difficulty interpreting state policy in this regard; offices reporting greater difficulty reported fewer students.

Characteristics of the Disability Services Office

Table 3 provides the bivariate analysis from an examination of the relationship between the dependent variable and the characteristics of the disability services office. As illustrated, characteristics of the office associated with a higher number of students with psychiatric disabilities include having a specific office for disability services, greater number of FTE staff in the disabilities services office, having staff with special qualifications in psychiatric disability, referral of students from student services, and having access, training, and knowledge about supported education.

In schools that had a specific disability services office, the average number of students with psychiatric disabilities was significantly greater than in schools without a specific office. Specifically, the average number of enrolled students with a psychiatric disability was 68 at schools with a specific office and 23 at schools without a specific office ($t = 6.28$, $p<.001$). Additionally, the size of the office, as measured by number of FTE staff, was positively correlated with the number of enrolled students ($r = .50$, $p<.001$). Having staff in the office with specific qualifications in psychiatric disability was related to the outcome variable; however, having specialized staff specifically assigned to students with psychiatric disabilities was not significant. Finally, most referral sources were not

Table 2

Bivariate Relationships: Contextual Variables
Relationship with Dependent Variable - # Students with Psychiatric Disability (PD)

	N	*M*	*SD*	
State				F = 5.90***
School type				F = 9.29***
Four-year private	80	17.90	37.75	
Four-year public	60	52.10	71.94	
Two-year public	120	52.38	64.03	
Size (# students)				r = .46***
Annual tuition				r = -.23**
Difficulty interpreting federal policy				ns
Difficulty interpreting state policy				r = -.13*
School has specific policy for PD				
Outreach/recruitment				t = 3.22*
Yes	42	77.19	84.75	
No	216	33.62	51.01	
Documentation				t = 1.72, p<.10
Yes	201	44.71	63.49	
No	57	29.14	48.36	
Leave of absence				t = 1.71, p<.10
Yes	33	66.67	95.84	
No	224	37.54	52.89	
Dismissal				
Yes	30	62.63	96.57	ns
No	226	38.60	53.96	
Perception of schools level of support for students w/PD				ns
Supportive	245	41.74	59.92	
Unsupportive	15	46.47	81.05	
Perception that school's level of support is changing				t = 4.98***
Increasing support	154	55.44	71.76	
Decreasing/same	103	22.40	32.99	

* <.05, **<.01, ***<.001.

related to the outcome variable, with the exception of referral from student services, which was significantly correlated.

Among schools that had a supported education program in the area the average number of students with psychiatric disabilities was significantly greater (M = 56.71) than in schools without an available supported education program (M = 31.25; t = 3.09, p<.01). Having staff with training in supported education was also related to the outcome variable; however, when comparing the impact of on-campus versus off-campus supported education programs, there was not a significant difference in number of enrollments. The level of personal knowledge/experience with supported education of the respondent was negatively correlated with the dependent variable, but his/her personal orientation (i.e., level of enthusiasm) toward supported education was not related.

Finally, the numbers of students with psychiatric disabilities was positively correlated with the number of specific services provided by disability services offices (r=.25, p<.001). When individual types of services were examined, the following seven services provided by the disability services offices were positively correlated with the number of psychiatrically disabled students: a) presenting to faculty regarding psychiatric disability issues and services; b) providing information to administrative staff and resident assistants regarding psychiatric disabilities and available services; c) organizing support groups for students; d) distributing brochures, pamphlets, and materials to faculty and staff regarding psychiatric disabilities; e) conducting or cosponsoring special workshops/group presentations regarding psychiatric disabilities; f) providing accommodation letters; and g) providing individual support for students.

Multivariate Analysis

Variables that were significant in the bivariate analysis were considered for testing in a multivariable model. Considerations of parsimony led to some decisions regarding variable inclusion. Missing data were imputed when the percent of missing data was minimal (2% or less), and conservative estimates were used. For example, it was assumed that a service was not provided if the data were missing. Mean average tuition was imputed based on the mean for the type of school: $1,154 for two-year public, $2,916 for four-year public, and $16,352 for four-year private.

A three-stage hierarchical model was tested. In the first stage, the size of the school (as measured by number of students) was entered; this variable was clearly correlated with the outcome variable. In the second stage other school characteristics were added to the model: type of school (two dummy variables for four-year private and two-year public), amount of tuition per year, whether the school had outreach/recruitment policies related to students with psychiatric disability, and whether support for these students was perceived to be increasing.

The third stage of the model included variables related to the disability services office and the services provided. These variables included whether there was a specific office for disability services, the number of FTE staff in the office, whether any staff had specific qualifications regarding psychiatric disabilities, the percent of referrals received from student services, whether there was any supported education programming in the local area, whether anyone in the disability services office had specific training in supported education, whether the respondent had knowledge or experience with supported education, the number of services provided by the disability services office for students with psychiatric disabilities, and some of the specific services that the office provides for this population (those services found to be significant in the bivariate analysis).

The model was trimmed of some of the nonsignificant variables as well as those with high intercorrelation. In particular, the specific services and the average number of services provided were nonsignificant and thus, not included in the final model. Table 4 provides the results of the multivariate model. Variables that were significant in the final model included school size (ß = .27, p<.001), two-year public (compared to four-year public) (ß = .15, p<.05), having an outreach policy (ß = .11, p<.05), perception of the school as increasingly supportive of students with psychiatric disabilities (ß=.11, p<.05), number of FTE staff in the disability services office (ß = .20, p<.01), whether any staff had specific qualifications regarding psychiatric disabilities (ß = .12, p<.05), and whether someone in the disability services office had training in supported education (ß =.14, p<.05).

Table 3

Bivariate Relationships: Characteristics of Disability Services Office Relationship with Dependent Variable - # Students with Psychiatric Disability (PD)

Specific office for disability services	t = 6.28***
FTE in disability office	r = .50***
Any staff w/special qualification regarding PD	t = 3.38***
Specialized staff assigned to PD	ns
% referred to disability services by …	
self	ns
student services	r = .18**
faculty	ns
mental health/counseling	ns
Any supported education (SE) in the area	t = 3.08*
Any staff w/training re SE	t = 2.86**
Personal knowledge/experience with SE	r = -.22***
Orientation toward SE	ns
Average number of services provided	r = .25***
Specific services provided for students with PD:	
Informing students of services for PD at student orientation	ns
Presenting to faculty regarding PD issues and services	r = .23***
Providing info to admin staff and RAs regarding PD and available services	r = .18**
Assisting students in obtaining documentation	ns
Organizing support groups for students with PD that meet on campus	r = .28***
Providing referral information about specific mental health providers on campus	ns
Providing referral information about specific mental health providers off campus	ns
Distributing brochures, pamphlets, materials to students regarding PD	ns
Distributing brochures, pamphlets, materials to faculty/staff regarding PD	r = .20**
Putting on or cosponsoring special workshops/ group presentations regarding PD	r = .32***
Providing accommodation letters	r = .13*
Individual support for students	r = .14*

* <.05, **<.01, ***<.001.

Table 4

Multivariate Model - Predicting the Dependent Variable
 # Students with Psychiatric Disability (PD)

Variable	*B*	*t*	Significance
Constant		-2.73	.007
School size	.27	3.67	.000
Four-year private	.03	0.47	.639
Two-year public	.15	2.13	.034
Outreach/recruitment policy	.114	2.16	.032
Perceived increasing support for students w/PD	.108	2.08	.038
Specific disability services office	.088	1.51	.133
# FTE staff	.199	3.09	.002
Any staff w/spec qualification re PD	.116	2.27	.024
Any SE in area	.059	1.07	.284
Anyone in disability services office w/SE training	.136	2.50	.013

Model *R* Square = .374

Discussion

This study identified the contextual and service-related variables related to students with psychiatric disabilities seeking assistance from disability services offices. Although at institutions of higher education, we anticipated that school size would be correlated with a greater number of students with psychiatric disabilities on campus (because more students on campus equates to more students of every type of characteristic), size of campus may have competing influences on the number of students with psychiatric disabilities. To some extent, large student bodies may result in fewer numbers of psychiatrically disabled students because of perceived stressors in large campus settings and a lack of individualized attention. On the other hand, large settings can provide the resource infrastructure that allows for more services to the population of psychiatrically disabled students. The importance of many characteristics related to the resources of the disability services office suggests the latter explanation may be stronger.

This is further borne out in the evidence regarding the importance of both two-year public schools and four-year public schools in relation to four-year private schools. While both were significant in the bivariate analysis, in the multivariate model that controlled for school size it was the influence of the 2-year public schools that remains significant. This clearly speaks to the important role these institutions play in providing access to higher education. Additionally, these data on type of school suggest that private universities must do more to enhance opportunities for students with psychiatric disabilities.

Other variables in the contextual campus environment that were significant in the multivariate model included, having an outreach/recruitment policy for students with psychiatric disabilities and the perception that the college/university environment is increasingly supportive of these students. Both of these variables are indicative of a visible and proactive approach to making the campus a welcoming environment for these students. Other, more reactive, campus policies (e.g., documentation) regarding students with psychiatric disabilities were not predictors of enrollment in the multivariate model.

The final three significant variables in the model were related to the size of the disability services office in terms of number of staff, whether some staff members had special qualifications regarding psychi-

atric disabilities, and whether anyone in the disability services office had training in supported education. Although in the bivariate analysis several specific services offered by the disability services office were correlated with the dependent variable (presentations to faculty, information to administrative staff and resident assistants, support groups on campus, distributing information to faculty/staff, sponsoring workshops, accommodation letters, and individual support for students), these individual services did not contribute to the overall model. Similarly, the average number of services provided did not make a difference either. It appears that the value of these specific services is subsumed under the importance of the staff size and training within the office. Notably, while having supported education programming in the local area did not contribute to the model, a more important factor was having someone in the office with supported education training. As a whole, these findings suggest staff training is a key factor for disability services office, more so than any specific service provided. However, it may not be the effect of training per se that is important, but rather it may be an observable indicator of an underlying factor such as "commitment" to students with psychiatric disabilities. An organization that has this commitment will hire staff with expertise or pay for existing staff to develop this expertise.

Although the state was found to be a significant variable at the bivariate level, we did not include it in the multivariate model, choosing instead to focus on the school and disability services office characteristics. The state policy environment may influence the provision of supportive services at schools and universities, but the mechanisms by which this occurs are unclear. Our earlier research (Collins & Mowbray, 2005a) indicated that states did not have specific policies to address the issues of persons with psychiatric disabilities in higher education. Rather, the focus of states was implementation of federal policies (ADA, Rehabilitation Act, IDEA). Special initiatives were primarily local rather than statewide. Mimetic processes may be at work within states; that is, among the educational institutions within a state there may be more opportunity for networking, sharing of ideas and resources, and professional training that may lead to more knowledge and infrastructure in some states rather than others. In addition, widespread community college systems in states such as California may be a partial explanation for state differences. Bateman (1997) noted that most efforts to support students with psychiatric disabilities in college are based on the independent efforts of postsecondary institutions and providers of rehabilitation services. There has been little research on the systematic development of statewide efforts that would allow for a more integrated approach. More effort to develop these statewide systems may be needed in order to support the efforts of postsecondary institutions in addressing the needs of students.

Study Limitations

A cross-sectional survey has inherent limitations, and these limitations occur in this study. In particular, as noted in the discussion of findings, the direction of the relationships cannot be determined. Do the services develop because the number of students on campus warrants the development and delivery of services or, does the visibility of the office and provision of services lead students to enroll with the disability services office? This study cannot determine the causal direction of that relationship. The reality is likely to be a combination of both effects.

The dependent variable, number of students with psychiatric disabilities enrolled in the disability services office, was identified to be an estimate by respondents in 57% of surveys. We did not gather information to assess the accuracy of the estimates given. Even when such data are documented in files, however, there can be errors to the reports given. In conducting this analysis we have assumed that the estimates given were reasonable and thoughtful rather than casual, and we see no reason why an individual would purposefully inflate or deflate the estimate, but we have no way of knowing for sure.

Further research could serve to add depth to the issues raised in this study. At the individual school level, such research might take the form of needs assessments and program evaluation so that disability services professionals could determine the best mix of services for the student population. Schools could develop new methods to enhance the visibility of their services and conduct research to determine whether these methods result in greater enrollments with disability services. Schools might also examine the retention of students with psychiatric disabilities and the impact of disability support services on retention. Other research should continue to examine the influence of the contextual environment at the level of the state (supportive policies such as financial aid), locality (supportive programs such as collaborations between community mental health agencies and colleges), and school (policies and "messages" that convey welcome and support to students with psychiatric disabilities).

Conclusion

Students with psychiatric disabilities are an increasing presence on college campuses. The rights of these students to higher education and its subsequent economic benefits are undisputed. Research has recognized the challenges that these students face and the importance of support services to their success. Some students may have enough supports from other sources so that they do not require the services of disability services offices. For many, however, these offices play a vital role. The study reported here demonstrates some of the characteristics of schools and disability services offices that are related to a higher number of students enrolled. Both the climate of the school environment and the number and training of staff within the disability services offices have been identified as key factors. Schools looking to do more to engage students with psychiatric disabilities can be guided by these findings.

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