

Facilitating Successful Transitions into STEM
Fields for Students with Psychiatric Disabilities

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Changing Student Demographics

- Increased numbers of students are diagnosed with psychiatric disabilities at the secondary level due primarily to the IDEA act
- Academic accommodations at the secondary level have increased academic success allowing for matriculation
- New medications have more effectively treated many psychiatric conditions facilitating academic success
- Admissions policies resulting in a more diverse student population (e.g., automatic admission of students completing 2 years of Community College)

Increasing Numbers of Students Requesting
Accommodations for Psychiatric Disabilities

- Dramatic rise over past decade, continues (Chmielewski, 2002; Eudaly, 2003; Rickerson et al., 2004; Sharpe et al., 2004)
- Estimate postsecondary students with psychiatric disabilities 15-20% of all students reporting disabilities (Rickerson et al.)
- True percentage of students with psychiatric disabilities unknown (Rickerson et al., 2004; Sharpe et al., 2004)

Impact of Mental Health on Academic Functioning

- **Needed mental health services unavailable** (Megivern, 2001; Werner, 2001)
- **Financial stress** (Collins & Mowbray, 2005; King, 2004; Megivern, 2001; Megivern et al., 2003)
- **Competing responsibilities outside of school** (Megivern et al., 2003; Werner, 2001)
- **Lack of communication between community and campus personnel** (Collins & Mowbray, 2005; Izzo & Lamb, 2003; Megivern, 2001; Werner, 2001)

Impact of Mental Health on Academic Functioning

- **Stigma** (Collins & Mowbray, 2005; King, 2004; Megivern, 2001; Werner, 2001)
- **Uncooperative instructors** (Collins & Mowbray, 2005; King, 2004; Megivern et al., 2003; Mowbray & Megivern, 1999; Rickerson et al., 2004; Weiner & Weiner, 1996)

Problems with Grades and Studying

- **Difficulty taking notes/taking written exams** (BU, 1997; Collins & Mowbray, 2005; King, 2004; Megivern et al., 2003)
- **Getting assignments done/multi-tasking** (BU, 1997; Megivern, 2001; Megivern et al., 2003; Mowbray & Megivern, 1999; Sharpe et al., 2004; Weiner & Weiner, 1996)
- **Joining class discussions/interacting with others** (BU, 1997; Collins & Mowbray, 2005; Megivern et al., 2003)
- **Problems attending classes** (BU, 1997; Collins & Mowbray, 2005; Megivern et al., 2003) **Fatigue** (BU, 1997; Megivern et al., 2003; Weiner & Weiner, 1996)

Problems with Grades and Studying

- Concentration (BU, 1997; Collins & Mowbray, 2005; King, 2004; Megivern et al., 2003; Weiner & Weiner, 1996)
- Low self-esteem or self-efficacy (BU, 1997; Collins & Mowbray, 2005; King, 2004; Megivern et al., 2003; Weiner & Weiner, 1996)
- High anxiety and stress levels (BU, 1997; Collins & Mowbray, 2005; Megivern et al., 2003; Mowbray & Megivern, 1999; Weiner & Weiner, 1996)

Problems with Grades and Studying

- Needing to drop classes/academic probation (BU, 1997; Lambeth et al., 2005; Megivern et al., 2003)
- Giving oral presentations (BU, 1997; Megivern, 2001)
- Disclosing and asserting needs (BU, 1997; King, 2004; Megivern et al., 2003; Rickerson et al., 2004; Lambeth et al., 2005)
- Accepting criticism (BU, 1997; Megivern et al., 2003)

College Student Disclosure Issues

- Rarely talk with college personnel about their mental health needs (Megivern, 2001)
- Seek assistance informally or through non-mental health services (Lambeth et al., 2005; Werner, 2001)
- Those who register with disability services tend to under-utilize services (Collins, 2001; Lambeth et al., 2005; Werner, 2001)
- Feel need to first prove selves as good students to earn right to ask for accommodations (Lambeth et al., 2005; Olney & Kim, 2001; Werner, 2001)

Disclosure of psychiatric disability is met with a variety of responses from instructors

- Refusal to acknowledge the disability
 - Suggesting that the student should not be on campus
 - Cooperation
 - Empathy
 - Lowering expectations of the student
 - Anger
 - Feeling ill-equipped but willing to accommodate student
- (Becker, Martin, Wajeeh, et al., 2002; Brockelman, Chadsey, & Loeb, 2006; Collins & Mowbray, 2005; King, 2004)

Students who have psychiatric or other hidden disabilities grapple with questions such as:

- Am I disabled or not? (Barga, 1995; Bentley, 2003; King, 2004; Lambeth et al., 2005; Olney & Brockelman, 2003; Werner, 2001)
- Do other people think I have a disability? (Becker et al., 2002; King, 2004; Lambeth et al., 2005; Megivern, 2001; Olney & Brockelman, 2003)
- Whose opinions matter to me? (Barga, 1995; King, 2004; Lynch & Gussell, 1996; Weiner, 1997)
- How do I feel about the fact that a certain person believes I have or do not have a disability? (Center for Psychiatric Rehabilitation, 2001; Olney & Brockelman, 2003; Werner, 2001)

Students who have psychiatric or other hidden disabilities grapple with questions such as:

- How will others respond if I tell them? (Becker et al., 2002; King, 2004; Megivern, 2001; Olney & Brockelman, 2003; Werner, 2001)
- When should I disclose? To whom should I disclose? (Lambeth et al., 2005; Megivern, 2001; Olney & Brockelman, 2003; Ralph, 2002; Roessler et al., 1999; White et al., 2005; Werner, 2001)
- What is the purpose of disclosing to this person? (Ralph, 2002; White et al., 2005)

Are STEM Fields Different?

- More rigorous
- More sequenced in courses
- Cannot make up work if miss labs or homework
- Faster paced
- Weeding out process (self-esteem, harder to bounce back)

Does this impact students?

- Needs are variable, not consistent
- Diagnoses may be just emerging
- Higher level of stress may exacerbated symptoms of anxiety, depression, etc.
- Sequential courses so may fall behind

Facilitators to Success

- Mentors
- Advisors/Professors
- Extended supports-women in science, etc.

Barriers to Success

- Institutions/departments not welcoming
- Hard sciences may not recognize invisible disabilities
- Medication may need time to work so lose out on course work
- Rigorous intense courses

Research of Interest

- Very limited when looking at postsecondary and students with psychiatric disabilities, even more limited in STEM
- Brockelman, 2005, Looked at faculty perceptions towards students with disabilities and accommodations. No difference between STEM and Non-STEM faculty in perceptions or accommodations.

How can we best support students?

- More research
- More education
- Policy/systems change
- Increased supports starting with disability service providers

Illinois Disability Services for Students with Psychiatric Disabilities

- Academic accommodations
- Clinical psychologist
- Advocacy
- Coaching
- Individual Therapy
- Support groups/Community Referrals
- Financial
- Education to reduce stigma
- Additional Supports
- Neuropsychological Testing

Academic Adjustments

- Nonexhaustive list of “typical” adjustments:
 - Priority registration
 - Extended time on exams
 - Take exams in a distraction-reduced environment
 - Not being penalized for missing class/assignments due to exacerbation
 - Substitutions and extensions
 - Note taking assistance
 - Reduced course load

Clinical Psychologist/Mental Health Service Provider

- Better access to other mental health agencies on campus and in the community to coordinate services
- Better understanding of psychiatric disabilities
- More confident/capable in interacting with students with psychiatric disabilities
- Ability to supervise clinical psych or counseling psych practicum students to help with programs

Advocacy

- Help reduce stigma on campus per education
- Advocate for student with faculty
- Provide support to student
- Safe place for student to discuss problems and make decisions

Academic Coaching

- Monthly, Biweekly, Weekly, Twice per week
- In-person, phone, email
- Organizational strategies, structure, short-term and long-range planning, monitoring, motivation
- Provides external structures/supports to help students stay on track

Individual Therapy

- Campus mental health centers tend to have a 6-8 session limit due to high demands on service.
- Students with psych disabilities need long-term individual therapy to be successful.
- However, too costly or do not have access due to transportation
- Solution – post-docs, pre-doctoral interns, doctoral practicum students provide free therapy with no session limits under supervision of clinical psychologist

Support Groups/Referrals

- Provide support
- Increase social interactions of students with psychiatric disabilities
- Ability to consult with students and make referrals to appropriate community agencies

Financial Concerns

- Options for medication
- Letters to financial aid
- Scholarship resources

Education to Reduce Stigma

- Education to include in-services, literature, one-on-one interaction
- Overall campus philosophy of diversity has to come from the Chancellor on down, disability must be included in diversity issues and must be a priority for campus
- NAMI campus group
- Dialogue groups and theater productions to discuss

Additional Supports

- Transition program- Developed for incoming students with disabilities to facilitate learning of knowledge and skills for self-advocating and disability management
- Career preparation supports-Collaboration with Career Services Center, private industry employers (Proctor & Gamble, Motorola, NASA, IBM), and federal program collaboration (AAAS, Workforce Recruitment, Midwest STEM Alliance) to increase skills & internship opportunities. Interviewing skills including how to discuss disability and request accommodations.
- Study Abroad-meds, supports, accommodations

Neuropsychological Testing

- Free to Illinois students experiencing academic difficulties with no prior diagnoses
- Diagnose, refer for services
- Dramatic results, students going from probation to Dean's list in one semester

Advantages of Providing Diagnostic Services on Campus

- The costs associated with diagnostic testing are considerable;
- Insurance policies seldom cover diagnostic testing;
- Many students don't have the financial resources to pay out of pocket expenses;
- There are relatively few providers in our community that provide diagnostic testing and the quality of the reports varies widely;
- Frequently able to expedite the testing process on campus which is helpful for students in academic peril;
- Approximately 90% of students complete the diagnostic testing process when referred on campus, whereas less than 10% do so when referred off-campus;

Process

- An Illinois student who is experiencing academic difficulties can contact someone at the Counseling Center, Mental Health Center, or DRES and request an academic screening.
- The academic screening is a one to two hour clinical interview with screening measures to examine presenting symptoms of academic difficulties.

Process

- If during the academic screening, there is enough information gathered that warrants further testing, the student is referred to DRES and placed on the wait list.
- Student then undergoes 6-8 hours of neuropsychological/psychoeducational testing.
- Student is then seen for a 1 hour feedback session to go over the results, discuss diagnoses, and treatment recommendations.

Treatment Recommendations

- Referral to a psychiatrist/physician for medication-stimulant, antidepressant, or anti-anxiety.
- Referral for individual and/or group therapy through Counseling Center, Mental Health Center, or DRES.
- Referral for coaching through disability services office. Coaching focuses on organizational/time management strategies, prioritizing, monitoring, and motivation.
- Referral to the Id specialist for compensatory strategies through disability services office
- Academic accommodations through DRES.

Neuropsych Testing Outcomes

- Based on 696 students evaluated between September 2000 and May 2008.
- Gender: 47% male, 53% female
- Ethnicity: 64% Caucasian, 12% Asian/Indian, 15% African American, 8% Hispanic, 1% Native American
- STEM/NonSTEM: 38% to 62%
- International Students: 5%

Students Served

- Academic Peril:
 - 50% of students have had between 1-12 withdrawals prior to testing.
 - 41% of students have been on academic probation between 1-11 times prior to testing.
 - 15% of students have been dropped by their college between 1-4 times prior to testing.

Students Served

- Primary Diagnoses:
 - 47% Attention-Deficit/Hyperactivity Disorder
 - 23% Verbal Learning Disability
 - 12% Nonverbal Learning Disability
 - 7% Anxiety Disorder
 - 6% Depressive Disorder
 - 3% Cognitive Disorder
 - 1% Asperger's
 - .5% Bipolar Disorder
 - .5% Psychotic Disorder

Students Served

- Comorbid Diagnoses:
 - 21% depressive disorder
 - 11% anxiety disorder
 - 8% ADHD
 - 3% verbal learning disability
 - 2% nonverbal learning disability
 - 2% acquired brain injury
 - 1.2% sleep disorder
 - 1.2% adjustment disorder
 - 1.2% personality disorder
 - 1% substance abuse.
 - .4% bipolar disorder
 - .4% eating disorder

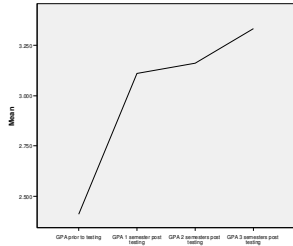
Qualitative Benefits

- Move from academic probation to Dean's list in subsequent semesters
- Able to graduate after completing required courses or pursuing foreign language substitution
- Able to complete dissertation

Quantitative Benefits

- Significant change in GPA
 - Mean GPA prior-2.57
 - Mean GPA one semester post-3.07
 - Mean GPA two semesters post-3.23
 - Mean GPA three semesters post-3.39

Mean GPA Trend



Quantitative Benefits

- Decrease in academic peril
 - 50% of students had between 1 to 12 withdrawals prior versus 1% of students had between 1 to 2 withdrawals post.
 - 41% of students had been on academic probation between 1 to 11 times prior versus 0% had been on academic probation post.
 - 15% of students had been dropped by their college between 1 to 4 times prior versus 0% had been dropped post.

Quantitative Benefits

Graduation/Retention:
Of the students eligible to graduate at the time of analysis 94% had obtained their bachelor's, master's, Ph.D., J.D., or DVM degree.
However, rates depended on diagnosis: 100% Cog D/o, 97% Anxiety, 95% ADHD, 94% NVLD, 93% VLD, and 74% Depression
And Major: STEM 96% vs. NonSTEM 90%
No significant variance was found if examined by race/ethnicity.

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